

Aboriginal Cultural Heritage Assessment for the Narrabri Underground Mine Stage 3 Extension Project in the Narrabri Shire, New South Wales



A report to

Narrabri Coal Operations Pty Ltd

Prepared by

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October 2020

Executive Summary

The Narrabri Mine is located approximately 25 kilometres (km) south-east of Narrabri in the Narrabri Shire Council Local Government Area of New South Wales (NSW). The Narrabri Mine is operated by Narrabri Coal Operations Pty Limited (NCOPL).

NCOPL is seeking a new Development Consent under the State Significant Development provisions of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

The Project involves an extension to the south of the approved underground mining area to gain access to additional coal reserves within Mining Lease Applications 1 and 2, an extension of the mine life to 2044 and development of supporting surface infrastructure. Run-of-mine coal production would occur at a rate of up to 11 million tonnes per annum, consistent with the currently approved limit.

Dr Matthew Whincop of Whincop Archaeology Pty Ltd was commissioned by NCOPL to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the Project. This report presents an assessment of the Aboriginal cultural heritage related issues for the Project in accordance with the Secretary's Environmental Assessment Requirements for State significant development, the *National Parks and Wildlife Act 1974* (NSW), the NSW *National Parks and Wildlife Regulation 2019* (NSW) and various guidelines, including the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010a) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b).

A large portion of the Investigation Area (i.e. those areas directly associated with the Project) has been subjected to intensive disturbance over the past 150 years, mainly associated with the agricultural, forestry and pastoral uses of the land, which has variously impacted upon the survival of Aboriginal cultural heritage sites.

A search of the Aboriginal Heritage Information Management System (AHIMS) database for the Study Area (i.e. the Investigation Area with a 1 km buffer) was undertaken to identify and/or characterise the Aboriginal cultural heritage site types and locations likely to be present within the Investigation Area. The AHIMS search identified sixty-four (64) Aboriginal cultural heritage sites within the Study Area. A total of thirty-three (33) Aboriginal cultural heritage sites were known to exist within the smaller Investigation Area prior to the ACHA survey.

Archaeological Survey of the Investigation Area

On conclusion of the comprehensive field survey, thirty-two (32) previously unidentified Aboriginal cultural heritage sites were identified within the Investigation Area. This is in addition to thirty-three (33) sites already registered on the AHIMS database at the time of the Project field surveys. One of the previously unidentified sites incorporates five (5) previously recorded artefact sites (i.e. the five previously identified sites were combined with a larger artefact scatter identified to be surrounding and between the five previously identified sites). As a result, a total of sixty (60) Aboriginal cultural heritage sites are known to exist within the Investigation Area, the majority of which are surface artefact sites, including thirty-six (36) surface artefact scatters, twenty-two (22) isolated artefacts, and two (2) grinding groove sites.

This assessment has concluded that it is likely that none of the identified Aboriginal cultural heritage sites would be directly impacted by surface disturbance.

Monitoring and Management

Based on the results of this assessment, it is recommended that:

- NCOPL should coordinate and implement the management strategies described in Section 12 of this report by updating the Narrabri Mine Aboriginal Cultural Heritage Management Plan (ACHMP) (NCOPL, 2019). The Narrabri Mine ACHMP should remain active for the life of the Project and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities. The revised Narrabri Mine ACHMP should be developed in consultation with the Registered Aboriginal Parties (RAPs).
- If human skeletal remains are encountered during the course of the Project, the Discovery of Possible Human Remains Procedure within the approved Narrabri Mine ACHMP (Section 3.3.2) would be implemented.
- If potential Aboriginal cultural heritage objects are encountered during the course of the Project, the Management of Other Aboriginal Sites procedure within the approved Narrabri Mine ACHMP (Section 3.3) would be implemented.
- NCOPL should establish and maintain a comprehensive Aboriginal Cultural Heritage Sites Database
 which contains the name, AHIMS number, site type, scientific (or other) significance, coordinates
 and status of all Aboriginal cultural heritage sites located at the Narrabri Mine.

- NCOPL should consider the location of known Aboriginal cultural heritage sites during final detailed
 engineering designs of surface infrastructure. Where avoidance of known Aboriginal cultural
 heritage sites is not practicable, the site(s) should be subject to salvage in accordance with the
 Section 3.6 of the Narrabri Mine ACHMP.
- NCOPL should provide training to all on-site personnel and contractors regarding the known Aboriginal cultural heritage sites, relevant to their employment tasks.
- NCOPL should continue to involve the RAPs and any other relevant Aboriginal community groups or members in relevant matters pertaining to the Project.

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Abbreviations

ACHMP Aboriginal Cultural Heritage Management Plan

ACHA Aboriginal Cultural Heritage Assessment

AHCS Aboriginal Heritage Conservation Strategy

AHD Australian Height Datum

AUTH Authorisation

BCD Biodiversity and Conservation Division

the Code Code of Practice for Archaeological Investigation of Aboriginal Objects in

New South Wales (DECCW, 2010b)

Consultation Guidelines Aboriginal cultural heritage consultation requirements for proponents

2010 (DECCW, 2010a)

DPIE Department of Planning, Industry and Environment

EIS Environmental Impact Statement

EL Exploration Licence

EP&A Act Environmental Planning and Assessment Act 1979 (NSW)

GSV Ground Surface Visibility

GPS Global Positioning System

Investigation Area Narrabri Underground Mine Stage 3 Extension Project Investigation Area

- those areas directly associated with the Project

LGA Local Government Area

MLA Mining Lease Application

ML Mining Lease

NCOPL Narrabri Coal Operations Pty Limited

NSW New South Wales

OEH NSW Office of Environment and Heritage

RAP Registered Aboriginal Party

ROM Run-of-Mine

SEARs Secretary's Environmental Assessment Requirements

SU Survey Unit

1 INTRODUCTION

1.1 Background and Overview

The Narrabri Mine is located approximately 25 kilometres (km) south-east of Narrabri in the Narrabri Shire Council Local Government Area (LGA) of New South Wales (NSW) (Figure 1). The Narrabri Mine is operated by Narrabri Coal Operations Pty Limited (NCOPL).

NCOPL is seeking a new Development Consent under the State Significant Development provisions of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) for the Narrabri Underground Mine Stage 3 Extension Project (the Project). This Aboriginal Cultural Heritage Assessment (ACHA) forms part of the Environmental Impact Statement (EIS) which has been prepared to accompany the development application for the Project.

1.2 Study Purpose and Objectives

The Secretary's Environmental Assessment Requirements (SEARs) for the Project were issued on 20 November 2019.

This ACHA addresses the requirement in the SEARs relating to Aboriginal cultural heritage, which states:

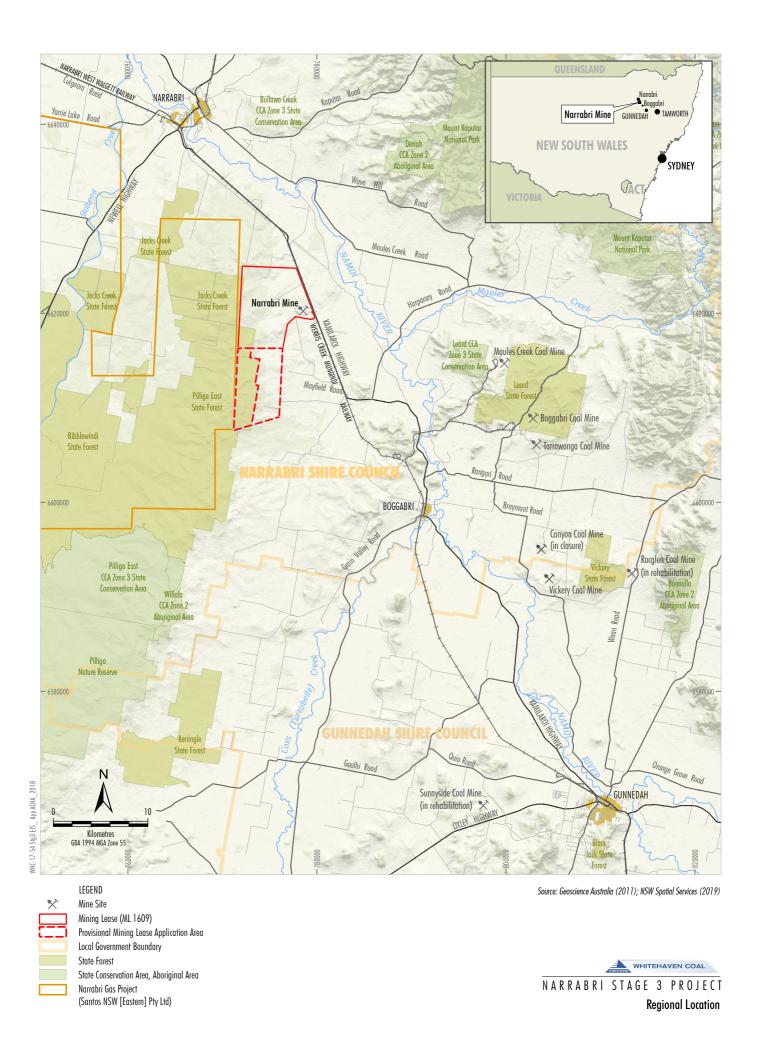
The EIS must address the following specific issues:

...

 Heritage – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development;

This ACHA also addresses the general requirements in the SEARs, including:

- an assessment of the likely impacts of the development on the environment, noting that
 under Section 4.63 of the Environmental Planning and Assessment Act 1979, the likely
 impacts of the continued development of approved aspects of the project do not need to be
 reassessed. This assessment must focus on the specific issues identified below, including:
 - a description of the existing environment likely to be affected by the development, using sufficient baseline data;
 - an assessment of the likely impacts of all stages of the development, including appropriate worst-case scenarios and consideration of any cumulative impacts and taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice;



- o a description of the measures that would be implemented to mitigate and/or offset the likely impacts of the development [...] and
- a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved.

The NSW Office of Environment and Heritage (OEH) (now the Biodiversity and Conservation Division [BCD] of DPIE) requires the EIS to address the following:

Aboriginal cultural heritage

- 6. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the project and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEH regional branch officers.
- 7. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.
- 8. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

This ACHA also considers the cumulative impacts of the Project, in response to comments provided by the Division of Resources and Geoscience and the Narrabri Shire Council relating to the SEARs:

Division of Resources and Geoscience

The Project is located adjacent to the Santos NSW Pty Ltd held Narrabri Gas Project. The Division recommends continued consultation with Santos regarding their project and any associated potential impacts.

Narrabri Shire Council

The Project Area is situated directly adjacent to the project area of the proposed Narrabri Gas Project. Consideration needs to be given to any impacts (including risks) occurring as a result of the two projects operating concurrently and any cumulative impacts that may result from the two projects operating.

1.3 Regulatory Framework

Dr Matthew Whincop of Whincop Archaeology Pty Ltd was commissioned by NCOPL to prepare an ACHA for the Project in accordance with the SEARs, the *National Parks and Wildlife Act 1974* (NSW), the *National Parks and Wildlife Regulation 2019* (NSW) and the following guidelines:

- Aboriginal cultural heritage consultation requirements for proponents 2010 (NSW Department of Environment, Climate Change and Water [DECCW], 2010a) (Consultation Guidelines);
- Aboriginal Cultural Heritage: Standards and Guidelines Kit (NSW National Parks and Wildlife Service, 1997);
- Ask First: A guide to respecting indigenous heritage places and values (Australian Heritage Commission, 2002);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b) (the Code);
- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (NSW Department of Environment and Conservation, 2005);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010c);
- Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011);
- National Parks and Wildlife Act 1974: Part 6 Approvals Interim Community Consultation
 Requirements for Applicants (NSW Department of Environment and Climate Change, 2004);
- NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects (NSW Minerals Council, 2010);
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia International Council on Monuments and Sites [ICOMOS], 2013); and
- Engage Early (Commonwealth Department of Environment and Energy, 2016).

1.4 Objectives and Aims

The objectives and aims of this ACHA are to:

- Address the relevant requirements of the SEARs.
- Assess and consider previous archaeological assessments and investigations undertaken within the Investigation Area and wider region (including work prepared for the approved Narrabri Mine).
- Consider the landscape context, regional character and ethnographic history of the Investigation
 Area.
- Develop a predictive model for likely Aboriginal cultural heritage site distribution across the Investigation Area and identify areas of higher archaeological potential.
- Consult with the local Aboriginal community in accordance with the Consultation Guidelines and the National Parks and Wildlife Regulation 2019 (NSW), including in relation to the cultural values of the Investigation Area.
- Undertake an archaeological survey (with representatives of the local Aboriginal community) to identify and describe Aboriginal cultural heritage sites and places within the Investigation Area.
- Identify and describe the cultural heritage values within the Investigation Area.
- Assess and describe the archaeological and cultural significance of the identified Aboriginal cultural heritage sites within the Investigation Area.
- Identify and assess the nature and extent of potential impacts of the Project on Aboriginal heritage (cultural and archaeological).
- Provide recommendations for the mitigation and management of potential impacts associated with the Project on Aboriginal cultural heritage sites within the Investigation Area.
- Document and consider input, comments and feedback provided by the Registered Aboriginal Parties (RAPs) during the consultation process.

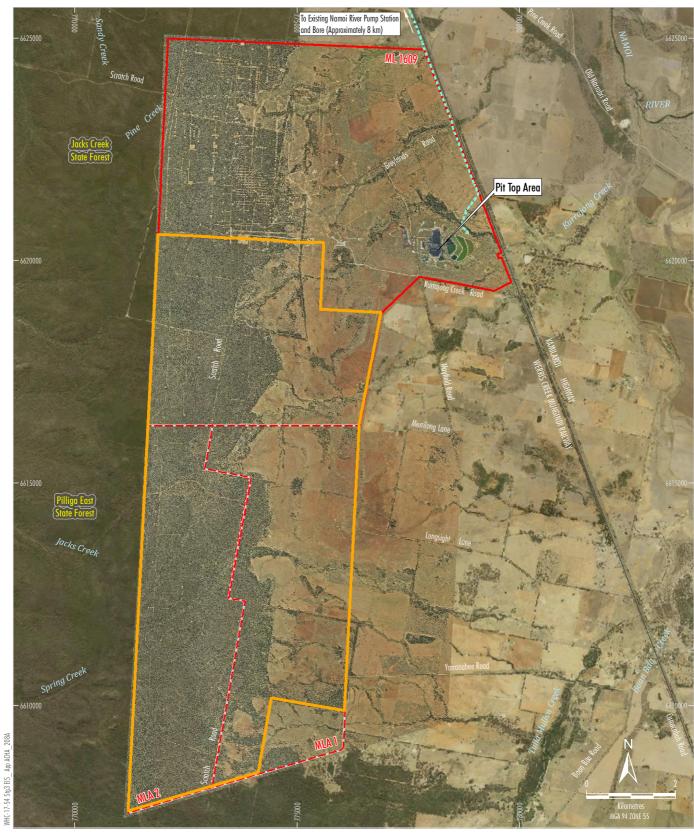
2 STUDY AREA AND PROJECT LOCATION

The Narrabri Mine is located approximately 25 km south-east of Narrabri in the Narrabri Shire Council LGA of New South Wales (NSW).

The Study Area for this ACHA represents a broader area, encompassing the extent of the Project and a conservative 1 km buffer.

Although this ACHA considers Aboriginal cultural heritage within the broader Study Area, the focus of the ACHA field investigations is on those areas directly associated with the Project (i.e. the Investigation Area) (Figure 2).

The Investigation Area is located partly within the dense scrub of the Pilliga East State Forest, and partly within previously cleared agricultural and pastoral areas. Since 2010, underground mining activities have been conducted in the Narrabri Mine, to the immediate north of the Investigation Area.





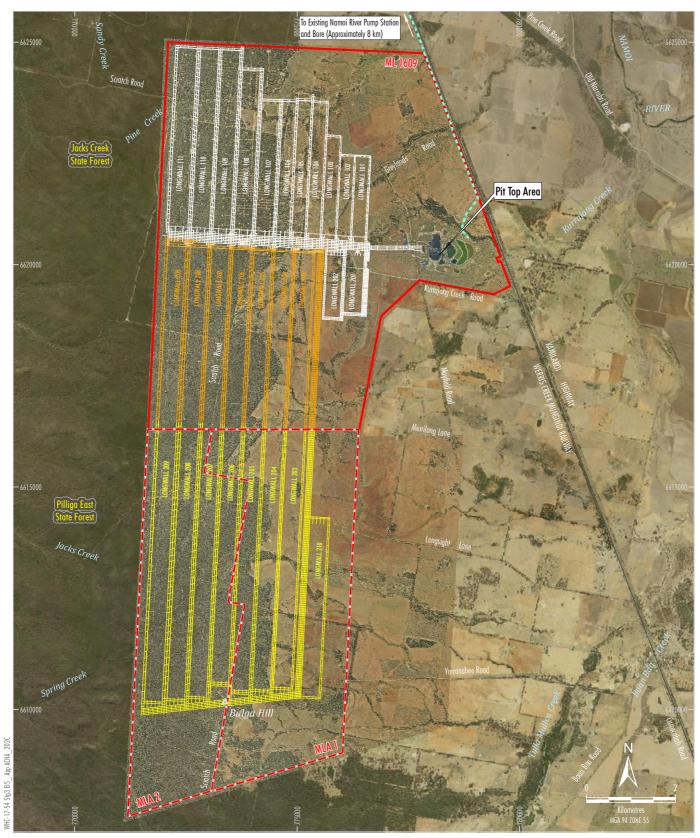
LEGEND Mining Lease (ML 1609) Provisional Mining Lease Application Area Investigation Area Source: NCOPL (2019); NSW Spatial Services (2019)



3 DESCRIPTION OF THE PROJECT

The Project involves an extension to the south of the approved underground mining area to gain access to additional coal reserves within Mining Lease Applications (MLAs) 1 and 2 (Figure 3), an extension of the mine life to 2044 and development of supporting surface infrastructure (Figure 4). ROM coal production would occur at a rate of up to 11 million tonnes per annum, consistent with the currently approved limit.

A detailed description of the Project is provided in Section 2 of the Main Report of the EIS.



LEGEND

Mining Lease (ML 1609)

Provisional Mining Lease Application Area

Existing Namoi River Pipeline (Buried)

Approved Underground Mining Layout

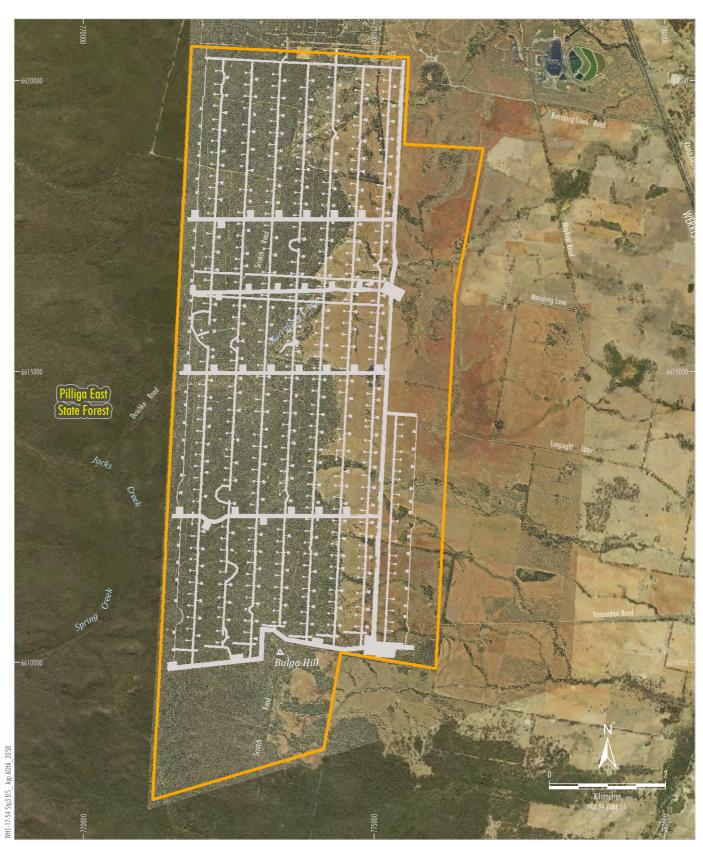
Extended for Project Indicative Underground Project Mining Layout

Indicative Underground Mining Layout to be

Source: NCOPL (2019); NSW Spatial Services (2019)



Project General Arrangement -Indicative Underground Mining Layout



Source: NCOPL (2019); NSW Spatial Services (2019)

LEGEND



Investigation Area Indicative Surface Development Footprint



Project General Arrangement -Indicative Surface Development Footprint

4 INVESTIGATORS AND CONTRIBUTORS

This assessment has been prepared by Dr Matthew Whincop, Director of Whincop Archaeology Pty Ltd. Dr Matthew Whincop's qualifications include a Bachelor of Arts (Honours) in Classics and Archaeology and a Master of Arts (Honours) in Archaeology, both from Melbourne University, and a Doctorate in Archaeology from Durham University (United Kingdom).

The field investigation was undertaken by archaeologists from Whincop Archaeology: Dr Matthew Whincop; Mr Reiner Mantei; Ms Jodie Crossman; and Mr James Carr.

- Reiner Mantei has a Bachelor of Arts (Honours) with an extended major in Archaeology and minors
 in History and Anthropology from the University of Queensland, and has over five years of
 experience in Aboriginal heritage surveys, lithic identification, excavation and reporting.
- Jodie Crossman holds a Bachelor of Arts/Science (Honours) with a major in Genetics and Extended Archaeology from the University of Queensland, and has over five years of experience in Aboriginal heritage surveys, excavations and reporting. Ms Crossman is currently enrolled in doctoral studies at the University of Queensland.
- James Carr holds a Bachelor of Arts in Archaeology (Honours) from Monash University and has over five years of experience in Aboriginal heritage surveys, excavations and reporting.

Community consultation pursuant to the Consultation Guidelines (DECCW, 2010a) was managed by NCOPL under the guidance of Whincop Archaeology.

5 ABORIGINAL COMMUNITY CONSULTATION PROCESS

Consultation with the Aboriginal community for the Project was undertaken in accordance with the Consultation Guidelines (DECCW, 2010a), the *National Parks and Wildlife Act 1974* (NSW), and the *National Parks and Wildlife Regulation 2019* (NSW). The Consultation Guidelines outline a four-stage consultation process that includes detailed guidance as to the aim of each consultation stage and the actions necessary for each consultation stage. The four stages are:

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

The following sections outline the consultation process and provide a summary of the community consultation undertaken for the ACHA.

5.1 Registration Process

In accordance with the Consultation Guidelines, Project notifications were sent on 3 July 2019 to the following organisations:

- Red Chief Local Aboriginal Land Council (RCLALC);
- Narrabri Local Aboriginal Land Council (NLALC);
- Biodiversity and Conservation Division (BCD) (formerly Office of Environment and Heritage);
- Office of the Registrar, Aboriginal Land Rights Act 1983 (NSW);
- National Native Title Tribunal;
- Native Title Services Corporation Limited;
- North West Local Land Services;
- Narrabri Shire Council; and
- · Gunnedah Shire Council.

As a result of contacting the relevant organisations, a number of individuals and groups were identified as potentially having an interest in the Project. An invitation was sent out to each individual/group, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the 'Area of Interest', to register an interest in the Project by 19 August 2019 (Appendices 2 and 3). Updated contact details for two individuals were subsequently provided to NCOPL by Gunnedah Shire Council. As a result, letters were re-sent to these two individuals using the updated contact details provided, with a request to register an interest in the Project by 13 September 2019 (Appendices 2 and 3). Interested individuals/groups subsequently expressed an interest in the Project to Dr Matthew Whincop. Additional letters were sent to these individuals/groups requesting that they formally register an interest in the Project by 25 September 2019 (Appendices 2 and 3).

In addition, a public notice inviting the registration of Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the 'Area of Interest' was published in the *Namoi Valley Independent* and the *Narrabri Courier* on 30 July 2019, and in the *Koori Mail* on 31 July 2019 (Appendix 2).

Two Aboriginal stakeholders have previously been identified as having registered an interest in the community consultation process associated with the approved Narrabri Mine. Both existing RAPs who had previously registered an interest in the approved Narrabri Mine were sent a letter on 31 July 2019 to advise them of the Project and to notify them that they had been automatically registered for the consultation process associated with the Project (Appendices 2 and 3).

A copy of the list of the RAPs for the Project, along with a copy of the written notifications and the public notice, were provided to the BCD, NLALC and RCLALC on 17 October 2019, in accordance with the Consultation Guidelines (DECCW, 2010a).

As a result of the registration process undertaken for the Project, a total of 11 organisations and/or individuals registered an interest in the Project. The list of RAPs for the Project is provided in Table 1.

Table 1: List of Registered Aboriginal Parties for the Project

Registered Aboriginal Party		
NLALC		
Gomeroi Narrabri Aboriginal Corporation (GNAC)		
AGA Culture Services (Ashley Sampson)		
Cacatua General Services (George Sampson)		
Michael John Long (White Cockatoo)		
Kerry Morgan Fernando		
Michael Ronald Long (Junior)		
Brian Draper		
Aaron Talbott		
David Horton		
Leslie "Uncle Jacko" Woodridge		

A consultation log detailing all Aboriginal community consultation undertaken for the Project is provided in Appendix 1. A copy of relevant written correspondence sent to, and received from, the RAPs is provided in Appendix 2.

5.2 Proposed Methodology and Information Sessions

Information regarding the Project, including a copy of the Proposed Methodology, was provided for review and comment on 30 September 2019. The correspondence included an invitation to attend an information session regarding the Project.

A minimum of 28 days was allowed for the RAPs to provide input in regard to the following aspects:

- The nature of the Proposed Methodology.
- Any Aboriginal objects or places of cultural value within the Investigation Area, or issues of cultural significance.
- Any restrictions or protocols considered necessary in relation to any information of sensitivity that may be provided.
- Any other factors considered to be relevant to the ACHA.

All RAPs were invited to attend an information session held at the Narrabri Bowling Club in Narrabri on 22 October 2019. The purpose of the information session was to provide RAPs with an additional opportunity to review details regarding the Project and raise any cultural issues or comments/perspectives regarding the Project or the Proposed Methodology. A copy of the Proposed Methodology is provided in Appendix 4.

The information session supported the information previously provided in writing and included a presentation on the nature and scale of the Project, an overview of the impact assessment process, discussion of the roles, functions and responsibilities of participants, and protocols for the management of any sensitive cultural heritage information. It is noted that no RAPs requested their comments on the Proposed Methodology be kept private.

A total of 11 representatives of the RAPs attended the information session on 22 October 2019. All attendees at the information session are listed in Table 2 below. Copies of the attendance records for the information sessions are provided in Appendix 3.

Apologies for the meeting were received from Brian Draper and Aaron Talbott, who were unable to attend the meeting.

Table 2: List of Attendees at Information Sessions

Registered Aboriginal Party	Representative
Cacatua General Services	George Sampson
Michael John Long (White Cockatoo)	Michael John Long (White Cockatoo)
Michael Ronald Long (Junior)	Michael Ronald Long (Junior)
Kerry Morgan Fernando	Kerry Morgan Fernando
David Horton	David Horton
Leslie "Uncle Jacko" Woodridge	Leslie "Uncle Jacko" Woodridge
GNAC	Alira Tufui
GNAC	Jim Trindall
Wygunyah (GNAC administrator)	Simmone Moodie
Wygunyah (GNAC administrator)	Kate Briggs
NLALC	Lynn Trindall

5.3 Comments on Proposed Methodology

At the close of the Proposed Methodology review period, the comments and feedback on the Proposed Methodology were recorded in the consultation log. Responses to each of the submissions received from the RAPs on the Proposed Methodology are provided in Table 3.

A consultation log detailing all Aboriginal community consultation undertaken for the Project (including comments on the Proposed Methodology) is provided in Appendix 1. A copy of relevant written correspondence sent to, and received from, the RAPs is provided in Appendix 2.

Table 3: Responses to Submissions from RAPs on Proposed Methodology

Date, Registered Aboriginal Party	Comment on the Proposed Methodology	Whitehaven Response
14 October 2019, Leslie 'Uncle Jacko' Woodridge	Confirmed he had received the Proposed Methodology however indicated he cannot read or write and so the information would need to be explained to him.	Information was verbally presented to Leslie during the consultation meeting, as well as individually following the consultation meeting. Representatives from NCOPL and Whincop Archaeology discussed details of the Project and survey methodology with him.
25 October 2019, Michael John Long (White Cockatoo)	Michael advised he had read over the letter accompanying the Proposed Methodology and expressed concerns that it did not mention the requirement for medicals or inductions prior to completing field works. He felt the majority of RAPs for the Project had not had the opportunity and was not required to complete medicals and inductions for the field work.	Medicals and relevant inductions are required to be completed prior to commencing any works at the Narrabri Mine. Existing RAPs for the Narrabri Mine are required to undertake a medical and induction before commencing work on site. It was deemed unfair for existing RAPs to fulfill this requirement and the new, Stage 3 RAPs not to complete medicals and inductions. For this reason, all RAPs are required to undertake medical and inductions.
		Additionally, it is noted that selection of the survey participants was not based on the availability or otherwise of induction opportunities prior to fieldwork commencement.
28 October 2019, Aaron Talbott	Aaron expressed concerns with having to comply with site induction and medical requirements.	Medicals are required to be completed prior to commencing any works at the Narrabri Mine; RAPs can still contribute to the consultation process for the Project without undertaking a medical.
29 October 2019, Michael John Long (White Cockatoo)	Letter on behalf of himself and six other RAPs (including Michael Long [Junior], Kerry Morgan Fernando, Leslie 'Uncle Jacko' Woodridge, Aaron Talbott, David Horton and Brian Draper. Recommended that all RAPs should be involved in the Aboriginal cultural heritage works and cultural values. Included recommendations for management of Aboriginal objects identified (i.e. objects removed and kept in a safe place until a RAP meeting is held to determine otherwise).	Selection of RAPs by NCOPL to participate in field surveys was based upon the merits of the applications received, with respect to the selection criteria. An employment agreement is in place for the existing RAPs (GNAC and NLALC) and these RAPs are experienced in work at the Narrabri Mine. NCOPL considered that the engagement of the existing RAPs was appropriate for the survey. All RAPs will be provided opportunity to participate and provide feedback in consultation on cultural values.
30 October 2019, Michael John Long (White Cockatoo)	Recommendations provided by Michael (and on behalf of six other RAPs including Michael Long [Junior], Kerry Morgan Fernando, Leslie 'Uncle Jacko' Woodridge, Aaron Talbott, David Horton and Brian Draper) included: • Isolated artefact finds to be salvaged.	NCOPL is committed to the salvage of all surface artefacts, in the event that direct disturbance cannot be avoided. Test pitting would only be undertaken in areas where in situ subsurface archaeological deposits are likely to be present. Consultation on the ACHA will provide opportunities for all RAPs to consider the proposed management and mitigation measures, including any further archaeological investigations.

Date, Registered Aboriginal Party	Comment on the Proposed Methodology	Whitehaven Response
	 All surface scatter artefacts to be salvaged. Where scattered artefacts are located, conduct 50cm by 50 cm test pits in transect formation, no less than 20 m apart and no less than 10 test pits per transect, or RAPs or archaeologist determine otherwise. RAP meeting to determine which artefact scatters require further archaeological investigation, where 2 of the artefact scatters will be determined by the RAPs to dig two 50 metre (m) square test pits. Fencing of scarred trees and RAP meeting to determine how scarred trees will be managed. RAP meeting to determine if exploration process is required for grinding groove sites. RAP meeting to determine management of burials or Aboriginal graves. The archaeological survey should be done in transect formation with each walker 20 m apart walking with the archaeologist using GPS devices. All the Project area that is to be impacted should be walked. RAP meeting after surveys are complete to present findings. If there are padded areas that are grassed close to creek lines, grader scrapes could also apply if there is access. All Aboriginal objects found need to be removed and kept in a safe place until a RAP meeting is held to determine otherwise. 	No scarred trees were identified in the Investigation Area, so fencing of scarred trees is not required. No Aboriginal graves or burials have been identified during survey or during consultation on cultural values. The sandy soils of the Pilliga East State Forest hold some potential for burials, and a contingency on the Discovery of Potential Human Remains is included in the proposed management and mitigation measures within this report. Archaeological survey was undertaken in transects, with each participant walking between 10 and 20 m apart. A reasonably high percentage (40.5%) of Effective Survey Coverage for the Project has been achieved. Parts of the Pilliga East State Forest were too dense to be thoroughly investigated, although all Aboriginal cultural heritage sensitive areas within the Pilliga East State Forest were comprehensively surveyed. A meeting will be convened during the ACHA review period to provide opportunities for RAPs to provide feedback on the results of the survey. Grader scrapes in areas of potential subsurface archaeological deposits are a destructive means of investigation, and should not be a substitute for less intrusive methods, such as shovel test pitting. Should an Aboriginal cultural heritage site be scheduled to be impacted by the Project during final detailed design of surface infrastructure, the site would be salvaged and stored in a secure location. RAPs would be consulted about the location and duration of the potential Keeping Place.

Note: The above table excludes any comments that are not directly relevant to the Project. Notwithstanding, a complete record of all comments received is provided in Appendices 2 and 3.

5.4 Aboriginal Cultural Heritage Field Surveys

5.4.1 Survey Engagement Application Process

All RAPs were invited to submit applications for paid engagement in the surveys by Wednesday 16 October 2019 (Appendix 2). The correspondence provided to the RAPs described the requirements that NCOPL needed the survey applicants to satisfy for engagement (e.g. personal protective equipment, fitness for work, drug and alcohol testing, and relevant insurance).

The invitation included a Field Survey Engagement Application Form, which requested responses in relation to:

- specific cultural knowledge of the Investigation Area or of any Aboriginal place(s) or object(s)
 contained therein;
- representativeness of the group or organisation within the Aboriginal community;
- fieldwork experience in Aboriginal cultural heritage surveys; and
- specialist skills or knowledge that may assist in the investigation.

Engagement of RAPs for paid participation in the field surveys was determined on the basis of the merits of the applications received.

NCOPL received a total of 11 valid Field Survey Engagement Application Forms; including a form submitted by Leslie 'Uncle Jacko' Woodridge but which was completed by NCOPL personnel under Leslie's instruction. These applications were considered and ranked. The two existing RAPs for the Narrabri Mine were considered to hold specific cultural knowledge and the most relevant experience of the Investigation Area, and each held sufficient capacity to provide representatives for three weeks of proposed fieldwork. As such, these RAPs were engaged for paid participation in the field surveys.

5.4.2 Aboriginal Cultural Heritage Survey

Three weeks of Aboriginal heritage field survey was undertaken in two phases during November 2019:

- Phase 1 Thursday 31 October to Monday 11 November 2019 (three teams).
- Phase 2 Friday 22 November to Saturday 30 November 2019 (three teams).

Each survey team consisted of one archaeologist and two RAPs, although on some days only one RAP was available for one or more teams. Further details regarding the survey and survey coverage are provided in Section 8. Table 4 summarises the survey dates and participants in the surveys.

Table 4: Participants in the Archaeological Survey

Survey Attendee	Representing
Velvet Craigie	NLALC
Dave Trindall	
Natalie Mason	
Charleigh Lawler	
Michael Knox	
Darren Mason	
Chet Simms	GNAC
Barry Toomey	
Ross Ruttley	
Michelle Walker	
James Carr	Whincop Archaeology
Jodie Crossman	
Reiner Mantei	
Dr Matthew Whincop	

5.5 Cultural Values Assessment

In addition to general consultation conducted for the ACHA (i.e. described in Sections 5.1 to 5.4 above), a cultural values assessment for the Project was undertaken by Dr Matthew Whincop and the team of field archaeologists. The cultural values assessment undertaken was based on the following:

- Review of background resources, including previous cultural value studies for the surrounding region, and existing mining operations (Advitech, 2012a; 2012b; 2013; Niche Environment and Heritage [Niche], 2015; 2015a; Santos 2017).
- Historical research.
- Discussions with RAPs during field survey.
- Discussions with RAPs during community information sessions and site inspections.
- Requests for comments during the review period for the Proposed Methodology and the draft ACHA report.

During the field surveys, attending RAPs were invited to provide any cultural information or values associated with the Investigation Area. For example, each field archaeologist encouraged participants to provide input on bush tucker and medicine, fauna, and cultural associations/knowledge of the Investigation Area.

The outcomes of the cultural values assessment undertaken and a consideration of the identified cultural values are described in Section 9.2.

It is noted that the cultural values assessment for the Project was ongoing during the draft ACHA review period (Section 5.6). RAPs, Elders and other Aboriginal community members who wished to provide input into the cultural values assessment, or who preferred to arrange a formal interview, were encouraged to contact NCOPL during the draft ACHA review period.

5.6 Review of Draft ACHA Report

5.6.1 Provision of Draft ACHA for Review and Comment

In accordance with the Consultation Guidelines, an initial draft of this ACHA was provided to all RAPs listed in Table 1 for review and comment on Friday 24 April 2020, with feedback requested by Friday 22 May 2020.

As part of the review process for the draft ACHA, NCOPL provided all RAPs the opportunity to participate in an information session regarding the draft ACHA. The purpose of the information session was to discuss the key findings of the draft ACHA and to provide an opportunity for RAPs to discuss, ask questions and/or provide comment on the draft ACHA, particularly the cultural significance and proposed management measures. Dr Matthew Whincop and NCOPL also participated in the information session.

The original intent of the information session was to also include an opportunity to attend a site inspection (i.e. in addition to the field surveys) to view the Investigation Area and a selection of the recorded Aboriginal cultural heritage sites. However, due to restrictions associated with Coronavirus (COVID-19) at the time of the information session, which limited the number of people who could meet in groups, the information session occurred via video/teleconference and RAPs were advised that the site inspection would be postponed to a time when allowed by COVID-19 restrictions. The video/teleconference took place at 1.00pm on Friday 8 May 2020 and was attended by a representative of one RAP: Ms Lynn Trindall, representing NLALC.

At the close of the draft ACHA review period, the comments and feedback on the document were recorded in the consultation log in Appendix 1. Responses to each of the submissions received from the RAPs on the draft ACHA are provided in Table 5.

Table 5: Responses to Submissions from RAPs on Draft ACHA

Date, Registered Aboriginal Party	Comment on draft ACHA	Whitehaven Response
6 May 2020, Michael Long (White Cockatoo)	Advised he felt the majority of RAPs had not been included in the cultural values assessment for the Project. Stated he had previously provided important cultural information that proves he has cultural knowledge of the area. Advised that himself and some of the other RAPs could not provide input into the cultural values as they had not undertaken a Walk on Country.	NCOPL will continue to monitor the situation and restrictions around COVID-19 and, when it is deemed safe to do so, will offer all RAPs the opportunity for a site inspection at a later date. Photos of Aboriginal cultural heritage sites assessed to be of moderate scientific significance are available in Section 9.1.2 of this report. Additionally, photos of all Aboriginal cultural heritage sites are provided in Appendix 6 of this report.
8 May 2020, Aaron Talbott	Advised he felt that the majority of RAPs were not included in the cultural values assessment for the Project as they were not selected to participate in the field work. He felt that ethically and morally, all RAPs should have been included in the field work, and requested that an additional field assessment occur for cultural values purposes only.	NCOPL will continue to monitor the situation and restrictions around COVID-19 and, when it is deemed safe to do so, will offer all RAPs the opportunity for a site inspection at a later date. Photos of Aboriginal cultural heritage sites assessed to be of moderate scientific significance are available in Section 9.1.2 of this report. Additionally, photos of all Aboriginal cultural heritage sites are provided in Appendix 6 of this report.
22 May 2020, Lynn Trindall NLALC	Narrabri Local Aboriginal Land Council agrees with responses from RAPS who were unable to be on site. The Aboriginal Cultural Heritage values within the subject area are also to be in line with the current Narrabri Mine Aboriginal Cultural Heritage Management Plan (2016).	The approved Narrabri Mine Aboriginal Cultural Heritage Management Plan (ACHMP) would be updated to include the Aboriginal cultural heritage sites identified as part of this assessment, and would continue to be applied to manage the Aboriginal cultural values of the Narrabri Mine.
	Recommendations: Ways to avoid potential or minimise potential harm to Aboriginal Objects.	
	 Full focus is to be on the protection of existing sites recorded on AHIMS and new recordings. Ensure proper fencing is established around Cultural significant areas with signage, not a string of wire placed there as we have seen previous areas where areas have been destroyed. Fencing will be essential with the Grinding Curves that are within the area. 	All known sites within the Investigation Area would not be directly impacted by the Project (see Section 11). Appropriate protective fencing would be installed at all Aboriginal cultural heritage sites, including the grinding groove sites (see Section 12.2).
	 Avoidance of all Aboriginal cultural heritages sites should be a must. Salvage should only ever be the last resort, eg: if there is the possibility of shaft caving in. Investigation of all units prior to any surface disturbances in the vicinity of identified grooves. 	All known Aboriginal cultural heritage sites within the Investigation Area would not be directly impacted by the Project (see Section 11); hence salvage is not required. Proposed surface infrastructure areas would be subject to additional surface investigation prior to commencement of disturbance activities, including those areas in proximity to the grinding groove sites.

Date, Registered Aboriginal Party	Comment on draft ACHA	Whitehaven Response
	 Review existing geological data prior to making any plans for the prescribed works. No work permits should be prescribed for any creeks or other water areas, as these are big part of Culture 	Geological data is reviewed in this ACHA; detailed geological data is also considered in mine planning and surface infrastructure design. Small areas of some creek lines would be impacted by the installation of surface infrastructure. Proposed surface infrastructure areas would be subject to additional surface investigation prior to commencement of disturbance activities.

Note: The above table excludes any comments that are not directly relevant to the Project. Notwithstanding, a complete record of all comments received is provided in Appendices 2 and 3.

A consultation log detailing all Aboriginal community consultation undertaken for the Project (including comments on the draft ACHA) is provided in Appendix 1. A copy of relevant written correspondence sent to, and received from, the RAPs is provided in Appendix 2.

5.7 Site Inspection and Supplementary Information Session

As mentioned above, the site inspection originally planned to occur during the draft ACHA review period was postponed due to COVID-19 restrictions. The letter sent to RAPs on 24 April 2020 accompanying the draft ACHA described that NCOPL will continue to monitor the situation and restrictions around COVID-19 and, when it is deemed safe to do so, will offer RAPs the opportunity for a site inspection at a later date.

With the easing of restrictions in NSW, NCOPL subsequently sent a letter to RAPs on 17 June 2020 inviting all RAPs to attend a supplementary information session, followed by a site inspection. It was noted that social distancing regulations must be maintained throughout the day.

The purpose of the supplementary information session was to discuss the key findings of the draft ACHA report and to provide an additional opportunity for RAPs to discuss, ask questions and/or provide comments on the draft ACHA, particularly the cultural significance and proposed management measures. Correspondence with RAPs in relation to attendance on the day were recorded in the consultation log in Appendix 1.

Five RAPs attended the information session and site inspection, held on 30 June 2020, including two from GNAC (Alira Tufui and Patrick Sevil), two from NLALC (Dave Trindall and Edward Trindall) and David Horton. A copy of the attendance record for the information session is provided in Appendix 3. Although the feedback period for the draft ACHA had closed, NCOPL advised RAPs at the information session that they could submit additional feedback by 7 July 2020. As not all RAPs attended the information session, an electronic copy of the presentation was also emailed to all RAPs on 23 July 2020, advising that they could provide additional feedback by 30 July 2020.

Additional comments were received from GNAC, who noted the previous identification of Mayfield GG1. This has been addressed in Sections 9.1.2, 11.2.1 and 12.2. GNAC also queried whether opportunities for training and employment of Aboriginal people in the community could be created as part of the Project. This is addressed in Appendix K of the Project EIS. No other comments were received from RAPs following the supplementary information session and site inspection.

5.8 Review of Final Report

A copy of the final ACHA report will be made available by the DPIE to all RAPs during the public exhibition period for the Project EIS. During this exhibition period, all RAPs will have the opportunity to review and provide additional comment on the final ACHA report as well as any other component of the Project EIS (e.g. including the ecological and water assessments).

6 ENVIRONMENTAL CONTEXT

It is important to understand the environmental context of the Investigation Area (and broader Study Area) in order to gain a better understanding of the resources potentially available to Aboriginal people (in both the pre- and post-contact periods) and European settlers. In addition, this information assists in determining whether natural environmental processes (i.e. weathering of land surfaces) will have impacted on Aboriginal cultural heritage sites deriving from activities associated with these resources.

The following discussion highlights aspects of the environmental context that are likely to have influenced pre-contact (i.e. pre-arrival of non-Indigenous Australians in the area) patterns of land use and Aboriginal cultural heritage site locations in and around the Investigation Area. In particular, the nature of the local geology and soils, landform and hydrology, and flora and fauna, combined with an understanding of historical and Aboriginal land use (Sections 7.4 and 7.5), will all contribute to the development of a reliable predictive model for *in situ* Aboriginal cultural heritage objects in the Investigation Area (Section 7.6).

6.1 Geology and Soils

The Project is located within the Gunnedah Basin, a structural trough in north-eastern NSW forming part of the extensive Sydney-Bowen Basin. The Gunnedah Basin contains sediments of Permian and Triassic age, particularly the Pilliga Sandstone, which dominates the Investigation Area and has a strong influence on the landforms, soils and hydrology of the Investigation Area (Tadros, 1995; Totterdell et al., 2009).

Aboriginal people made wide use of the resources available to them, including a wide variety of stone resources, which were used to produce stone tools. The nature of stone exploitation by Aboriginal people relies on the nature of the available resource, whether as a primary outcrop or as a secondary gravel source (Doelman et al., 2008). The following description of the local geological context provides perspective on stone resources available in the Investigation Area, which traverses several geological landscapes, including the following (Figures 5a and 5b):

 Pilliga Sandstone – Medium to very coarse grained, well sorted, angular to subangular quartzose sandstone and conglomerate. Minor interbeds of mudstone, siltstone and fine-grained sandstone and coal. Common carbonaceous fragments and iron staining.

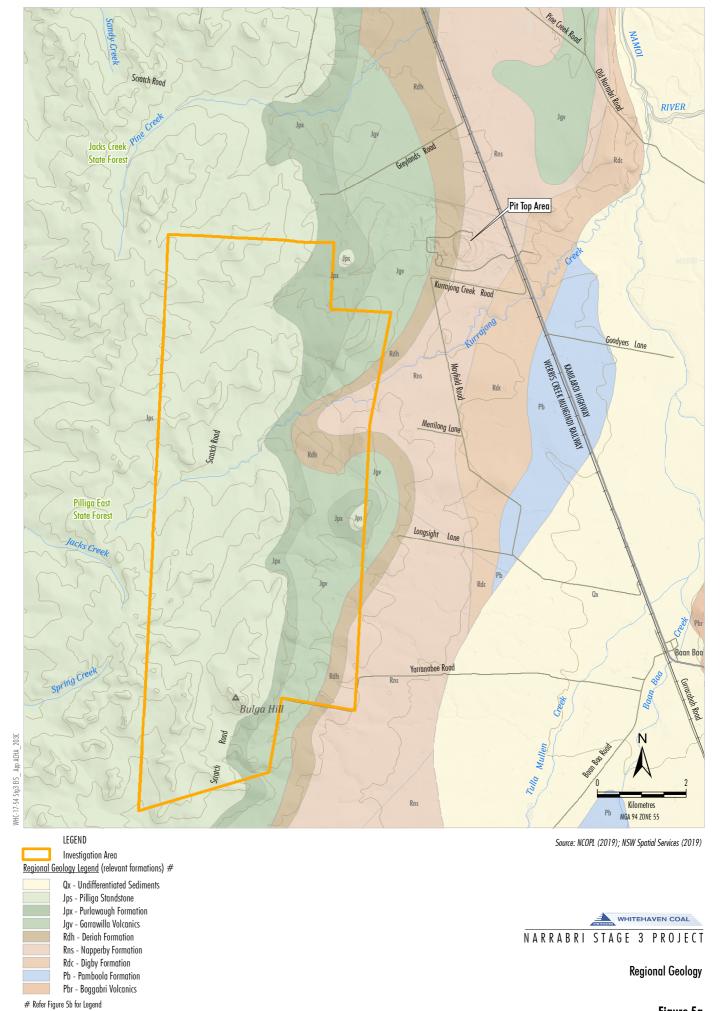


Figure 5a

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ra		Perio	d	Grown		Stratigraphy Group Formation		Symbol	Lithology								
	-			Gr	oup	Formation											
O	QUATERNARY			undifferentiated sediments	Qx	Undifferentiated alluvial deposits; includes Holocene alluvial channels and overbank deposits of sand silt and clay. Generally does not include residual and veneer colluvial deposits											
CAINOZOIC		ТЕКПАКУ				undifferentiated sediments	Ts	Sand, sandstone, pebble sandstone, pebble to cobble gravels, and tuffs									
						Nandewar Volcanic Complex	Th	Basalt, dolerite, teschenite, nephelinite or trachyte sills, dykes, plugs and flows									
		Ľ				undifferentiated volcanics		Basalt, dolerite, teschenite, nephelinite or trachyte sills, dykes, plugs and flows									
		Surat Basin Units JURASSIC				Orallo Formation	Jpo	Fine to coarse grained labile to sub-labile clayey sandstone with interbedded siltstone and mudstone									
5	Inits					Pilliga Sandstone	Jps	Quartz pebble and quartzose sandstone with minor lithic sandstone and siltstone									
MESOZOIC	asin L					Purlawaugh Formation	Jpx	Thin bedded lithic labile sandstone interbedded with siltstone and mudstone									
MES	ratB					Glenrowan Intrusives	S.Jái S.	Sills and dykes of alkali dolerite and micro-syenodolerite									
ć	ਲ					Garrawilla Volcanics	Jgv	Vesicular and non-vesicular, alkali olivine basalt, alkali basalt, hawaiite, mugearite, soda trachyte and interbedded pyroclastics									
			J.			Deriah Formation	Rdh	Fine to medium grained lithic sandstone rich in volcanic fragments with common mudstone clasts overlain by off-white lithic sandstone and dark grey mudstone									
		TRIASSIC	MIDDLE			Napperby Formation	Rns	Coarsening-up sequences of dark-grey siltstone/sandstone laminite overlain by parallel bedded or low-angle crossbedded quartzose sandstone									
		E	EARLY			Digby Formation	Rdc	Poorly sorted volcanic-lithic pebble orthoconglomerate overlain by massive, parallel or cross bedded coarse to fine grained quartz-lithic and then quartzose sandstone									
					dno	Trinkey Formation		Claystone, siltstone and fine grained sandstone intercalated with tuff, carbonaceous claystones and tuffaceous stony coal seams									
					Nea Subgroup	Wallala Formation		Fining up sequence of dominant lithic conglomerate, sandstone, siltstone, claystone and coal with minor tuff and tuffaceous sediments.									
					슙	Clare Sandstone	Pnc	Medium bedded, cross stratified medium to coarse grained quartzose sandstona Quartzose conglomerate locally developed									
	Gunnedah Basin Units AN			k Gro	Coogal Subgroup	Benelabri Formation		Interbedded claystone, siltstone and fine grained quartzose sandstone and coal									
				NE Black Jack Group	<u> </u>	Hoskissons Coal		Coal with subordinate layers of fine grained sandstone, carbonaceous siltstone and claystone, and tuff									
			LATE	LATE	LATE	LATI	LATE	LATE	LATE	LATE	LATE	Bla	LATE	dno	Brigalow Formation Arkarula Formation		Fining-up sequence of medium grained quartzose sandstone and siltstone Fining-up sequence of fine-medium lithic sandstone and siltstone with worm burrows
		IAN													Brothers Subgroup	Pamboola Formation	Pb
		PERMIAN			illie	Watermark Formation	Pwf	Fining-up sequence of intensely bioturbated silty sandstone to sandstone/claystone laminite with marine fossils overlain by finely laminated siltstone/claystone with little bioturbation, then by coarsening-up sequences of strongly bioturbated silty to sandy laminite									
SOIC						Porcupine Formation	Pps	Basal conglomerate passing upward into bioturbated silty sandstone and minor siltstone with dropped pebbles									
PALAEUZUIC				Ве	ellata	Maules Creek Formation	Pmx	Basal carbonaceous claystone, pelletoidal clay sandstone, passing into fining-up cycles of sandstone, siltstone and coal. Conglomerate dominant towards top									
					roup	Goonbri Formation	•	Carbonaceous siltstone and thin coal grading upwards to fine to medium sandstone									
		Leard Formation			ARLY	ARLY	į	Plf	Buff coloured flint (pelletoidal) claystone, conglomerate, sandstone and siltstone								
			ш			Werrie Basalt	Pwb	Basaltic lavas with intervening palaeosols and local thin coals									
-						Boggabri Volcanics	Pbr	Rhyolitic to dacitic lavas and ashflow tuffs with interbedded shale. Rare trachyte and andesite									
			CARBONIFEROUS	ш						Currabubula Formation	Cbc	Paraconglomerate, orthoconglomerate, crossbedded fieldspathic and lithic sandstone, silistone, mudstone and minor limestone. Felsic ashflow and airfall tuff, rhyolitic to andesitic crystal and vitric tuff.					
		n Units ONIFEROUS				Lark Hill Formation	Cls	Feldspathic arenite, litharenite, subordinate orthoconglomerate and paraconglomerate, siltstone, rhyodacite, and dacitic ashflow and airflow tuff									
	g g					Rocky Creek Plagyan Rhyodacite Tuff Member	Crc	Orthoconglomerate, minor feldspathic arenite and litharenite, siltstone and intermediate ashflow tuff									
New England Orogen Units	in Uni					Conglomerate	Crpr	Multiple beds of rhyolitic to andesitic crystal and vitric tuff									
	nd Oroge	CARBC				Clifden Formation	Ocs	Crossbedded feldspathic and lithic sandstones, subordinate conglomerate, shale, rhyodacitic and dacitic airfall tuffs									
	v Englan		Ľ			Caroda Barneys Spring Formation Andesite Member	Cabb	Porphyritic andesite									
	Nev		EAR	EARLY		Formation Andesite Member	Cas	Crossbedded sandstone, minor lenticular oolitic limestone and magnetite sandstone, succeeded by coarse fluvial litharenite, conglomerate, shale, thin coal									
		DEVONIAN	Parry Group			Mostyn Vale Formation	Dpmx	Pebbly lithic wacks, diamictits, lithic wacks, orthoconglomerats, olistostromal volcanic breccia, rhyodactic to basatic lavas, tuffs, agglomerates, rare limestones									

* Known only from borehole data

Source: Dept of Mineral Resources NSW (2006)

Note: Refer Figure 5a for Regional Geology Mapping.



- Purlawaugh Formation Fine to medium grained lithic to labile sandstone thinly interbedded with siltstone, mudstone and thin coal seams. Abundant carbonaceous fragments, thin beds of flint clay.
- **Garrawilla Volcanics** Dolerite, basalt, trachyte, tuff, breccia. Basal unit of the Surat Basin and overlies the top units of the Gunnedah Basin beneath.
- **Deriah Formation** Very distinctive green sandstone: fine- to medium-grained lithic sandstone rich in volcanic fragments, with common mudstone clasts overlain by off-white lithic sandstone and dark grey mudstone.
- Digby Formation Conglomerate at base, overlain by quartz-lithic sandstone, which gradually
 changes into quartzose sandstone units of cross-bedded sandstone with well-rounded quartz
 pebbles; a siltstone/sandstone and grey/purple claystone palaeosol is present on top.

The geological context of the Investigation Area demonstrates an abundance of sandstone resources, which, while unsuitable for artefact knapping (flaking), can be used for ground edge artefacts. Some stone resources suitable for artefact knapping are available (e.g. fine-grained mudstone and siltstone).

The Jurassic Pilliga sandstone is the foundational layer for the entire Pilliga. Over thousands of years, the fragile sandstone has weathered to form occasional peaks and escarpments. The Pilliga Sandstone contains localised bands of more resistant material which forms notable overhangs and caves when the soft sandstone erodes away. A large portion of the Investigation Area is located upon the Pilliga Sandstone (Figures 5a and 5b) and, as a result, holds potential for large sandstone outcrops to contain caves and/or overhangs suitable for human occupation.

The alluvial soils of the North West Slopes and Plains are generally characterised as abundant quartz sands and extensive black shrink-swell clays on low angle slopes, with brown clays, alluvial soils and red or brown texture contrast soils on more pronounced slopes. Generally, the topsoils of the Investigation Area are free-draining, of low fertility and sandy.

6.2 Topography and Hydrology

The Investigation Area is located wholly within the Namoi River catchment area, a major river system situated as an intermediary between the tablelands of the Nandewar Range (to the east) and broad plains of the Gunnedah Basin (to the west). The Namoi River generally flows in a north-westerly direction from its headwaters in the Great Dividing Range and, ultimately, into the Barwon River. Although higher landforms and associated slopes are abundant in areas to the north-east, these slopes quickly flatten out into the undulating plains that characterise the majority of the Investigation Area. In general, perennial surface water is rare in the region except for the main rivers.

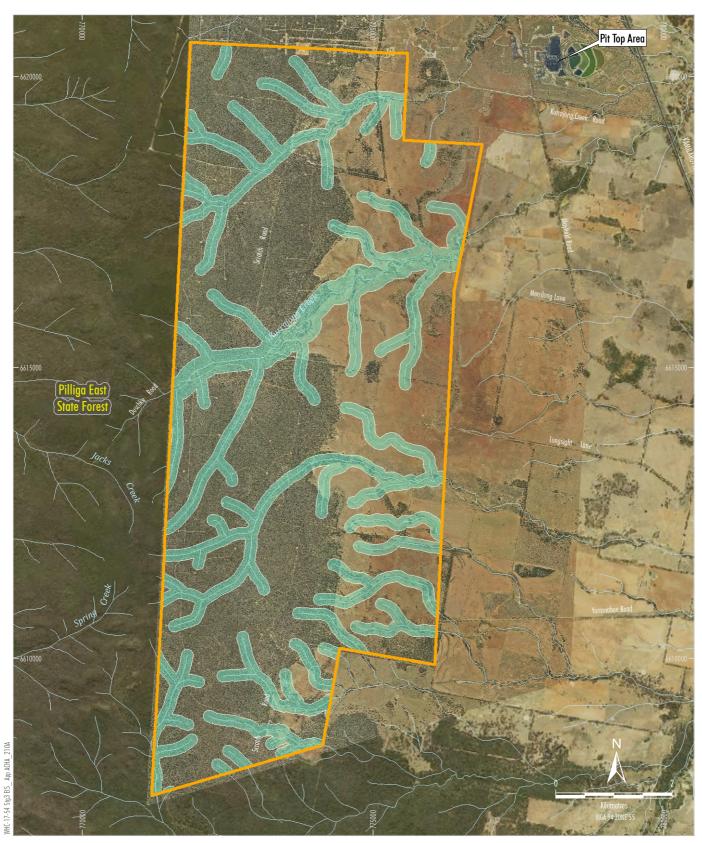
The Investigation Area is characterised by several landform units:

- Level to very gently undulating plains (generally with slopes < 5.45°, as defined by McDonald et al., 1984), which encompass a large proportion of the Investigation Area.
- Localised sandstone outcrops that form small rises and ridges within the Pilliga Forest. This sandstone is generally soft and fragile, and indicative of a dynamic and changing landscape.
- The Pilliga East State Forest encompasses more than 50 percent (%) of the Investigation Area.
 While the Pilliga East State Forest was logged and partly cleared during the nineteenth and twentieth centuries, the forest is regenerating.
- **Ephemeral creeks and drainage lines** are abundant within the Investigation Area as they drain seasonal surface water from the surrounding undulating plains. As part of the Namoi River catchment, these creeks and drainage lines are generally floodways rather than seasonal streams.

Approximately 9 km to the east of the Investigation Area, the Namoi River meanders through wide alluvial plains and is fed by several ephemeral creeks that traverse the Investigation Area (e.g. Kurrajong Creek, Tulla Mullen Creek) and drain the surrounding plains (Figure 6). These creeks and streams can be dry for extended periods.

Surface water is uncommon across much of the Investigation Area, except for short periods following storms or during long, wet periods (Haglund, 1986: 4). The higher-order tributaries and major rivers are located on the valley flats and floodplains, while creeks and billabongs are located at the base of sloping terrain, where temporarily water collects following rainfall. Major floods generally occur in late summer, during which time extensive areas of the wide floodplain are inundated.

The topography and hydrology of the Investigation Area are presented on Figure 6.



Source: NCOPL (2019); NSW Spatial Services (2019)

LEGEND



Investigation Area Hydrological Line Archaeologically Sensitive Area



Aboriginal Cultural Heritage Sensitive Areas

6.3 Climate

The climate of the locality is characterised by hot summers and mild winters with frequent frosts. The climate is dry subhumid, receiving an average of 658.5 millimetres (mm) of rainfall per annum in nearby Narrabri (Bureau of Meteorology, 2019). The hottest month of the year is January, with an average maximum temperature of 33.8 degrees Celsius (°C) and low of 19.3°C. January is also the wettest month of the year, with an average monthly rainfall of 82.9 mm, which constitutes approximately 12.5% of the average annual rainfall. July is generally the coldest month of the year, with average temperatures ranging from 4.8°C to 16.2°C (Bureau of Meteorology, 2019).

6.4 Flora and Fauna

The Investigation Area is located within the Brigalow Belt South Bioregion, which is one of the largest bioregions in Australia, and which accounts for approximately 6.7% of land in NSW. Extensive research has been undertaken on the native flora and fauna of this bioregion; however, much of the Investigation Area and the surrounding region have been significantly altered over the past two centuries.

Dryland cropping and grazing of cattle is conducted in the eastern half of the Investigation Area, where multiple seasonal creeks and drainage lines traverse undulating plains that have been cleared of native vegetation. The western half of the Investigation Area consists of thick scrub and forest of the Pilliga East State Forest, which contains occasional sandstone outcrops. Some of the Pilliga East State Forest has been previously cleared, but in recent decades has been allowed to regenerate. The Pilliga remains uncleared and unsettled (despite early efforts) because of infertile soils and lack of water.

In the Pilliga, a close relationship is evident between landforms, soils and vegetation communities. Vegetation patterns reflect strong associations with soil type, aspect, topography, fire history and drainage patterns. Dominant vegetation communities within the Pilliga comprise *Eucalyptus, Angophora* and *Callitris* species within open forest, woodland and occasional shrubland communities.

Native vegetation has been removed from much of the Investigation Area due to extensive clearing associated with pastoral and agricultural activities. Undulating plains in the Investigation Area are dominated by either open grasslands (often used as pasture), or cultivated fields. The presence of animal pasture and agricultural crops and undertaking of archaeological survey during a period of prolonged drought has increased ground surface visibility (GSV) across the cleared parts of the Investigation Area. GSV within the Pilliga East State Forest was low.

Fauna surveys completed by AMBS (2020) for the Project identified native species that likely provided
a food resource for past Aboriginal communities, including (but not limited to) the Eastern Grey
Kangaroo, Common Wallaroo, Emu and Common Wombat.

7 ABORIGINAL ARCHAEOLOGICAL CONTEXT

The aims of this contextual study are twofold: to determine the level of previous investigation of the Investigation Area and surrounding region; and to determine the presence of any previously registered Aboriginal cultural heritage sites within the Investigation Area. A review and analysis has been undertaken of data, including previous ACHAs and management plans prepared for surrounding projects, published research, and up-to-date extensive searches of the Aboriginal Heritage Information Management System (AHIMS) database, in order to identify and/or characterise the Aboriginal cultural heritage site types and locations likely to be present within the Investigation Area.

The below review of previous archaeological research considers *regional studies*, which assist in characterising the general pattern of Aboriginal cultural heritage site distribution across a broad region, and *localised studies*, which assist in developing an understanding of archaeological sensitivity and the extent and scope of prior investigation in a relatively limited area or environment. With an increase in extractive activities in the Gunnedah Basin in recent years, the region has been subject to a number of localised Aboriginal cultural heritage surveys, assessments and management plans.

7.1 Previous Archaeological Investigations of the Study Area

Previous investigations undertaken within and immediately adjacent to the Investigation Area are described in Sections 7.1.1 and 7.1.2 below.

7.1.1 Narrabri Mine

The Narrabri Mine area has been subject to several archaeological and cultural heritage investigations since 2007. The initial Aboriginal archaeological survey for the Pit Top Area was carried out by Australian Archaeological Survey Consultants (2007) to accompany the Narrabri Coal Project Environmental Assessment (the Stage 1 Project). This was followed by an investigation undertaken by Archaeological Surveys & Reports (2009) for the initial longwall mining area and associated infrastructure to support the Environmental Assessment for the Stage 2 Project application. During this investigation, Archaeological Surveys & Reports completed a comprehensive survey of Longwall Panels 1 to 7 and a water pipeline, as well as preliminary reconnaissance of Longwall Panels 8 to 26. 121 Aboriginal cultural heritage sites were identified, including 99 artefact scatters, 17 isolated artefacts (one being an incomplete axe head), one grinding groove site, one fireplace and one scarred tree.

The Stage 2 Project was granted approval (on 26 July 2010) under Part 3A of the EP&A Act. The Narrabri Mine ACHMP was developed in response to Conditions 22, 23 and 24 of Schedule 4 of the Project Approval (PA) 08_0144. In accordance with Condition 24, Schedule 4 of PA 08_0144 and the commitments in the Narrabri Mine ACHMP, detailed archaeological investigation is to be undertaken prior to proceeding with the development of surface infrastructure above the proposed longwall areas (it is noted that NCOPL received approval from the Secretary of the DPIE to undertake surveys addressing this condition in several stages). The spatial extent of known Aboriginal sites within Longwall Panels 1 to 5 was investigated by Landskape (2010b), followed two years later by Advitech (2012a) for Longwall Panels 6 and 7: Advitech recorded one new scarred tree (Pine Creek T1/ST-2).

In 2012, Advitech (2012b) was also commissioned to complete an archaeological survey of Longwall Panels 2 and 3 to assess potential axe grinding grooves identified by mine staff. Inspection confirmed the presence of six grinding grooves on exposed sandstone within a shallow drainage line associated with Pine Creek (Pine Creek T1/AGG 1).

The following year, Advitech (2013) undertook an archaeological survey of Longwall Panels 8 to 13 for the Narrabri Mine; twelve existing sites were visited, and a further six previously unrecorded sites were identified. One artefact scatter was assessed as being of medium to high scientific significance due to the high number of artefacts (Pine Creek T3 OS 130). Upon completion of the Advitech surveys, a total of 130 sites had been recorded within and around the Stage 2 Project area, including 90 artefact scatters, 33 isolated artefacts, four scarred trees, two grinding grooves, and one hearth. 91% of recorded sites are located within 50 m of the semi-permanent or permanent drainage lines of Pine Creek and Kurrajong Creek (no sites were greater than 200 m from a drainage line).

In 2015, Niche (2015) prepared an ACHA for the proposed Narrabri Mine Modification 5, which included a widening of Longwall Panels 107 to 120 and reduction in longwalls panels from 26 to 20. No new Aboriginal cultural heritage sites were identified by Niche during the survey. Niche assessed the survey area as holding low cultural significance. Several years later, Niche (2018) undertook an assessment of Longwall Panels 118-120, to partially address the requirements of Condition 24, Schedule 4 of PA 08_0144. This assessment identified one new artefact scatter on the eastern bank of a first order drainage line.

7.1.2 Narrabri Gas Project

Prior to 2017, Santos commissioned an ACHA for the Narrabri Gas Project, located in the Pilliga East State Forest, with that project's eastern boundary being immediately adjacent to the Narrabri Mine. The subsequent impact assessment identified 268 Aboriginal cultural heritage sites within the gas field, and concluded that the Narrabri Gas Project area is likely to contain additional sites not yet identified. Known sites are predominantly artefact scatters (n=121) and isolated artefacts (n=81), followed by scarred trees (n=39), grinding grooves (n=6), historic camps (n=5), hearths (n=3), historical burials (n=2), a resource place (n=2) and another historic place (n=2). All other site type occurrences were singular, including a ceremonial ring, Aboriginal ceremony, ochre source, rock shelter, shell, and stone arrangement.

The impact assessment did not attempt to undertake a comprehensive survey of the Narrabri Gas Project area, but instead sought only to verify the location, nature and extent of sites already known from the Brigalow Belt South bioregion surveys. Despite limited survey, a commitment was made within the EIS for all known Aboriginal cultural heritage sites, and any new sites of significance that may be identified in future, to be avoided by the Narrabri Gas Project development (due to the flexibility of final design) (Central Queensland Cultural Heritage Management Pty Ltd, 2016). This would be managed through a series of ongoing investigations of the sensitive areas within the Narrabri Gas Project area prior to stages of development.

7.2 Previous Archaeological Investigations of the Broader Region

Previous investigations within the broader region include intensive survey associated with the Narrabri Gas Project (immediately west of the Investigation Area) and several coal mines 20-30 km to the south-east of the Investigation Area (i.e. the Vickery, Tarrawonga, Boggabri and Maules Creek Coal Mines). These investigations are described in the following subsections.

In addition, several other studies undertaken in the Gunnedah/Narrabri region have been reviewed and considered as part of this ACHA.

7.2.1 Regional Studies

It is noted that Balme's (1986) broad regional study of the north central river systems, including part of the Pilliga State Forest, identified open artefact scatters and scarred trees as predominant site types in similar landform units to those recorded in the Investigation Area. Balme (1986) noted that these sites tend to be located in association with permanent watercourses and, to a lesser degree, ephemeral creeks at the base of higher landforms.

Haglund (1985) undertook extensive archaeological investigations of proposed coal mining areas north of Gunnedah, including areas now associated with the existing Boggabri, Tarrawonga and Maules Creek Coal Mines. The results of Haglund's archaeological investigations revealed low artefact densities, with the greatest artefact numbers concentrated along the Namoi River and then, to a lesser degree, ephemeral drainage lines.

In 1991 parts of the Pilliga State Forest were subject to archaeological survey by Roberts (1991). Not all landform units were sampled by Roberts, and investigation focused on alluvial areas where the larger intermittent stream channels occur. Nevertheless, a common pattern of Aboriginal sites associated with creeks was established. Roberts (1991:25-6) also attempted to demonstrate a link between site distribution and the diversity of flora resources but this theory was unable to be tested due to a lack of surface visibility. Roberts' investigation highlights the problem of GSV within a densely forested landscape.

An AGL (1999) gas pipeline development between Dubbo and Tamworth (226 km) included archaeological survey of a wide variety of landforms along the linear alignment. A total of 212 watercourses were crossed during the survey, revealing these landform units to be the most sensitive to Aboriginal cultural heritage sites.

Purcell (2000; 2002) completed an Aboriginal cultural heritage field survey of the Goonoo and Pilliga State Forests as part of a larger investigation of Aboriginal cultural heritage within the Brigalow Belt South Bioregion with the aim of identifying areas of Aboriginal cultural heritage sensitivity. The survey was informed by a geomorphological assessment, which identified 12 different landforms units within the Pilliga State Forest (and seven within the Goonoo State Forest located near Dubbo). Survey identified 145 previously unrecorded sites within the Pilliga State Forest. Despite survey sampling being limited to existing tracks and track margins, results confirmed that Aboriginal sites occur with greater frequency in association with alluvium landforms dominated by creeks, chains of ponds, flood plains, swamps and creek terraces. The Brigalow Belt South Bioregion study also incorporated a detailed cultural perspective on archaeological sites, flora and fauna.

As part of their approval conditions, the Boggabri, Tarrawonga and Maules Creek Coal Mines were required to develop an Aboriginal Heritage Conservation Strategy (AHCS) across the three mines. The AHCS was initially developed in 2014 (Boer-Mahr, 2014) and finalised in 2017 (UQCHU, 2017), and outlined a unified approach to conserving and managing Aboriginal cultural heritage across the three mines, and their associated Biodiversity Offset Areas. Archaeological surveys and Aboriginal cultural values surveys have been undertaken across the relevant properties, including a number of Biodiversity Offset Areas adjacent to Mount Kaputar National Park, and within close proximity to the Maules Creek Coal Mine. No sites of unusual or exceptional cultural significance have been identified, other than those already known (e.g. Gin's Leap, Barbers Pinnacle).

7.2.2 Maules Creek Coal Mine

Haglund (1983) summarises the preliminary results of a broad archaeological reconnaissance survey of the Maules Creek Coal Project. The survey was aimed at characterising the archaeological potential of the area based on general observations regarding landform, geology and site identification. Haglund (1983: 2) noted that the river flats in the area (i.e. those associated with the Namoi River and Back Creek) were surrounded by more rugged terrain with steep-sided ridges and spurs separated by narrow erosion gullies. While rocky outcrops were noted by Haglund, nowhere was the rock seen to form overhangs or shelters large enough for use by Indigenous people (ibid). North of Back Creek, the more gently sloping terrain consisted of extensive colluvium and alluvium. Haglund concluded that areas 'likely to have been preferred for Aboriginal camp sites occur on flat-topped spurs where finer sediment remains with the gravel, on stretches of Black Soil [...] and on the areas of colluvium and alluvium' (Haglund, 1983: 3). Archaeological material was considered more likely on high creek banks close to rocky outcrops exposed in creek beds and, to a lesser degree, on the lower slopes of low hills and broad saddles. No archaeological material was evident above the 340 m contour, likely due to the scarcity of surface water and the prevalence of steep surfaces. Haglund's (1983: 7; 1986: 5) study confirmed the relevance of Thompson's (1981: H-10) predictive model at the Vickery Coal Mine: namely, the presence of low-density artefact scatters on intermittent creeks at locations just downstream from steeper sections that drain hills, but upstream of where the creek channels become poorly defined and spread out on the flat alluvial areas downstream (i.e. in areas where water pools after rain).

Three years later, Haglund (1986) followed up the reconnaissance survey of the Maules Creek Coal Project area with a more detailed sampling survey. As a result of the two surveys, Haglund identified 21 artefact scatters and several isolated artefacts in the Maules Creek Coal Project area. Haglund (1986: 9) noted that the richest sites, in terms of artefact frequency and diversity, were those sites located on the banks of Maules Creek. Furthermore, the smaller assemblages primarily consisted of un-retouched flakes, flake cores, and flake fragments — artefact categories that characterise stone-working activities associated with stone resource acquisition. The Aboriginal cultural heritage sites identified by Haglund are characterised by scatters of flaked stone artefacts of variable raw material (e.g. mudstone, silcrete, chert, quartz, quartzite and chalcedony).

Dallas (1986) also undertook an archaeological survey of proposed infrastructure options for the Maules Creek Coal Project. The survey located four Aboriginal cultural heritage sites, including three low-density artefact scatters and one rock shelter with an indirectly associated bifacial artefact. The rock shelter site (known as MC22), which contained no evidence of Aboriginal occupation or use within the shelter (the bifacial artefact was located downslope from the 'rock shelter'), is located at the western end of the same rock outcrop associated with Gin's Leap. There is no archaeological evidence to indicate that this small overhang, rare for the area, should be considered an Aboriginal cultural heritage site.

The Aboriginal Archaeology and Cultural Heritage Management Plan (AACHMP) for the Maules Creek Coal Mine was prepared in 2013 and revised plans were approved two and three years later (UQCHU, 2015; Whincop Archaeology, 2016). Cultural heritage sensitive areas were defined in the AACHMP as those areas within 50 m of a known Aboriginal cultural heritage site and/or land within 200 m of a named watercourse and/or 100 m either side of unnamed but mapped drainage lines.

7.2.3 Tarrawonga Coal Mine

A 2005 archaeological investigation of the then proposed East Boggabri Coal Mine (now known as the Tarrawonga Coal Mine) identified eight Aboriginal cultural heritage sites, including one scarred tree, one isolated artefact site, and six artefact scatters (Archaeological Surveys and Reports, 2005).

Several assessments have since been undertaken for different aspects of Whitehaven's Tarrawonga Coal Mine (Dunk and Vermeltfoort, 2011; Landskape, 2010a; Kayandel, 2011). The Environmental Assessment reports the identification of 58 previously unregistered sites (including 22 artefact scatters, 25 isolated artefacts and 11 scarred trees), in addition to the 90 previously recorded sites already registered on AHIMS at that time (including 76 artefact scatters, 11 scarred trees, a potential archaeological deposit [PAD], an artefact scatter with a scarred tree and a restricted access site).

All but two of the artefact scatters identified during survey were located on the lower slopes or plains landform units, and only one was found in a location not within 200 m of Goonbri Creek. The majority of artefact scatters were considered to be low-density; the highest number recorded was 61 artefacts (including 10 cores). The isolated artefacts identified were distributed across a wider variety of landforms than artefact scatters (i.e. ridge tops, plains, and lower slopes), but were generally still located within 200 m of a known creek or water source. Investigations undertaken at the Tarrawonga Coal Mine demonstrate that there is a strong correlation between the size and density of artefact remains, water availability and landform.

In 2019, an ACHA for a Modification to the Tarrawonga Coal Mine was prepared by Whincop Archaeology (2019a). The modification was largely limited to the existing mine footprint, with the exception of a water pipeline located within the Tarrawonga haul road reserve. Four new artefact sites were identified in the heavily disturbed road reserve.

7.2.4 Boggabri Coal Mine

Hamm (2005) identified 59 Aboriginal cultural heritage sites (including artefact scatters, isolated artefacts and scarred trees) as part of an ACHA at the Boggabri Coal Mine.

The Cultural Heritage Management Plan for Idemitsu's (2013) Boggabri Coal Mine incorporates the results of several different archaeological surveys, but is not explicit about the actual number of sites located within the relevant project area. An earlier ACHA (Archaeological Surveys & Reports Pty Ltd, 2005) identified 61 sites (including 30 artefact scatters, 26 isolated artefacts and five scarred trees), while a later survey (Insite, 2010) identified a total of 77 Aboriginal cultural heritage sites (again including artefact scatters, isolated artefacts and scarred trees). It is not clear, however, which of the original 61 sites, if any, are included in the later total of 77 sites. Furthermore, several sites identified during the ACHAs prepared for the Tarrawonga and Maules Creek Coal Mines are managed by the currently approved Boggabri Coal Mine Cultural Heritage Management Plan. The 2009 AHIMS search undertaken as part of the Aboriginal Cultural Heritage Impact Assessment Report (Insite, 2010: 19) prepared for the Boggabri Coal Mine identified 103 sites within a 500 square kilometer (km²) area (see Insite, 2010: Figure 3), including 86 artefact sites, 14 scarred trees, a PAD (later de-registered), an artefact site with a scarred tree and a mythological site (Gin's Leap). Two patches of grinding grooves on sandstone bedrock in the Leard State Forest were also identified during subsequent survey, though they are both considered relatively poor archaeological examples of their site type (Insite, 2010: 73).

The results of the 2010 assessment concluded that the majority of artefact sites were located on the lower slopes of the Baan Baa Range, while fewer sites were identified in the sediments of the Namoi River floodplain. Much of what was identified by the various surveys and assessments were notably disturbed, though Insite (2010: 50) states that the lower slopes of the Leard State Forest hold potential for subsurface, undisturbed sites.

7.2.5 Vickery Coal Mine

Kamminga (1978) undertook a sample survey of the proposed coal mining operation at the Boggabri Coal Mine, which included an examination of the then proposed Vickery Coal Mine. In particular, the survey focused on identifying potential chalcedony quarries on Robertsons Mount and in the outcrops around Gin's Leap. Kamminga also investigated anecdotal evidence for the presence of burial grounds, scarred trees, a bora ground and a fish trap, but was unable to conclusively locate any such sites. This is possibly due to destruction through modern land use activities (e.g. ploughing). No Aboriginal cultural heritage sites were identified during his assessment.

Thompson (1981) undertook an assessment of the then proposed Vickery Coal Mine as part of an EIS. Investigations identified several site types, including grinding grooves, scarred trees, artefact scatters and some small artefact sites near minor drainage channels and on slopes and ridgetops. Thompson (1981: H-10) concluded that the locations of camp sites (represented by extensive artefact scatters) are closely associated with the presence of water; either a permanent river or intermittent creeks. Sites with the highest artefact densities (though none were particularly rich) were generally located on a permanent water source with access to a variety of environments and, therefore, resources (i.e. the Namoi River where it intersects the open plains in proximity to nearby low hills). Thompson noted that, although camp sites rarely occur away from permanent water, smaller artefact scatters do occur along creeks immediately downstream from steeper sections (i.e. where water can pool).

Scarred trees are generally not well-represented in Thompson's (1981: H-21) study, except for the Cypress Pine tree scars that Thompson associated with 'torches' and nocturnal resource gathering. These same 'torch-bark' scars were inspected by a member of the NSW Forestry Commission, who interpreted these scars to be the result of a fire and should not be considered Aboriginal relics (Haglund, 1985: 19-20). It is noted that similar scars encountered during archaeological survey of the nearby Maules Creek Coal Mine were also dismissed by a forestry expert with more than 30 years' forestry experience as not having a cultural origin (Burns, 2013).

Haglund (1982) undertook an archaeological investigation of two artefact scatters located on the Namoi River that had been identified by Thompson (1981): the sites were named 'Top Rocks' (AHIMS 20-4-0009) and 'Bottom Rocks' (AHIMS 20-4-0008), though both were registered on AHIMS under the site name 'Wilga' (note, the 'Wilga' grinding grooves have been inadvertently recorded a second time as Broadwater Grinding Grooves [AHIMS 20-4-0292]). Haglund's detailed inspection of the two 'Wilga' sites identified a wider class of artefact and raw material evident than that recorded by Thompson. Of the two sites, only 'Top Rocks' (artefact scatter with associated grinding grooves) (AHIMS 20-4-0009) was interpreted as maintaining spatial integrity with *in situ* archaeological deposits. 'Bottom Rocks' (AHIMS 20-4-0008) has been disturbed and damaged by erosion and human activity.

Landskape (2012) completed an ACHA of the now-approved Vickery Coal Project. In addition to previously recorded sites, the field surveys identified 20 artefact scatters and 15 isolated artefacts, all of which constituted small, low-density artefact sites. The approved Vickery Coal Project ACHA assessed five previously recorded sites, including the 'Wilga' grinding grooves (AHIMS 20-4-0009) on the Namoi River.

Also in 2012, Hudson commenced preparation of an ACHA for the then proposed Vickery South Project. The ACHA was never completed. During the field surveys, Hudson identified over 30 potential Aboriginal cultural heritage sites, including more than 20 possible scarred trees. Two separate independent investigations have since determined the potential scarred trees to be of natural origin (Kamminga and Lance 2016; Burns 2016).

In 2014, the University of Queensland Culture and Heritage Unit (UQCHU, 2016) undertook archaeological survey of the proposed Vickery Expansion Project, which included a reassessment of the Vickery South Project area. UQCHU confirmed four of Hudson's sites as Aboriginal cultural heritage sites, as well as 125 additional artefact sites located along the proposed rail loop, pipeline, haul road and infrastructure areas, although a later redesign of the proposed rail loop has ensured most of the sites will not be impacted by the development (Whincop Archaeology, 2016b). The highest concentration of sites, and those with higher artefact densities, were located on the river terrace overlooking the Namoi River. While artefacts were identified away from the river terrace, artefact numbers were significantly reduced and characteristic of a low-density background scatter. No artefacts were identified within the alluvial floodplain west of the Namoi River.

7.3 AHIMS Searches

In addition to a review of relevant literature and reports for the Investigation Area and wider region, an extensive search of the AHIMS database for the Study Area (i.e. the Investigation Area with a 1 km buffer) was initially undertaken on 22 July 2019 (Search ID 436581), which identified the presence of sixty-four (64) Aboriginal cultural heritage sites within the Study Area (Appendix 5). The sixty-four (64) AHIMS sites known to exist within the search area prior to the ACHA survey included:

- forty-nine (49) artefact scatters;
- fourteen (14) isolated artefacts; and
- one (1) hearth site.

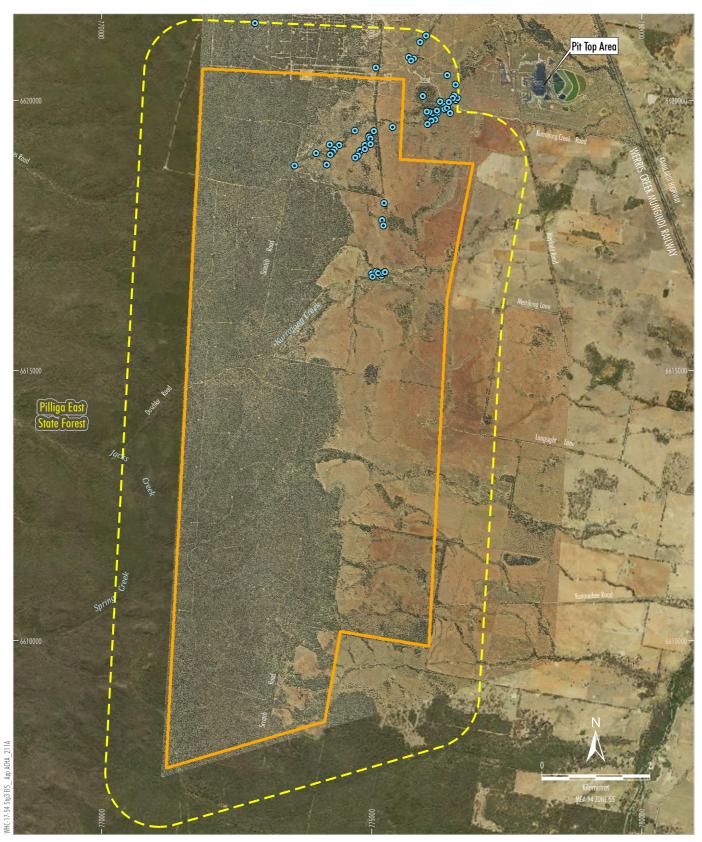
The results of the AHIMS search are presented on Figure 7 and provided in Appendix 5. A total of thirty-three (33) Aboriginal cultural heritage sites were known to exist within the smaller Investigation Area prior to the ACHA survey.

A more recent extensive search of the AHIMS was undertaken on 28 May 2020 (Search ID 509218) for the same search area as above and includes the same sites and additional Aboriginal cultural heritage sites identified during preparation for this ACHA. A copy of the latest AHIMS search results is included in Appendix 5.

It is noted that, while the AHIMS database provides a good indication of the known Aboriginal cultural heritage sites in a given area and can be used to assist in characterising the heritage potential of that area, the search is only reflective of the previous survey effort undertaken in that area. Additional sites may be located within a given area depending on whether the area has been extensively and sufficiently surveyed.

7.4 Ethnographic and Historical Context

In this section, the available ethno-historical and historical information relating to Aboriginal people of the region is briefly reviewed. This information can assist in formulating a model of local Aboriginal subsistence and occupation patterns. In conjunction with an analysis of the documented archaeological record of the region, the ethno-historical and historical information also assists in the interpretation of Aboriginal cultural heritage sites in the wider area, and in predicting the potential location and likelihood of occurrence of Aboriginal cultural heritage site types within the Investigation Area.





LEGEND Investigation Area AHIMS Search Area AHIMS Site Source: NCOPL (2019); NSW Spatial Services (2019); AHIMS (2019)



The present distribution, physical condition and visibility of Aboriginal cultural heritage sites depend on local patterns of past human behaviour, as well as intensive land use practices over the last 150 years. This section draws from early ethnographic sources to explore the history of local Aboriginal people at the time of, and subsequent to, contact with non-Indigenous peoples. For this reason, the following summary of past land use practices is important to the development of an archaeological predictive model for the Investigation Area.

There are several problems, however, concerned with correctly describing nineteenth century Aboriginal groups west of the Great Dividing Range. This is the result of discrepancies in early European accounts and the difficulties early settlers had in understanding Aboriginal languages and social systems. The effects of European settlement on Aboriginal people, such as the loss of traditional lands and resources, spread of disease, social breakdown, and the removal of people to Reserves have added additional complexities. Hence, it is difficult to accurately identify the ethno-history and post contact history of specific Aboriginal clan groups.

In the late Pleistocene period, during the last glacial maximum (24,000 to 18,000 years ago), the climate was significantly cooler (6-10°C) and drier than at present. Water was less abundant and less reliably available in some areas, especially in areas today generally lacking surface water, such as the undulating plains west of the Namoi River. The general lack of water and associated subsistence resources would not have represented an environment conducive to Aboriginal occupation. By the Holocene period, which commenced around 11,700 years ago, water was more frequently available and areas previously considered sub-optimal were much more conducive to human occupation. As a result, Aboriginal cultural heritage sites dating to the Pleistocene, if present in the region, will likely be restricted to the margins of the Namoi River, where water was sufficient to sustain life.

Aboriginal people of the Kamilaroi (or Gamilaraay) language group occupied the North West Slopes and Plains at the time of European contact (Mitchell, 1839; Fison and Howitt, 1867; Parker, 1905; Tindale, 1974; Howitt, 1996). A language group consisted of independent groups of closely related kin, or 'clans', who were spiritually linked to designated areas of land through their association with topographic features connected to mythic beings or deities (Berndt, 1982). Clan lands were inalienable and clan members had religious responsibilities (e.g. conducting rituals) to ensure 'the perpetuation of species associated with the particular mythic beings associated with that territory' (Berndt, 1982: 4).

Traditionally, reconstructions of tribal boundaries have been based on language groups documented in the ethnographic and ethno-historical literature. It is important to note, however, that these reconstructions do not necessarily reflect the spatial distribution of Aboriginal peoples prior to European settlement and, instead, provide an approximate guide to Aboriginal tribal boundaries during the contact period (Sullivan, 1981). During the early phase of European exploration, the few observations made of Aboriginal groups were generally limited to distant sightings of Aboriginal people and their fires (Mitchell, 1839).

The territory of the Kamilaroi extended from Singleton in the south to the Warrumbungle Mountains in the west and incorporated areas today associated with Quirindi, Tamworth, Narrabri, Boggabri, Walgett, Moree and Mungindi in northern NSW, as well as some parts of southern Queensland. Tribal boundaries were linked with physiographic features (e.g. mountain ranges) and should not be considered as rigid lines in the landscape.

European observers noted that the Kamilaroi were hunter-fisher-gatherers who appeared to lead a semi-nomadic lifestyle. In 1831, the Surveyor-General of NSW, Major Thomas Mitchell (1839), examined the Namoi (*Namoy*, *Nammoy*) River valley and remarked on the open appearance of the undulating landform in the vicinity of Barbers Lagoon (near Boggabri). The managed appearance of this landscape reminded him of farmland in England. Much of the country close to the river consisted of open woodland where Aboriginal landscape management practices, such as cold season burn-offs, had modified the landscape to make it more productive (i.e. attracting grazers) (Thompson, 1981: H-3; Haglund, 1986: 5).

The Kamilaroi caught fish, eels, freshwater crayfish, yabbies, tortoises and freshwater mussels in the Namoi River and other streams and wetlands in the region (Mitchell, 1839; Parker, 1905; O'Rourke, 1997). Watercrafts were manufactured from large slabs of bark cut from river red gum trees.

Reed nets were used to catch birds, whose eggs were also collected. Other animals that Kamilaroi hunted included kangaroos, wallabies, possums, emus, echidnas, lizards, snakes and frogs (Mitchell, 1839; Fison and Howitt, 1867; Parker, 1905; O'Rourke, 1997). A wide variety of plant foods were also collected, including wild orange, native lime, tubers, yams and roots (Gott, 1983).

Mitchell, amongst others, took note of the extensive Kamilaroi encampments (though Mitchell met only one person in the area) located beside reliable watercourses, such as the Namoi River, Gwydir River, and Coxs Creek (Mitchell, 1839; O'Rourke, 1997). O'Rourke (1997) has estimated a total historical regional population in north-western NSW of around 10,000 Kamilaroi, with each clan having resided throughout the year at a small number of established, favourable locations within their estate. Subsistence was based on seasonal occupation of the riverine corridors and drier 'backcountry'.

Large populations of people congregated at the rivers during the drier months, while in the cooler or wetter months, mobile bands dispersed over the plains and adjacent foothills, exploiting ephemeral resources (O'Rourke, 1997). The archaeological record of this occupation is preserved in the distribution pattern of Aboriginal cultural heritage sites, most of which probably date to the Holocene period (Purcell, 2000; 2002).

Other early accounts also record important details about ceremonial activities and burial practices. Mathews (1917) observed large initiation and ritual scarification ceremonies, including taboo behaviours, at the important ceremonial rings at Terry-Hie-Hie (north of Mount Kaputar). Some of these ceremonial areas were lined with carved trees. Around 1845, a traditional burial ceremony was recorded near Dubbo, where the body was placed in a sitting position and wrapped in a possum skin cloak tied together by the mourners' belts (Garnsey, 1942: 24). The body was buried in sandy soil near a river bank, with a number of trees being carved by the participants.

This summary of Aboriginal behavioural patterns in the area during the mid-nineteenth century indicates that occupation was undertaken on a seasonal basis, characterised by temporary encampments shifting between resource-rich zones at different times of the year. Large campsites were often placed close to rivers and creeks. Such camps were generally occupied by smaller family groups for a few days or longer in resource-rich areas. Camps were shifted regularly to take advantage of foods as they came into season. Camps and travel routes were also located to take advantage of available resources such as stone for making or maintaining tools. Physical evidence of such activities would have been left behind as stone-working debris and discarded used tools at quarries and campsites, or the presence of axe grinding grooves.

The lives of Aboriginal groups in the wider area were severely disrupted by the establishment and expansion of European settlement. In 1818, John Oxley became the first European explorer to journey through the Boggabri area, but he found the area too wet for effective grazing (Roberts, 1935: 133-134). Several years later (April and May 1825), Cunningham investigated the local area for potential pasture, water and mineral resources, but he too concluded that the area was a permanent swamp 'unsafe' for stock (Rolls, 1984: 67). The earliest recorded contact between the Kamilaroi and European settlers occurred in 1824, when the two cultures clashed violently at a pass in the Liverpool Range (Roworth, 2000:59), an encounter that temporarily delayed further expeditions westward, at least until Clark's reports of an 'inland sea' reignited interest.

George 'the barber' Clarke, an escaped convict, had resided with the Kamilaroi from 1825 until his recapture five years later. He journeyed west and encountered the Kamilaroi people in the area of modern Boggabri, eventually settling at a half-moon waterhole today known as 'Barbers Lagoon' (Rolls, 1984: 94). Clarke learned their language, customs and dress and was given knowledge enough to allow his participation in ceremonies at Terry-Hie-Hie (Boyce, 1970), where he underwent ritual scarification as well as staining his body with wild berry juice, clay and ochre.

Clarke also dressed wearing a possum-skin cloak (gifted to him), grass beads, a twisted human hair belt, and a reed headband. During his time with the Kamilaroi, Clarke instructed his new kin in the techniques of stock-rustling and showed them how to build a stockyard by the lagoon, which represents the first structure along the Namoi in the region (Rolls, 1984: 94; Roworth, 2000: 61). On the recapture of Clarke, he recounted a story about a great inland sea (probably the Namoi River in flood) which prompted the 1831 expedition of Mitchell into the area. Mitchell encamped at the stockyard by Barbers Lagoon while exploring the immediate area, but he encountered no local Kamilaroi people. While Mitchell did not find the great 'inland sea' he was expecting, it is his description of the rich environment of the North West Slopes and Plains that initiated a concerted move into the area by European settlers.

By 1834, Andrew Doyle and his brothers established the 'Nurrabry' run, the first squatting run in the region. By 1835, several additional squatters had moved up the Namoi River to establish illegal sheep runs. Edward Cox drove his flock from the headwaters of Coxs Creek to its junction with the Namoi River and established the Namoi Hut Station, which would eventually (in 1860) become the township of Boggabri (Archaeology Australia, 2010: 13). By 1848, all the land along the Namoi River was occupied by pastoralists (O'Rourke, 1997: 201).

As more settlers moved into the North West Slopes and Plains to establish large runs, the Aboriginal community was pushed further and further into marginal areas where subsistence was difficult. Within several decades of first contact many Kamilaroi people were living in 'fringe camps' adjacent to pastoral stations and taking up work as shepherds or stockmen (O'Rourke, 1997). Following the pastoral settlement of the district, the effects of introduced disease, dispossession and European aggression combined to decimate the Aboriginal population and cause the breakdown of traditional social and subsistence systems (e.g. the last recorded Kamilaroi bora ceremony occurred in 1905 at Wee Waa [O'Rourke, 1997]). In 1909, following the passing of the NSW *Aborigines Protection Act*, 1909, a series of Aboriginal Reserves and Stations were established in Kamilaroi lands, including one at Baan Baa approximately 7 km east of the Investigation Area, respectively (Thompson, 1981; Barber et al., 2007).

7.5 Post-contact Land Use

In the past 150 years, pastoralist activities, farming, forestry, mining and other land management practices have combined to significantly alter the fabric of the North West Slopes and Plains landscape (Haglund, 1986: 5). Land in the Investigation Area was first used and settled by Europeans as squatting runs for stock and sheep in the mid-nineteenth century. The first squatting run was the 'Nurrabry', taken up in 1834, followed by the foundation of the town of Narrabri in 1860. Agricultural activities were then introduced into the Narrabri Shire after the passing of the Robertson Land Acts of 1861, which facilitated the selection of land by farmers on pastoral holdings for the cultivation of wheat and, later, cotton. Much of the alluvial flats associated with the major creeks and rivers were extensively cleared and heavily cultivated.

As a result of land clearance activities, many Aboriginal cultural heritage sites have been either destroyed, removed or significantly disturbed over the course of the past 150 years. The ground surface has been extensively cleared, ploughed and trampled, and much of the area's woodland has been logged and cleared. The nature of unwooded open country has also compounded the erosive effects of annual flooding of the Namoi River, which would have accelerated impacts to Aboriginal cultural heritage sites. Finally, changes in fire regime resulted in the loss of a mosaic environment and in the development of more intense fires (Hesse, 2000). As a result, it is likely that the majority of artefact scatters have either been significantly disturbed or eroded, while the potential for traditional scarred trees to survive clearing and logging activities, as well as fire, is considered to be low.

7.6 Predictive Model

Predictive models are generally based on the results of previous archaeological investigations within a similar local environment and take into account a wide variety of environmental influences (Rowland and Connolly, 2002).

The purpose of a predictive model is to inform archaeological investigations and intensify focus on areas with archaeological potential. As a result, a large portion of the development of each model is undertaken as a desk-based study. This provisional predictive model is then further refined during site visits and archaeological survey when general observations are recorded regarding landform, geology, elevation, slope and the extent of clearance and disturbance on each property. In other words, the desktop predictive model is subject to further development based on actual conditions on-site.

A summary of the results of previous archaeological investigations indicates that Aboriginal cultural heritage sites do occur in and around the Investigation Area, indicating some potential remains for the discovery of previously unidentified Aboriginal cultural heritage sites (Sections 7.1 and 7.2). This section presents a list of implications and the likelihood for the potential discovery of different Aboriginal cultural heritage site types within the Investigation Area.

General predictions for site patterning:

- Aboriginal cultural heritage sites are known to exist within and around the Investigation Area.
- Previous archaeological investigations have demonstrated a pattern of Aboriginal cultural heritage site distribution linked to the Namoi River and associated creeks and seasonal drainage lines, as well as raised landforms overlooking permanent water sources.
- The local area (including the Investigation Area) has been subjected to intensive disturbance over the past 150 years, which has variously impacted upon the survival of Aboriginal cultural heritage sites. These activities have included vegetation clearance, erosion, crop production, animal pasture, road construction, ploughing, animal trampling, logging, timber milling and intensified bush fires. These processes have generally not occurred uniformly, and as a consequence there remains limited potential for the survival of *in situ* Aboriginal cultural heritage sites in areas of low disturbance within the Investigation Area. In scientific (or archaeological) terms, disturbed sites are generally considered to be of lower scientific significance and, as such, generally require less rigorous management responses.
- Previous archaeological assessments within the Pilliga State Forest and other eastern Australian
 forests have emphasised the poor or limited nature of access and GSV within forested
 environments: i.e. despite large areas being investigated, only small samples have been obtained
 (see Byrne, 1983; Balme, 1986; Koetigg, 1986; Roberts, 1991; James and Conyers, 1995; Hughes,
 1999; AGL, 1999).
- It is thought that flood events associated with the Namoi River catchment have dispersed, buried and/or scoured many sites that may have been located along local creeks and seasonal drainage lines.
- On the basis of the nature of the known archaeological record in the wider region and the landforms present in the Investigation Area, it has been determined that the larger creeks and drainage lines within the Investigation Area retain the highest potential to contain Aboriginal cultural heritage sites.

 If Aboriginal cultural material has survived in the Investigation Area this will most likely be represented by stone artefacts located within disturbed soil horizons. Scarred trees will survive only in areas with mature native vegetation preservation, which are rare within the Investigation Area.

Artefact Scatters:

- Artefact scatters are the most common site type in the wider region, and are the site type most likely to occur in the Investigation Area.
- Artefact sites are more likely to be found on the banks of, and in proximity to, creeks and, to a lesser degree, seasonal drainage lines.
- The archaeology of the surrounding area is characterised by diffuse artefact scatters or isolated artefacts that occur in higher densities along Kurrajong Creek (and its tributaries), but which conversely decrease in density with distance from water.
- There is a strong correlation between the size and density of artefact remains and water availability (i.e. the frequency of stone artefacts decreases with increasing distance from water).
 Sites associated with larger watercourses (e.g. Kurrajong Creek) are generally more extensive and more frequently used than sites located in other landforms.
- When artefacts are encountered on higher landforms (i.e. away from reliable water sources), they are generally representative of a sporadic and diffuse Aboriginal presence.
- Stone artefact scatters and isolated artefacts have the potential to occur over the entire Investigation Area but are more likely to be found within 50 m of other artefacts and/or 200 m of a named watercourse and/or 100 m of an unnamed drainage line.
- The presence of low-density artefact scatters on intermittent creeks is generally limited to locations downstream from steeper sections that drain higher terrain, but upstream of where the creek channels become poorly defined. These locations are likely associated with temporary waterholes and billabongs following rain.
- The presence of stone artefact scatters on intermittent creeks is often associated with the
 presence of exposed outcrops of suitable stone resources. The nature of artefacts from these sites
 reflects preliminary stone-working activities associated with stone resource acquisition, such as
 the use of sandstone outcrops for ground-edge tools.
- A review of the relevant geology indicates the presence of some stone sources suitable for artefact knapping, and an abundance of sandstone outcrops suitable for artefact grinding/sharpening.

Grinding Grooves:

- Grinding groove sites tend to exist where suitable outcrops of coarse sandstone occur close to
 water. Grinding grooves are known to exist in sandstone outcrops in the vicinity of the
 Investigation Area.
- The Investigation Area contains underlying sandstone (e.g. Pilliga Sandstone), generally well suited for the development and use of grinding grooves.

Scarred Trees and Carved Trees:

- Scarred trees have been reported to occur within the wider area, but are generally quite rare.
- Scarred trees, which represent the sources of material for shields, containers, canoes, shelters, etc., can occur near water or away from it, depending on the type of wood or bark required and its purpose.
- Considering the generally accepted late nineteenth century cessation of cultural tree scarring, only mature native trees have the potential to contain cultural scars.
- Haglund noted in 1986 that few trees in the Boggabri district were observed in the wider area that
 would be old enough to have been affected by traditional Aboriginal practices.
- Not all trees containing scars are the result of cultural activities; several trees registered on AHIMS
 as scarred trees have been reassessed as being of natural origin (e.g. Thompson's [1981] 'torch
 bark scars'; Burns' [2013] reassessment of trees at Maules Creek Coal Mine; Kamminga and
 Lance's [2016] assessment of tree scarring on the Vickery Expansion Project).
- Scarred trees are largely associated with permanent water sources (e.g. the Namoi River).
- Carved trees have been previously recorded in the Boggabri area (e.g. the Burburgate Tree as
 described in Dallas, 1986: 5), but such trees are generally known, and unlisted examples would be
 possible in very remote areas only.

Rock Shelters:

- The local landscape is dominated by outcrops of fragile sandstone with occasional durable features, which together help form rock shelters and/or caves.
- Sandstone caves significant to the Aboriginal community are known to exist within the nearby Pilliga Nature Reserve. Other rock shelter sites are known to exist in Mount Kaputar National Park and Boonalla CCA Zone 2 Aboriginal Area (near Kelvin).
- Rock art is known to exist in the Pilliga Nature Reserve. These consist of engravings, painted motifs
 and stencils where sandstone rock shelters or overhangs occur (Purcell, 2000).

• Sites dependent upon the presence of rock formations, such as rock shelters and rock art sites, may occur in the Investigation Area.

Spiritual/Ceremony Sites:

- Mythological or religious sites, including stone arrangements, generally occur on ridges or in association with distinctive landscape features.
- Bora rings and spiritual sites have been reported, but not necessarily substantiated, for the wider region; such sites are rare, and their survival more so.
- Gin's Leap has been registered on AHIMS (20-4-0010) as a Mythological site, and is the only site of this type in proximity to the Investigation Area (approximately 17 km east of the Investigation Area).
- Ceremonial grounds, such as Bora rings, tend to be some distance from occupation sites, due to the culturally sensitive nature of activities that occur at these locations (McCarthy, 1940).

Burials:

- Burial sites are either known through tradition or found by accident when disturbed (e.g. eroding out of sand dunes or creek banks, or when disturbed by development).
- Human remains tended to be placed in hollow trees, caves or sand deposits along river banks.
- Traditional burials may occur within the sandy Pilliga soils of the Investigation Area, although none are known to exist.

Other Site Types:

- Earthen features, including mounds, ovens and hearths, are normally restricted to level ground adjacent to water sources. These site types are unlikely to survive in the immediate landscape due to the extent of previous land disturbance.
- Freshwater shell middens rarely occur more than 100 m from permanent water sources (Dunk and Vermeltfoort, 2011: 36).
- Quarry sites (where Aboriginal people obtained stone and/or ochre) may be associated with volcanic rock outcrops and exposed sedimentary formations. Quarry sites are unlikely to occur in the Investigation Area due to the nature of the underlying geology.

A predictive model for the Investigation Area indicates that Aboriginal cultural heritage sites are predicted to occur in areas:

- containing mature native trees in association with the larger creeks and drainage lines; or
- within 200 m of a named watercourse and/or 100 m of a mapped drainage line and/or 50 m of a known Aboriginal cultural heritage site and on slopes no greater than 30°; or
- where sandstone outcrops are likely to occur.

8 FIELD SURVEY

Prior to the commencement of field survey for the Project, research and desktop investigations were undertaken in relation to environmental, cultural and archaeological context of the Investigation Area (and broader Study Area), drawing upon previous work completed in the surrounding region (Sections 6 and 7). Consultation was also undertaken with the Aboriginal community in accordance with the Consultation Guidelines (DECCW, 2010a) and the *National Parks and Wildlife Regulation 2019* (NSW). Extensive searches of the AHIMS database were also completed (Section 7.3). These three lines of enquiry combined to prepare an effective survey methodology for the Investigation Area.

8.1 Survey Approach and Objectives

The survey methodology applied to the Investigation Area was devised in accordance with principles outlined in the Code (DECCW, 2010b). Requirement 5 of the Code covers the principles of 'Archaeological Survey', including the requirements for developing an effective survey sampling strategy (Requirement 5a), undertaking survey (Requirement 5b), and defining relevant survey units (Requirement 5c). The Code states that the survey sampling strategy must:

- include all landforms that will potentially be impacted;
- place a proportional emphasis on those landforms deemed to have archaeological potential,
 clearly describing and justifying the reasons for their selection;
- describe how sampling relates to the footprint that is proposed to be impacted by the Project; and
- clearly state when a full coverage survey will be undertaken and justify when it is not.

Hence, the aims of the current field survey were:

- to systematically inspect all areas with GSV for Aboriginal cultural heritage sites within the Investigation Area;
- to examine and undertake a survey of each of the different landforms contained within the Investigation Area¹;
- to target areas of higher archaeological potential (as determined through the development and application of the archaeological predictive model that considers the geological, geomorphological, archaeological and cultural context of the Investigation Area [Section 7.6]); and
- to identify places of potential cultural significance within the Investigation Area.

¹ To ensure representative coverage of all landform units, including those with a lower probability of retaining *in situ* Aboriginal objects.

8.2 Survey Methodology

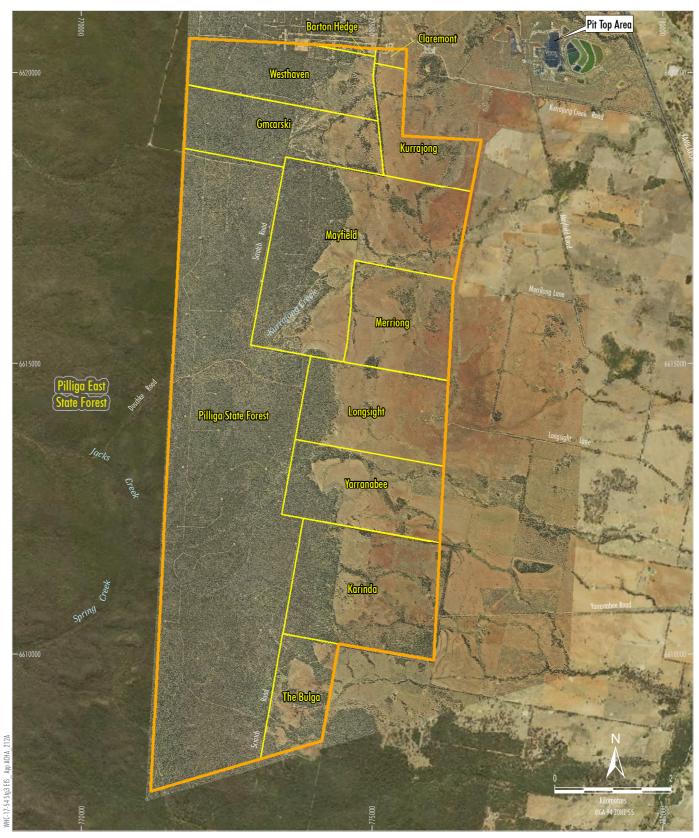
The landscape of the Investigation Area generally comprises flat to gently undulating plains containing ephemeral creeks and drainage lines and occasional large sandstone outcrops. Approximately 41% of the Investigation Area has been cleared for pastoral activities, with the remaining portion retaining dense scrub associated with the Pilliga East State Forest (which is subject to occasional timber harvests).

Due to the size and extent of the Project, the Investigation Area was divided into 124 discrete survey units of more manageable size. Survey Units were determined initially according to property (Figure 8) and then according to consideration of landform, accessibility and GSV. The various survey units for this assessment are presented in Figures 9, while Table 6 summarises the nature and results of each survey unit.

Comprehensive archaeological survey, which was informed by the archaeological predictive model (Section 7.6), used a combined approach of vehicular and pedestrian transects to maximise overall survey coverage.

Pedestrian survey was undertaken in areas considered to hold potential for Aboriginal cultural heritage sites and in large areas of acceptable GSV (e.g. >50%), while targeted sampling was preferred for discrete landforms (e.g. large sandstone outcrops, drainage lines). All areas with potential for Aboriginal cultural heritage sites (i.e. areas within 200 m of rivers, creeks and drainage lines, and where sandstone outcrops were visible) were surveyed by comprehensive pedestrian transects, where team members walked approximately 5-10 m apart, examining all surface exposures. Pedestrian spacing was sufficient to identify any areas of significant ground exposure and these areas were extensively targeted, in accordance with archaeological practice outlined in Burke and Smith (2004: 65-69).

Vehicular transects were rarely employed, and only in areas considered to hold low potential and in large areas with low GSV. Vehicular transects were used to identify localised areas of exposure, which were then subject to intensive inspection on foot. Some survey units were subject to a combination of vehicular and pedestrian surveys, though only when pedestrian survey first indicated low GSV in areas of low potential.



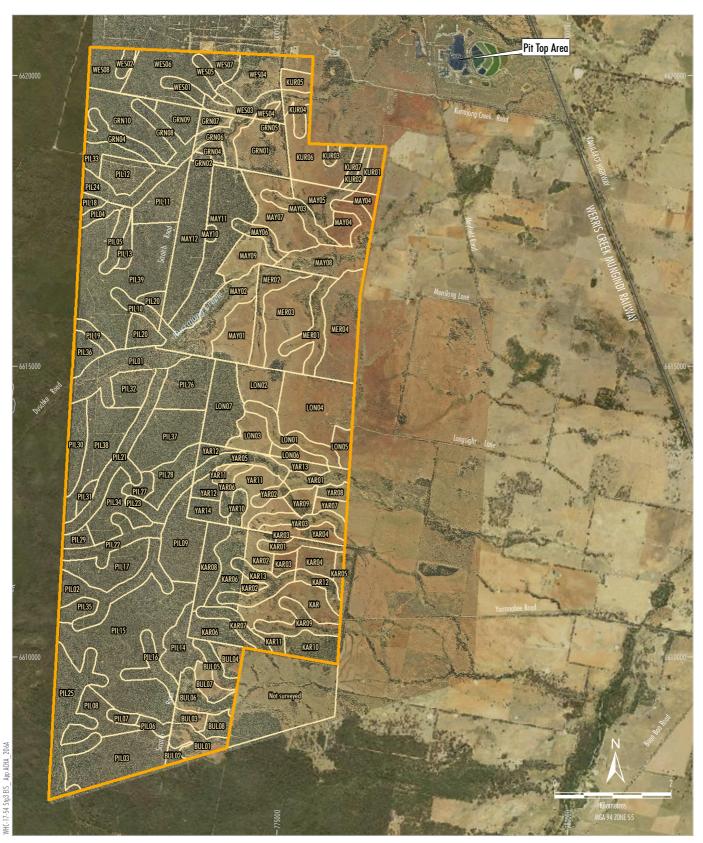
Source: NCOPL (2019); NSW Spatial Services (2019)



LEGEND Investigation Area Property Boundary



Properties Located Within Investigation Area



Source: NCOPL (2019); NSW Spatial Services (2019)

Investigation Area Survey Unit

LEGEND



The above methodology was applied to each survey unit in consultation with the RAPs present. If a RAP considered a vehicular transect would not provide sufficient coverage, a pedestrian transect was instead employed. The above strategy ensured that each landform was sufficiently sampled, and a series of pedestrian transects were strategically positioned to cover areas of highest potential for Aboriginal cultural heritage sites.

In addition, the field survey included the examination of all potential mature trees for signs of cultural scarring. All sandstone outcrops, including the large outcrop known locally as 'The Bulga', were carefully inspected for the presence of grinding grooves, rock shelters or caves.

While several survey units within the Pilliga East State Forest were not comprehensively inspected due to a combination of limited access, extensive levels of disturbance, and low potential for *in situ* archaeological material (Section 8.6), these survey units were still inspected in accordance with Requirement 5 of the Code. In such cases, any existing tracks and track margins were targeted for detailed inspection. In addition, the south-eastern portion of the Investigation Area (named the 'Uambi' property and located outside of the Investigation Area), was not inspected as no impacts are anticipated in this area (i.e. the Project would not result in surface disturbance or material subsidence impacts on this property). Notwithstanding, the survey coverage obtained is considered to be sufficient for the purposes of this assessment. This is considered further in Section 8.6.

8.3 Survey Personnel

As described in Section 5.4.2, the field surveys were undertaken during November 2019. A list of the attending RAPs and RAP representatives, as well as other relevant survey personnel, is provided in Table 4. During survey, the participants were divided into three separate teams with an average of two to three people per team. Each team consisted of a minimum of one archaeologist and one RAP (or RAP representative), though teams typically included two, or occasionally three, RAPs or RAP representatives.

8.4 Survey Coverage

Comprehensive archaeological survey coverage was attained across the majority of the Investigation Area. All areas holding potential for Aboriginal cultural heritage sites were comprehensively sampled. The remaining intermediate areas were sampled using a combined approach of vehicular and pedestrian transects, as described in Section 8.2 above. Several discrete landforms were sampled as individual units. An example of pedestrian transect survey being undertaken is provided in Photo 1.

Photo 1: Pedestrian Transect (Survey Unit MAY04)



Due to the prevailing state of drought across the region at the time of survey, GSV was generally high to moderate across cleared areas of the Investigation Area (Photo 2). In contrast, GSV was significantly hindered by dense scrub in the Pilliga East State Forest (Photo 3), although drainage lines through the scrub were accessible with sufficient GSV (Photo 4). Survey coverage was sufficient to identify all outcrops of sandstone with potential grinding grooves and/or rock shelters (Photo 5).

Photo 2: High GSV in Cleared Areas (Survey Unit MAY01), View North-east



Photo 3: Dense Scrub Hindered Survey in the Pilliga East State Forest (Survey Unit PIL32)



Photo 4: Drainage Line in the Pilliga East State Forest (Survey Unit PILO1)



Photo 5: Sandstone Overhang and Caves Identified at The Bulga (Survey Unit PIL14)



The total effective coverage of survey (i.e. ground physically inspected for heritage evidence) for the Investigation Area equated to approximately 22,485,000 m² (or approximately 2,250 ha) or approximately 40.5% of the total Investigation Area, which in total is approximately 55,500,000 m² (or 5,550 ha) (Table 6). The actual coverage for obtrusive site types (e.g. grinding grooves, rock shelters), however, can be considered greater than this as survey was sufficient to identify all rock outcrops and landforms with potential for overhangs or caves. Notwithstanding localised areas of low GSV, the resulting effective survey coverage (40.5%) is considered comprehensive to present an effective assessment of the Aboriginal cultural heritage resources identified and potentially present within the Investigation Area. Examples of the landforms encountered within the Investigation Area are provided in Photos 1 to 7.

Table 6: Landform, Size and Effective Coverage for Survey Units in Investigation Area

Survey Unit	Property	Landform	SU Area (m2)	Exposure (%)	Visibility (%)	Effective Coverage (m²)	Effective Coverage (%)
MAY01	Mayfield	Undulating plain	562339	100	90	506105	90
MAY02	Mayfield	Drainage line	945394	80	70	529421	56
MAY03	Mayfield	Drainage line	318339	80	70	178270	56
MAY04	Mayfield	Undulating plain	352075	100	95	334471	95
MAY05	Mayfield	Undulating plain	431147	70	80	241442	56
MAY06	Mayfield	Drainage line	230448	70	80	129051	56
MAY07	Mayfield	Undulating plain	810430	90	100	729387	90
MAY08	Mayfield	Drainage line	896446	70	80	502010	56
MAY09	Mayfield	Undulating plain	435193	90	90	352506	81

Survey Unit	Property	Landform	SU Area (m2)	Exposure (%)	Visibility (%)	Effective Coverage (m²)	Effective Coverage (%)
MAY10	Mayfield	Sandstone outcrop	48576	20	40	3886	8
MAY11	Mayfield	Undulating plain	1452245	50	70	508286	35
MAY12	Mayfield	Forest	1205521	10	40	48221	4
BUL01	The Bulga	Drainage line	362193	70	80	202828	56
BUL02	The Bulga	Sandstone outcrop	82840	80	80	53018	64
BUL03	The Bulga	Sandstone outcrop	154955	40	70	43388	28
BUL04	The Bulga	Undulating plain	222777	80	90	160399	72
BUL05	The Bulga	Drainage line	230112	50	70	80539	35
BUL06	The Bulga	Drainage line	400903	70	90	252569	63
BUL07	The Bulga	Undulating plain	221891	80	90	159761	72
BUL08	The Bulga	Undulating plain	186740	70	90	117646	63
GRN01	Grncarski	Undulating plain	720225	90	90	583382	81
GRN02	Grncarski	Forest	60770	20	30	3646	6
GRN03	Grncarski	Undulating plain	124737	80	90	89810	72
GRN04	Grncarski	Drainage line	363374	10	20	7267	2
GRN05	Grncarski	Drainage line	41503	80	80	26562	64
GRN06	Grncarski	Drainage line	353205	60	80	169538	48
GRN07	Grncarski	Undulating plain	142548	70	80	79827	56
GRN08	Grncarski	Drainage line	340651	50	70	119228	35
GRN09	Grncarski	Forest	348721	30	80	83693	24
GRN10	Grncarski	Forest	795681	5	100	39784	5
KAR01	Karinda	Drainage line	245440	70	80	137447	56
KAR02	Karinda	Undulating plain	351934	80	80	225238	64
KAR03	Karinda	Undulating plain	169088	95	90	144570	86
KAR04	Karinda	Undulating plain	288627	80	80	184721	64
KAR05	Karinda	Undulating plain	107181	70	80	60021	56
KAR06	Karinda	Undulating plain	868428	40	70	243160	28
KAR07	Karinda	Drainage line	292525	40	60	70206	24
KAR08	Karinda	Forest	450254	5	20	4503	1
KAR09	Karinda	Drainage line	410499	90	100	369449	90
KAR10	Karinda	Undulating plain	401471	80	90	289059	72
KAR11	Karinda	Drainage line	118340	70	100	82838	70
KAR12	Karinda	Drainage line	223825	80	75	134295	60
KAR13	Karinda	Drainage line	449057	30	10	13472	3
KAR14	Karinda	Undulating plain	702025	70	90	442276	63
KUR01	Kurrajong	Undulating plain	222488	100	100	222488	100
KUR02	Kurrajong	Undulating plain	112881	70	80	63213	56
KUR03	Kurrajong	Drainage line	71950	60	80	34536	48
KUR04	Kurrajong	Drainage line	240779	80	90	173361	72
KUR05	Kurrajong	Undulating plain	180075	90	90	145860	81
KUR06	Kurrajong	Undulating plain	783268	90	90	634447	81
KUR07	Kurrajong	Undulating plain	122216	100	100	122216	100

Survey Unit	Property	Landform	SU Area (m2)	Exposure (%)	Visibility (%)	Effective Coverage (m²)	Effective Coverage (%)
LON01	Longsight	Drainage line	ainage line 439721 80		80	281422	64
LON02	Longsight	Undulating plain	477772	80	80	305774	64
LON03	Longsight	Undulating plain	362290	80	80	231865	64
LON04	Longsight	Undulating plain	1265840	90	80	911405	72
LON05	Longsight	Undulating plain	185423	100	90	166880	90
LON06	Longsight	Undulating plain	175362	90	80	126260	72
LON07	Longsight	Forest	773072	30	60	139153	18
MER01	Merrilong	Drainage line	499554	80	100	399643	80
MER02	Merrilong	Drainage line	511496	70	90	322242	63
MER03	Merrilong	Undulating plain	1098045	90	100	988240	90
MER04	Merrilong	Undulating plain	1097803	80	100	878242	80
PIL01	Pilliga East State Forest	Drainage line	878784	10	20	17576	2
PILO2	Pilliga East State Forest	Drainage line	820635	15	40	49238	6
PILO3	Pilliga East State Forest	Forest	1188549	20	25	59427	5
PIL04	Pilliga East State Forest	Drainage line	140027	10	15	2100	2
PILO5	Pilliga East State Forest	Drainage line	240928	15	35	12649	5
PIL06	Pilliga East State Forest	Drainage line	130050	40	60	31212	24
PIL07	Pilliga East State Forest	Drainage line	104622	5	15	785	1
PIL08	Pilliga East State Forest	Forest	499955	15	25	18748	4
PIL09	Pilliga East State Forest	Forest	870354	5	15	6528	1
PIL10	Pilliga East State Forest	Drainage line	203378	20	30	12203	6
PIL11	Pilliga East State Forest	Forest	597274	30	55	98550	17
PIL12	Pilliga East State Forest	Forest	433465	10	10	4335	1
PIL13	Pilliga East State Forest	Forest	131492	10	10	1315	1
PIL14	Pilliga East State Forest	Sandstone outcrop	512899	70	80	287223	56
PIL15	Pilliga East State Forest	Undulating plain	2720189	30	90	734451	27
PIL16	Pilliga East State Forest	Drainage line	361502	30	90	97606	27
PIL17	Pilliga East State Forest	Undulating plain	670961	20	70	93935	14
PIL18	Pilliga East State Forest	Undulating plain	97915	20	70	13708	14

Survey Unit	Property	Landform	SU Area (m2)	Exposure (%)	Visibility (%)	Effective Coverage (m²)	Effective Coverage (%)
PIL19	Pilliga East State Forest	Drainage line	161673	20	70	22634	14
PIL20	Pilliga East State Forest	Undulating plain	388708	20	70	54419	14
PIL21	Pilliga East State Forest	Drainage line	756011	50	70	264604	35
PIL22	Pilliga East State Forest	Drainage line	494462	40	60	118671	24
PIL23	Pilliga East State Forest	Drainage line	319825	60	80	153516	48
PIL24	Pilliga East State Forest	Drainage line	449258	50	70	157240	35
PIL25	Pilliga East State Forest	Drainage line	1229734	70	90	774733	63
PIL26	Pilliga East State Forest	Forest	718866	60	80	345056	48
PIL27	Pilliga East State Forest	Sandstone outcrop	148939	50	70	52129	35
PIL28	Pilliga East State Forest	Forest	421315	30	60	75837	18
PIL29	Pilliga East State Forest	Sandstone outcrop	153126	40	60	36750	24
PIL30	Pilliga East State Forest	Drainage line	438385	50	60	131516	30
PIL31	Pilliga East State Forest	Sandstone outcrop	104133	40	60	24992	24
PIL32	Pilliga East State Forest	Drainage line	390348	30	60	70263	18
PIL33	Pilliga East State Forest	Forest	281640	10	50	14082	5
PIL34	Pilliga East State Forest	Forest	574188	20	50	57419	10
PIL35	Pilliga East State Forest	Forest	196043	10	20	3921	2
PIL36	Pilliga East State Forest	Forest	255045	10	80	20404	8
PIL37	Pilliga East State Forest	Forest	926486	10	40	37059	4
PIL38	Pilliga East State Forest	Forest	952123	10	50	47606	5
PIL39	Pilliga East State Forest	Forest	2243644	5	80	89746	4
WES01	Westhaven	Drainage line	160272	10	20	3205	2
WES02	Westhaven	Drainage line	104929	10	10	1049	1
WES03	Westhaven	Drainage line	434885	70	80	243535	56
WES04	Westhaven	Undulating plain	806121	60	90	435305	54
WES05	Westhaven	Drainage line	131763	70	80	73787	56
WES06	Westhaven	Undulating plain	963067	60	90	520056	54

Survey Unit	Property	Landform	SU Area (m2)	Exposure (%)	Visibility (%)	Effective Coverage (m²)	Effective Coverage (%)
WES07	Westhaven	Forest	217413	50	60	65224	30
WES08	Westhaven	Forest	421243	10	40	16850	4
YAR01	Yarranabee	Drainage line	288689	60	90	155892	54
YAR02	Yarranabee	Drainage line	138098	90	90	111859	81
YAR03	Yarranabee	Drainage line	386870	60	80	185698	48
YAR04	Yarranabee	Undulating plain	287760	90	90	233085	81
YAR05	Yarranabee	Drainage line	363404	70	80	203506	56
YAR06	Yarranabee	Drainage line	210994	70	90	132926	63
YAR07	Yarranabee	Undulating plain	145853	100	100	145853	100
YAR08	Yarranabee	Undulating plain	132435	80	70	74164	56
YAR09	Yarranabee	Undulating plain	195019	90	90	157966	81
YAR10	Yarranabee	Sandstone outcrop	154917	60	80	74360	48
YAR11	Yarranabee	Undulating plain	518164	100	100	518164	100
YAR12	Yarranabee	Undulating plain	308736	40	60	74097	24
YAR13	Yarranabee	Undulating plain	163677	60	70	68744	42
YAR14	Yarranabee	Forest	219338	10	50	10967	5
TOTAL			55,501,286			22,484,921	40.5

Photo 6: Example of Undulating Plain Landform (Survey Unit MAY05)



Photo 7: Example of Drainage Line Landform (Survey Unit MAY03)



8.5 Survey Limitations

Thick scrub and existing ground disturbances combined to obscure the original GSV over areas of the Pilliga East State Forest, which equates to approximately 48.1% of the Investigation Area. Within cleared areas, there were medium to high levels of disturbance due to both natural (e.g. erosion, alluvial deposits) and anthropogenic (e.g. pastoral activities, farming, historic mining, field clearance, logging) factors.

This report is based on existing publicly available environmental and archaeological information and reports about the Study area. The background research did not include any independent verification of the results and interpretations of externally sourced existing reports. Archaeological fieldwork comprised a surface survey only. No subsurface investigation has been undertaken nor is considered required.

8.6 Summary of Results

At the time of survey, cleared areas within the Investigation Area yielded unusually high GSV due to prevailing drought conditions. Areas of the Pilliga East State Forest, however, obscured surfaces across large expanses of the Investigation Area. In addition, a large portion of the Investigation Area has undergone a variety of disturbances, mainly associated with the agricultural and pastoral uses of the land (e.g. vegetation clearance, the grazing and agistment of stock, regular and repeated cropping, construction of dams and irrigation channels).

All mature native trees within cleared areas were inspected for evidence of Aboriginal scarring. The Pilliga East State Forest contains many mature trees, and scarred trees may still exist within large areas of the scrub that have not been sufficiently inspected due to limited access.

All outcrops of rock were inspected for overhangs and caves, as well as grinding grooves. Rock overhangs and caves (possible shelters) were identified in several locations within the Investigation Area.

The soft sandstone of the caves identified at The Bulga and elsewhere are undergoing continual cavernous weathering from a variety of erosive forces, including wind, sand blasting and salt efflorescence; as a result, the caves are unlikely to retain any rock art. The graffiti that is evident within some caves date to the mid- to late twentieth century. The continual fall of debris from the roof of caves may result in the burying of objects on the floor (if present). The majority of the external surfaces of rock outcrops are crumbly and well covered with vegetation (see Hesse, 2000). Three grinding groove sites were identified during the field survey, one of which is located outside of the Investigation Area.

For the purpose of this assessment, an 'artefact scatter' is defined by the presence of two or more stone artefacts in close association (i.e. within 50 m of each other) (NSW National Parks and Wildlife Service, 1997). An isolated artefact is one where no other artefacts have been identified within a 50 m radius. A grinding groove site with multiple grooves was considered a cohesive site when grooves were located within 50 m of each other. Each site extent was determined by applying a 5 m buffer to each artefact. As a result, the site extent for each isolated artefact site consists of a circular buffer around the artefact with a 5 m radius. The site extent for each artefact scatter was determined by creating a polygon that encompasses the 5 m buffers of all artefacts within that scatter. The extent of each grinding groove site was also determined by creating a polygon that encompasses the 5 m buffer of all grinding grooves. The resulting site extents, therefore, account for potential Global Positioning System (GPS) inaccuracies as well as incorporating a protective buffer around known artefacts/objects.

On conclusion of the comprehensive field survey, thirty-two (32) previously unidentified Aboriginal cultural heritage sites were identified within the Investigation Area. This is in addition to thirty-three (33) sites already registered on the AHIMS database at the time of the Project field surveys. One of the previously unidentified sites incorporates five (5) previously recorded artefact sites (i.e. the five previously identified sites were combined with a larger artefact scatter identified to be surrounding and between the five previously identified sites). As a result, a total of sixty (60) Aboriginal cultural heritage sites are known to exist within the Investigation Area, the majority of which are surface artefact sites, including thirty-six (36) surface artefact scatters, twenty-two (22) isolated artefacts, and two (2) grinding groove sites.

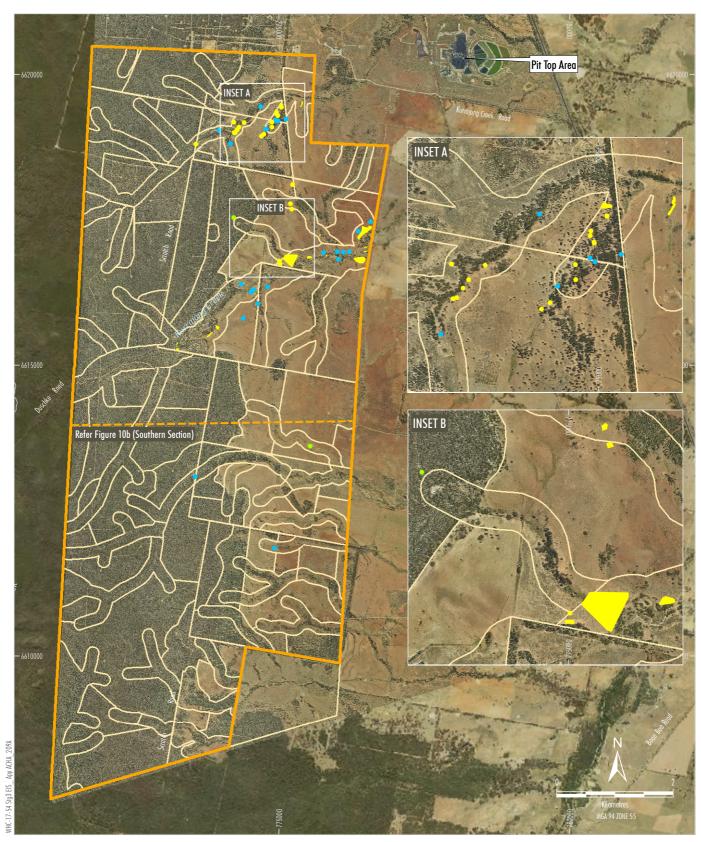
Details of the sixty (60) Aboriginal cultural heritage sites located within the Investigation Area, including thirty-two (32) previously unidentified sites recorded during survey, are presented in Table 7, and Figures 10a and 10b.

Table 7: Aboriginal Cultural Heritage Sites Located within the Investigation Area

Site Name	Туре	Easting (zone 55)	Northing (zone 55)	Area (m2)	Landform	SU	Number
Karinda IA1	IA	774922	6611861	78	Undulating Plain	KAR01	1
Kurrajong CR/OS 103	AS	775195	6617782	699	Drainage line	MAY03	3
Kurrajong CR/OS 104	AS	775220	6617682	770	Undulating plain	MAY07	3
Kurrajong CR/OS 105	AS	775233	6618102	215	Undulating plain	MAY07	2
Kurrajong CR/OS 106	AS	775007	6616792	22	Drainage line	MAY08	3
Kurrajong CR/OS 107	AS	775020	6616744	661	Drainage line	MAY08	34
Kurrajong T1/ISO 81	IA	774687	6619444	78	Drainage line	WES03	1
Kurrajong T1/ISO 87	IA	774166	6618811	78	Drainage line	GRN06	1
Kurrajong T1/ISO 89	IA	773971	6619030	78	Drainage line	GRN06	1
Kurrajong T1/ISO 92	IA	774954	6619212	78	Drainage line	WES03	1
Kurrajong T1/ISO 97	IA	774783	6619064	78	Drainage line	GRN05	1
Kurrajong T1/ISO 101	IA	774980	6619194	78	Drainage line	GRN05	1
Kurrajong T1/OS 82	AS	774400	6619174	78	Drainage line	GRN06	9
Kurrajong T1/OS 83	AS	774312	6619099	78	Drainage line	GRN06	7
Kurrajong T1/OS 84	AS	774282	6619053	78	Drainage line	GRN06	5
Kurrajong T1/OS 85	AS	774250	6619003	78	Drainage line	GRN06	3
Kurrajong T1/OS 86	AS	774230	6618998	78	Drainage line	GRN06	2
Kurrajong T1/OS 88	AS	773570	6618800	4	Drainage line	GRN06	2
Kurrajong T1/OS 90	AS	774221	6619181	78	Drainage line	GRN06	5
Kurrajong T1/OS 91	AS	774975	6619298	78	Drainage line	WES03	2
Kurrajong T1/OS 93	AS	774958	6619354	78	Drainage line	WES03	2
Kurrajong T1/OS 94	AS	774955	6619330	78	Drainage line	WES03	6
Kurrajong T1/OS 95	AS	774977	6619291	78	Drainage line	WES03	7
Kurrajong T1/OS 96	AS	774877	6619178	78	Drainage line	GRN05	3
Kurrajong T1/OS 98	AS	774742	6618977	78	Undulating plain	GRN01	2

Site Name	Туре	Easting (zone 55)	Northing (zone 55)	Area (m2)	Landform	SU	Number
Kurrajong T1/OS 99	AS	774697	6618941	78	Undulating plain	GRN01	2
Kurrajong T1/OS 100	AS	774878	6619099	78	Drainage line	GRN05	4
Kurrajong T1/OS 102	AS	775044	6619434	400	Drainage line	WES03	3
Kurrajong T1/OS 136	AS	775391	6619507	1197	Drainage line	KUR04	11
Longsight GG1	GG	775534	6603612	100	Drainage line	LON01	2
Mayfield AS1	AS	773265	6615279	1101	Drainage line	MAY02	28
Mayfield AS2	AS	773257	6615382	318	Drainage line	MAY02	3
Mayfield AS3	AS	773853	6615567	1889	Drainage line	MAY02	5
Mayfield AS4	AS	773965	6615658	2404	Drainage line	MAY02	28
Mayfield AS5	AS	774587	6616229	100	Drainage line	MAY02	2
Mayfield AS6	AS	775515	6616874	2434	Drainage line	MAY08	25
Mayfield AS7	AS	775709	6617249	414	Drainage line	MAY03	3
Mayfield AS8	AS	775820	6616892	299	Drainage line	MAY08	2
Mayfield AS9	AS	776481	6616837	15140	Drainage line	MAY08	11
Mayfield AS10	AS	776515	6616966	610	Drainage line	MAY08	4
Mayfield AS11	AS	776519	6617034	568	Drainage line	MAY08	3
Mayfield AS12	AS	776549	6617367	19928	Drainage line	MAY08	132
Mayfield AS13	AS	775312	6616894	31722	Drainage line	MAY08	130
Mayfield GG1	GG	774227	6617543	255	Undulating plain	MAY11	48
Mayfield IA1	IA	774385	6615811	78	Undulating plain	MAY01	1
Mayfield IA2	IA	774346	6616392	78	Drainage line	MAY02	1
Mayfield IA3	IA	774521	6616263	78	Drainage line	MAY02	1
Mayfield IA4	IA	774562	6616300	78	Drainage line	MAY02	1
Mayfield IA5	IA	775765	6616937	78	Drainage line	MAY08	1
Mayfield IA6	IA	776000	6616959	78	Drainage line	MAY08	1
Mayfield IA7	IA	776022	6616822	78	Drainage line	MAY08	1
Mayfield IA8	IA	776106	6616942	78	Drainage line	MAY08	1
Mayfield IA9	IA	776209	6616953	78	Drainage line	MAY08	1
Mayfield IA10	IA	776579	6617467	78	Drainage line	MAY08	1
Mayfield IA11	IA	776365	6617307	78	Drainage line	MAY08	1
Merrilong IA1	IA	774804	6616341	78	Drainage line	MER02	1
Merrilong IA2	IA	774643	6616061	78	Drainage line	MER02	1
Pilliga IA1	IA	773559	6613083	78	Drainage line	PIL23	1
Westhaven AS1	AS	775066	6619486	1146	Drainage line	WES03	4
Westhaven IA1	IA	775119	6619233	78	Drainage line	WES03	1

AS = Artefact Scatter; IA = Isolated Artefact; GG = Grinding Grooves



Source: NCOPL (2019); NSW Spatial Services (2019)

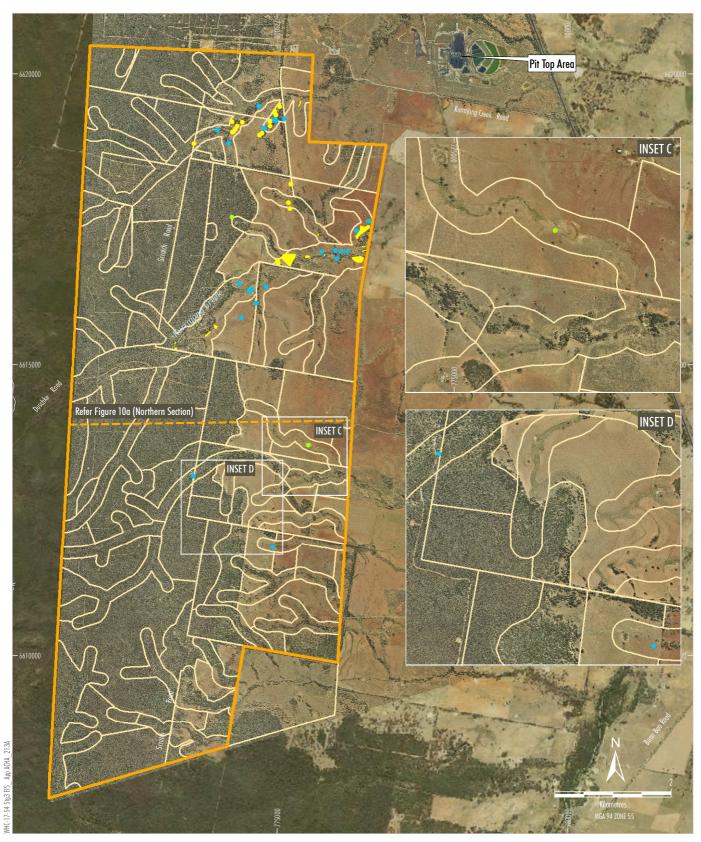


Investigation Area Survey Units Artefact Scatter Grinding Groove Isolated Artefact

LEGEND



 $\label{eq:Results} \textbf{Results of Survey - North}$



Source: NCOPL (2019); NSW Spatial Services (2019)



Investigation Area Survey Units Artefact Scatter Grinding Groove Isolated Artefact

LEGEND



Results of Survey - South

The majority of Aboriginal cultural heritage sites within the Investigation Area, and those with the greatest concentration of artefacts, are located in the Drainage Line landform within close proximity to Kurrajong Creek and, to a lesser degree, its northern tributary. This distribution pattern of artefact sites supports the validity of the predictive model developed above (Section 7.6).

A summary of the survey results according to landform is presented in Table 8, which clearly indicates that the Drainage Line landform is the most sensitive within the Investigation Area.

Table 8: Summary of Survey Results by Landform Unit

Landform	Landform Area (m²)	Area Effectively Surveyed (m²)	% of Landform Effectively Surveyed	Number of Sites	Number of Artefacts	% Landform Represented in VEP Investigation Area	% of Total Artefacts Recorded
Drainage Line	17,325,280	7,244,197	41.8	54	373	31.2	86.5
Forest	14,782,452	1,292,074	8.7	0	0	26.6	0
Undulating Plain	22,033,169	13,372,904	60.7	6*	58	39.7	13.5
Sandstone Outcrop	1,360,385	575,746	42.3	0	0	2.5	0
TOTAL	55,501,286	22,484,921	40.5	60	431	100	100

^{*} This total includes one grinding groove site with 48 grooves identified.

Archaeological investigations have identified more than 431 artefacts across the Investigation Area, 373 of which (or 86.5%) were identified in the Drainage Line landform (Table 8). The Undulating Plain landform unit represents 38.1% of the Investigation Area, yet it only accounts for 13.5% of all artefacts identified. Two of the landform units, Forest and sandstone outcrop, did not contain any visible artefacts. While the landforms that are not Drainage Lines may be considered to be 'lower sensitivity', other factors may influence the identification of artefacts; limited visibility has likely affected the results in the Forest landform, while the dynamic ever-changing landscape of the sandstone outcrops may have obscured cultural objects. Regardless, the Drainage Line landform has clearly confirmed the conclusions of the predictive model as the most sensitive landform.

In view of the predictive modelling and survey results obtained from the sample of effective coverage (40.5% overall), it is considered that the survey provides a valid basis for formulating recommendations for the management of identified and potential Aboriginal cultural heritage resources in the Investigation Area.

9 ABORIGINAL ARCHAEOLOGICAL AND CULTURAL VALUES

This section presents an overview of the Aboriginal cultural heritage values of the Investigation Area and the broader Study Area, incorporating the results of the AHIMS database search, extensive desktop investigations and the comprehensive field survey.

9.1 Archaeological Values

This section describes the nature and extent of the Aboriginal cultural heritage sites known to exist within the Investigation Area. As described in Section 8.6, all but two of the sixty (60) Aboriginal cultural heritage sites identified within the Investigation Area are surface artefact sites, including twenty-two (22) isolated artefacts and thirty-six (36) surface artefact scatters. A large proportion of these artefact sites are small discrete artefact scatters containing less than 12 artefacts, with only occasional evidence of more dense and expansive artefact concentrations evident along the margins of Kurrajong Creek (only six sites are known to contain more than 20 artefacts).

In addition to artefact sites, two grinding groove sites were identified during survey. Longsight GG1 consists of two grooves located within a drainage line on the Longsight property, while Mayfield GG1 contains 48 visible grooves upon sandstone just beyond a drainage line on the Mayfield Property. Mayfield GG1 was also recorded incidentally during initial field investigations in 2017 by members of GNAC.

9.1.1 Description of Previously Identified Aboriginal Cultural Heritage Sites in Investigation Area

Kurrajong CR/OS 103 (AHIMS 19-6-0142)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong CR/OS 103 is an artefact scatter of three artefacts, located on an intermittent drainage line associated with Kurrajong Creek. The site is represented by a petrified wood steep-edged scraper, a chert flake and a metasedimentary flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong CR/OS 104 (AHIMS 19-6-0143)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong CR/OS 104 is an artefact scatter of three artefacts, located on an intermittent drainage line associated with Kurrajong Creek. The site is represented by two metasedimentary steep-edged scrapers, and a quartz flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong CR/OS 105 (AHIMS 19-6-0144)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong CR/OS 105 is an artefact scatter of two artefacts, located on undulating plains north of an intermittent drainage line associated with Kurrajong Creek. The site is represented by two metasedimentary flakes and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong CR/OS 106 (AHIMS 19-6-0145)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong CR/OS 106 is an artefact scatter of three artefacts, located alongside Kurrajong Creek. The site is represented by two quartzite flakes and one quartzite flake fragment, and has previously been assessed as being of moderate scientific significance, due to its proximity to a concentration of several artefact scatters (as per AHIMS site card).

Kurrajong CR/OS 107 (AHIMS 19-6-0146)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong CR/OS 107 is an artefact scatter of at least 34 artefacts, located alongside Kurrajong Creek. The site is represented by knapped artefacts made from chert, quartz, quartzite and silcrete, as well as igneous and metasedimentary stone. The site has previously been assessed as being of moderate scientific significance, due to its proximity to a concentration of several artefact scatters (as per AHIMS site card).

Kurrajong T1/ISO 81 (AHIMS 19-6-0120)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 81 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/ISO 87 (AHIMS 19-6-0126)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 87 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a quartzite steep edged scraper and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/ISO 89 (AHIMS 19-6-0128)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 89 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary steep edged scraper and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/ISO 92 (AHIMS 19-6-0131)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 92 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/ISO 97 (AHIMS 19-6-0136)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 97 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/ISO 101 (AHIMS 19-6-0140)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/ISO 101 is an isolated artefact, located alongside the northern tributary of Kurrajong Creek. The site is represented by a quartzite flake and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 82 (AHIMS 19-6-0121)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 82 is an artefact scatter represented by nine artefacts, located alongside the northern tributary of Kurrajong Creek. The site is represented by knapped flakes made from basalt, metasedimentary rock, chert, quartzite and chalcedony. The site has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 83 (AHIMS 19-6-0122)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 83 is an artefact scatter represented by seven artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by two chert flake fragments, a petrified wood flake fragment with retouch, and two metasedimentary flakes, a flake fragment and a steep edge scraper. The site has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 84 (AHIMS 19-6-0123)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 84 is an artefact scatter represented by five artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chert flake, a quartzite flake fragment, a chalcedony flaked fragment, a metasedimentary flake fragment and a mudstone flake. The site has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 85 (AHIMS 19-6-0124)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 85 is an artefact scatter represented by three artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chert flake, a metasedimentary core and a mudstone flake with retouch, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 86 (AHIMS 19-6-0125)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 86 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chert flake and mudstone flake, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 88 (AHIMS 19-6-0127)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 88 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chert flake, and a metasedimentary flake, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 90 (AHIMS 19-6-0129)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 90 is an artefact scatter represented by five artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chalcedony steep edge scraper, a chert core, a metasedimentary steep edge scraper and flake fragment and a quartzite flake fragment, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 91 (AHIMS 19-6-0130)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 91 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary steep edge scraper and flake fragment, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 93 (AHIMS 19-6-0132)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 93 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a basalt flake and a mudstone flake, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 94 (AHIMS 19-6-0133)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 94 is an artefact scatter represented by six artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by two chert flakes, two metasedimentary flakes, a chert steep edge scraper and a quartzite steep edge scraper, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 95 (AHIMS 19-6-0134)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 95 is an artefact scatter represented by seven artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by three chert flakes, two chert cores, and two chert flake fragments, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 96 (AHIMS 19-6-0135)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 96 is an artefact scatter represented by three artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a chert core, a quartzite flake and a chalcedony flake fragment, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 98 (AHIMS 19-6-0137)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 98 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a metasedimentary flake and flake with retouch, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 99 (AHIMS 19-6-0138)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 99 is an artefact scatter represented by two artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a quartzite flake and an argillite steep edge scraper, and has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 100 (AHIMS 19-6-0139)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 100 is an artefact scatter represented by four artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by a quartzite flake, a metasedimentary scraper, a chert flake and a petrified wood flake. The site has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 102 (AHIMS 19-6-0141)

Identified during the Environmental Assessment for the Stage 2 Project, Kurrajong T1/OS 102 is an artefact scatter represented by three artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by three metasedimentary flakes and site has previously been assessed as being of low scientific significance (as per AHIMS site card).

Kurrajong T1/OS 136 (AHIMS 36-3-3319)

Identified during the Niche's assessment of Longwall Panels 118-120 within the Stage 2 Project area, Kurrajong T1/OS 136 is an artefact scatter represented by 11 artefacts located alongside the northern tributary of Kurrajong Creek. The site is represented by complete flakes, a hammer stone and distal flake of chert, quartz and quartzite. The site has previously been assessed as being of low scientific significance due to the disturbed nature of the context (Niche 2018: 32).

9.1.2 Description of Aboriginal Cultural Heritage Sites in Investigation Area Identified during Survey

Karinda IA1 (AHIMS 19-6-0211)

Karinda IA1 is an isolated artefact located in Survey Unit KAR01 within a drainage line in the northern portion of the Karinda property. The site is represented by a siltstone distal flake. Karinda IA1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Longsight GG1 (AHIMS 19-6-0210)

Longsight GG1 is a grinding groove site located in Survey Unit LON01 within a drainage line in the south-eastern portion of the Longsight property. The site is represented by two axe grinding grooves located on low sandstone outcrops within an intermittent drainage line. Longsight GG1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS1 (AHIMS 19-6-0203)

Mayfield AS1 is a medium-density artefact scatter located in Survey Unit MAY02 alongside Kurrajong Creek in the south-west corner of the Mayfield property. The site consists of at least 28 artefacts, including three chert flakes, two siltstone flakes, a siltstone core, a chalcedony core, a chalcedony distal flake, a chalcedony proximal flake, three chalcedony flakes, a mudstone proximal flake, a silcrete distal flake, three silcrete flakes; and a crystal quartz angular fragment. There is potential for the site to extend southwards, as surface visibility in the forest in that direction was significantly reduced. Mayfield AS1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS2 (AHIMS 19-6-0202)

Mayfield AS2 is a low-density artefact scatter located in Survey Unit MAY02 alongside Kurrajong Creek in the south-west corner of the Mayfield property. The site consists of three artefacts, including a chert flake, and two silcrete flakes. Mayfield AS2 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS3 (AHIMS 19-6-0204)

Mayfield AS3 is a low-density artefact scatter located in Survey Unit MAY02 alongside Kurrajong Creek in the south-west corner of the Mayfield property. The site consists of five artefacts, including a chert flake, chert core, a siltstone core, a chalcedony flake and a quartzite flake. Mayfield AS3 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS4 (AHIMS 19-6-0205)

Mayfield AS4 is a medium-density artefact scatter located in Survey Unit MAY02 alongside Kurrajong Creek in the south west corner of the Mayfield property. The site consists of at least 28 artefacts, including three chert flakes, a chert core, a chert proximal flake, two silcrete flakes, a quartz flake, a quartz distal flake, a mudstone proximal flake, a chalcedony flake, two quartzite flakes, a quartzite medial flake, a siltstone flake and a siltstone proximal flake. Mayfield AS4 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS5 (AHIMS 19-6-0206)

Mayfield AS5 is a low-density artefact scatter located in Survey Unit MAY02 alongside Kurrajong Creek within the Mayfield property near the western boundary of the Merrilong property. The site consists of two artefacts, including a mudstone proximal flake and a chert flake. Mayfield AS5 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS6 (AHIMS 19-6-0199)

Mayfield AS6 is a medium-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek within the Mayfield property near the northern boundary of the Merrilong property. The site consists of 25 artefacts, including a silcrete core fragment, six silcrete flakes and two silcrete proximal flakes, a chalcedony distal flake, two mudstone flakes, and three chert distal flakes. Due to the concentration of artefacts visible, not all artefacts within the artefact scatter were fully recorded. Mayfield AS6 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS7 (AHIMS19-6-0198)

Mayfield AS7 is a low-density artefact scatter located in Survey Unit MAY03 alongside a drainage line feeding into Kurrajong Creek within the Mayfield property. The site consists of three artefacts, including a chert proximal flake, a silcrete flake and a silcrete distal flake. Mayfield AS7 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS8 (AHIMS 19-6-0196)

Mayfield AS8 is a low-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek, within the Mayfield property near the northern boundary of the Merrilong property. The site consists of two silcrete artefacts. Mayfield AS8 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS9 (AHIMS 19-6-0197)

Mayfield AS9 is a low-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek, within the Mayfield property near the northern boundary of the Merrilong property. The site consists of 11 artefacts, including four chert flakes, a silcrete flake, two quartzite flakes, a mudstone flake, a siltstone flake, a chalcedony flake, and a quartz proximal flake. Mayfield AS9 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS10 (AHIMS 19-6-0195)

Mayfield AS10 is a low-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek, within the Mayfield property near the northern boundary of the Merrilong property. The site consists of four artefacts, including two silcrete flakes and two silcrete flake fragments. Mayfield AS10 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield AS11 (AHIMS 19-6-0194)

Mayfield AS11 is a low-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek, within the Mayfield property near the northern boundary of the Merrilong property. The site consists of three artefacts, including two chert flakes and a silcrete flake. Mayfield AS11 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

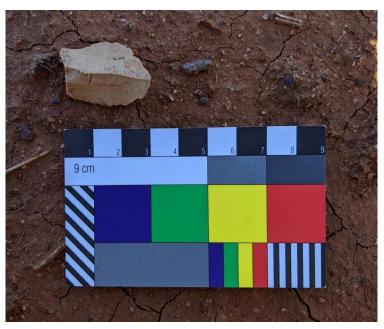
Mayfield AS12 (AHIMS 19-6-0193)

Mayfield AS12 is a medium-density artefact scatter located in Survey Unit MAY08 north of Kurrajong Creek within the Mayfield property (Photo 8). The site consists of at least 132 artefacts made from a variety of raw materials including silcrete (Photo 9), chalcedony, chert, mudstone, quartzite and siltstone represented by a mix of flakes, flake fragments, and occasionally cores. Due to the concentration of artefacts visible, not all artefacts within the artefact scatter were fully recorded. Mayfield AS12 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.



Photo 8: Mayfield AS12 located within Kurrajong Creek (View South)





Mayfield AS13 (AHIMS 19-6-0192)

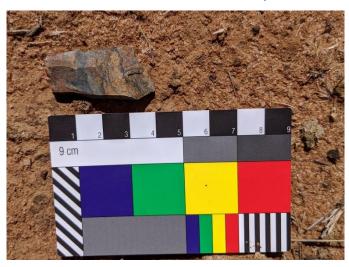
Mayfield AS13 is a medium-density artefact scatter located in Survey Unit MAY08 alongside Kurrajong Creek within the Mayfield property (Photo 10). The site consists of at least 130 artefacts that are distributed over a large area, and which incorporate the extent of five previously registered AHIMS sites (Kurrajong CR/OS 108 – AHIMS 19-6-0147; Kurrajong CR/OS 109 – AHIMS 19-6-0148; Kurrajong CR/OS 110 – AHIMS 19-6-0149; Kurrajong CR/OS 111 – AHIMS 19-6-0150; Kurrajong CR/OS 112 – AHIMS 19-6-0151). The artefacts are made from a variety of raw materials including silcrete (Photo 11), chalcedony, chert, mudstone, quartzite and siltstone represented by a mix of flakes, flake fragments, and occasionally cores.

Artefacts recorded include six chert flakes, 3 chert distal flakes, 5 silcrete flakes, and a silcrete proximal flake. Mayfield AS13 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.



Photo 10: Mayfield AS13 Located on Banks of Kurrajong Creek (View West)

Photo 11: Silcrete Flake Identified at Mayfield AS13



Mayfield GG1 (AHIMS 19-6-0191)

Mayfield GG1 is a grinding groove site located in Survey Unit MAY11 within regenerated forest, to the immediate north-west of a drainage line in the north-western portion of the Mayfield property (Photo 12). The site is represented by at least 48 axe grinding grooves located in six clusters on low sandstone outcrops within gently undulating terrain. The grooves vary in length (15-40 cm), width (4-11 cm) and depth (1-3.5 cm), but are all u-shaped in profile, which is characteristic of axe grinding (Photo 13). It is noted that Mayfield GG1 was also recorded incidentally during initial field investigations in 2017 by members of GNAC.

Photo 12: Concentration of Grinding Grooves (Mayfield GG1) identified in Survey Unit May11 (View South)





Photo 13: Detail of Grinding Grooves at Mayfield GG1

Mayfield IA1 (AHIMS 19-6-0187)

Mayfield IA1 is an isolated artefact located in Survey Unit MAY01 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete multi-platform core. Mayfield IA1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA2 (AHIMS 19-6-0186)

Mayfield IA2 is an isolated artefact located in Survey Unit MAY02 within Kurrajong Creek in the Mayfield property. The site is represented by a chert flake. Mayfield IA2 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA3 (AHIMS 19-6-0185)

Mayfield IA3 is an isolated artefact located in Survey Unit MAY02 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA3 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA4 (AHIMS 19-6-0184)

Mayfield IA4 is an isolated artefact located in Survey Unit MAY02 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA4 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA5 (AHIMS 19-6-0183)

Mayfield IA5 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete distal flake. Mayfield IA5 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA6 (AHIMS 19-6-0182)

Mayfield IA6 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA6 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA7 (AHIMS 19-6-0181)

Mayfield IA7 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a chert proximal flake. Mayfield IA7 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA8 (AHIMS 19-6-0180)

Mayfield IA8 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a chert flake fragment. Mayfield IA8 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA9 (AHIMS 19-6-0188)

Mayfield IA9 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA9 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA10 (AHIMS 19-6-0189)

Mayfield IA10 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA10 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Mayfield IA11 (AHIMS 19-6-0190)

Mayfield IA11 is an isolated artefact located in Survey Unit MAY08 within Kurrajong Creek in the Mayfield property. The site is represented by a silcrete flake. Mayfield IA11 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Merrilong IA1 (AHIMS 19-6-0209)

Merrilong IA1 is an isolated artefact located in Survey Unit MER02 within Kurrajong Creek in the Merrilong property. The site is represented by a chert flake. Merrilong IA1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Merrilong IA2 (AHIMS 19-6-0208)

Merrilong IA2 is an isolated artefact located in Survey Unit MER02 within Kurrajong Creek in the Merrilong property. The site is represented by a silcrete flake. Merrilong IA2 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Pilliga IA1 (AHIMS 19-6-0201)

Pilliga IA1 is an isolated artefact located in Survey Unit PIL23 within a drainage line in the Pilliga East State Forest immediately adjacent to the Yarranabee property western boundary. The site is represented by a mudstone flake.

Westhaven AS1 (AHIMS 19-6-0200)

Westhaven AS1 is a low-density artefact scatter located in Survey Unit WES03 within the northern tributary of Kurrajong Creek in the Westhaven property. The site is represented by four artefacts, including two quartzite flakes, a siltstone flake and a chalcedony flake. Westhaven AS1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

Westhaven IA1 (AHIMS 19-6-0207)

Westhaven IA1 is an isolated artefact located in Survey Unit WES03 within the northern tributary of Kurrajong Creek in the Westhaven property. The site is represented by a chalcedony flake. Westhaven IA1 is located in an area that has been cleared of vegetation and is subject to impacts associated with pastoral activities.

9.2 Cultural Values Assessment

9.2.1 Consultation and Approach to Cultural Values Assessment

As described in Section 5, this assessment has been prepared in accordance with the Consultation Guidelines (DECCW, 2010a) and the *National Parks and Wildlife Regulation 2019* (NSW)

The cultural values assessment undertaken to date has been based on the following:

- Review of background resources, including previous cultural values studies for the surrounding region (e.g. Narrabri Gas Project).
- Historical research.
- Discussions with RAPs during field survey.
- Discussions with RAPs during community information sessions and site inspections.
- Requests for comments during the review period for the Proposed Methodology.
- Requests for comments during the review period of the draft ACHA.

These points of consultation provided the opportunity for the Aboriginal community to have direct input into the management of Aboriginal cultural heritage values—both tangible and intangible—in the Investigation Area and wider Study Area, as required by the SEARs, the Consultation Guidelines (DECCW, 2010a) and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011).

Before the archaeological survey work commenced, all archaeologists were provided with information recording forms containing a series of questions designed to prompt responses about cultural information from the attending RAPs. Thus, during the archaeological surveys, the archaeologists encouraged participants to provide input on bush tucker/medicine, fauna and cultural associations/knowledge of the Investigation Area. RAPs were also invited to provide cultural information regarding:

- Objects of cultural value to Aboriginal people in the Investigation Area or surrounds.
- Places of cultural value to Aboriginal people, including flora and fauna communities, in the Investigation Area or surrounds. This included places of social, spiritual and cultural value, historic places with cultural significance and potential places/areas of historic, social, spiritual and/or cultural significance.

It is noted that, in the event that RAPs or other community members wish to provide culturally sensitive information, NCOPL is committed to managing such sensitive material in an agreed manner with the relevant Aboriginal person/group at the time the information is provided. NCOPL respects the right of Aboriginal persons to retain ownership of cultural information they provide.

Although some RAPs were sometimes reluctant to go into detail, the results of the cultural values assessment were generally consistent with the results of previous surveys within the Investigation Area or surrounds. There have been no specific spiritual, traditional, historical or contemporary associations and attachments identified by the RAPs within the Investigation Area. There is, however, the contemporary view held by RAPs that all Aboriginal objects and sites are important within the region due to their interconnectivity with the natural landscape and their testimony to ancestors' presence within this landscape.

9.2.2 Outcomes of Cultural Values Assessment

General Cultural Values

The cultural values consultation undertaken to date in the Investigation Area and surrounds has established several themes of traditional knowledge:

- The inter-connectedness of places traditionally, Kamilaroi people are considered to have traversed the broader region for trade, hunting and foraging along established routes defined by the topography (e.g. certain creek lines and ridgelines). Further, their movement through the landscape would have been reflected in traditional stories and places (e.g. 'songlines' and 'Dreaming places'). This traditional knowledge has been impacted by the actions of European settlers and government policy since first contact.
- 'Nature' and 'Culture' some Aboriginal people do not make a clear distinction between the natural world and 'culture', because the two things are closely intertwined (e.g. through the existence of totemic species, the use of bush tucker and bush medicine, and through cultural obligations for the management of Country). It is noted that the RAPs consulted have identified some flora and fauna species of traditional importance to them.
- Access some Kamilaroi people are presently experiencing a renewed interest in their history and traditions, and they wish to be afforded opportunities to access Country to continue to embed their beliefs in physical places, to continue to practice traditional activities, and to educate their younger generations.

During the archaeological surveys, the attending RAPs did not identify any specific locations within the Investigation Area that were inter-connected with other known heritage places.

Flora and Fauna

During archaeological survey of the Investigation Area, various species of flora and fauna were sometimes observed by the attending RAPs who identified them as being culturally significant. Mostly, the identified species were stated to be significant for their uses as bush tucker or bush medicine, although some were noted to be totemic species. None of the identified species are rare or endangered and, in all cases, they are considered better represented in other locations, outside the Investigation Area. Nonetheless, the cultural values of the Investigation Area are closely linked to the biodiversity of the natural environment. A number of references are available that outline the traditional uses of native flora and fauna species (e.g. Ash et al., 2003; McKemey and White, 2011; Sonter and White, 2012) and, as a result, an exhaustive list of significant species is not repeated here.

Cultural Significance of the Broader Region

A number of RAPs expressed concern about developments that might impact upon Aboriginal cultural heritage and values on land that is traditionally theirs. As they express it, all land is considered to have high cultural significance for the local Aboriginal community. It should also be noted that development upon, or disturbance of, land is stated by some RAPs to be contrary to fundamental Aboriginal beliefs regarding land, its values and its inherent cultural significance (Landskape, 2012).

RAPs identified the Investigation Area as an area that Aboriginal people had occupied in the past. Generally, the RAPs viewed all Aboriginal cultural heritage sites as significant because they preserve a record of how and where people lived in the past.

Cultural Significance of Known Aboriginal Cultural Heritage Sites

In the course of the archaeological surveys for the Investigation Area, it was sometimes observed by the attending RAPs that individual artefacts may not have scientific significance, but were still vivid reminders of their ancestors' past actions. This also accords with sentiments expressed by Aboriginal participants in community consultation undertaken in previous assessments at the Narrabri Mine (e.g. Niche, 2018).

9.2.3 Ongoing Consultation

The surveys and community consultation undertaken for this assessment have not been the only, or first, opportunity afforded to the local Aboriginal community to provide information in relation to cultural values embodied by the wider region. Other opportunities have been provided during initial assessments for the Narrabri Coal Mine, but also on a range of projects within the wider region (see Sections 7.1 and 7.2).

As described in Section 5.6, it is noted that the cultural values assessment for the Project was ongoing during the draft ACHA review period. RAPs, Elders and other Aboriginal community members who wished to provide input into the cultural values assessment, or who would prefer to arrange a formal interview, were encouraged to contact NCOPL during the draft ACHA review period.

10 SIGNIFICANCE ASSESSMENT

The assessment of cultural heritage value or 'significance' is a fundamental component of the heritage management process in that it assists in determining which sites, places, landscapes, environments and items are of sufficient importance that they require conservation.

As such, the significance assessment process underpins the legislative framework for heritage site protection by establishing a framework within which various types (assessment criteria) and levels (significance ratings) of heritage value can be defined. The effective assessment of these values will, in turn, facilitate the formulation of appropriate management decisions for a specific heritage item, whether an Aboriginal cultural heritage object, site, place or landscape.

Aboriginal tradition is not static and unchanging from a distant 'authentic past'. 'Tradition' is the handing down of beliefs from one generation to the next, but does not mean that significance in accordance with Aboriginal tradition requires an immutable value from 'time immemorial'. A scatter of discarded flakes from a one-off utilitarian task may acquire 'significance in accordance with Aboriginal tradition' with the passage of time and cultural change.

A statement of the significance of the Aboriginal cultural heritage found, discovered and/or subject to investigation in terms of this definition of 'cultural heritage significance' is an essential step in the process of developing cultural heritage management recommendations. All Aboriginal cultural heritage may hold 'cultural significance', but the preservation of all Aboriginal cultural heritage is not possible. Therefore, a process of assessing significance is necessary to determine which elements of Aboriginal cultural heritage require preservation, management and/or mitigation.

Assessment of scientific significance can encompass a range of heritage values. A process for establishing cultural significance is outlined in the *Australia ICOMOS Charter for Places of Cultural Significance*, otherwise known as 'The Burra Charter' (Australia International Council on Monuments and Sites [ICOMOS], 2013). The Burra Charter is, in turn, based on preceding international charters formulated by ICOMOS. The revised Burra Charter (Australia ICOMOS, 2013) defines cultural heritage significance as the social, spiritual, historical, scientific and aesthetic value for past, present or future generations.

The assessment of the significance of Aboriginal cultural heritage sites is a complex process and involves the consideration of both scientific significance and value to the local Aboriginal community (i.e. social and/or spiritual significance, also referred to as cultural or traditional value). While less commonly relevant to the assessment of Aboriginal cultural heritage sites, the historical and aesthetic values are also briefly discussed below.

This section undertakes an assessment of significance for the sixty (60) Aboriginal cultural heritage sites located within the Investigation Area. While it also considers the significance of sites determined during previous assessments, it does not re-assess those same sites (i.e. the significance from previous reports has been maintained).

10.1 Scientific Significance

The following section provides an assessment of the scientific significance of the Aboriginal cultural heritage sites recorded in the Investigation Area and includes reference to the results of previous significance assessments. Scientific significance is assessed by examining the research potential and rarity/representativeness of the Aboriginal cultural heritage sites recorded. Therefore, the focus of the assessment for the Investigation Area is on those sites that have the potential to yield data that will contribute to substantive research questions.

Research Potential

Research potential is assessed by examining site contents and site condition. 'Site contents' refers to all cultural materials and organic remains associated with human activity at a site. It does not only refer to the number of objects (e.g. artefacts) at a site, but the site structure, size, spatial patterning, and presence of any stratified deposits. 'Site condition' refers to the degree of disturbance to the contents of a site at the time it was recorded. Ratings for site contents and condition are given below.

SITE CONTENTS:

- 0 No cultural materials remaining.
- 1 Site contains a small number (e.g. 0-10 artefacts) or limited range of cultural materials with no evident stratification.
- 2 Site contains:
 - (a) a larger number, but limited range of cultural materials: and/or
 - (b) some intact stratified deposit remains.
- 3 Site contains:
 - (a) a large number and diverse range of cultural materials; and/or
 - (b) largely intact stratified deposit; and/or
 - (c) surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were laid down.

SITE CONDITION:

O Site destroyed.

1 Site in a deteriorated condition with a high degree of disturbance; some cultural materials remaining.

2 Site in a fair to good condition, but with some disturbance.

3 Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Rarity and Representativeness

'Representativeness' refers to the regional distribution of a particular site type. It is assessed on whether the site is common, occasional or rare in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and numbers of Aboriginal cultural heritage sites in a region. This varies from place to place, depending on the extent of previous archaeological research. Assessment of representativeness also takes into account the contents and condition of a particular site. For example, in any region, there may be only a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high rating for representativeness, although they may occur commonly within the region.

REPRESENTATIVENESS

1 Common occurrence

2 Occasional occurrence

3 Rare occurrence

Scientific Significance

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site condition, and representativeness are given as follows:

1-4 Low scientific significance

5-7 Moderate scientific significance

8-9 High scientific significance

10.1.1 Scientific Significance Assessment for Investigation Area

The scientific significance assessment for Aboriginal cultural heritage sites identified within the Investigation Area is provided below (Table 9). It is noted that the below significance assessment may change on the basis of future investigations, research and analysis (when undertaken).

Table 9: Scientific Significance of Aboriginal Cultural Heritage Sites within Investigation Area

Site Name	Туре	Area (m²)	Artefacts	Site Contents	Site Condition	Representativeness	Scientific Significance
Karinda IA1	IA	78	1	1	1	1	3 - Low
Kurrajong CR/OS 103	AS	699	3		Previously	assessed	Low ²
Kurrajong CR/OS 104	AS	770	3		Previously	assessed	Low ²
Kurrajong CR/OS 105	AS	215	2		Previously	assessed	Low ²
Kurrajong CR/OS 106	AS	22	3		Previously	assessed	Moderate ²
Kurrajong CR/OS 107	AS	661	34		Previously	assessed	Moderate ²
Kurrajong T1/ISO 81	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/ISO 87	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/ISO 89	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/ISO 92	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/ISO 97	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/ISO 101	IA	78	1		Previously	assessed	Low ²
Kurrajong T1/OS 82	AS	78	9		Previously	assessed	Low ²
Kurrajong T1/OS 83	AS	78	7		Previously	assessed	Low ²
Kurrajong T1/OS 84	AS	78	5		Previously	Low ²	
Kurrajong T1/OS 85	AS	78	3		Previously	assessed	Low ²
Kurrajong T1/OS 86	AS	78	2		Previously	assessed	Low ²
Kurrajong T1/OS 88	AS	4	2		Previously	assessed	Low ²
Kurrajong T1/OS 90	AS	78	5		Previously	assessed	Low ²
Kurrajong T1/OS 91	AS	78	2		Previously	assessed	Low ²
Kurrajong T1/OS 93	AS	78	2		Previously	assessed	Low ²
Kurrajong T1/OS 94	AS	78	6		Previously	assessed	Low ²
Kurrajong T1/OS 95	AS	78	7		Previously	assessed	Low ²
Kurrajong T1/OS 96	AS	78	3		Previously	assessed	Low ²
Kurrajong T1/OS 98	AS	78	2		Previously	assessed	Low ²
Kurrajong T1/OS 99	AS	78	2		Previously	Low ²	
Kurrajong T1/OS 100	AS	78	4		Previously	Low ²	
Kurrajong T1/OS 102	AS	400	3		Previously	assessed	Low ²
Kurrajong T1/OS 136	AS	1197	11	Previously assessed			Low ³
Longsight GG1	GG	100	2	1 1 2			4 - Low
Mayfield AS1	AS	1101	28	2	1	1	4 - Low
Mayfield AS2	AS	318	3	1	1	1	3 - Low

Site Name	Туре	Area (m²)	Artefacts	Site Contents	Site Condition	Representativeness	Scientific Significance
Mayfield AS3	AS	1889	5	1	1	1	3 - Low
Mayfield AS4	AS	2404	28	2	1	1	4 - Low
Mayfield AS5	AS	100	2	1	1	1	3 - Low
Mayfield AS6	AS	2434	25	2	1	1	4 - Low
Mayfield AS7	AS	414	3	1	1	1	3 - Low
Mayfield AS8	AS	299	2	1	1	1	3 - Low
Mayfield AS9	AS	15140	11	2	1	1	4 - Low
Mayfield AS10	AS	610	4	1	1	1	3 - Low
Mayfield AS11	AS	568	3	1	1	1	3 - Low
Mayfield AS12	AS	19928	132	3	1	1	5 – Moderate
Mayfield AS13	AS	31722	130	3	1	1	4 – Moderate
Mayfield GG1	GG	255	48	2	2	2	6 - Moderate
Mayfield IA1	IA	78	1	1	1	1	3 - Low
Mayfield IA2	IA	78	1	1	1	1	3 - Low
Mayfield IA3	IA	78	1	1	1	1	3 - Low
Mayfield IA4	IA	78	1	1	1	1	3 - Low
Mayfield IA5	IA	78	1	1	1	1	3 - Low
Mayfield IA6	IA	78	1	1	1	1	3 - Low
Mayfield IA7	IA	78	1	1	1	1	3 - Low
Mayfield IA8	IA	78	1	1	1	1	3 - Low
Mayfield IA9	IA	78	1	1	1	1	3 - Low
Mayfield IA10	IA	78	1	1	1	1	3 - Low
Mayfield IA11	IA	78	1	1	1	1	3 - Low
Merrilong IA1	IA	78	1	1	1	1	3 - Low
Merrilong IA2	IA	78	1	1	1	1	3 - Low
Pilliga IA01	IA	78	1	1	2	1	4 - Low
Westhaven AS1	AS	1146	4	1	1	1	3 - Low
Westhaven IA1	IA	78	1	1	1	1	3 - Low

AS = Artefact Scatter; IA = Isolated Artefact; GG = Grinding Grooves

Scientific significance ratings are provided on a local scale. These ratings would be reduced if assessed on a regional scale.

² 'Overall Archaeological Significance Rating' as determined by Archaeological Surveys and Reports 2009.

³ 'Overall Archaeological Significance Rating' as determined by Niche 2018.

All but five of the sixty (60) Aboriginal cultural heritage sites present within the Investigation Area are considered to be of low scientific significance due to the low number of site contents, the disturbed context of the sites and the common occurrence of these site types within the wider region. Five (5) Aboriginal cultural heritage sites are considered to be of moderate scientific significance due to the relatively higher number of site contents and/or potential for a subsurface component and/or capacity for further research. The sites of moderate scientific significance include four artefact scatters with relatively high amounts of artefacts, usually within close proximity to other sites with high artefact counts. The fifth site of moderate significance is Mayfield GG1, which contains a relatively high concentration of reasonably well-preserved grinding grooves within a small area; while grinding groove sites are not rare in the region, they are not a common occurrence. No sites of high scientific significance are known to exist within the Investigation Area.

10.2 Cultural Significance

In addition to the scientific significance assessment of Aboriginal cultural heritage sites (Section 10.1), the cultural significance in accordance with Aboriginal tradition also warrants consideration. It should be noted that Aboriginal cultural significance may reflect Aboriginal community values not only in regard to individual sites and groups of sites, but also in terms of the general landscape. As discussed in Section 9.2, Aboriginal values do not necessarily correspond to the scientific values placed on individual sites, but will reflect the social, spiritual, educational and aesthetic values of such locations.

The RAPs consulted for this report characterised the social and spiritual significance of the Investigation Area (and the wider environment of which it forms a part) in terms of:

- The identified artefacts being reflections of the activities of their ancestors their 'footprints'.
- Aspects of the natural world that embody cultural significance, including bush tucker, bush medicine and totemic species.
- The positive feelings that being 'on Country' produced for them.

The RAPs preferred not to 'rank' Aboriginal heritage as being of low, moderate or high cultural significance. For example, they stated that even an isolated stone artefact is of high cultural significance to them. However, they did indicate that different types of Aboriginal cultural heritage sites (e.g. an isolated artefact relative to grinding grooves) would demand different levels of management rigour. Of the site types identified in the Investigation Area, none were identified by the RAPs as requiring the highest level of management rigour.

Although not specifically raised by the RAPs for this assessment, it is noted that, in general, Aboriginal people consider that the entire landscape within their Country is of cultural value. Review of literature, previous studies and consultation with the wider Aboriginal community for previous assessments across the region indicates that the following landscape characteristics are generally considered to be of cultural value:

- Waterways and wetlands in addition to the high potential for the occurrence of Aboriginal cultural heritage sites within proximity to these areas, the waterway and wetlands are themselves generally considered to be culturally significant. Fords and fish traps in creeks can make the watercourses culturally significant, as well as the associated stories and dreaming, and the occurrence of Aboriginal cultural heritage sites in close proximity. Although intermittent creeks and drainage lines are present, wetlands are not known to exist within the Investigation Area.
- Areas of natural habitat, including wildlife corridors, are likely to have high cultural value. Flora
 and fauna have cultural value as traditional sources of food, charcoal, sap/eucalyptus gum,
 medicines, clothing, baskets/tools, artistic expression, stories, spiritual beliefs and totems.
 Continuing health of habitat is an important management issue.
- Known cultural heritage sites are very important and, in some cases, the surroundings and corridors of access and use associated with such sites may also have associated values.
- Ceremonial sites and gathering places known from traditional, historical and contemporary times are generally considered to be important to the Aboriginal community. It is noted, however, that there are no known ceremonial sites within the Investigation Area.
- **Stone sources** for the manufacture of stone artefacts of different kinds; ochre is another culturally important natural resource. No ochre sources were identified within the Investigation Area.
- Conspicuous landscape features while these areas may or may not have high potential for Aboriginal cultural heritage sites, many of them may represent important story places, landmarks, look-outs, boundary markers, and so on. The Bulga, a conspicuously large sandstone outcrop within the Investigation Area, may hold cultural associations for the Kamilaroi people due to its conspicuous nature, although the RAPs that participated in fieldwork did not know of any specific stories associated with this place.
- Places of post-contact and contemporary history including features or places given Indigenous names in contemporary or historical times, favoured camping and recreation sites, and places where Aboriginal people have held important gatherings or made significant achievements.

Further consideration of cultural values and cultural significance of known Aboriginal cultural heritage sites is provided in Section 9.2.

10.3 Historical Significance

The historic value of Aboriginal cultural heritage sites largely stems from their importance in providing evidence of Aboriginal peoples' association with the area. The Investigation Area (and the broader Study Area) is within a region that was occupied by the Kamilaroi tribal group at the time of first contact with Europeans (Mitchell, 1839). Archaeological and ethno-historical sources show that past Aboriginal people frequented specific places within the region for habitation or to manufacture lithic implements (O'Rourke, 1997).

No sites have been identified in the Investigation Area that are considered to have historic (post-settlement) significance for Aboriginal people.

10.4 Aesthetic Significance

Aesthetic significance refers to the sensory, scenic, architectural and creative aspects of a place or Aboriginal cultural heritage site. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smells and sounds associated with the place and its use (OEH, 2011).

Most of the Aboriginal cultural heritage sites located within the Investigation Area are stone artefact sites (i.e. artefact scatters or isolated finds), which are small features in the landscape. The RAPs consulted did not identify them as places of high aesthetic value. Furthermore, the outcrops containing the axe-grinding grooves at Mayfield GG1 and Longsight GG1 are also not prominent within the landscape.

Nearly half of the Investigation Area has been significantly altered by tree clearing and agricultural/pastoral activities following European settlement with the remaining forested areas also being modified by timber production operations. The area is considered to be a modified rural landscape dominated by fence lines, homesteads and other evidence of farming and grazing activities. This landscape has not been identified as one of cultural significance either by the RAPs present during the field surveys, during the Aboriginal community consultation undertaken to date, or during previous assessments undertaken in the Investigation Area and surrounds.

10.5 Statement of Significance

The ACHA has assessed the archaeological potential of the Investigation Area within the context of the wider landscape and previous disturbances. The contextual desktop study and field survey explored the actual and potential archaeological values and resulted in the identification of sixty (60) Aboriginal cultural heritage sites (including twenty-eight (28) previously recorded Aboriginal cultural heritage sites) within the Investigation Area. Of these sites, fifty-five (55) are classified as being of low scientific significance and five sites are of moderate scientific significance (Table 9). No sites of high scientific significance were identified within the Investigation Area.

The significance of the 28 Aboriginal cultural heritage sites already identified in the Investigation Area has been previously assessed (Archaeological Surveys & Reports, 2009; Niche, 2018). All but two of these sites were assessed as being of low scientific significance; the remaining two sites were assessed as being of moderate scientific significance, with salvage excavation recommended if scheduled for impact.

No Aboriginal cultural heritage sites of high scientific value have been identified within the Investigation Area.

The majority of the identified Aboriginal cultural heritage sites, and those with the greatest concentration of artefacts, are located within close proximity to Kurrajong Creek and, to a lesser degree, the northern tributary of Kurrajong Creek; very few artefacts were identified in other sections of the Investigation Area.

The Investigation Area is considered as containing localised evidence of Aboriginal occupation of the Namoi River catchment, much of which has been impacted through historical land use practices. While the overall scientific significance of the Investigation Area is not considered to be high, the Aboriginal cultural heritage sites therein hold potential to add some knowledge of Aboriginal occupation in the broader region (although it is not expected to significantly alter any regional predictive modelling).

The RAPs consulted for this report did not identify the Investigation Area as critical to their ability to (re-)connect to 'Country'.

The Investigation Area contains some species of flora and fauna that have cultural significance to the Aboriginal people consulted for this assessment; however, these flora and fauna are neither rare nor endangered, and are well represented in locations outside the Investigation Area.

It was noted by some RAPs that, apart from their scientific value, all artefacts are culturally significant to them, because they are reflections of the actions of their ancestors.

11 IMPACT ASSESSMENT

The Project has the potential to directly and indirectly impact Aboriginal cultural heritage sites within the Investigation Area. This section provides an impact assessment for the proposed development of the Investigation Area. The impact assessment includes a consideration of potential surface disturbance impacts from the development of Project surface infrastructure (e.g. access tracks, drill pads, installation of ventilation shafts), as well as a consideration of potential indirect impacts associated with subsidence.

In accordance with *the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011:12-13), the principles of ecologically sustainable development were considered in assessing the likely harm of the Project to Aboriginal cultural heritage sites.

11.1 Potential Direct Impacts

11.1.1 Surface Infrastructure

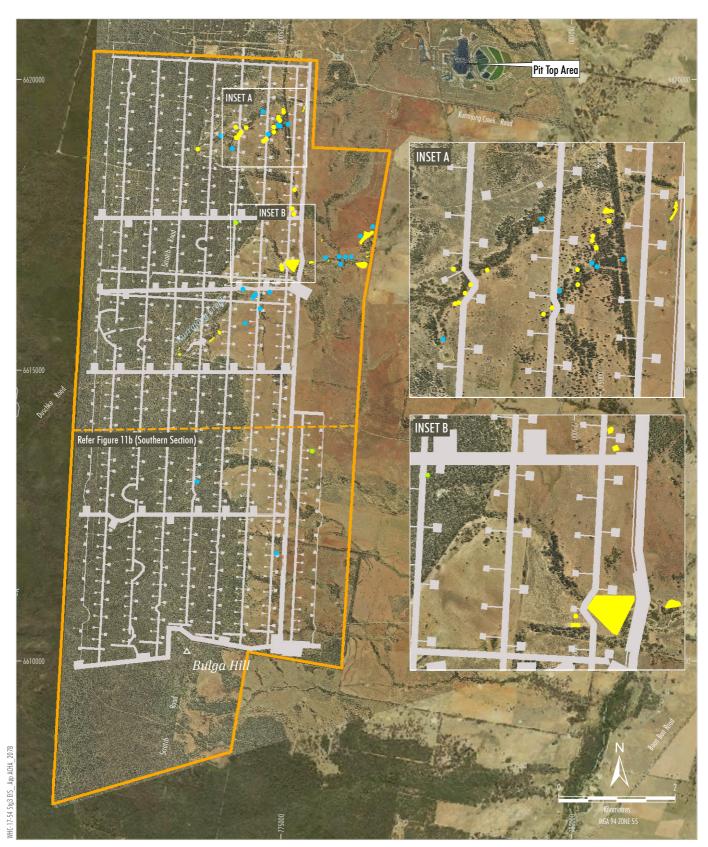
A description of Project surface infrastructure is provided in Section 2 in the Main Report of the EIS.

Additional infrastructure required for the Project would be developed within the indicative Project Development Footprint (Figures 11a and 11b). Some flexibility in the Project Development Footprint is needed over the life of the Project due to further detailed mine planning during development and operation, operational/mine safety requirements, and for specific siting of infrastructure to minimise impacts (including impacts to Aboriginal cultural heritage sites).

Where avoidance of known Aboriginal cultural heritage sites is not practicable (e.g. artefact scatters extending over large areas), appropriate management measures would be implemented, including salvage activities where necessary and avoidance of portions of the site that were not required to be impacted (Section 12).

Direct harm associated with surface disturbance activities is anticipated to cause either a total or partial loss of heritage value at affected Aboriginal cultural heritage sites and would have a cumulative partial loss of values for the wider area as a whole.

Potential direct impacts to known Aboriginal cultural heritage sites are described in Section 11.3. It is expected that none of the known Aboriginal cultural heritage sites would be directly impacted by the Project.



Source: NCOPL (2019); NSW Spatial Services (2019)



LEGEND
Investigation Area
Indicative Surface Development Footprint
Artefact Scatter
Grinding Groove
Isolated Artefact



Impact Assessment for Investigation Area -North



Source: NCOPL (2019); NSW Spatial Services (2019)

LEGEND



Investigation Area Indicative Surface Development Footprint Artefact Scatter Grinding Groove Isolated Artefact



Impact Assessment for Investigation Area - South

11.2 Potential Indirect Impacts

In addition to direct ground disturbance associated with the installation of surface infrastructure (Section 11.1.1), potential indirect impacts to Aboriginal cultural heritage sites may also occur. Potential indirect impacts to Aboriginal cultural heritage sites could include (but are not limited to) the following:

- subsidence associated with underground mining activities (Section 11.2.1);
- potential ponding of surface water as a result of subsidence (Section 11.2.1);
- · deposition of dust generated by mining;
- accidental disturbance by peripheral activities; and
- inappropriate visitation of known Aboriginal cultural heritage sites, including the unauthorised removal of Aboriginal objects.

Potential indirect impacts to known Aboriginal cultural heritage sites are described in Sections 11.3 to 11.6.

11.2.1 Subsidence Impacts

The subsidence assessment completed for the Project (Ditton Geotechnical Services Pty Ltd [Ditton Geotechnical Services], 2020) suggests that based on previously observed impacts associated with the existing Narrabri Mine and longwall mining experience in the NSW coalfields, surface cracking above the proposed mining areas is expected to range from 60 to 420 mm for the Project. Surface cracking within the boundary of an existing open artefact site resulting from subsidence has the potential to displace soils, including archaeological deposits, and move Aboriginal objects, both of which are considered to be impacts. Moreover, if remediation of the surface is required after mining, these works could potentially impact Aboriginal sites. Although considered unlikely, there is some potential for impacts to Aboriginal sites from subsidence or remediation of surface cracks.

The subsidence assessment undertaken for the Project included an assessment of the likely impacts of subsidence on the two (2) axe-grinding groove sites identified in the Investigation Area (Ditton Geotechnical Services, 2020). One axe-grinding groove site (Longsight GG1) was identified on sandstone boulders that would only be subject to impacts from vertical displacement of the floaters (i.e. individual or loose rocks or boulders), which would be unlikely to have an impact on the axe-grinding grooves.

The second grinding groove site (Mayfield GG1) is located on multiple partially outcropping sandstone slabs. It could not be determined during the survey as to whether the sandstone slabs are floaters or connected to bedrock. If they are floaters, they would be subject to impacts from vertical displacement, which would be unlikely to have an impact on the axe-grinding grooves. However, if the sandstone slabs are connected to bedrock, they may be subject to potential cracking and/or possible erosion damage (due to concentrated water flows) due to subsidence (Ditton Geotechnical Services, 2020). Further investigation of potential connection to bedrock is proposed in consultation with a qualified archaeologist and RAPs (Section 12.2).

It is also noted that subsidence associated with underground mining activities may result in some areas of localised ponding. Channel earthworks may be required to re-establish drainage pathways along the affected creeks after mining (Ditton Geotechnical Services, 2020). No axe-grinding grooves were identified within the potential ponding areas and therefore the potential ponding impacts on these sites is likely to be negligible. While some artefact scatters and isolated finds may occur coincident with the areas of increased ponding, these areas would be managed in accordance with the currently approved Narrabri Mine Land Management Plans (as components on the Narrabri Mine Extraction Plans).

This ACHA found that the Investigation Area has been impacted through historical land use practices. It is therefore reasonable to assume that most of the artefacts have been displaced as a result of previous land use activities and erosion. The potential impacts from subsidence on artefact scatters and isolated artefacts relate to the vertical displacement of artefacts and the potential for subsidence to accelerate or decelerate the already occurring horizontal displacement. Based on this, this assessment concludes that the impact of subsidence on surface artefact sites is likely to be minimal and, therefore, negligible.

11.3 Potential Impacts on Known Aboriginal Archaeological Values

The impact of the Project on Aboriginal cultural heritage sites in the Investigation Area is determined by the nature of the proposed development works and the degree of harm this would cause. The type of harm defined in this assessment is either direct (surface disturbance) or indirect (subsidence and inadvertent disturbance), and the consequence of harm is either a total or a partial loss in value. A total loss in value would occur when an entire site is impacted by the Project. A partial loss in value would occur when only part of a site (such as in the case of an artefact scatter) is directly or indirectly impacted by the Project.

As described in Section 8.6, there are a total of sixty (60) known Aboriginal cultural heritage sites located within the Investigation Area, most of which are surface artefact sites, including twenty-two (22) isolated artefacts and thirty-six (36) surface artefact scatters. The Investigation Area also contains two (2) grinding groove sites.

The potential impacts of the Project on each of the Aboriginal cultural heritage sites in the Investigation Area are described in Table 10 below. The current design of the proposed surface disturbance would avoid all known Aboriginal cultural heritage sites. Hence, surface disturbance would result in a loss of value for none (0) of the known Aboriginal cultural heritage sites.

This assessment has determined that all sixty (60) known Aboriginal cultural heritage sites located within the Investigation Area would not be directly impacted by the Project. Subsidence modelling (Ditton Geotechnical Services, 2020) has determined that one (1) grinding groove site of moderate scientific significance (Mayfield GG1) holds the potential to be indirectly impacted by the effects of subsidence associated with the Project.

Table 10: Potential Impacts on Known Aboriginal Cultural Heritage Sites within Investigation Area

Site Name	Туре	Scientific Significance	Surface Disturbance Impact	Distance to Impact (m)	Subsidence Impact ¹
Karinda IA1	IA	Low	No	15	No
Kurrajong CR/OS 103	AS	Low ²	No	5	No
Kurrajong CR/OS 104	AS	Low ²	No	5	No
Kurrajong CR/OS 105	AS	Low ²	No	40	No
Kurrajong CR/OS 106	AS	Moderate ²	No	25	No
Kurrajong CR/OS 107	AS	Moderate ²	No	45	No
Kurrajong T1/ISO 81	IA	Low ²	No	45	No
Kurrajong T1/ISO 87	IA	Low ²	No	80	No
Kurrajong T1/ISO 89	IA	Low ²	No	60	No
Kurrajong T1/ISO 92	IA	Low ²	No	125	No
Kurrajong T1/ISO 97	IA	Low ²	No	10	No
Kurrajong T1/ISO 101	IA	Low ²	No	150	No
Kurrajong T1/OS 82	AS	Low ²	No	65	No
Kurrajong T1/OS 83	AS	Low ²	No	2.5	No
Kurrajong T1/OS 84	AS	Low ²	No	2.5	No
Kurrajong T1/OS 85	AS	Low ²	No	2.5	No
Kurrajong T1/OS 86	AS	Low ²	No	20	No
Kurrajong T1/OS 88	AS	Low ²	No	125	No
Kurrajong T1/OS 90	AS	Low ²	No	20	No
Kurrajong T1/OS 91	AS	Low ²	No	95	No

Site Name	Туре	Scientific Significance	Surface Disturbance Impact	Distance to Impact (m)	Subsidence Impact ¹
Kurrajong T1/OS 93	AS	Low ²	No	75	No
Kurrajong T1/OS 94	AS	Low ²	No	75	No
Kurrajong T1/OS 95	AS	Low ²	No	100	No
Kurrajong T1/OS 96	AS	Low ²	No	100	No
Kurrajong T1/OS 98	AS	Low ²	No	3	No
Kurrajong T1/OS 99	AS	Low ²	No	30	No
Kurrajong T1/OS 100	AS	Low ²	No	100	No
Kurrajong T1/OS 102	AS	Low ²	No	70	No
Kurrajong T1/OS 136	AS	Low ³	No	8	No
Longsight GG1	GG	Low	No	55	Unlikely
Mayfield AS1	AS	Low	No	90	No
Mayfield AS2	AS	Low	No	95	No
Mayfield AS3	AS	Low	No	125	No
Mayfield AS4	AS	Low	No	9	No
Mayfield AS5	AS	Low	No	3	No
Mayfield AS6	AS	Low	No	85	No
Mayfield AS7	AS	Low	No	340	No
Mayfield AS8	AS	Low	No	400	No
Mayfield AS9	AS	Low	No	880	No
Mayfield AS10	AS	Low	No	1050	No
Mayfield AS11	AS	Low	No	1075	No
Mayfield AS12	AS	Moderate	No	985	No
Mayfield AS13	AS	Moderate	No	5	No
Mayfield GG1	GG	Moderate	No	5	Likely
Mayfield IA01	IA	Low	No	70	No
Mayfield IA02	IA	Low	No	3	No
Mayfield IA03	IA	Low	No	11	No
Mayfield IA04	IA	Low	No	25	No
Mayfield IA05	IA	Low	No	365	No
Mayfield IA06	IA	Low	No	600	No
Mayfield IA07	IA	Low	No	620	No
Mayfield IA08	IA	Low	No	700	No
Mayfield IA09	IA	Low	No	800	No
Mayfield IA10	IA	Low	No	1200	No
Mayfield IA11	IA	Low	No	995	No
Merrilong IA1	IA	Low	No	35	No
Merrilong IA2	IA	Low	No	15	No
Pilliga IA1	IA	Low	No	45	No

Site Name	Туре	Scientific Significance	Surface Disturbance Impact	Distance to Impact (m)	Subsidence Impact ¹
Westhaven AS1	AS	Low	No	80	No
Westhaven IA1	IA	Low	No	90	No

AS = Artefact Scatter; IA = Isolated Artefact; GG = Grinding Grooves

- Subsidence impact determined by Ditton Geotechnical Services (2020).
- ² 'Overall Archaeological Significance Rating' as determined by Archaeological Surveys and Reports 2009.
- ³ 'Overall Archaeological Significance Rating' as determined by Niche 2018.

11.4 Potential Impacts on Previously Unidentified Aboriginal Cultural Heritage Sites

Although most of the Investigation Area was comprehensively surveyed, there remains potential for additional Aboriginal cultural heritage sites to be identified during activities associated with the Project (e.g. sites that may have been obscured by vegetation or soil at the time of survey). Such previously unidentified features, should they occur, would likely be additional isolated artefacts, low-density concentrations of stone artefacts or, to a lesser degree, additional axe grinding grooves (based on the predictive model outlined in Section 7.6 and informed by the results of the Project surveys, summarised in Sections 8 and 9).

A strategy for managing any previously unidentified Aboriginal cultural heritage sites during the life of the Project is outlined in Section 12 and, in more detail, within the Narrabri Mine ACHMP.

11.5 Potential Cumulative Impacts

The Project is located within the Gunnedah Basin. For the past 150 years, much of the Gunnedah Basin has been subject to a range of ground impacts associated with pastoral and forestry activities, including widespread clearing and selective logging. Although such activities have impacted different areas to differing degrees, much of the Gunnedah Basin has been affected in some way. The Investigation Area has been significantly impacted by these activities and, as a result, the proposed activity does not represent additional cumulative impacts to the Aboriginal cultural heritage values of the region.

The Gunnedah Basin also contains a number of currently approved or operational mine sites. These mine sites have operated for some years, and the approved mining operations have caused adverse heritage impacts to a range of Aboriginal cultural heritage sites, principally archaeological ones. For the most part, these adverse impacts have been associated with the disturbance or destruction of Aboriginal cultural heritage sites, subsequent to archaeological investigation and assessment. The impacts of the Narrabri Gas Project, located to the immediate west of the Investigation Area, have not yet been determined.

The surveys undertaken for this Project indicate that the types of Aboriginal cultural heritage sites within the Investigation Area that may be impacted by the Project generally comprise part of a region-wide 'background scatter' of disturbed isolated artefacts and artefact scatters of low (or occasionally moderate) scientific significance. Given the generally low scientific significance of these Aboriginal cultural heritage sites, the cumulative effect that may result from the development of the Project is considered to be low and would be mitigated by the ongoing program of archaeological recording recommended by this assessment.

In terms of cultural values, most of the Aboriginal cultural heritage sites located within the Investigation Area are located within heavily modified terrain, due to extensive tree clearing and agropastoral activities. Hence, the Project is considered to cause few impacts additional to those that have already occurred.

On the basis of the above, it is considered that the Project would not substantially increase cumulative impacts to Aboriginal heritage in the region.

11.6 Avoiding and Minimising Harm to Aboriginal Cultural Heritage Sites

This ACHA has undertaken an assessment of the potential impacts associated with the development of Project surface infrastructure, as well as the potential impacts of subsidence associated with underground mining activities.

The evaluation undertaken as part of this ACHA has determined that sixty (60) Aboriginal cultural heritage sites occur within the Investigation Area. None of these sites would be directly impacted by the Project. As a result, no Aboriginal cultural heritage sites of high scientific significance would be impacted by the Project. One (1) site (Mayfield GG1) assessed as being of moderate scientific significance has potential to be indirectly impacted by the effects of subsidence.

As described in Section 11.1.1, some flexibility in the Project Development Footprint is needed over the life of the Project due to further detailed mine planning during development and operation, operational/mine safety requirements, and for specific siting of infrastructure to minimise impacts (including impacts to Aboriginal cultural heritage sites). Where avoidance of known Aboriginal cultural heritage sites is not practicable (e.g. artefact scatters extending over large areas), appropriate management measures would be implemented, including salvage activities where necessary and avoidance of portions of the site that were not required to be impacted (Section 12).

12 PROPOSED MANAGEMENT AND MITIGATION MEASURES

It is a fundamental principle of heritage conservation that the nature and level of an Aboriginal cultural heritage site's significance will determine the appropriate management response. Sites of higher scientific significance generally require a more stringent management regime than sites of lower scientific significance. Similarly, the reasons for a site's scientific significance are relevant to its management. For example, a site that is significant for its scientific value is likely to require a different management strategy to a site considered significant for its aesthetic or spiritual values. Generally, Aboriginal cultural heritage sites that are significant solely for their scientific values will usually be considered to be appropriately conserved when their research value has been met (e.g. through excavation and documentation).

This section summarises the recommended management measures for the Aboriginal cultural heritage sites identified within the Investigation Area in order to fulfil the above management principles.

As the Narrabri Mine comprises an underground operation, the potential for impacts on other sites not identified in the site survey is low, particularly given the history of disturbance in the area from agricultural activities. As such, standard contingency plans for the possible discovery of further Aboriginal cultural heritage objects and/or human remains are already included within the approved Narrabri Mine ACHMP (NCOPL, 2019: Sections 3.3 and 3.3.2). Nevertheless, it is recommended that the Narrabri Mine ACHMP, and the contingencies contained therein, be updated and improved to incorporate the findings of this assessment (Section 13). An update to the Narrabri Mine ACHMP would be developed for the Project, in consultation with the Aboriginal community and Heritage NSW within the Department of Premier and Cabinet (Heritage NSW) to define, develop and formalise the management and mitigation measures described in this section. It is noted that on 1 July 2020, Heritage NSW was transferred the Aboriginal cultural heritage regulation functions previously held by the BCD.

12.1 Management of Potential Direct Impacts

Given the nature of the proposed surface disturbance works (i.e. associated with surface infrastructure), it may not always be possible to avoid all Aboriginal cultural heritage sites. Notwithstanding, this assessment has concluded that none of the known Aboriginal cultural heritage sites would be directly impacted by surface disturbance (Table 10).

On this basis, it is recommended that the Narrabri Mine ACHMP be updated to include the following measures (or protocols) to manage the potential impacts of surface disturbance on Aboriginal cultural heritage sites within the Investigation Area:

- NCOPL should maintain a record of known Aboriginal cultural heritage sites and mark these sites
 on relevant Project documentation and plans.
- NCOPL should implement a protocol for surface disturbance works to reduce the risk of accidental
 damage to known Aboriginal cultural heritage sites (e.g. demarcation of Aboriginal cultural
 heritage sites located in proximity to, but outside of, disturbance areas).
- Where practicable, known Aboriginal cultural heritage sites should be avoided during Project construction and operational works associated with components with flexible design.
- The location of known Aboriginal cultural heritage sites should be considered during final detailed engineering designs of surface infrastructure.
- The two grinding groove sites (Mayfield GG1 and Longsight GG1) should be avoided for surface impacts.
- The precise location of surface infrastructure may change during detailed mine planning. Where changes to current design of the proposed surface disturbance areas mean that avoidance of known Aboriginal cultural heritage sites is not practicable, the site(s) should be subject to salvage of a representative collection of visible surface artefacts in consultation with the Aboriginal community, and an assessment undertaken whether the site is likely to hold in situ subsurface archaeological deposits that warrant excavation.
- The protocol for the management of previously unidentified Aboriginal cultural heritage sites and/or human remains within the Narrabri Mine ACHMP should be implemented.
- Protocols should be developed that prescribe the involvement of RAPs in cultural heritage works conducted under the Narrabri Mine ACHMP. The intent of this would be to focus on RAPs or RAP groups that represent the wider Aboriginal community.

 A communication protocol should be developed that describes clear methods of communication, including expectations of suitable notification and response times between the proponent and the RAPs.

Options for the final storage location of any collected artefacts should be determined in consultation with the RAPs during revision of the Narrabri Mine ACHMP, although it should also consider return to the landscape post-rehabilitation and/or retaining for use by the Aboriginal community for display/educational purposes.

The recommended approach for the management of potential impacts associated with surface infrastructure that disturbs the ground surface should be similar to that described above, albeit with some additional avoidance constraints. In the first instance, the surface infrastructure should be designed to avoid known Aboriginal cultural heritage sites. Further, it is recommended that proposed surface infrastructure areas should be subject to additional surface investigation prior to commencement of disturbance activities. For artefact sites where harm cannot be avoided, detailed mapping and salvage via surface collection, and potential excavation, of a selection of artefacts should be conducted in accordance with measures outlined in the revised Narrabri Mine ACHMP.

12.2 Management of Potential Indirect Impacts

It is important to note that only certain site types are considered susceptible to potential indirect impacts. The heritage values of surface artefacts within a disturbed context, for instance, are unlikely to be significantly affected by subsidence or dust accumulation. Indirect impacts through inadvertent disturbance or inappropriate visitation would be managed through the erection of appropriate fencing to protect the site and discourage unauthorised visitation.

As part of the EIS process, a subsidence assessment undertaken by Ditton Geotechnical Services (2020) concluded that only grinding groove sites located on bedrock are 'likely' to be impacted by the Project – loose boulders are unlikely to crack. Longsight GG1 is located on sandstone boulders and is, therefore, unlikely to be impacted by subsidence associated with underground mining activities. Mayfield GG1, however, may be located on sandstone bedrock and, therefore, has been assessed as having a 'possible to likely' potential for cracking. In consultation with a qualified archaeologist and RAPs, investigations should be undertaken to determine if the axe-grinding groove site is connected to bedrock. If required, additional management measures may be proposed to minimise or avoid impacts on this site.

This assessment has determined that known isolated finds and artefact scatters in the Investigation Area are unlikely to be impacted by subsidence and associated ponding.

Where subsidence-related impacts such as surface cracking are identified within the boundary of an existing site of moderate (or high) scientific significance, or where remediation works are required to address subsidence impacts, the site would be inspected by a qualified archaeologist to determine the nature and extent of impacts, and whether mitigation is required or feasible. Mitigation measures may include further monitoring, surface collection or open area salvage excavation. Any proposed mitigation measures would be outlined in the revised Narrabri Mine ACHMP.

12.3 Other Management Measures

12.3.1 Aboriginal Cultural Heritage Induction Requirements

It is recommended that NCOPL seeks to minimise the risk of inadvertent damage to Aboriginal cultural heritage sites by promoting an awareness of heritage conservation via the induction process. It is recommended that NCOPL provides training to all on-site personnel and contractors regarding the presence of known Aboriginal cultural heritage sites and protection measures, relevant to their employment tasks.

12.3.2 Maintenance of Aboriginal Cultural Heritage Sites Database

A comprehensive Aboriginal Cultural Heritage Sites Database, which contains the name, AHIMS number, site type, scientific (or other) significance, coordinates and status of all Aboriginal cultural heritage sites located in the Investigation Area and immediate environs should be established and maintained for the life of the Project. It is recommended that NCOPL maintains an accurate and up-to-date Aboriginal Cultural Heritage Sites Database and contact Heritage NSW to advise of any errors in the AHIMS register where discrepancies are identified. Updates to the Aboriginal Cultural Heritage Sites Database should be undertaken as required.

12.3.3 Ongoing Consultation with Aboriginal Community

NCOPL is committed to involving the local Aboriginal community as an integral participant in the management of Aboriginal cultural heritage values in the Investigation Area. In this regard, it is recommended that NCOPL maintains ongoing consultation with the Aboriginal community over the life of the Project, including appropriate Aboriginal representation during archaeological fieldwork (e.g. collection of artefacts prior to disturbance). As described above, it is recommended that protocols be developed that prescribe the involvement of the RAPs in cultural heritage works conducted under the Narrabri Mine ACHMP (NCOPL, 2019). The intent of this would be to focus on RAPs or RAP groups that represent the wider Aboriginal community.

NCOPL should provide opportunities for Aboriginal community members to access known Aboriginal cultural heritage sites located on NCOPL-owned land (e.g. for cultural reasons or as part of scheduled field activities) in accordance with relevant Work Health and Safety requirements.

12.3.4 Management of Human Skeletal Remains

In the unlikely event that human skeletal remains are encountered, the following procedure, as outlined in Section 3.3.2 of the Narrabri Mine ACHMP (NCOPL, 2019), should be implemented:

- work should cease immediately in the area of the find and the relevant Supervisor notified;
- notify the Environmental Superintendent who would notify the General Manager;
- the Environmental Superintendent would notify the police immediately;
- the Environmental Superintendent would contact Heritage NSW via their Environment Line on 131 555 to advise that skeletal remains have been discovered and that the police have been notified:
- the Environmental Superintendent would contact the RAPs to notify them that skeletal remains have been discovered;
- the Environmental Superintendent would implement any requirements of the police to protect the area of the find;
- engage a suitably qualified person to clearly identify the bone(s);
- if the remains are determined to be Aboriginal remains, consult with Heritage NSW and the RAPs; and
- do not recommence work until all legal requirements and the reasonable requirements of Heritage NSW and RAPs have been adequately addressed.

12.3.5 Management of Cultural Values

This ACHA did not identify any specific places or areas of particular significance to the RAPs. Instead, the cultural values are linked in more general terms to the biodiversity of the natural environment such as: the health of habitat, rivers, flora and fauna; enhancing biodiversity; establishing wildlife corridors; and controlling feral species. As a result, the enhancement and conservation of Aboriginal cultural values is directly linked to the biodiversity management of the Investigation Area. In addition, the protection of the known tangible Aboriginal cultural heritage (archaeological) sites is an important component in 'enhancing and conserving' the Aboriginal cultural heritage values of the offsets.

13 RECOMMENDATIONS

Based on the results of this assessment, it is recommended that:

- NCOPL should coordinate and implement the management strategies described in Section 12 of
 this report by updating the Narrabri Mine ACHMP (NCOPL, 2019). The Narrabri Mine ACHMP
 should remain active for the life of the Project and define the tasks, scope and conduct of all
 Aboriginal cultural heritage management activities. The revised Narrabri Mine ACHMP should be
 developed in consultation with the RAPs.
- If human skeletal remains are encountered during the course of the Project, the Discovery of Possible Human Remains Procedure within the approved Narrabri Mine ACHMP (Section 3.3.2) would be implemented.
- If potential Aboriginal cultural heritage objects are encountered during the course of the Project, the Management of Other Aboriginal Sites procedure within the approved Narrabri Mine ACHMP (Section 3.3) would be implemented.
- NCOPL should establish and maintain a comprehensive Aboriginal Cultural Heritage Sites Database
 which contains the name, AHIMS number, site type, scientific (or other) significance, coordinates
 and status of all Aboriginal cultural heritage sites located in the Narrabri Mine project boundary.
- NCOPL should consider the location of known Aboriginal cultural heritage sites during final
 detailed engineering designs of surface infrastructure. Where avoidance of known Aboriginal
 cultural heritage sites is not practicable, the site(s) should be subject to salvage in accordance with
 Section 3.6 of the Narrabri Mine ACHMP.
- NCOPL should provide training to all on-site personnel and contractors regarding the known
 Aboriginal cultural heritage sites, relevant to their employment tasks.
- NCOPL should continue to involve the RAPs and any other relevant Aboriginal community groups or members in relevant matters pertaining to the Project.

GLOSSARY

Heritage Site

Aboriginal Object Any deposit, object or material evidence (not being a handicraft made

for sale) relating to the Aboriginal habitation of the area that comprises New South Wales (NSW), being habitation before or concurrent with (or both) the occupation of that area by persons of

non-Aboriginal extraction, including Aboriginal remains (section 5(1)

of the National Parks and Wildlife Act 1974 (NSW)).

Aboriginal Cultural Location of evidence of Aboriginal occupation (typically, Aboriginal

objects, but also places of traditional or historical cultural value for

which no Aboriginal objects exist).

Artefact An object made by human agency (e.g. stone artefacts).

Cumulative Impacts Combination of individual effects of the same kind due to multiple

actions from various sources over time.

In situ Latin terminology meaning 'undisturbed'.

Potential Archaeological Potential Archaeological Deposit, archaeological evidence (typically

Deposit (PAD) stone artefacts buried within the upper soil unit of rock shelters or in

open contexts) predicted to occur in a specific place through

application of a predictive model of site location.

Registered Aboriginal Aboriginal groups or individuals who have registered an interest in the

Party consultation process for the Project.

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DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
03/07/2019	Biodiversity and Conservation Division (BCD) (formerly Office of Environment and Heritage), Gunnedah Shire Council, Narrabri Shire Council, North West Local Land Services, Native Title Services Corporation Limited, National Native Title Tribunal, Office of the Registrar, Red Chief Local Aboriginal Land Council, Narrabri Local Aboriginal Land Council (NLALC)	Post	Narrabri Coal Operations Pty Ltd	Step 1 letters sent out to relevant organisation requesting details of Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest for the Project.
18/07/2019	Narrabri Coal Operations Pty Ltd	Email	Office of the Registrar	Provided a response to the Step 1 letters.
18/07/2019	Narrabri Coal Operations Pty Ltd	Email	Gunnedah Shire Council	Provided a response to the Step 1 letters.
30/07/2019	Interested Aboriginal Stakeholders	Public Notice	Narrabri Coal Operations Pty Ltd	A public notice was published in the Namoi Valley Independent and the Narrabri Courier on 30 July 2019, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.
31/07/2019	Interested Aboriginal Stakeholders	Public Notice	Narrabri Coal Operations Pty Ltd	A public notice was published in the Koori Mail on 31 July 2019, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.
31/07/2019	Interested Aboriginal Parties	Post	Narrabri Coal Operations Pty Ltd	Step 2 letters sent out to groups/individuals identified during Step 1, inviting Aboriginal persons or groups who hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal object(s) and/or place(s) in the Area of Interest to register an interest in the Project.

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
31/07/2019	Registered Aboriginal Stakeholders	Post	Narrabri Coal Operations Pty Ltd	Letters sent out to existing RAPs from the Narrabri Mine Stage 2 Longwall Project to advise them of the Project and to notify them that they have been automatically registered as Registered Aboriginal Parties for the Project.
06/08/2019	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Provided response to the Step 2 letters (confirmed registration of interest in the Project).
27/08/2019	Min Min Aboriginal Corporation and Gomeroi Elders Group	Post	Narrabri Coal Operations Pty Ltd	Step 2 letters re-sent to two Aboriginal parties, using updated contact details provided by Gunnedah Shire Council.
06/09/2019	Interested Aboriginal Parties	Post	Narrabri Coal Operations Pty Ltd	Step 2 letters sent out to groups/individuals who expressed an interest in the Project to the Archaeologist. The letters asked the Aboriginal persons/groups to formally register their interest in the Project by providing their contact details to Narrabri Coal Operations Pty Ltd.
05/09/2019	Michael Steadman - Min Min Aboriginal Corporation	Telephone	Narrabri Coal Operations Pty Ltd	Returned missed call from Michael Steadman. The NCOPL representative asked about timing of an information session for the Project. Advised he would be called back once confirmed.
05/09/2019	Michael Steadman - Min Min Aboriginal Corporation	Telephone	Narrabri Coal Operations Pty Ltd	Follow up call to inform Michael Steadman that an information session has not yet been scheduled. The NCOPL representative advised he will be in contact once the Min Min Aboriginal Corporation's board decide whether it wishes to be registered for the Project.
10/09/2019	Narrabri Coal Operations Pty Ltd	Email	Ashley Sampson – AGA Culture Services	Confirmed registration of interest and provided contact details.
10/09/2019	Narrabri Coal Operations Pty Ltd	Email	George Sampson - Cacatua General Services	Confirmed registration of interest and provided contact details.
16/09/2019	Donna Sampson - Cacatua General Services and AGA Culture Services	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm registration of interest in the Project for both Cacatua General Services and AGA Culture Services.
17/09/2019	Narrabri Coal Operations Pty Ltd	Email	Brian Draper	Confirmed registration of interest and provided contact details.
17/09/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Confirmed registration of interest and provided contact details.

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
17/09/2019	Narrabri Coal Operations Pty Ltd	Email	Kerry Morgan Fernando	Confirmed registration of interest and provided contact details.
17/09/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Ronald Long	Confirmed registration of interest and provided contact details.
19/09/2019	Narrabri Coal Operations Pty Ltd	Voicemail	Leslie 'Uncle Jacko' Woodridge	Left voicemail regarding registration of interest.
24/09/2019	Leslie 'Uncle Jacko' Woodridge	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm Leslie Woodridge's registration of interest.
24/09/2019	David Horton	Telephone	Narrabri Coal Operations Pty Ltd	David Horton confirmed registration of interest in the Project.
25/09/2019	Michael Steadman - Min Min Aboriginal Corporation	Telephone	Narrabri Coal Operations Pty Ltd	Left message on Michael Steadman's voicemail, asking for confirmation of whether Min Min Aboriginal Corporation wishes to be registered.
25/09/2019	Narrabri Coal Operations Pty Ltd	Telephone	Michael Steadman – Min Min Aboriginal Corporation	Michael Steadman called to confirm that the Min Min Aboriginal Corporation's board did not wish to register their interest in the Project.
30/09/2019	Registered Aboriginal Parties	Post	Narrabri Coal Operations Pty Ltd	Copy of Proposed Methodology distributed for review and comment. Feedback on the Proposed Methodology was requested by 31 October 2019. An invitation to an information session and a field survey engagement application form was also extended in this correspondence.
02/10/2019	Narrabri Coal Operations Pty Ltd	Email	Kylie Pascoe – Manager at Hunter Valley Aboriginal Corporation	Kylie Pascoe provided insurances for David Horton.
07/10/2019	Whincop Archaeology	Email	AGA Culture Services and Cacatua General Services	Provided their support of the Proposed Methodology.
08/10/2019	Narrabri Coal Operations Pty Ltd	Email	George Sampson – Cacatua General Services	Provided completed Field Survey Engagement Application Form.
08/10/2019	Narrabri Coal Operations Pty Ltd	Email	Donna Sampson – AGA Culture Services	Provided completed Field Survey Engagement Application Form.
10/10/2019	Narrabri Coal Operations Pty Ltd	Telephone	Brian Draper	Left a voicemail advising he had not received further correspondence.

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
10/10/2019	Narrabri Coal Operations Pty Ltd	Telephone	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Left a voicemail advising he had not received the Proposed Methodology.
14/10/2019	Donna Sampson – AGA Culture Services	Telephone	Narrabri Coal Operations Pty Ltd	Confirmed both Cacatua and AGA Services had received the Proposed Methodology.
14/10/2019	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Telephone	Narrabri Coal Operations Pty Ltd	Returned voicemail from Aaron Talbot. Aaron asked if he could be emailed the Proposed Methodology.
14/10/2019	Brian Draper	Telephone	Narrabri Coal Operations Pty Ltd	Returned voicemail from Brian Draper on 10/10/2019. Brian asked if he could be emailed the Proposed Methodology.
14/10/2019	Michael Long (White Cockatoo)	Telephone	Narrabri Coal Operations Pty Ltd	Left a voicemail with Michael Long asking if he had received the Proposed Methodology.
14/10/2019	Kerry Morgan Fernando	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm receipt of the Proposed Methodology. Kerry Morgan was driving and said she would return call later.
14/10/2019	Michael Ronald Long (Junior)	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm receipt of Proposed Methodology. Michael Long confirmed he had received and filled out and posted attached forms. Indicated attendance at information session.
14/10/2019	Leslie 'Uncle Jacko' Woodridge	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm receipt of Proposed Methodology. Leslie Woodridge confirmed he had received, however cannot read or write. Advised Leslie would be contacted again to receive assistance with reviewing the Proposed Methodology.
14/10/2019	David Horton	Telephone	Narrabri Coal Operations Pty Ltd	Called to confirm receipt of Proposed Methodology. David Horton confirmed he had received and is planning to attend the information session on 22 October.
14/10/2019	Narrabri Coal Operations Pty Ltd	Email	Kerry Morgan Fernando	Provided completed Field Survey Engagement Application Form.
14/10/2019	Brian Draper	Email	Narrabri Coal Operations Pty Ltd	Emailed electronic copy of Proposed Methodology and cover letter (as requested by Brian Draper).
14/10/2019	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Email	Narrabri Coal Operations Pty Ltd	Emailed electronic copy of Proposed Methodology and cover letter (as requested by Aaron Talbott).

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
15/10/2019	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Provided completed Field Survey Engagement Application Form.
15/10/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Ronald Long (Junior)	Provided completed Field Survey Engagement Application Form.
15/10/2019	Narrabri Coal Operations Pty Ltd	Email	Brian Draper	Provided completed Field Survey Engagement Application Form.
15/10/2019	Narrabri Coal Operations Pty Ltd	Email	Kerry Morgan Fernando	Provided completed Field Survey Engagement Application Form.
16/10/2019	Narrabri Coal Operations Pty Ltd	Email	Gomeroi Narrabri Aboriginal Corporation (GNAC)	Provided completed Field Survey Engagement Application Form.
17/10/2019	BCD, NLALC and Red Chief Local Aboriginal Land Council.	Post	Narrabri Coal Operations Pty Ltd	Provided a copy of the list of the RAPs for the Project, along with a copy of the written notifications and the public notice (in accordance with the consultation guidelines).
22/10/2019	Registered Aboriginal Parties (not including Brian Draper and a representative of AGA Culture Services)	Presentation	Narrabri Coal Operations Pty Ltd	Information session held for the Project ACHA and Proposed Methodology.
23/10/2019	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Apologised for not attending the information session and asked for Narrabri Coal Operations Pty Ltd to provide any information he needs to know.
25/10/2019	Registered Aboriginal Parties (excluding GNAC and NLALC)	Post	Narrabri Coal Operations Pty Ltd	Advised that GNAC and NLALC were selected to participate in the fieldwork based on the selection criteria in the application forms. Noted that selection of RAPs was not based on the availability or otherwise of induction opportunities prior to fieldwork commencement. Noted that regardless of fieldwork participation, all RAPs will be consulted for the remainder of the investigation and will be invited to attend a site inspection of the investigation area following completion of surveys.

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
25/10/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Stated that the cover letter to the Proposed Methodology did not mention completion of medicals and inductions prior to participation in surveys and the majority of RAPs have not had the opportunity to do this.
25/10/2019	NLALC	Telephone	Narrabri Coal Operations Pty Ltd	Advised of selection to participate in fieldwork for the ACHA.
25/10/2019	GNAC	Telephone	Narrabri Coal Operations Pty Ltd	Advised of selection to participate in fieldwork for the ACHA.
28/10/2019	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Disagreed with the requirement for RAPs to complete medicals and inductions prior to completing fieldwork.
28/10/2019	Narrabri Coal Operations Pty Ltd	Text message	David Horton	Advised that the Archaeologist had texted David to let him know he had not been selected to participate in fieldwork. Queried who had been selected.
28/10/2019	Whincop Archaeology	Telephone	Michael Long (White Cockatoo)	Called regarding the fieldwork engagement and was unhappy that the RAPs were required to complete medicals and inductions prior to surveys. Felt it was unfair and illegal to 'exclude' Narrabri RAPs from Gunnedah based on modern boundaries. Indicated that GNAC and NLALC don't speak for him and if RAPs from Gunnedah continue to be excluded from the Project, he would stop the Project by applying for a Section 9 or Section 10 under the Aboriginal and Torres Strait Islander Heritage Protection Act. The Archaeologist advised Michael he was not being excluded and that he would still be included in consultation as part of the ACHA. Michael requested phone numbers for the Office of Environment and Heritage (now BCD) and the Department of Planning, Industry and Environment, to lodge a formal complaint. The Archaeologist provided the general enquiries phone number for the BCD.

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29/10/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Recommended that all RAPs should be involved in the Aboriginal cultural heritage works and cultural values. Included recommendations for management of Aboriginal objects identified (i.e. removed and kept in a safe place until a RAP meeting is held to determine otherwise). Stated that the email was also on behalf of seven RAPs, including Michael Long (White Cockatoo), Michael Long (Junior), Kerry Morgan Fernando, Leslie 'Uncle Jacko' Woodridge, Aaron Talbott, David Horton and Brian Draper.
29/10/2019	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Sent through updated letter advising he had sent through the wrong letter earlier that day. The revised version added that the seven RAPs endorsing the letter are on the Gomeroi Native Title Claim.
30/10/2019	Narrabri Coal Operations Pty Ltd and Whincop Archaeology	Email	Michael Long (White Cockatoo)	Provided comments on the Proposed Methodology on behalf of seven RAPs, including Michael Long (White Cockatoo), Michael Long (Junior), Kerry Morgan Fernando, Leslie 'Uncle Jacko' Woodridge, Aaron Talbott, David Horton and Brian Draper
30/10/2019	Narrabri Coal Operations Pty Ltd	Voicemail	Michael Long (White Cockatoo)	Asked for Narrabri Coal Operations Pty Ltd to return his call.
31/10/2019	Whincop Archaeology	Email	Michael Long (White Cockatoo)	Advised the Archaeologist (in relation to a separate Whitehaven cultural heritage assessment) that himself and Leslie 'Uncle Jacko' Woodridge did not want their cultural values shared to the public or used in any projects (including the Narrabri Underground Mine Stage 3 Extension Project).

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6/11/2019	Michael Long (White Cockatoo)	Telephone	Narrabri Coal Operations Pty Ltd	Returned missed call from Michael. Michael questioned why he and other RAPs were not included in the field surveys and he has made a complaint to the BCD. Michael was informed that most RAPs were selected based on fieldwork selection criteria in the application form. Michael advised he will disagree with the management plan because he was not included in the field surveys, and was then reminded that all RAPs will have the opportunity to inspect the study area during the ACHA report review period. Michael said he would send through some information regarding his connection to area. He was advised that all information he sends through will be reviewed as part of the ACHA.
11/11/2019	Narrabri Coal Operations Pty Ltd	Telephone	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Asked about process for selection of RAPs to participate in fieldwork and indicated he wanted to be included in the fieldwork. Aaron was informed that all RAPs not selected to participate in fieldwork will still have the opportunity to provide input as part of the ACHA process.
28/11/2019	Whitehaven Coal Limited	Email	Michael Long (White Cockatoo)	Provided cultural values relevant to the region.
24/04/2020	Registered Aboriginal Parties	Email	Narrabri Coal Operations Pty Ltd	Emailed draft ACHA and cover letter to RAPs, including request to confirm receipt of email. Cover letter included time and date of the draft ACHA information session (via Zoom videoconference), with request to confirm whether the RAPs intended to dial-in to the information session. The cover letter also stated that due to COVID-19 restrictions, NCOPL will continue to monitor the situation and, when it is deemed possible to do so, will offer RAPs the opportunity for a site inspection at a later date.
24/04/2020	Lynn Trindall	Telephone	Whitehaven Coal Limited	Confirmed she had received the email but had not yet attempted to open the ACHA report. Also said she would be in contact if there were any problems downloading the ACHA report.
25/04/2020	Narrabri Coal Operations Pty Ltd	Email	George Sampson	George confirmed receipt of the draft ACHA.
25/04/2020	Narrabri Coal Operations Pty Ltd	Email	Ashley Sampson	Ashley confirmed receipt of the draft ACHA.

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28/04/2020	Alira Tufui (GNAC)	Telephone	Narrabri Coal Operations Pty Ltd	Confirmed she had received the email, but could not open the link to the report. Also confirmed she would not be able to attend the information session on 8 May 2020, but someone would be on the call to represent GNAC. Raised concern that a lot of the GNAC people are older and hard of hearing. Agreed NCO would print copies of the ACHA report and leave at NCO Office front desk, and that a meeting would be arranged on 7 May to receive feedback on the ACHA report. The four hardcopies of the ACHA were collected from NCO office by Alira on 29 April 2020.
28/04/2020	Leslie 'Uncle Jacko' Woodbridge	Telephone	Narrabri Coal Operations Pty Ltd	Said that Christine, who's email Leslie provided to be sent the draft ACHA, had not mentioned the email. Advised he would ask her and confirm tomorrow via phone.
28/04/2020	David Horton	Telephone	Narrabri Coal Operations Pty Ltd	Said he has received the email, but has not started to read the report. Advised his brother passed away at the end of last week and he is busy arranging a funeral. He committed to read the report prior to the information session.
28/04/2020	Brian Draper	Telephone	Narrabri Coal Operations Pty Ltd	Left a voicemail message advising NCOPL had sent the draft ACHA report via email on 24 April and to please confirm receipt via email or phone.
28/04/2020	Michael Long (Junior)	Telephone	Narrabri Coal Operations Pty Ltd	Call failed three times.
28/04/2020	Kerry Morgan Fernando	Telephone	Narrabri Coal Operations Pty Ltd	Left a voicemail asking to confirm receipt of draft ACHA report email.
28/04/2020	Michael Long (White Cockatoo)	Telephone	Narrabri Coal Operations Pty Ltd	Left a voicemail asking to confirm receipt of draft ACHA report email.
28/04/2020	Aaron Talbot (Muki Namae Two Rivers Aboriginal Corporation)	Telephone	Narrabri Coal Operations Pty Ltd	Left a voicemail asking to confirm receipt of draft ACHA report email and if he was aware of the upcoming draft ACHA information session.
30/05/2020	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Confirmed receipt of draft ACHA report.

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06/05/2020	Narrabri Coal Operations Pty Ltd	Email	Michael Long (White Cockatoo)	Advised he felt he had been left out of the cultural values assessment of the Investigation area despite providing some details on the cultural importance of the area. Also stated that he and other RAPs are yet to have input as they have not walked on country. Stated that as a knowledge holder of the stories in the area, he has not had the opportunity to be fully involved in the cultural values of the Investigation area.
07/05/2020	Lynn Trindall (NLALC)	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session. Lynn advised she was intending to dial-in.
08/05/2020	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Email	Narrabri Coal Operations Pty Ltd	Accepted Zoom meeting request for the information session.
08/05/2020	Michael Long	Email	Narrabri Coal Operations Pty Ltd	Tentatively accepted Zoom meeting request for the information session.
07/05/2020	Alira Tufui (GNAC)	Phone call	Narrabri Coal Operations Pty Ltd	A teleconference was organised with GNAC at 9 am to discuss findings of the ACHA and the SIA. Contact could not be made with GNAC at 9 am, nor several attempts later in the day.
08/05/2020	Kate Briggs (GNAC Administrator)	Phone	Narrabri Coal Operations Pty Ltd	Requested details of other contacts for GNAC. Kate provided David Moodie's phone number and also asked that NCOPL send through the ACHA report and information session invitation to her.
08/05/2020	Kate Briggs (GNAC Administrator)	Email	Narrabri Coal Operations Pty Ltd	Provided Kate with draft ACHA report and letter to GNAC inviting them to attend the planned information session. Also provided Kate with Zoom meeting invitation later that day.
08/05/2020	David Moodie (GNAC)	Phone call	Narrabri Coal Operations Pty Ltd	Asked whether GNAC planned to dial-in to the draft ACHA information session. David advised he had not heard of the draft ACHA report or the information session and suggested NCOPL speak with Jim Trindall. David advised he would pass on Jim's phone number. NCOPL representative advised that NCOPL had provided hard copies of the draft ACHA to GNAC member Alira Tufui. David advised he would follow up to obtain a hard copy.

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08/05/2020	Lynn Trindall (NLALC)	Videoconference (Zoom)	Narrabri Coal Operations Pty Ltd	Information session held via Zoom videoconference (due to COVID-19 restrictions this was not conducted in person). Purpose to provide information on the Project and to discuss the draft ACHA. Site inspection offered to all RAPs to view a selection of the recorded Aboriginal heritage sites within the Investigation Area.
08/05/2020	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Advised he felt the majority of RAPs were not included in the cultural values assessment. Stated that ethically and morally all RAPs should have been included in the field surveys. Requested that another field assessment occur for cultural values purposes only.
22/05/2020	Narrabri Coal Operations Pty Ltd	Letter	Lynn Trindall (NLALC)	Advised NLALC agrees with responses from RAPs who were unable to be on site. Stated the Aboriginal Cultural Heritage values within the Investigation Area are also to be in line with the current Narrabri Mine Aboriginal Cultural Heritage Management Plan. Provided recommendations on ways to avoid or minimise potential harm to Aboriginal objects. Advised she had not yet
				read the complete report and therefore further comments may be provided.
17/06/2020	Registered Aboriginal Parties	Letter	Narrabri Coal Operations Pty Ltd	Emailed letter invitation to site inspection and supplementary information session to RAPs, including request to confirm receipt of email. Letter included explanation that due to easing of COVID-19 restrictions in NSW, NCOPL would like to offer all RAPs the opportunity to attend a supplementary information session, followed by a site inspection ('walk on country'). It was noted that social distancing regulations must be maintained throughout the day. Letters were also sent by registered post later that day.
17/06/2020	Narrabri Coal Operations Pty Ltd	Email	Alira Tufui (GNAC)	Confirmed receipt of letter regarding site inspection/information session on behalf of her Grandfather Jim Trindall. Advised that herself, Jim Trindall and three additional representatives from the Narrabri Gomeroi Aboriginal People will attend.

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24/06/2020	Lynn Trindall (NLALC)	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. Lynn confirmed attendance of two NLALC representatives.
24/06/2020	George Sampson - Cacatua General Services	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. George confirmed receipt of letter however was unable to attend due to work commitments.
24/06/2020	Ashley Sampson – AGA Culture Services	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. Ashley confirmed receipt of letter however was unable to attend due to work commitments.
24/06/2020	Michael John Long (White Cockatoo)	Phone	Narrabri Coal Operations Pty Ltd	Left voicemail regarding attendance at information session and site inspection. Called again later that day and Michael confirmed receipt of letter, however advised that he would not attend the information session or site inspection. He advised that he would have to take the day off work and that he felt disrespected by not being involved in the field survey work. He provided some cultural knowledge (as previously provided via email and during an information session), however reiterated his wish for it not be made public.
24/06/2020	Brian Draper	Phone	Narrabri Coal Operations Pty Ltd	Left two voicemails regarding attendance at information session and site inspection.
24/06/2020	Kerry Morgan Fernando	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. Kerry confirmed receipt of the letter and advised she will attend the information session and site inspection.
24/06/2020	Michael Ronald Long (Junior)	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. Michael confirmed receipt of the letter and advised he will attend the information session and site inspection.

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24/06/2020	Leslie 'Uncle Jacko' Woodbridge	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. Leslie advised he had recently moved to Warwick and so had not received the letter and his friend, who's email he had provided to receive email correspondence, had not mentioned the letter. He said he could not make it due to border travel restrictions. The NCOPL representative offered to write a letter to allow him to cross the border. He said he had recently had his leg amputated and therefore it will be difficult for him to attend. He noted that if Michael Long (White Cockatoo) attends he sees no need for himself to go.
24/06/2020	David Horton	Phone	Narrabri Coal Operations Pty Ltd	Called regarding attendance at information session and site inspection. David confirmed receipt of the letter and advised he will attend the information session and site inspection.
29/06/2020	Narrabri Coal Operations Pty Ltd	Email	Aaron Talbott (Muki Namae Two Rivers Aboriginal Corporation)	Advised he cannot attend the site inspection and information session and that any information from the meeting and inspection would be accepted by Muki Namae Two Rivers Aboriginal Corporation. Provided information on cultural values in the region, describing that the battle of the Gunnedarr and Wee Waa clans occurred further west at the catchment of Eulah Creek at the base of Mount Kaputar, with no mention of Narrabri as two clans do not fight in another clan's territory. Expressed concerns regarding the Lands Council system and that Muki Namae Two Rivers Aboriginal Corporation would like to be involved in any further works. Advised he felt they were missing out economically.
30/06/2020	Registered Aboriginal Parties	Information Session and Site Inspection	Narrabri Coal Operations Pty Ltd	Supplementary information session held to discuss the key findings of the draft ACHA report and to provide an additional opportunity for RAPs to discuss, ask questions and/or provide comment on the draft ACHA. Site inspection held to allow attending RAPs to view a selection of the recorded Aboriginal heritage sites within the Investigation Area. Attending RAPs were advised they could submit additional feedback on the ACHA by 7 July 2020.

DATE	ORGANISATION CONTACTED	HOW CONTACTED	CONTACTED BY	NATURE OF CONSULTATION
1/07/2020	Narrabri Coal Operations Pty Ltd	Email	Alira Tufui (GNAC)	Raised that the Aboriginal cultural heritage site Mayfield GG1 was previously identified by representatives of GNAC during surveys completed in 2017, and had wrongly not been recorded by Narrabri Mine personnel at the time. Noted that this needs to be described in the ACHA. Queried how many hectares of land will undergo clearance as a result of the Project, and asked if opportunities for training and employment of Aboriginal people in the community could be created as part of the Project (for example during development of the Project). Noted it was positive to see surface disturbance works have been designed to avoid Aboriginal cultural heritage sites.
23/07/2020	Registered Aboriginal Parties	Email	Narrabri Coal Operations Pty Ltd	Emailed all RAPs an electronic copy of the supplementary information session presentation. The email described that an outcome of the supplementary information session was a commitment from NCOPL to complete further investigations of the grinding groove site Mayfield GG1 to determine the geology of the host rock, which may assist to inform the likely subsidence management measures. It was noted that this commitment would be incorporated into the final ACHA report. The email asked for any additional feedback on the ACHA to be submitted by 30 July 2020.







Red Chief Local Aboriginal Land Council PO Box 745 GUNNEDAH NSW 2380

Dear Sir/Madam

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL) is seeking approval for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project [the Project]).

As part of the approval application, NCOPL will be preparing an Aboriginal Cultural Heritage Assessment and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW National Parks and Wildlife Act, 1974 to move and/or destroy Aboriginal objects.

The subject area of the Project and any such application (i.e. the Area of Interest) is the extent of the area shown on the enclosed plan.

For the purposes of meeting its consultation requirements as set out in the *Aboriginal cultural heritage consultation requirements* for proponents 2010 (NSW Department of Environment, Climate Change and Water, 2010) (Consultation Guidelines) issued by the NSW Office of Environment and Heritage, NCOPL hereby notifies you that it would like to consult with any Aboriginal persons or groups who may hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the Area of Interest.

Should you know of any Aboriginal person or group who may wish to be consulted in relation to the Project described above, could you please provide their details before 5pm on 22 July 2019 to NCOPL via the following contact details:

Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au



Yours sincerely

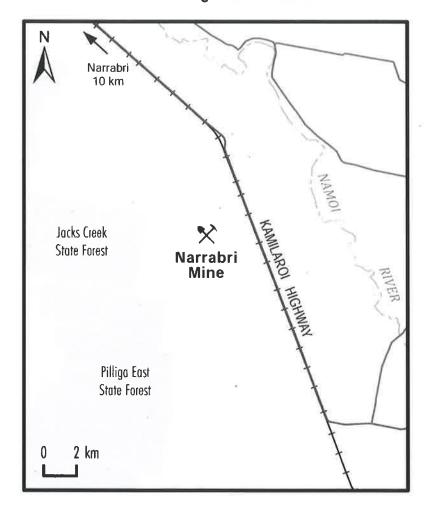
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







The Registrar
Office of the Registrar, Aboriginal Land Rights Act 1983
PO Box 5068
PARRAMATTA NSW 2124

Dear Sir/Madam,

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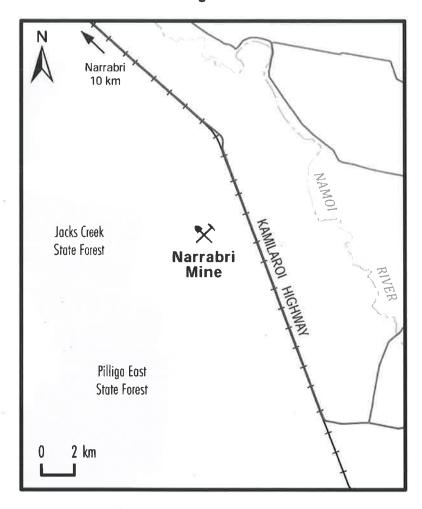
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







National Native Title Tribunal NSW Registry GPO Box 9973 SYDNEY NSW 2001

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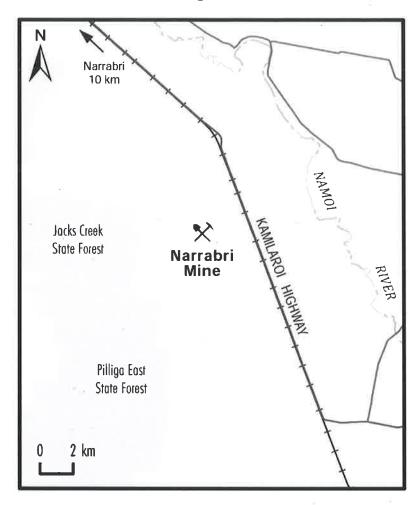
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







Native Title Services Corporation Limited PO Box 2105 STRAWBERRY HILLS NSW 2012

Dear Sir/Madam,

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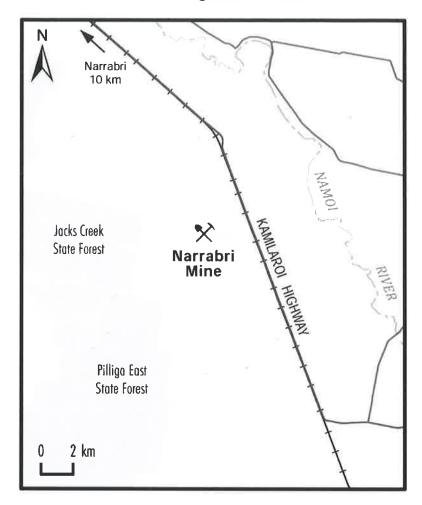
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







North West Local Land Services PO Box 466 NARRABRI NSW 2390

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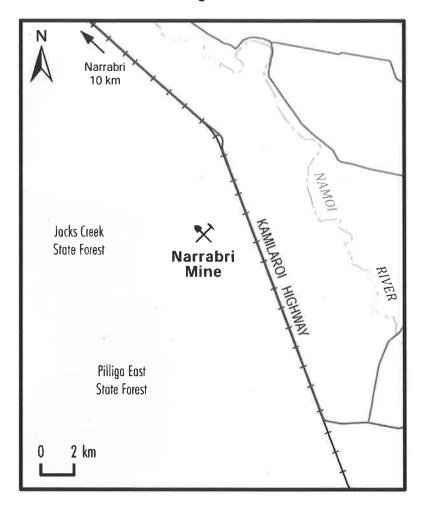
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







Narrabri Shire Council
PO Box 261
NARRABRI NSW 2390

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Should you know of any Aboriginal person or group who may wish to be consulted in relation to the Project described above, could you please provide their details before 5pm on 22 July 2019 to NCOPL via the following contact details:

Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au



Yours sincerely

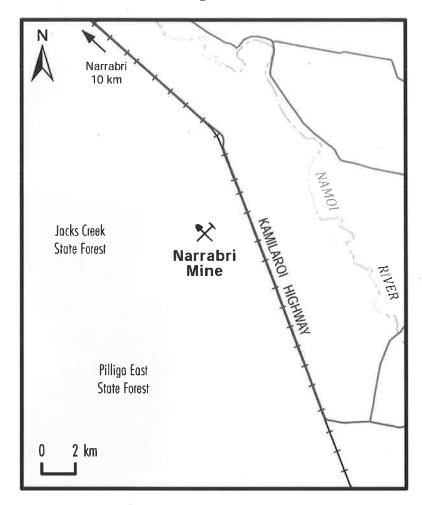
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







Gunnedah Shire Council
PO Box 63 (63 Elgin Street)
GUNNEDAH NSW 2380

Dear Sir/Madam,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL) is seeking approval for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project [the Project]).

As part of the approval application, NCOPL will be preparing an Aboriginal Cultural Heritage Assessment and therefore may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW *National Parks and Wildlife Act, 1974* to *move and/or destroy Aboriginal objects*.

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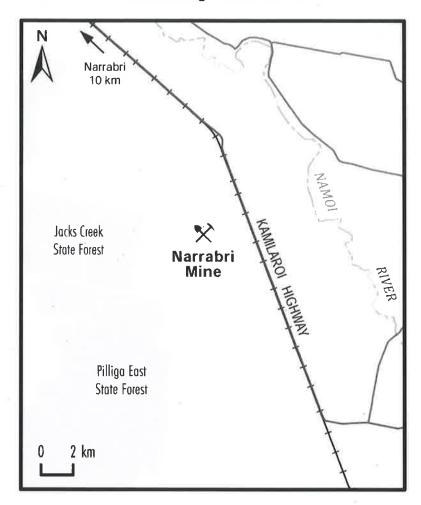
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







Office of Environment and Heritage PO Box 2111 DUBBO NSW 2830

Dear Sir/Madam,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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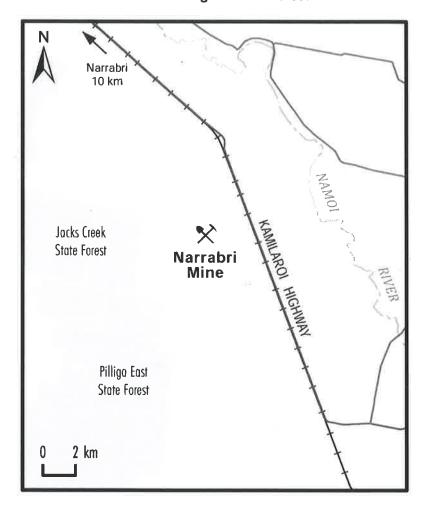
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed







cal Aboriginal Land Council

Street

NSW 2390

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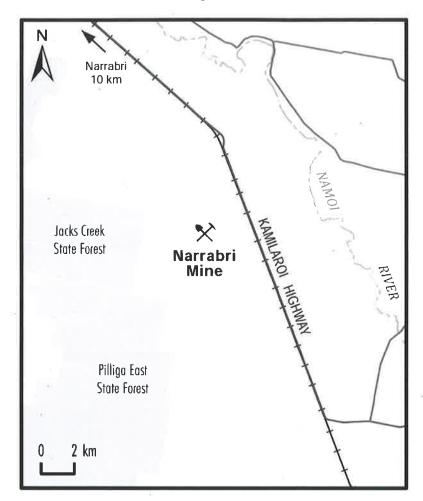
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosed









Narrabri Underground Mine Stage 3 Extension Project Aboriginal Cultural Heritage Assessment

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Also in accordance with the requirements of the Consultation Guidelines, Aboriginal persons or groups who may hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the Area of Interest are invited to register an interest in a process of community consultation with NCOPL regarding the Project by **5.00 pm on Wednesday 14 August 2019.**

NCOPL advises that the details of any Aboriginal person or group who registers an interest in the Project will be forwarded to the NSW Office of Environment and Heritage, the Narrabri Local Aboriginal Land Council and the Red Chief Local Aboriginal Land Council in accordance with Section 4.1.5 of the Consultation Guidelines, unless they specify that they do not want their details released.

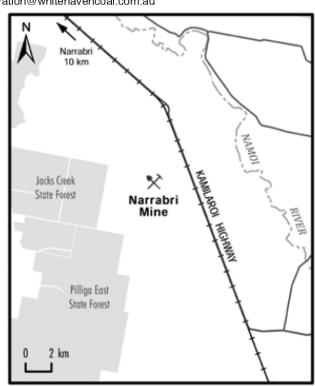
Please note that any opportunities for engagement during the Aboriginal Cultural Heritage Assessment process would be separate to the consultation process.

Contact details for registration are as follows:

Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

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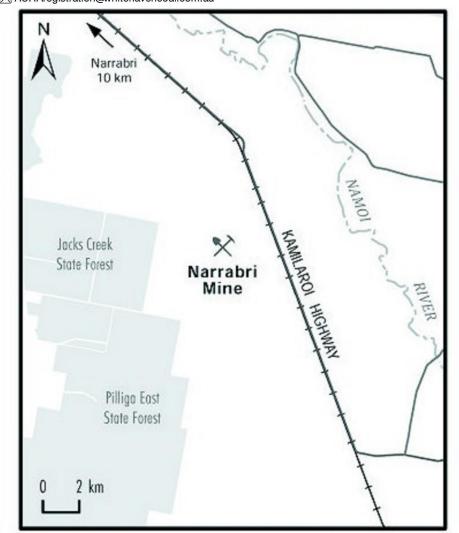
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c/- Aboriginal Cultural Heritage Register Phone: 02 9937 2891

Phone: 02 9937 2891 PO Box 304, Narrabri, NSW 2390

ACHAregistration@whitehavencoal.com.au



SPORT TUESDAY, JULY 30, 2019 THE COURIER

PUBLIC NOTICE



Narrabri Underground Mine Stage 3 Extension Project Aboriginal Cultural Heritage Assessment

Narrabri Coal Operations Pty Ltd (NCOPL) is seeking approval for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project [the Project]), which is located approximately 25 kilometres south-east of Narrabri.

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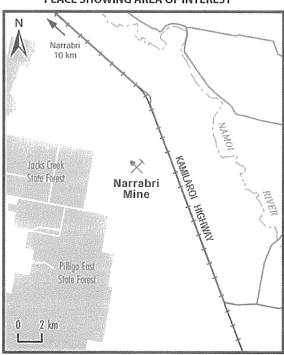
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PLACE SHOWING AREA OF INTEREST



SPIRAL BINDING AVAILABLE AT THE COURIER

From 2 to 300 pages, for that professional yet practical finish. From \$9.90 per book.

60 Maitland Street, Narrabri Phone 6792 1011

CHAMPION: Seven-and-under-9 champion James Paas and reserve Max Booby (Narrabri) competing at the Wee Waa Pony Club Blanch Trophy day.

HORSE SPORTS

Wee Waa Pony Club Blanch Trophy Day

The Wee Waa Pony Club and the event was a major

Wee Waa Pony Club president Thomas . Wilson said the day was incredible

"We had a really suc-

Sunday," he said. "We had about 65 riders.

maybe more, and everything went to plan.

"Clubs turned up from Boggabri, Gunnedah. Tamworth, Narrabri and of course Wee Waa.

"It would have one of the biggest Blanch Trophy Days we've had."

Prior to the Blanch Trophy day, Wee Waa Pony Club hosted a threeday mini-camp which was a terrific event.
"We had one of our big-

gest camps three days before," said Mr Wilson.

"We had about 75 riders over three days of our mini camp which was held on the Wednesday, Thursday and Friday.

"We also had the show iumping and dressage day on the Saturday.'

Results for the 2019 Wee Waa Blanch Trophy Day are as follows:

Under-7 girl: Champion Lucy Booby, reserve -Celia Galagher.

Seven-and-under-9 girl: Champion - Sophie Anderson, reserve -Galagher.

Seven-and-under-9 boy: Champion - James Paas, reserve - Max Booby. Nine-and-under-11 girl:

Champion - Edwina Keft, reserve - Zara Kesby. Nine-and-under-11 boy:

Champion - Jack Reilly, reserves - Toby Hayes and Sam Wilson. 11-and-under-13

girl: Champion - Olivia Wilson, reserve - Chelsea Humphries. 11-and-under-13 boy: Champion - Toby

Galagher, reserve - Jono Charles. 13-and-under-15 girl: Champion - Eliza

Dampney, reserve - Josie Galagher. 13-and-under-15 Champion - Haydon Ponto, reserve - Dom

15-and-under-17 girl: Champion - Lara Hamilton, reserve - Milly Bruce.

Atkins.

Champion Associate: · Laura Finlay, reserve Emma Rose.



labelled "successful

Blanch Trophy Day was held on Sunday, July 14, at the Wee Waa Showground

cessful day



Wee Waa Pony Club Blanch Trophy Day associate champion Laura Finlay (Narrabri).

POSITIONS VACANT

Peel Valley Machinery Narrabri has the following position available:

Parts Salesperson

For more information about this position visit us at:

http://www.peelvalleygroup.com.au





HOME CARE EMPLOYEE

Do you have a passion for working with older people in your community?

An exciting opportunity has become available for multiple Home Care Employees to join the Narrabri Community Care team on a casual basis. If you are passionate about contributing to the improvement of quality of life of the elderly and people with a disability and would like to work with a professional organisation that recognises the contribution of staff through education and support programs then this position is for you.

For more information about this position and to apply, please visit www.whiddon.com.au

For all enquiries, please contact Lisa Sharp, Community Care Coordinator on 0413 224 986.

hiddon



Jim Trindall
Gomeroi Narrabri Aboriginal Corporation
42 Mooloobar Street
NARRABRI NSW 2390

Dear Jim,

Re: NARRABRI MINE STAGE 3 PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

Due to your previous involvement in the Aboriginal Cultural Heritage Assessment for the Narrabri Mine Modification 5 in 2015, you have been automatically registered for the consultation process associated with the Narrabri Mine Stage 3 Project (the Project). You do not need to contact Narrabri Coal Operations Pty Ltd (NCOPL) to re-register for the Project.

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

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This consultation process includes:

- Contacting various government organisations and requesting a list of any Aboriginal persons or groups who may hold cultural
 knowledge relevant to, or who may have a right or interest in, determining the cultural heritage significance of Aboriginal objects
 and/or places in the Area of Interest.
- Writing to the Aboriginal persons or groups identified by the above process to notify them of the Project and invite them to register an interest in the community consultation process.
- Placing a notice in a local newspaper explaining the Project and inviting Aboriginal persons or groups to register an interest in the community consultation process.



Due to your previous involvement in the Aboriginal Cultural Heritage Assessment for the Narrabri Mine Modification 5 in 2015, you have been automatically registered for the consultation process associated with the Project. You do not need to contact NCOPL to re-register for the Project.

However, NCOPL would appreciate if you could please provide updated contact details for the Project. Could you please complete the enclosed form and return to NCOPL via the contact details below.

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Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

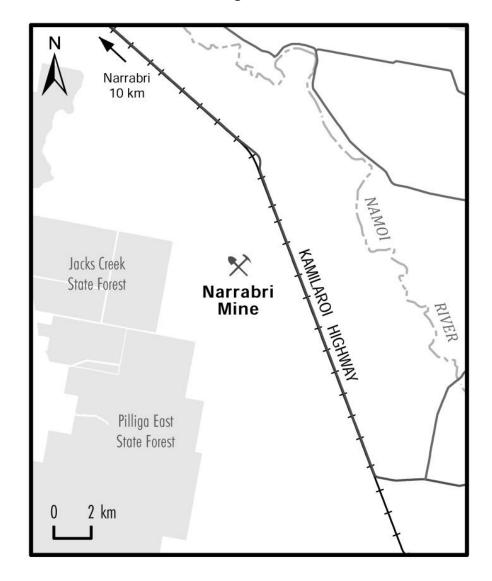
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest Updated Contact Details Table







NARRABRI MINE STAGE 3 PROJECT UPDATED CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



Lynn Trindall
Narrabri Local Aboriginal Land Council
96 Barwan Street
NARRABRI NSW 2390

Dear Lynn,

Re: NARRABRI MINE STAGE 3 PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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Phone: 02 9937 2891

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Yours sincerely

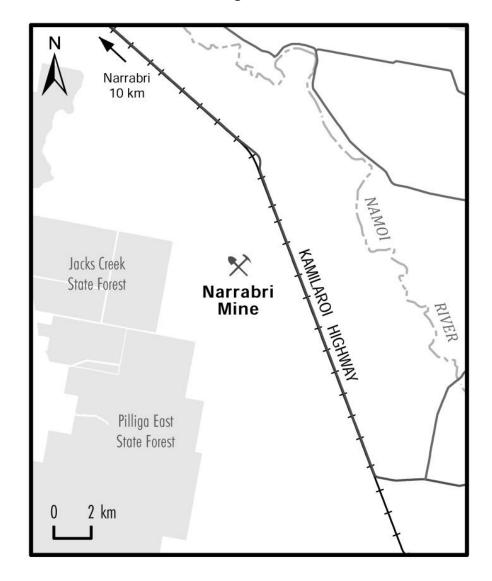
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest Updated Contact Details Table







NARRABRI MINE STAGE 3 PROJECT UPDATED CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



Buritja Traditional Custodians Corporation Breeza Helen Lickorish Lot 3, 29 Cemetery Road Breeza NSW 2381

Dear Helen

Re: NARRABRI MINE STAGE 3 PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

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Should you wish to register an interest in the community consultation process described above, could you please provide your details before 5.00 pm on 19 August 2019 to NCOPL via the following contact details:

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Address: PO Box 304, Narrabri, NSW 2390

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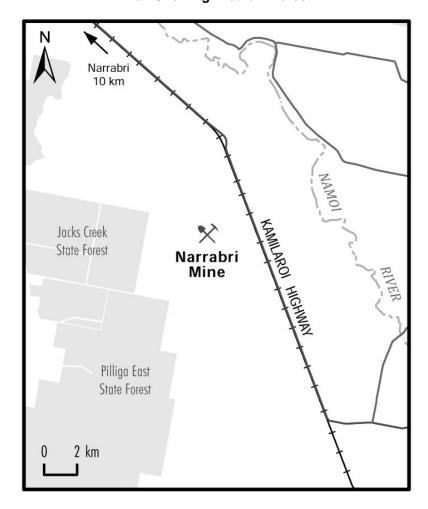
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest Contact Details Table







NARRABRI MINE STAGE 3 PROJECT CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



Gunida Gunyah Aboriginal Corporation Jane Bender PO Box 439 Gunnedah NSW 2380

Dear Jane

Re: NARRABRI MINE STAGE 3 PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely,

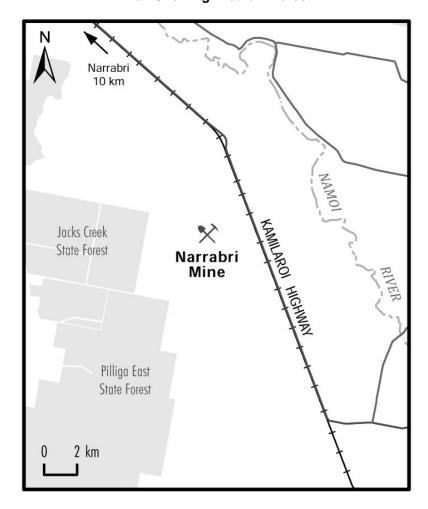
NARRABRI COAL OPERATIONS PTY LTD

David Ellwood
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest Contact Details Table







NARRABRI MINE STAGE 3 PROJECT CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



Min Min Aboriginal Corporation Debbie Steadman 1/55 Elgin Street Gunnedah NSW 2380

Dear Debbie

Re: NARRABRI MINE STAGE 3 PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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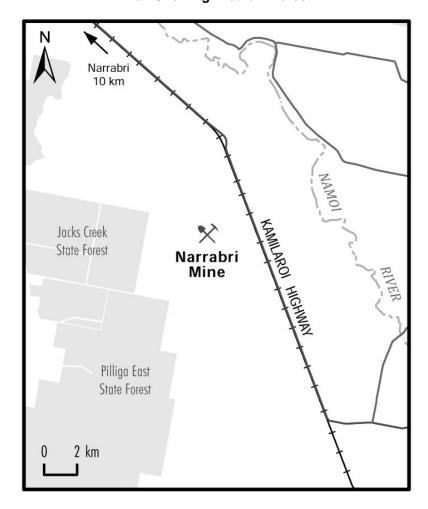
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David Ellwood
Director, NCO Stage 3 Project

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NARRABRI MINE STAGE 3 PROJECT CONTACT DETAILS

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Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



Muki Namae Two Rivers Aboriginal Corporation Aaron Talbot 13 Hunter Street Gunnedah NSW 2380

Dear Aaron

Re: NARRABRI MINE STAGE 3 PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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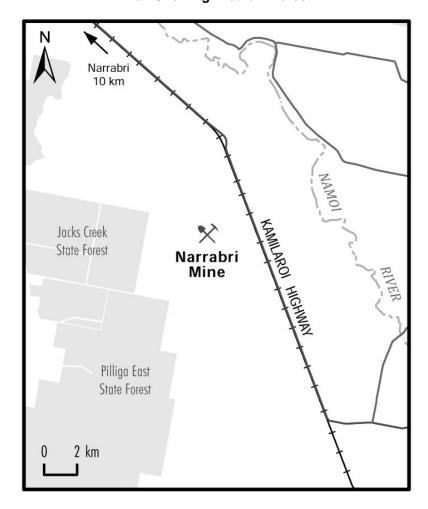
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David Ellwood
Director, NCO Stage 3 Project

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NARRABRI MINE STAGE 3 PROJECT CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
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Red Chief Local Aboriginal Land Council Mitchum Neave PO Box 745 Gunnedah NSW 2380

Dear Mitchum

Re: NARRABRI MINE STAGE 3 PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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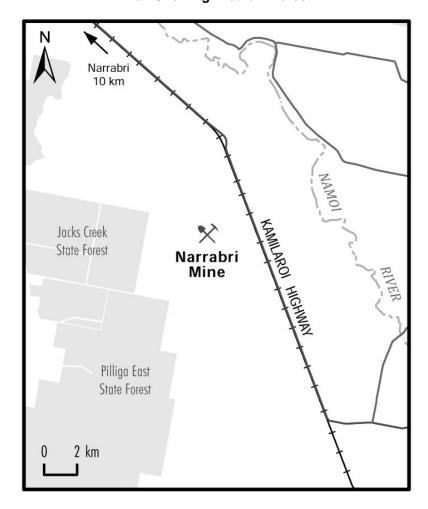
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David Ellwood
Director, NCO Stage 3 Project

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Postal Address (if different from above)	
Telephone Number	



Winanga-Li Aboriginal Child and Family Services Wayne Griffiths PO Box 1030 Gunnedah NSW 2380

Dear Wayne

Re: NARRABRI MINE STAGE 3 PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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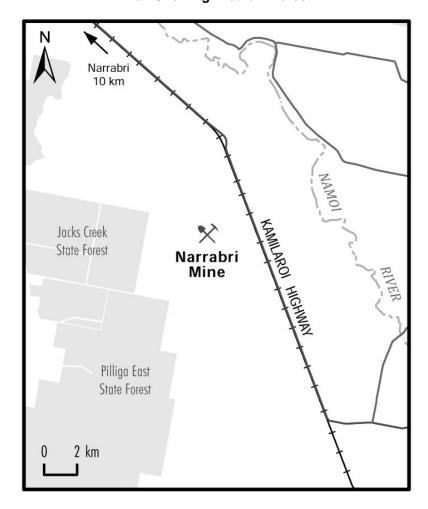
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David Ellwood
Director, NCO Stage 3 Project

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Plan Showing Area of Interest Contact Details Table







Name	
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Postal Address (if different from above)	
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27 August 2019

Min Min Aboriginal Corporation
Debbie Steadman and Michael Steadman
2/55 Elgin Street
Gunnedah NSW 2380

Dear Debbie and Michael

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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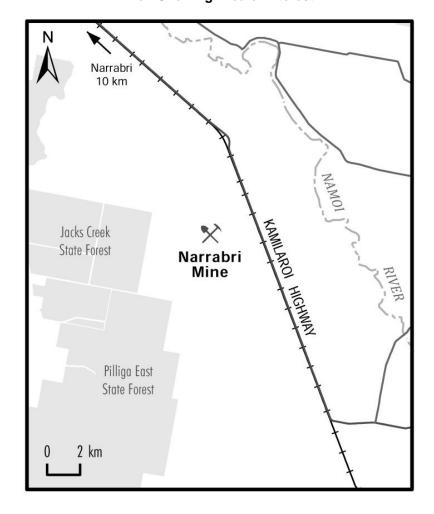
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27 August 2019

Gomeroi Elders Group Lisa Warren and Nicole Shields PO Box 63 Gunnedah NSW 2380

Dear Lisa and Nicole

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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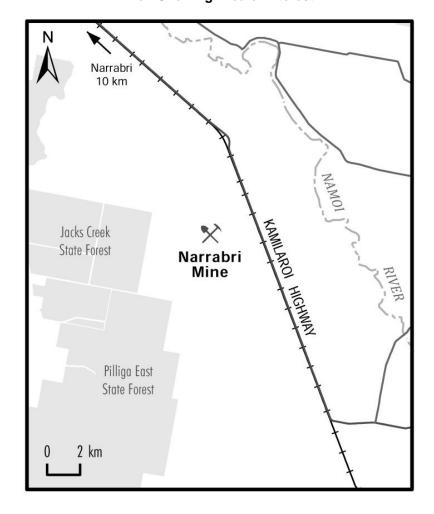
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Name	
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Address	
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Telephone Number	



6 September 2019

Michael Long (White Cockatoo)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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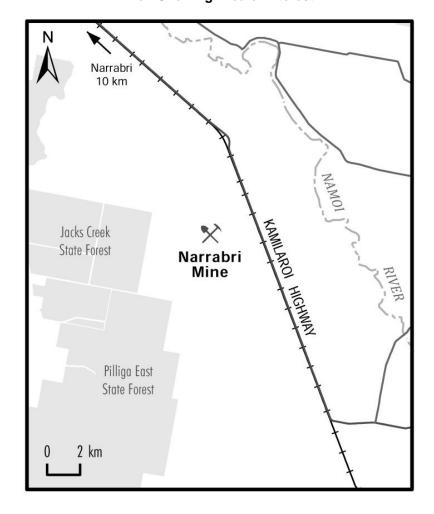
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Plan Showing Area of Interest

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6 September 2019

Kerry Fernando 17 Albion Street GUNNEDAH NSW 2380

Dear Kerry,

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Narrabri Coal Operations Pty Ltd ABN 76 107 813 963



Yours sincerely,

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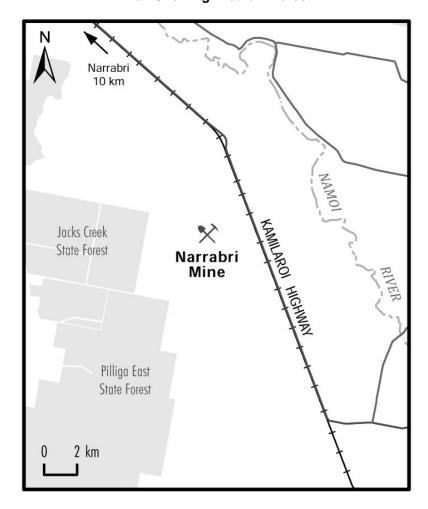
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6 September 2019

Leslie Woodbridge 14 Balarang Street WEEMELAH NSW 2406

Dear Leslie,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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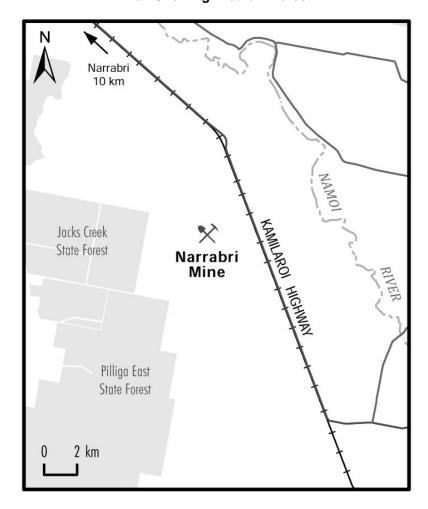
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6 September 2019

David Horton 48 Tempest Street GUNNEDAH NSW 2380

Dear David,

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NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

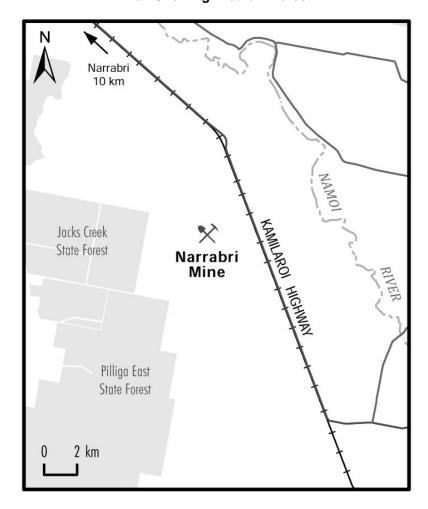
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest

Contact Details Table







Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



6 September 2019

Brian Draper 2/135 Bloomfield Street GUNNEDAH NSW 2380

Dear Brian.

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL) is seeking approval for an underground extension to the south of the existing Narrabri Mine (the Narrabri Underground Mine Stage 3 Extension Project [the Project]).

Further action is required by you to register as an Aboriginal party for the Project. Details are provided below.

As part of the approval application, NCOPL will be preparing an Aboriginal Cultural Heritage Assessment to identify ways to avoid or minimise potential harm to Aboriginal objects. Following both the Assessment and the community consultation process referred to below, NCOPL may seek a new Aboriginal Heritage Impact Permit (AHIP) under section 90 of the NSW National Parks and Wildlife Act, 1974 to move and/or destroy Aboriginal objects.

The subject area of the Project and any such application (i.e. the Area of Interest) is the extent of the area shown on the enclosed plan.

Community consultation is an important part of this process. In accordance with the requirements as set out in the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010) (Consultation Guidelines) issued by the NSW Office of Environment and Heritage, NCOPL is required to conduct a community consultation process with relevant Aboriginal people to assist in the preparation of the Aboriginal Cultural Heritage Assessment.

Also in accordance with the requirements of the Consultation Guidelines, Aboriginal persons or groups who may hold cultural knowledge relevant to, or who have a right or interest in, determining the cultural heritage significance of Aboriginal objects and/or places in the Area of Interest are invited to register an interest in a process of community consultation with NCOPL regarding the Project.

NCOPL understands that you have recently provided your contact details to Dr Matthew Whincop, of Whincop Archaeology
Pty Ltd, to register your interest in the Project. In order to formally register your interest in the community consultation
process described above, could you please provide your details before 5.00 pm on 25 September 2019 to NCOPL via the
following contact details:

Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Narrabri Coal Operations Pty Ltd ABN 76 107 813 963



Yours sincerely,

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

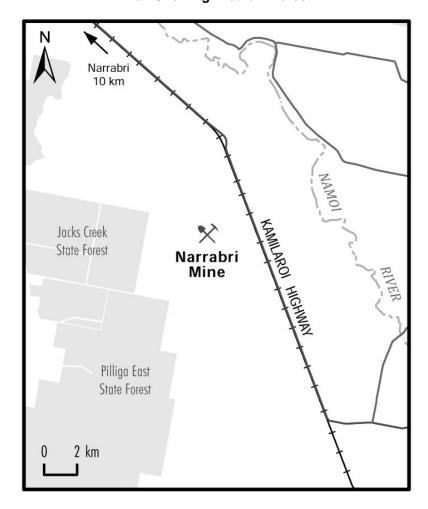
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Plan Showing Area of Interest

Contact Details Table







Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



6 September 2019

George Sampson
Cacatua Culture Services
22 Ibis Parade
WOODBERRY NSW 2322

Dear George,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

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NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

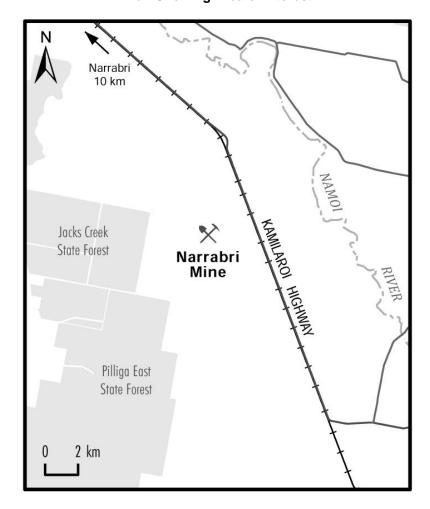
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest

Contact Details Table







Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	



6 September 2019

Michael Long (Junior)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENTS

The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council (NLALC) in the North West region of New South Wales (NSW).

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NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

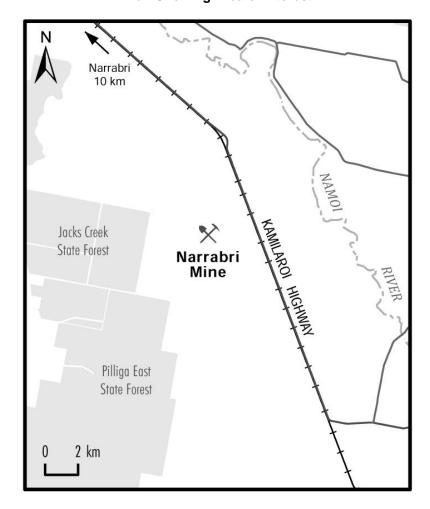
Director, NCO Stage 3 Project

Enclosed

Plan Showing Area of Interest

Contact Details Table







NARRABRI MINE STAGE 3 PROJECT CONTACT DETAILS

Name	
Registered Aboriginal Party (if different from above)	
Email Address	
Address	
Postal Address (if different from above)	
Telephone Number	





17 October 2019

Biodiversity and Conservation Division

Department of Planning, Industry and Environment

Attention: Phil Purcell – Archaeologist

PO Box 2111

DUBBO NSW 2830

Dear Phil

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

In accordance with the policy titled *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010), the following parties registered an interest in the community consultation process for the Narrabri Underground Mine Stage 3 Extension Project:

- Gomeroi Narrabri Aboriginal Corporation.
- Narrabri Local Aboriginal Land Council.
- Muki Namae Two Rivers Aboriginal Corporation.
- Cacatua General Services.
- AGA Culture Services.
- Michael John Long (White Cockatoo).
- Brian Draper.
- Kerry Morgan Fernando.
- Michael Ronald Long (Junior).
- Leslie 'Uncle Jacko' Woodbridge.
- David Horton.

These parties are the Registered Aboriginal Parties for the Narrabri Underground Mine Stage 3 Extension Project.



For your information, copies of the notification letters sent to the Aboriginal stakeholders and the public notice published in accordance with Section 4.1.6 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) are provided in Enclosures A and B, respectively.

Should you require any further information, please feel free to call or email on 02 6794 4184 and DEllwood@whitehavencoal.com.au.

Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosure A: Notification Letters to Registered Aboriginal Stakeholders

Enclosure B: Public Notice



17 October 2019

Narrabri Local Aboriginal Land Council 96 Barwan Street NARRABRI NSW 2390

Dear Sir/Madam

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosure A: Notification Letters to Registered Aboriginal Stakeholders

Enclosure B: Public Notice



17 October 2019

Red Chief Local Aboriginal Land Council PO Box 745 GUNNEDAH NSW 2380

Dear Sir/Madam

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

In accordance with the policy titled *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water [DECCW], 2010), the following parties registered an interest in the community consultation process for the Narrabri Underground Mine Stage 3 Extension Project:

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project

Enclosure A: Notification Letters to Registered Aboriginal Stakeholders

Enclosure B: Public Notice





30 September 2019

Jim Trindall
Gomeroi Narrabri Aboriginal Corporation
42 Mooloobar Street
NARRABRI NSW 2390

Dear Jim,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

Thank you for registering an interest in the Aboriginal consultation process for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

This letter provides information on the following:

- Proposed methodology for review and comment.
- Information session regarding the Project.
- Fieldwork selection criteria.
- Ongoing consultation.

Proposed Methodology

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010), attached to this letter is the proposed methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the Project for your review and comment. Your feedback may include the identification of issues or areas of cultural significance that may be used to affect, inform or refine the proposed methodology.

If you wish to provide input on the following, please make a submission to Narrabri Coal Operations Pty Ltd (NCOPL) (via the contact details provided at the end of this letter) by Thursday 31 October 2019:

- The nature of the proposed methodology.
- Any Aboriginal objects or places of cultural value within the investigation area, or issues of cultural significance that you are aware of.
- Any restrictions or protocols you may consider necessary in relation to any information of sensitivity that you
 may provide.
- Any other factors you consider to be relevant to the heritage assessment.



All comments received will be taken into consideration as the methodology is finalised.

Information Session

An information session with Registered Aboriginal Parties (RAPs), Whincop Archaeology Pty Ltd (the consulting archaeologist) and NCOPL representatives will be held on Tuesday 22 October 2019 to discuss the proposed methodology. The information session will be held at the Narrabri Bowling Club (176 Maitland Street, Narrabri) and will commence at 10.00 am and conclude at approximately 12.00 pm. Lunch and refreshments will be provided following the meeting.

At the information session NCOPL and Whincop Archaeology Pty Ltd will provide a presentation on the nature and scale of the Project, an overview of the impact assessment process and discuss the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information.

Please indicate whether you are interested in attending the information session by Wednesday 16 October 2019 via the contact details provided at the end of this letter.

Fieldwork Selection Criteria

As part of the ACHA for the Project, NCOPL and Whincop Archaeology Pty Ltd will be facilitating a field survey of the investigation area, to allow representatives of the RAPs to inspect the survey area and any Aboriginal cultural heritage sites that may be located within the survey area. Aboriginal representatives involved in the field survey will be renumerated.

If you would like to be considered for paid involvement in the field investigation associated with the Project, please find enclosed the Field Survey Engagement Application Form (Attachment 1) for completion and return to NCOPL. You will need to complete and return this form by Wednesday 16 October 2019 to be considered for engagement in the field surveys.

Aboriginal representatives will be selected by NCOPL based upon the merits of the application with respect to the selection criteria. Applications will be assessed against all criteria including cultural knowledge of the survey area, the representation of others within the community and experience in providing cultural heritage advice.

Where a response is not received by Wednesday 16 October 2019, it will be assumed that you do not wish to participate in the field investigation and be renumerated accordingly. Incomplete applications may not be accepted by NCOPL. Please note that NCOPL reserves the right to request any further information/clarification or supporting documentation from you in relation to substantiation of any claims made in your application.

Assistance in the completion of responses to the selection criteria can be provided to you upon request. Please use the contact details provided below.



The field investigation will commence on 31 October 2019. Further details will be provided to you as soon as possible.

Regardless of participation in the surveys, all RAPs will be invited by NCOPL to attend a site inspection of the survey area and a selection of the recorded sites following completion of the field surveys.

Additional Requirements

Representatives of RAPs who are selected for participation in the field survey will be required to be 'fit for work' (i.e. physically fit, in good health, drug and alcohol free and capable of working all day in rugged terrain). Participants will also be required to have the necessary insurance in place.

In accordance with Whitehaven Coal Limited's Work Health and Safety requirements, the following safety equipment will be required for field inspections (participants without the appropriate safety equipment will not be permitted on-site):

- Steel capped boots.
- Long sleeved shirts and long pants.
- · Appropriate sun protection.
- · High visibility safety vest.
- · Hard hat.

Please note that representatives may be subject to random drug and alcohol testing during the course of the field surveys.

Ongoing Consultation

It is noted that regardless of participation in the field investigation, all RAPs will be consulted in accordance with the NSW Office of Environment and Heritage policy entitled *Aboriginal cultural heritage consultation requirements for proponents 2010* for the remainder of the investigation, which will include the provision of a copy of the draft ACHA report for review and comment.

All RAPs will be invited by NCOPL to attend a site inspection of the investigation area and a selection of the recorded sites following completion of the field surveys. During this inspection, attending RAPs can provide further details in relation to any submission that they have made as to the cultural significance of the study area and/or identified sites.



Contact Details

Any feedback with respect to the proposed methodology and/or to indicate your attendance at the information session and/or responses to the fieldwork selection criteria, can be provided to NCOPL via the following contact details:

Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



ATTACHMENT 1 FIELD SURVEY ENGAGEMENT APPLICATION FORM

If you wish to be considered for paid participation in any field surveys, please address the following criteria which will be used to determine field survey engagement.

1.	I. Are you a member of the Gomeroi Native Title Claim Applicants group?		
	☐ Yes	□ No	
2.	Are you a member	of any of the following Local Aboriginal Land Councils?	
	☐ Red Chief	□ Narrabri	
3.	Have you worked a	at the Narrabri Coal Mine before?	
	☐ Yes	□ No	
	If yes, for how man	y years?	
4.		pecific cultural knowledge of the Narrabri Underground Mine Stage 3 Extension Project area of lace(s) or object(s) within it?	
	☐ Yes	□ No	
	If yes, please provi	de further details:	



5.	How many adult members does your Registered Aboriginal Party represent?
3 .	Please provide documented verification of your response to Question 5 (above) (e.g. please list all adult members)
7.	How many years of experience does each of your proposed fieldworker(s) have in Aboriginal cultural heritage
	surveys? Please provide the corresponding name and list previous projects.
3.	Does your proposed fieldworker(s) have any specialist skills or knowledge which might assist in the investigation
	☐ Yes ☐ No
	If yes, please specify:



9.	Is your proposed fie conditions?	eldworker(s) 'fit for duty', including the ability to survey rugged terrain, all day in	n various weathei
	☐ Yes	□ No	
	(Please note that N for work).	NCOPL may require a medical certificate if NCOPL considers that an individ	ual may not be fi
10.		fieldworker(s) willing to undertake random Drug and Alcohol testing (includin urine samples) at their induction and/or at any time during the field survey?	g the provision of
	☐ Yes	□ No	
11.	Do you hold the fol	llowing Certificates of Currency (if yes, please attach them to your application):
	☐ Public Liability	☐ Workers Compensation	
	•	registered groups will need to provide Certificates of Currency for both position. Registered individuals will only need to provide a Certificate of Cu	-
	ase provide any fur veys:	rther details below that you think may be relevant to your selection to partic	cipate in the field



Responses must be received by Wednesday 16 October 2019 via the contact details provided below. Please contact NCOPL via the contact details below if you require assistance completing this form.

Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

 $\textbf{Email:}\ \underline{ACHAregistration@whitehavencoal.com.au}$



30 September 2019

Lynn Trindall
Narrabri Local Aboriginal Land Council
96 Barwan Street
NARRABRI NSW 2390

Dear Lynn,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

Thank you for registering an interest in the Aboriginal consultation process for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

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- Long sleeved shirts and long pants.
- · Appropriate sun protection.
- High visibility safety vest.
- Hard hat.

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Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



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	If yes, for how man	ny years?	
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	If yes, please provi	de further details:	



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Please pro	ovide documented verification of your response to Question 5 (above) (e.g. please list all adult memb
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If yes, plea	ase specify:



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Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au



30 September 2019

Aaron Talbott

Muki Namae Two Rivers Aboriginal Corporation
2/154 Little Barber Street

GUNNEDAH NSW 2380

Dear Aaron,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

Thank you for registering an interest in the Aboriginal consultation process for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



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30 September 2019

Michael Long (White Cockatoo)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael.

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30 September 2019

Kerry Fernando 17 Albion Street GUNNEDAH NSW 2380

Dear Kerry,

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30 September 2019

Leslie 'Uncle Jacko' Woodbridge 14 Balarang Street Weemelah NSW 2406

Dear Leslie,

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Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

 $\textbf{Email:}\ \underline{ACHAregistration@whitehavencoal.com.au}$



30 September 2019

David Horton
48 Tempest Street
GUNNEDAH NSW 2380

Dear David,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

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Phone: 02 9937 2891

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NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



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30 September 2019

Brian Draper 2/135 Bloomfield Street GUNNEDAH NSW 2380

Dear Brian,

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Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390



30 September 2019

George Sampson
Cacatua General Services
22 Ibis Parade
WOODBERRY NSW 2322

Dear George,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

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30 September 2019

Ashley Sampson
AGA Culture Services
22 Ibis Parade
WOODBERRY NSW 2322

Dear Ashley,

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Representatives of RAPs who are selected for participation in the field survey will be required to be 'fit for work' (i.e. physically fit, in good health, drug and alcohol free and capable of working all day in rugged terrain). Participants will also be required to have the necessary insurance in place.

In accordance with Whitehaven Coal Limited's Work Health and Safety requirements, the following safety equipment will be required for field inspections (participants without the appropriate safety equipment will not be permitted on-site):

- Steel capped boots.
- Long sleeved shirts and long pants.
- · Appropriate sun protection.
- High visibility safety vest.
- Hard hat.

Please note that representatives may be subject to random drug and alcohol testing during the course of the field surveys.

Ongoing Consultation

It is noted that regardless of participation in the field investigation, all RAPs will be consulted in accordance with the NSW Office of Environment and Heritage policy entitled *Aboriginal cultural heritage consultation requirements for proponents 2010* for the remainder of the investigation, which will include the provision of a copy of the draft ACHA report for review and comment.

All RAPs will be invited by NCOPL to attend a site inspection of the investigation area and a selection of the recorded sites following completion of the field surveys. During this inspection, attending RAPs can provide further details in relation to any submission that they have made as to the cultural significance of the study area and/or identified sites.



Contact Details

Any feedback with respect to the proposed methodology and/or to indicate your attendance at the information session and/or responses to the fieldwork selection criteria, can be provided to NCOPL via the following contact details:

Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



ATTACHMENT 1 FIELD SURVEY ENGAGEMENT APPLICATION FORM

If you wish to be considered for paid participation in any field surveys, please address the following criteria which will be used to determine field survey engagement.

12.	Are you a member	of the Gomeroi Native Title Claim Applicants group?	
	☐ Yes	□ No	
13.	Are you a member	of any of the following Local Aboriginal Land Councils?	
	☐ Red Chief	□ Narrabri	
14.	Have you worked a	at the Narrabri Coal Mine before?	
	☐ Yes	□ No	
	If yes, for how many	y years?	
15.		pecific cultural knowledge of the Narrabri Underground Mine Stage 3 Extension Pace(s) or object(s) within it?	roject area o
	☐ Yes	□ No	
	If yes, please provid	de further details:	



16.	How many adult members does your Registered Aboriginal Party represent?
17.	Please provide documented verification of your response to Question 5 (above) (e.g. please list all adult members).
18.	How many years of experience does each of your proposed fieldworker(s) have in Aboriginal cultural heritage surveys? Please provide the corresponding name and list previous projects.
19.	Does your proposed fieldworker(s) have any specialist skills or knowledge which might assist in the investigation?
	□ Yes □ No
	If yes, please specify:



20.	Is your proposed fic conditions?	eldworker(s) 'fit for duty', including the ability to survey rugged terrain, all day in various w	eathe
	☐ Yes	□ No	
	(Please note that I for work).	NCOPL may require a medical certificate if NCOPL considers that an individual may no	t be fi
21.		fieldworker(s) willing to undertake random Drug and Alcohol testing (including the provisurine samples) at their induction and/or at any time during the field survey?	sion o
	☐ Yes	□ No	
22.	Do you hold the fol	llowing Certificates of Currency (if yes, please attach them to your application):	
	☐ Public Liability	☐ Workers Compensation	
		t registered groups will need to provide Certificates of Currency for both public liabili- sation. Registered individuals will only need to provide a Certificate of Currency for	
	ase provide any fui veys:	rther details below that you think may be relevant to your selection to participate in th	e field



Responses must be received by Wednesday 16 October 2019 via the contact details provided below. Please contact NCOPL via the contact details below if you require assistance completing this form.

Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390



30 September 2019

Michael Long (Junior)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT PROPOSED METHODOLOGY

Thank you for registering an interest in the Aboriginal consultation process for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

This letter provides information on the following:

- Proposed methodology for review and comment.
- Information session regarding the Project.
- Fieldwork selection criteria.
- Ongoing consultation.

Proposed Methodology

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010), attached to this letter is the proposed methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the Project for your review and comment. Your feedback may include the identification of issues or areas of cultural significance that may be used to affect, inform or refine the proposed methodology.

If you wish to provide input on the following, please make a submission to Narrabri Coal Operations Pty Ltd (NCOPL) (via the contact details provided at the end of this letter) by Thursday 31 October 2019:

- The nature of the proposed methodology.
- Any Aboriginal objects or places of cultural value within the investigation area, or issues of cultural significance that you are aware of.
- Any restrictions or protocols you may consider necessary in relation to any information of sensitivity that you
 may provide.
- Any other factors you consider to be relevant to the heritage assessment.



All comments received will be taken into consideration as the methodology is finalised.

Information Session

An information session with Registered Aboriginal Parties (RAPs), Whincop Archaeology Pty Ltd (the consulting archaeologist) and NCOPL representatives will be held on Tuesday 22 October 2019 to discuss the proposed methodology. The information session will be held at the Narrabri Bowling Club (176 Maitland Street, Narrabri) and will commence at 10.00 am and conclude at approximately 12.00 pm. Lunch and refreshments will be provided following the meeting.

At the information session NCOPL and Whincop Archaeology Pty Ltd will provide a presentation on the nature and scale of the Project, an overview of the impact assessment process and discuss the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information.

Please indicate whether you are interested in attending the information session by Wednesday 16 October 2019 via the contact details provided at the end of this letter.

Fieldwork Selection Criteria

As part of the ACHA for the Project, NCOPL and Whincop Archaeology Pty Ltd will be facilitating a field survey of the investigation area, to allow representatives of the RAPs to inspect the survey area and any Aboriginal cultural heritage sites that may be located within the survey area. Aboriginal representatives involved in the field survey will be renumerated.

If you would like to be considered for paid involvement in the field investigation associated with the Project, please find enclosed the Field Survey Engagement Application Form (Attachment 1) for completion and return to NCOPL. You will need to complete and return this form by Wednesday 16 October 2019 to be considered for engagement in the field surveys.

Aboriginal representatives will be selected by NCOPL based upon the merits of the application with respect to the selection criteria. Applications will be assessed against all criteria including cultural knowledge of the survey area, the representation of others within the community and experience in providing cultural heritage advice.

Where a response is not received by Wednesday 16 October 2019, it will be assumed that you do not wish to participate in the field investigation and be renumerated accordingly. Incomplete applications may not be accepted by NCOPL. Please note that NCOPL reserves the right to request any further information/clarification or supporting documentation from you in relation to substantiation of any claims made in your application.

Assistance in the completion of responses to the selection criteria can be provided to you upon request. Please use the contact details provided below.

The field investigation will commence on 31 October 2019. Further details will be provided to you as soon as possible.



Regardless of participation in the surveys, all RAPs will be invited by NCOPL to attend a site inspection of the survey area and a selection of the recorded sites following completion of the field surveys.

Additional Requirements

Representatives of RAPs who are selected for participation in the field survey will be required to be 'fit for work' (i.e. physically fit, in good health, drug and alcohol free and capable of working all day in rugged terrain). Participants will also be required to have the necessary insurance in place.

In accordance with Whitehaven Coal Limited's Work Health and Safety requirements, the following safety equipment will be required for field inspections (participants without the appropriate safety equipment will not be permitted on-site):

- Steel capped boots.
- Long sleeved shirts and long pants.
- · Appropriate sun protection.
- High visibility safety vest.
- Hard hat.

Please note that representatives may be subject to random drug and alcohol testing during the course of the field surveys.

Ongoing Consultation

It is noted that regardless of participation in the field investigation, all RAPs will be consulted in accordance with the NSW Office of Environment and Heritage policy entitled *Aboriginal cultural heritage consultation requirements for proponents 2010* for the remainder of the investigation, which will include the provision of a copy of the draft ACHA report for review and comment.

All RAPs will be invited by NCOPL to attend a site inspection of the investigation area and a selection of the recorded sites following completion of the field surveys. During this inspection, attending RAPs can provide further details in relation to any submission that they have made as to the cultural significance of the study area and/or identified sites.



Contact Details

Any feedback with respect to the proposed methodology and/or to indicate your attendance at the information session and/or responses to the fieldwork selection criteria, can be provided to NCOPL via the following contact details:

Narrabri Coal Operations Pty Ltd

c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood Director, NCO Stage 3 Project



ATTACHMENT 1 FIELD SURVEY ENGAGEMENT APPLICATION FORM

If you wish to be considered for paid participation in any field surveys, please address the following criteria which will be used to determine field survey engagement.

1.	Are you a member	of the Gomeroi Native Title Claim Applicants group?
	☐ Yes	□ No
2.	Are you a member	of any of the following Local Aboriginal Land Councils?
	☐ Red Chief	□ Narrabri
3.	Have you worked a	at the Narrabri Coal Mine before?
	☐ Yes	□ No
	If yes, for how mar	ny years?
4.		pecific cultural knowledge of the Narrabri Underground Mine Stage 3 Extension Project area o lace(s) or object(s) within it?
	☐ Yes	□ No
	If yes, please provi	de further details:



5.	How many adult members does your Registered Aboriginal Party represent?
6.	Please provide documented verification of your response to Question 5 (above) (e.g. please list all adult members)
7.	How many years of experience does each of your proposed fieldworker(s) have in Aboriginal cultural heritage
	surveys? Please provide the corresponding name and list previous projects.
3.	Does your proposed fieldworker(s) have any specialist skills or knowledge which might assist in the investigation
	□ Yes □ No
	If yes, please specify:



9.	Is your proposed fi conditions?	ieldworker(s) 'fit for duty', including the ability to survey rugged terrain, all day ir	n various weather
	☐ Yes	□ No	
	(Please note that for work).	NCOPL may require a medical certificate if NCOPL considers that an individu	ual may not be fi
10.		d fieldworker(s) willing to undertake random Drug and Alcohol testing (including urine samples) at their induction and/or at any time during the field survey?	g the provision of
	☐ Yes	□ No	
11.	Do you hold the fo	ollowing Certificates of Currency (if yes, please attach them to your application):
	☐ Public Liability	√ ☐ Workers Compensation	
	(Please note that	nt registered groups will need to provide Certificates of Currency for both presation. Registered individuals will only need to provide a Certificate of Cu	-
	ase provide any fu veys:	urther details below that you think may be relevant to your selection to partic	cipate in the field



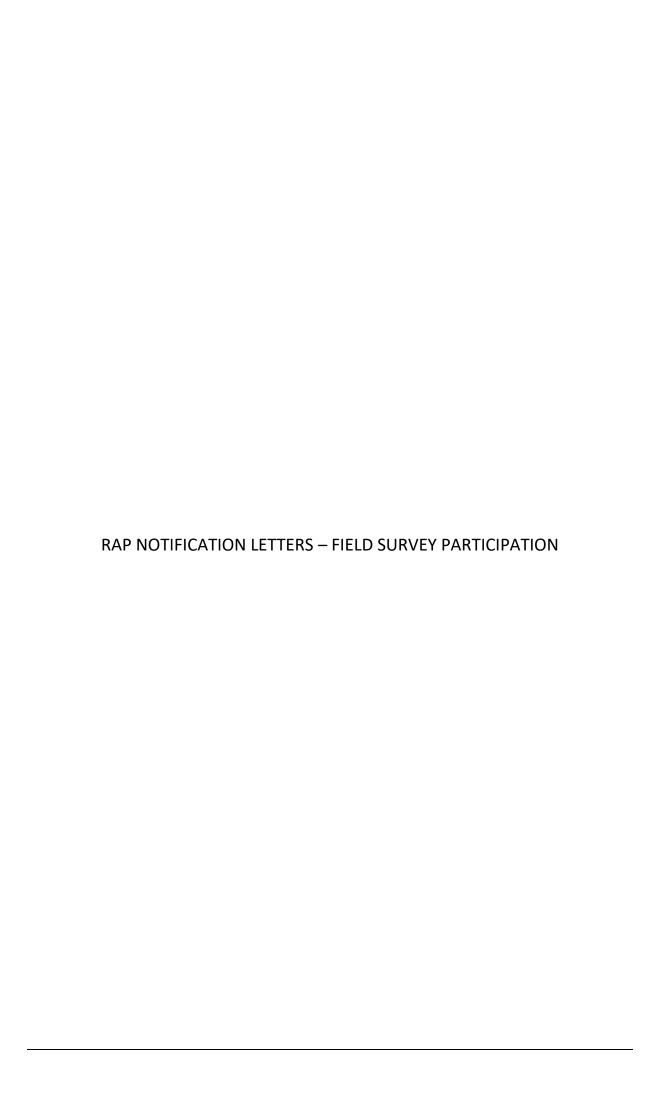
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c/- Aboriginal Cultural Heritage Assessment Methodology

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390





25 October 2019

Aaron Talbott
Muki Namae Two Rivers Aboriginal Corporation
13 Hunter Street
GUNNEDAH NSW 2380

Dear Aaron,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

Gomeroi Narrabri Aboriginal Corporation; and

Narrabri Local Aboriginal Land Council.

Selection of RAPs by NCOPL was based upon the merits of the applications received, with respect to the selection criteria. All selection criteria in the Field Survey Engagement Application Form were included in the assessment.

Further to the discussion at the Information Session on 22 October 2019, please note that selection of the survey participants was not based on the availability or otherwise of induction opportunities prior to fieldwork commencement.

Please also note that regardless of participation in the field investigation, all RAPs will be consulted in accordance with the New South Wales Office of Environment and Heritage policy entitled Aboriginal cultural heritage consultation requirements for proponents 2010 for the remainder of the investigation, which will include the provision of a copy of the draft ACHA report for review and comment.

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Should you require further information or have any queries, please contact NCOPL via the following contact details:

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Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Narrabri Coal Operations Pty Ltd ABN 76 107 813 963



Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project



25 October 2019

Michael Long (White Cockatoo)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

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Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390



Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project



25 October 2019

Kerry Fernando 17 Albion Street GUNNEDAH NSW 2380

Dear Kerry,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

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Narrabri Coal Operations Pty Ltd c/- Aboriginal Cultural Heritage Register

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390



Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project



25 October 2019

Leslie 'Uncle Jacko' Woodbridge 14 Balarang Street Weemelah NSW 2406

Dear Leslie,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

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Phone: 02 9937 2891

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project



25 October 2019

David Horton
48 Tempest Street
GUNNEDAH NSW 2380

Dear David,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood

Director, NCO Stage 3 Project



25 October 2019

Brian Draper 2/135 Bloomfield Street GUNNEDAH NSW 2380

Dear Brian,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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Email: ACHAregistration@whitehavencoal.com.au



Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood



25 October 2019

George Sampson
Cacatua General Services
22 Ibis Parade
WOODBERRY NSW 2322

Dear George,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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Narrabri Coal Operations Pty Ltd ABN 76 107 813 963



Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood



25 October 2019

Ashley Sampson
AGA Culture Services
22 Ibis Parade
WOODBERRY NSW 2322

Dear Ashley,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood



25 October 2019

Michael Long (Junior)
17 Albion Street
GUNNEDAH NSW 2380

Dear Michael,

RE: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT - ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Please be advised that Narrabri Coal Operations Pty Limited (NCOPL) have selected the following Registered Aboriginal Parties (RAPs) to participate in field surveys for the Narrabri Underground Mine Stage 3 Extension Project (the Project) Aboriginal Cultural Heritage Assessment (ACHA):

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Yours sincerely

NARRABRI COAL OPERATIONS PTY LTD

David Ellwood





Aaron Talbott
Muki Namae Two Rivers Aboriginal Corporation
13 Hunter Street
GUNNEDAH NSW 2380
Email: mntrac2380@gmail.com

Dear Aaron,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT DRAFT REPORT AND INFORMATION SESSION

Please find enclosed for your review, a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

Review of Draft ACHA

In accordance with the New South Wales (NSW) Biodiversity and Conservation Division (formerly Department of Environment, Climate Change and Water [DECCW]) Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW, 2010), we have provided the draft ACHA for your review and feedback. Your feedback may include the identification of issues or areas of cultural significance that may be used to affect, inform or refine the draft ACHA.

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c/- Draft Aboriginal Cultural Heritage Assessment

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



Ashley Sampson AGA Culture Services 22 Ibis Parade WOODBERRY NSW 2322

Email: cacatua4service@tpg.com.au

Dear Ashley,

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Yours sincerely

David Ellwood



Brian Draper 2/135 Bloomfield Street GUNNEDAH NSW 2380

Email: <u>briandraper0013@gmail.com</u>

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Yours sincerely

David Ellwood



David Horton 48 Tempest Street GUNNEDAH NSW 2380

Email: davehorton@hotmail.com.au

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David Ellwood



Jim Trindall
Gomeroi Narrabri Aboriginal Corporation
42 Mooloobar Street
NARRABRI NSW 2390
Email: alira_tufui@hotmail.com

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Narrabri Coal Operations Pty Ltd ABN 15 129 850 139



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David Ellwood



Kerry Fernando 17 Albion Street GUNNEDAH NSW 2380

Email: kerrymorgan373@yahoo.com

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Yours sincerely

David Ellwood



Leslie 'Uncle Jacko' Woodbridge 14 Balarang Street Weemelah NSW 2406 Email: bchristine202@gmail.com

Dear Leslie.

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c/- Draft Aboriginal Cultural Heritage Assessment

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



Michael John Long (White Cockatoo) 17 Albion Street GUNNEDAH NSW 2380 Email: whitecockatoo1@hotmail.com

Dear Michael.

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Lynn Trindall
Narrabri Local Aboriginal Land Council
96 Barwan Street
NARRABRI NSW 2390
Email: admin@narrabrilalc.com.au

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Phone: 02 9937 2891

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Yours sincerely

David Ellwood





16 June 2020

Michael Ronald Long (Junior) 17 Albion Street Gunnedah NSW 2380

Email: mikeyylongg@hotmail.com

Dear Michael,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT SITE INSPECTION AND SUPPLEMENTRY INFORMATION SESSION

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- Steel capped boots.
- Long sleeved shirts and long pants.
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- High visibility safety vest.
- Hard hat.



The supplementary information session and site inspection will be held on Tuesday 30 June 2020, beginning and ending at the Baan Baa Hall (18 Baranbah Street, Baan Baa NSW 2390). The information session and site inspection will commence at 9.30 am sharp (and will conclude by approximately 2.00pm).

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Email: admin@narrabrilalc.com.au

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David Ellwood



Leslie 'Uncle Jacko' Woodridge 14 Balarang Street Weemelah NSW 2406

Email: bchristine202@gmail.com

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Kerry Morgan Fernando 17 Albion Street Gunnedah NSW 2380

Email: kerrymorgan373@yahoo.com

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Aaron Talbott Muki Namae Two Rivers Aboriginal Corporation 13 Hunter Street Gunnedah NSW 2380

Email: mntrac2380@gmail.com

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To assist with catering and logistics, can you please indicate whether you are interested in attending by 5.00pm Friday 26 June 2020, via the contact details provided below. Please also advise of any specific dietary requirements you may require.

Narrabri Coal Operations Pty Ltd

c/- Draft Aboriginal Cultural Heritage Assessment

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



Jim Trindall
Gomeroi Narrabri Aboriginal Corporation
42 Mooloobar Street
NARRABRI NSW 2390
Email: _alira_tufui@hotmail.com

Dear Jim.

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT SITE INSPECTION AND SUPPLEMENTRY INFORMATION SESSION

You are currently registered for the Aboriginal consultation process for the Narrabri Underground Mine Stage 3 Extension Project (the Project).

Please find below information relating to a site inspection and information session for the Aboriginal Cultural Heritage Assessment (ACHA) for the Project.

Changes to Engagement Since Previous Correspondence

The draft ACHA for the Project was provided to Registered Aboriginal Parties (RAPs) for review and comment on 24 April 2020. The cover letter accompanying the draft ACHA advised that due to restrictions associated with Coronavirus (COVID-19) that limit the number of people who can meet in groups, an information session to discuss the draft ACHA was required to occur via video/teleconference. The information session was subsequently held over videoconference on 8 May 2020.

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With the recent easing of restrictions in New South Wales, NCOPL would now like to offer all RAPs the opportunity to attend a supplementary information session, followed by a site inspection ('walk on country'). It is noted that social distancing regulations must be maintained throughout the day.

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Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



Ashley Sampson AGA Culture Services 22 Ibis Parade WOODBERRY NSW 2322

Email: cacatua4service@tpg.com.au

Dear Ashley,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT SITE INSPECTION AND SUPPLEMENTRY INFORMATION SESSION

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c/- Draft Aboriginal Cultural Heritage Assessment

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Ema

Yours sincerely

David Ellwood



Brian Draper 2/135 Bloomfield Street Gunnedah NSW 2380

Email: briandraper0013@gmail.com

Dear Brian,

Re: NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT – ABORIGINAL CULTURAL HERITAGE ASSESSMENT SITE INSPECTION AND SUPPLEMENTRY INFORMATION SESSION

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Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



David Horton 48 Tempest Street Gunnedah NSW 2380

Email: davehorton@hotmail.com.au

Dear David,

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Yours sincerely

David Ellwood



George Sampson Cacatua General Services 22 Ibis Parade WOODBERRY NSW 2322

Email: cacatua4service@tpg.com.au

Dear George,

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c/- Draft Aboriginal Cultural Heritage Assessment

Phone: 02 9937 2891

Address: PO Box 304, Narrabri, NSW 2390

Email: ACHAregistration@whitehavencoal.com.au

Yours sincerely

David Ellwood



From: michael long
To: ACHAregistration

Subject: ATT DAVID COMMENTS REGARDING RAP MEETING HELD ON WEDNESDAY 16 OCTOBER 2019

Date: Friday, 25 October 2019 3:50:57 PM

Attachments: <u>23102019111731.pdf</u>

Report This Email

HI David I was just going over the letter Whitehaven sent out to all RAP on the 30/9/19 and I notices It doesn't state any thing about working RAP have to have mines medical or mines full induction as to one of the RAP said at the meeting on the 16th because the majority of RAP on this new project have not had the opportunity or wasn't required to do this as stated in the letter.

Regards Michael long snr

This email has been scanned for spam and viruses by Proofpoint Essentials. Click <u>here</u> to report this email as spam.

From: <u>Aaron Talbott</u>
To: <u>Mark Vile</u>

Subject: Re: Fieldwork Application

Date: Monday, 28 October 2019 10:05:51 AM

Report This Email

Yaama Mark

I have received feedback from meeting. I understand Narrabri Lands Council are pushing for a full medical. We are Raps not employees of Whitehaven and we have not been subjected to such measure for work safe at any other mine site. I understand random drug and alcohol test are necessary from time to time but the request for a full medical is simply outrageous. As a RAP group we can decide what is required and move forward. Our best interests are recording the cultural footprint of the aera and salvaging the artefacts found. The mine extends. Everyone Happy.

Regards

Aaron Talbott Director

Muki Namae Two Rivers AC 13 Hunter Street Gunnedah NSW 2380 M 0455 291 762 E mntrac2380@gmail.com

MNTRAC acknowledges Aboriginal and Torres Straight Islander People across this Nation. Respect to Elders Past, Present and Emerging.

On Tue, 22 Oct. 2019, 9:54 pm Aaron Talbott, <<u>mntrac2380@gmail.com</u>> wrote:

Yaama Mark

Apologies for Today's meeting. Any information i need to know please do not hesitate to contact me.

Regards

Aaron Talbott Director

Muki Namae Two Rivers AC 13 Hunter Street Gunnedah NSW 2380 M 0455 291 762 E mntrac2380@gmail.com

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NARRABRI COAL OPERATION PTY LTD

29/10/2019

DIRECTOR, NCO STAGE 3 PROJECT

WHITECOCKATOO

David Ellwood

Michael J Long

PO BOX 304, NARRABRI NSW 2390

17 Albion St Gunnedah NSW 2380

Hi David

After the meeting on the Wednesday 16 October that was held at the Narrabri Bowling Club myself and 7 other RAP that will be name at the bottom of this letter, would like to add some recommendations in regarding how the Narrabri underground mine stage 3 extension project should go ahead for all the 11 RAPS and this number of RAP is a low, and it only just make up a small aboriginal community to guide this type of project.

Recommendations as listed below

All RAP to be involved in the aboriginal cultural heritage works and cultural values if wanting to participate.

The mediation process towards the RAPS is not to isolates or discriminates or making it unfavourably for any RAPS is would be unacceptable work and consultation process.

All aboriginal objects found with the impact area are to be removed and keep in safe places and till a RAP meeting to determine otherwise.

This document was type up on behalf of following RAPS and their name and contact details are below and they strongly support this documentation of recommendation fill free to contact RAPS

RAPS LIST BELOW

Kerry Morgan 0475297986

Michael R Long 0487350606

Jack Woodridge 04455177706

Aaron Talbot 0455291762

David Horton 0458532707

Michael J Long 0447867745

Brian Draper 0438757562

That means the list above is Majority of RAPS on this project would like the Narrabri project recommendation in this document to be applied by Narrabri underground mine stage 3 of Aboriginal cultural heritage before any works or cultural values to commences is there any issues a RAP meeting should be set to address the any concerns.

Regards Michael long

NARRABRI COAL OPERATION PTY LTD

29/10/2019

DIRECTOR, NCO STAGE 3 PROJECT

WHITECOCKATOO

David Ellwood

Michael J Long

PO BOX 304, NARRABRI NSW 2390

17 Albion St Gunnedah NSW 2380

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letter a RAP meeting should be set to address any of the above concerns. All RAPS Listed above are on the Gomeroi Native tittle Clam.

Regards Michael long

NARRABRI COAL OPERATION PTY LTD

30/10/2019

DIRECTOR, NCO STAGE 3 PROJECT

WHITECOCKATOO

David Ellwood

Michael J Long

PO BOX 304, NARRABRI NSW 2390

17 Albion St Gunnedah NSW 2380

Hi David

We have the methodology that I and another 6 RAP that will be name at the bottom of this letter, would like to add some recommendations in regarding the methodology on the Narrabri underground mine stage 3 extension project.

Methodology Recommendations as listed below for before Archaeological investigation and works or after sites that have been or will be found.

Isolated artefacts find to be salvaged

All surfaces scatter artefacts to be salvaged

Where scatted artefacts are located there need to be 50cm by 50cm test spits done in transaction formation with no less 20m apart with no less than 10 test pits per transaction, or RAPS or ARCHO determine otherwise.





After the above process is done a RAP meeting should be held to determine which artefacts scatters sites are going require more archaeological investigation, where 2 of the scatter site will be determine by the RAP, to dig two 50 metre squires test pits.

Scared trees that are found in the impact area are to be fenced off and RAP meeting to determine how it to be salvaged.

Any Gridding groves found in the ground a meeting is to take places with RAPS to determine if a exploration process is required.

Burials or Aboriginal graves found in the project area a RAP meeting is to be held so RAP can determine the best solution for the community.

BURRA CHARTER process also needs to apply to this project.

The Archaeological walk over should be done transaction formation with each walker 20m apart walking with archo using a GPS devices.

All the project area that is to be impacted is to be walked.

After all archaeological works that has been done with in the project area all facts of the sign off and works need to be presented to RAPS at a RAP meeting.

If there are padded areas that are grassed areas closes to creek lines, grader scraps could all so apply if there access.

All aboriginal objects found with the impact area are to be removed and keep in safe places and till a RAP meeting to determine otherwise.

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Regards Michael long

Males Com

From: michael long
To: ACHAregistration

Subject: Re: Narrabri Underground Mine Stage 3 Extension Project - Aboriginal Cultural Heritage Assessment report

Date: Wednesday, 6 May 2020 11:41:06 AM

Report This Email

As RAP the majority of the RAP for this project have been left out of the cultural values with in the project are due to conflict of interest as I've sent you some details of the important of that cultural area it is only a small part of the cultural link and proves that I have knowledge of the area of concern, I and other RAPS have yet to have my input due to no walk on country, regard less of other cultural values studies that have been conducted with in area or zone of the location, as a knowledge holder of the stories with in that area I have not have the opportunity to be fully involved in the cultural values of the project area. regards Michael long

From: ACHAregistration <ACHAregistration@whitehavencoal.com.au>

Sent: Friday, 1 May 2020 12:30 PM

To: michael long <whitecockatoo1@hotmail.com>

Subject: RE: Narrabri Underground Mine Stage 3 Extension Project - Aboriginal Cultural Heritage

Assessment report

Thanks for confirming Michael

From: michael long <whitecockatoo1@hotmail.com>

Sent: Thursday, 30 April 2020 9:02 AM

To: ACHAregistration <ACHAregistration@whitehavencoal.com.au>

Subject: Re: Narrabri Underground Mine Stage 3 Extension Project - Aboriginal Cultural Heritage

Assessment report

Report This Email

Received thank you

From: ACHAregistration < <u>ACHAregistration@whitehavencoal.com.au</u>>

Sent: Friday, 24 April 2020 11:46 AM

To: michael long < whitecockatoo1@hotmail.com >

Subject: Narrabri Underground Mine Stage 3 Extension Project - Aboriginal Cultural Heritage

Assessment report

Dear Michael,

Please find attached correspondence relating to the Narrabri Underground Mine Stage 3 Extension Project - Aboriginal Cultural Heritage Assessment.

You will find linked below a draft version of the Aboriginal Cultural Heritage Assessment report. Narrabri Stage 3 draft ACHA From: <u>David Ellwood</u>

To: <u>Mark Vile</u>; <u>Clive Berry</u>; <u>Sophie Cannon</u>

Cc: Bob Sutherland

Subject: FW: FW: Narrabri Stage 3 ACHA

Date: Friday, 8 May 2020 2:58:31 PM

Attachments: <u>image001.png</u>

image001.png image001.png

David Ellwood

Director NCO Stage 3 Project

Whitehaven Coal Limited

10 Kurrajong Creek Rd, Baan Baa NSW 2390 Australia **Tel:** +61 2 6794 4184 **Mobile:** +61 448 045 814

Email: DEllwood@whitehavencoal.com.au www.whitehavencoal.com.au



From: Aaron Talbott <mntrac2380@gmail.com>

Sent: Friday, 8 May 2020 2:48 PM

To: David Ellwood < DEllwood@whitehavencoal.com.au>

Subject: Re: FW: Narrabri Stage 3 ACHA

Report This Email

Hi David

In regards to.Narrabri Stage 3 ACHA the concerning issue is cultural values assessment where majority of Raps were disregarded for inclusion..Ethically and morally, all Raps should have been included in the Field assessment prior to Christmas 2019. Please consider request for field assessment to occur for Cultural values purposes only.

Look forward to your response David.

Regards

Aaron Talbott Muki Namae Two Rivers Aboriginal Corporation 13 Hunter Street Gunnedah NSW 2380

M 0457 601 685

On Wed, 6 May 2020, 11:46 am David Ellwood, < <u>DEllwood@whitehavencoal.com.au</u>> wrote:

All – outlook meeting invite for the Narrabri Underground Mine Stage 3 Extension Project ACHA information Session.

Access details are:



96 Barwan Street

Aboriginal Land Cou

Phone: (02) 6792 4228Mobile: 0439 924222

NARRABRI NSW 2390 Email: ceo@narrabrilalc.com.au ABN: 76 035 946 562

E-mail: admin@narrabrilalc.com.au

Narrabri Coal Mine 10 Kurrajong Creek Road Baan Baa NSW 2390

22nd May 2020

ATTENTION: David Ellwood

Re: Narrabri Underground Mine Stage 3 Extension

After reading report from Dr Matthew Whincop for the Stage 3 Extension, and being a RAP for this project Narrabri Local Aboriginal Land Council would like to make comments.

Narrabri Local Aboriginal Land Council agrees with responses from RAPS who were unable to be on site. The Aboriginal Cultural Heritage values within the subject area are also to be in line with the current Narrabri Mine Aboriginal Cultural Heritage Management Plan (2016).

Recommendations: Ways to avoid potential or minimise potential harm to Aboriginal Objects.

- Full focus is to be on the protection of existing sites recorded on AHIMS and new recordings.
- Ensure proper fencing is established around Cultural significant areas with signage, not a string of wire placed there as we have seen previous areas where areas have been destroyed.
- Fencing will be essential with the Grinding Curves that are within the area.
- Avoidance of all Aboriginal cultural heritages sites should be a must.
- Salvage should only ever be the last resort, eg: if there is the possibility of shaft caving in.
- Investigation of all units prior to any surface disturbances in the vicinity of identified grooves.
- Review existing geological data prior to making any plans for the prescribed works.
- No work permits should be prescribed for any creeks or other water areas, as these are big part of Culture

There is more that has not been read so there may be further comments. If you require any further information please contact me on the above number.

Thanking you

Lynn Trindall

Chief Executive Officer

Narrabri Local Aboriginal Land Council

From: <u>Aaron Talbott</u>
To: <u>ACHAregistration</u>

Subject: Muki Namae Two Rivers Aboriginal Corporation

Date: Monday, 29 June 2020 7:55:40 AM

Yaama David

Thankyou For your invitation. Unfortunately I can not attend today. Any information from meeting and walk over would be appreciatively accepted by Muki Namae Two Rivers Aboriginal Corporation. The battle between the Gunnedarr and Wee Waa clans was further west at the catchment of eulah creek. Mt kapatur base. No mention.of narrabri. Two clans don't fight in another clans territory. The lands Council.system is broken, outdated and corrupt.. Narrabri Lands Council is disrespectful as simple as that. Any further works we would like to be involved. Our culture is core to.us but economically we are missing out. Get it right please.

Yalu (regards)

Aaron Talbott

AT Gomilaroi CC 13 Hunter Street Gunnedah NSW 2380 ABN: 92 005 620 045 M 0457 601 685 E aaron@atgomilaroi.onmicrosoft.com

Respect to First Nations People and the Land on which we converse.

Remembrance to Ancestors Past and Action from Living and Future Generations.

This message is intended for the addressee named and may contain privileged information or confidential information or both.

Sent from Outlook Mobile

This email has been scanned for spam and viruses by Proofpoint Essentials. Click here to report this email as spam.

----Original Message-----

From: alira tufui <alira_tufui@hotmail.com> Sent: Wednesday, 1 July 2020 1:47 PM

To: Mark Vile < MVile@whitehavencoal.com.au >; David Ellwood

<<u>DEllwood@whitehavencoal.com.au</u>> Subject: Stage 3 ACHA concerns

Afternoon,

Prior to submitting the response for the Gomeroi Narrabri Aboriginal People, I wanted to express concerns after attending the RAP information session and site tour yesterday.

I have attached several photos that are dated from the 23-24 November 2017, showing images of the grinding grooves on the SE lease area. This site was recorded on a portable GPS coordinate device by myself after discovery of the site, I was also given a camera to capture images by the Environmental Superintendent Steve Farrer.

On the day this site was found I was the GNAC rep on site and there was also Grant Markham the data on operator and Cheyenne Tovehi NLALC RAP present. I'm not concerned about being identified as the person to find the site, my concerns are as follows;

1. There is a lack of compliance with current AHC management plan, this site was discovered in 2017 and nearly 3 years later in a recent ACHA survey and report drafted by Whincorp aArcheology is listed as a new finding- is there a flaw within the document control system for recording Aboriginal cultural heritage sites of significance on site?

I was assured after this finding that it would be fenced off and clear signage placed on the area back in 2017. It's concerning as an oversight such as this then raises concerns about future findings if a site can go unrecorded for nearly a 3 year period, particularly after having GPS and digital images recorded at the time of discovery.

The ACHA report findings are inaccurate in regards to this particular finding and needs be rectified, as well as the existing methods for site recording documentation process, 3 years and no evidence of prior documented recording despite the recording process being followed by the RAP site monitors at the time of discovery.

2. I also wanted to clarify the exact number of hectares that will undergo clearance and disturbance work on the SE lease area prior to discussion with Traditional Owner group board of directors.

The number discussed yesterday was either 6000 or 600 hectares, could you please advise the correct number, a big part of the local traditional owners supporting and working collaboratively in a partnership with NCO is a commitment to employment or economic development opportunities and it was stated there would be no more employment opportunities with the approval of the SE mining lease, just an extension to current life span of the mine.

Considering the significant amount of disturbance work that would take place on country, it is imperative that there would be some kind of opportunity to not just local Aboriginal community but the community as a whole, with that being employment opportunities, to which there doesn't seem to be any, aside from the opportunity for the already existing site monitor work- is there potential to engage contractors who would be undertaking the civil works to create traineeship or operator roles for aboriginal people in community?

Overall it was positive to see preemptive measures being strategically employed to allow planning in advance to allow minimal to no disturbance to aboriginal archeological sites with implemented buffer zones to planned future works.

I will forward through a response to the stage 3 ACHA assessment upon clarification regarding the raised concerns in this email.



Proposed Methodology Information Session Attendance Record

Name	Organisation
David Ellwood	Narrabri Coal Operations Pty Ltd
Bob Sutherland	Whitehaven Coal Limited
Dr Matthew Whincop	Whincop Archaeology Pty Ltd
Mark Vile	Narrabri Coal Operations Pty Ltd
David Horton	Gomery Cultural Consultants
George Sampson	Cacatua General Services
Justin D.	-
Leslie Woodbridge	-
Lynn Trindall	Narrabri Local Aboriginal Land Council
Alira Tufui	Gomeroi Narrabri Aboriginal Corporation
Jim Trindall	Gomeroi Narrabri Aboriginal Corporation
Simmone Moode	Wahgunyah (GNAC administrator)
Kate Briggs	Wahgunyah (GNAC administrator)
Michael John Long (White Cockatoo)	-
Michael Ronald Long (Junior)	-
Kerry Fernando	-

Draft ACHA Supplementary Information Session Attendance Record

Name	Organisation
David Ellwood	Narrabri Coal Operations Pty Ltd
Bob Sutherland	Whitehaven Coal Limited
Mark Vile	Narrabri Coal Operations Pty Ltd
Dr Matthew Whincop	Whincop Archaeology Pty Ltd
David Horton	Gomery Cultural Consultants
Dave Trindall	Narrabri Local Aboriginal Land Council
Patrick Sevil	Gomeroi Narrabri Aboriginal Corporation
Brent Baker	Whitehaven Coal Limited
Anna Christie	Leard Forest Research Node
Alira Tufui	Gomeroi Narrabri Aboriginal Corporation
Paul Hawkins	Hawkins Coach Lines
Edward Trindall	Narrabri Local Aboriginal Land Council
Kevjn Keating	Keatings Tours

APPENDIX 4: PROPOSED METHODOLOGY

NARRABRI UNDERGROUND MINE STAGE 3 EXTENSION PROJECT

Aboriginal Cultural Heritage Assessment (Proposed Methodology)

BACKGROUND AND KEY PROJECT INFORMATION

The aim of this methodology is to assist in preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the Narrabri Underground Mine Stage 3 Extension Project (the Project), as required under section 90 of the *NSW National Parks and Wildlife Act*, 1974. The Narrabri Mine is an existing underground coal mining operation located approximately 25 kilometres (km) south-east of Narrabri within the Narrabri Shire Council Local Government Area (LGA) (Figure 1). The existing Narrabri Mine is within the boundaries of the Narrabri Local Aboriginal Land Council in the North West region of New South Wales (NSW).

Narrabri Coal Operations Pty Ltd (NCOPL) is seeking approval for an underground extension to the south of the existing Narrabri Mine (the Project).

Whitehaven is seeking approval for the Project from the NSW Minister for Planning under the State Significant Development provisions (Division 4.1) of Part 4 of the NSW *Environmental Planning and Assessment Act*, 1979 (EP&A Act) and the NSW *Environmental Planning and Assessment Regulation*, 2000.

As the entire Project area has not been subject to previous archaeological investigations and/or assessments, the proposed methodology, ACHA and field surveys for the Project will therefore target the entirety of the Project area presented on Figure 2.

The proposed methodology for the ACHA of the Modification is outlined below. NCOPL invites Registered Aboriginal Parties (RAPs) to provide comments (either verbally or in writing) on the proposed methodology.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

With an increase in extractive activities in the Gunnedah Basin in recent years, the region has been subject to numerous Aboriginal cultural heritage surveys, assessments and management plans.

Previous investigations of the Narrabri Coal Mine area include:

- Narrabri Coal Project Aboriginal Heritage Assessment (Australian Archaeological Survey Consultants Pty Ltd, 2007).
- Narrabri Coal Mine Stage 2 Longwall Project Aboriginal Heritage Assessment (Archaeological Surveys & Reports Pty Ltd, 2009).
- Archaeological Survey, Aboriginal sites within Panels 6 and 7 (Advitech, 2012).
- Aboriginal Cultural Heritage Assessment Narrabri Mine Panel 8-13 (Advitech, 2013).
- Narrabri Mine Modification 5, Aboriginal Cultural Heritage Assessment (Niche, 2015a).
- Narrabri Mine Aboriginal Cultural Heritage Management Plan (NCOPL, 2016).
- Narrabri Mine Longwall Panel 118-120 Aboriginal Cultural Heritage Survey Report (Niche, 2018).

Previous investigations within the broader region, associated with the nearby Vickery, Boggabri, Tarrawonga and Maules Creek mines, include (but are not limited to):

- Amax Proposed Coal Mining Operation at Boggabri (Kamminga, 1978).
- Environmental Impact Statement for the Proposed Vickery Coal Mine (Thompson, 1981).
- Archaeological investigations of Areas that May be Affected by Proposed Mining for Coal in the Gunnedah area, NSW (Haglund, 1985).
- Aboriginal Cultural Heritage Assessment Report, Boggabri Coal Project (Hamm, 2005).
- Archaeological Investigation for Sites of Indigenous Cultural Significance for the Proposed East Boggabri Coal Mine (Archaeological Surveys & Reports Pty Ltd, 2005).
- Aboriginal Cultural Heritage Impact Assessment Report for the Continuation of Boggabri Coal Mine (Insite Heritage, 2010).
- Aboriginal Archaeology and Cultural Heritage Impact Assessment for the Maules Creek Coal Project. (AECOM Australia, 2010).
- Tarrawonga Coal Mine Modification Cultural Heritage Assessment (Landskape, 2010).
- Tarrawonga Coal Project Aboriginal Cultural Heritage Assessment (Kayandel 2011).
- Vickery Coal Project Environmental Impact Statement: Appendix I Aboriginal Cultural Heritage Assessment (Landskape, 2012).
- Appraisal of Scar Trees on the Rail Infrastructure Footprint for the Maules Creek Mine Project (Burns, 2013).
- Vickery Extension Project Aboriginal Cultural Heritage Assessment (Whincop Archaeology, 2018)
- Tarrawonga Life of Mine Modification Aboriginal Cultural Heritage Assessment (Whincop Archaeology, 2019)

Previously registered Aboriginal cultural heritage sites located within the vicinity of the Project area are presented on Figure 4, which includes artefact scatters, isolated finds, and a hearth site registered on the AHIMS database. The most recent search of the AHIMS database was undertaken on 22 July 2019 for the Project area with a 1 km buffer. The results of the search revealed a total of 64 entries on the AHIMS: 49 artefact scatters; 14 isolated artefacts; and 1 hearth (Appendix B: AHIMS Extensive Search Results). All 64 sites are listed as valid and are still existing (i.e. not salvaged). Although 64 sites are located within the AHIMS search area, approximately half (n=33) are located within the Project area scheduled for assessment under the ACHA (i.e. the remainder are located within the buffer area).

PRELIMINARY PREDICTIVE MODEL

A summary of the results of previous archaeological investigations indicates that Aboriginal cultural heritage places do occur in and around the Project area, which also holds implications for the potential discovery of unidentified Aboriginal cultural heritage sites.

- Aboriginal cultural heritage sites are known to exist within and around the Project area (Figure 4).
- Previous archaeological investigations have demonstrated a pattern of archaeological site distribution associated with ephemeral water sources (e.g. Kurrajong Creek) and associated drainage lines (Figure 3), and raised landforms overlooking permanent water sources.
- The archaeology of the surrounding area is characterised by diffuse artefact scatters or isolated occurrences that occur in higher densities in areas associated with reliable water sources, but which decrease with distance from the creeks.
- Other site types, such as scarred trees or grinding grooves sites are known to exist within the wider region, but to a much lesser degree.
- The Project area has been subject to various impacts over the past 100-150 years, which will have impacted upon the survival of Aboriginal cultural heritage sites. Impacts include vegetation clearance, crop production, animal pasture, road construction, mining exploration and localised mining activity. These processes have generally not occurred uniformly, and as a consequence there remains some limited potential for the presence of in situ Aboriginal cultural heritage sites within the Project area. In scientific terms, disturbed sites are generally considered to be of lower significance and to require less rigorous management measures.
- On the basis of the nature of the known archaeological record in the wider region and the landforms present in the Project area, it has been determined that the Project area retains potential to contain Aboriginal cultural heritage sites (Figure 3).

PROPOSED METHODOLOGY

The proposed methodology for the Project ACHA is as follows:

- Collate existing information on Aboriginal cultural heritage sites within the Project area and surrounds.
- Archaeological survey of the Project area by pedestrian transects, informed by an archaeological predictive model based on the results of previous archaeological investigations.
- Conduct an archaeological assessment (including an archaeological significance assessment) of any known or potential Aboriginal heritage sites identified within the Project area (which may include the use of existing information).
- A request by NCOPL to RAPs for comments regarding the cultural significance of Aboriginal heritage sites and/or areas within the Project area.

- In consultation with the RAPs, identification of recommended management and mitigation measures for Aboriginal heritage sites/areas within the Project area.
- Provide a copy of the draft ACHA to the RAPs for their review and feedback.
- Documentation of feedback received as part of the cultural assessment from RAPs for presentation in the final ACHA report (subject to the sensitivity of the information provided).

In accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW Department of Environment, Climate Change and Water, 2010), NCOPL requests that RAPs provide, where relevant during the conduct of the ACHA, cultural information regarding:

- whether there are any Aboriginal sites/objects of cultural value to Aboriginal people in the Project area or surrounds; and
- whether there are any places of cultural value to Aboriginal people in the Project area or surrounds.
 This may include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

SENSITIVE CULTURAL INFORMATION – MANAGEMENT PROTOCOL

In the event that a RAP has sensitive or restricted public access information, it is proposed that NCOPL would manage this information (if provided by the Aboriginal community) in accordance with a sensitive cultural information management protocol. It is anticipated that the protocol would include making note of and managing the material in accordance with the following key limitations/requirements as advised by the relevant RAP at the time of the information being provided:

- any restrictions on access to the material;
- any restrictions on communication of the material;
- any restrictions on the location/storage of the material;
- any cultural recommendations on handling the material;
- any contextual information;
- any names and contact details of persons authorised by the relevant RAP to make decisions concerning the Aboriginal material and the degree of authorisation;
- any details of any consent given in accordance with customary law;
- the level of confidentiality to be accorded to the material; and
- any access and use by the RAPs of the cultural information in the material.

All RAPs should be aware of the mandatory NSW Office of Environment and Heritage requirement that all feedback provided must be documented in the final ACHA report, including copies of any submissions received and the proponent's response to the issues raised.

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

Following consultation on the proposed methodology and the undertaking of any required field components, a draft ACHA report will be prepared. The draft ACHA will be provided to RAPs for comment and will include:

- details of the sites/objects and/or places and their precise locations within the Project area and an assessment of potential impacts from the Project;
- detailed records of the consultation conducted with RAPs and how any comments received throughout the assessment process were considered; and
- management and mitigation recommendations drawing on information provided by RAPs and the results of the ACHA.

CRITICAL TIMELINES

Critical timelines for the Project ACHA are outlined below:

1. Collation of culturally significant information: Ongoing throughout process until end of draft

ACHA review period.

Information session
 22 October 2019

3. Comments on proposed methodology: Due 31 October 2019

4. Field survey: Commencing 31 October 2019

5. Provision of draft ACHA (including proposed

management and mitigation measures) to

RAPs for review and comment:

February 2020

6. RAP comments on draft ACHA: March 2020

7. Final ACHA incorporating RAP comments: End March 2020

REFERENCES

- Advitech Pty Ltd. 2012. Archaeological Survey, Aboriginal sites within Panels 6 and 7.
- Advitech Pty Ltd. 2012a. Archaeological Survey Report, Site 'Pine Creek T1/AGG 1'.
- Advitech Pty Ltd. 2013. Aboriginal Cultural Heritage Assessment Narrabri Mine Panel 8 13.
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- Archaeological Surveys & Reports Pty Ltd. 2005. Archaeological Investigation for Sites of Indigenous Cultural Significance for the Proposed East Boggabri Coal Mine.
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- Kayandel Archaeological Services. 2011. *Tarrawonga Coal Project Aboriginal Cultural Heritage Assessment.*
- Landskape. 2010. Tarrawonga Coal Mine Modification Cultural Heritage Assessment.
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- Narrabri Coal Operations Pty Ltd. 2016. Aboriginal Cultural Heritage Management Plan.
- Niche. 2015. Narrabri Mine Verification of newly identified Aboriginal Cultural Heritage Objects.
- Niche. 2015a. Narrabri Mine Modification 5, Aboriginal Cultural Heritage Assessment.
- R. W. Corkery and Co Pty Ltd. 2008. *Preliminary Environmental Assessment Narrabri Coal Mine Stage 2 Longwall Proposal.*
- Thompson, P. 1981. Environmental Impact Statement for the proposed Vickery Coal Mine Project.
- Whincop Archaeology. 2018. Vickery Extension Project Aboriginal Cultural Heritage Historic Assessment.

Whincop Archaeology. 2019. Tarrawonga Life of Mine Modification Aboriginal Cultural Heritage Assessment.

RELEVANT LEGISLATIVE FRAMEWORKS AND GOVERNMENT GUIDELINES

- Australia International Council on Monuments and Sites. 2013. The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance.
- Department of Environment, Climate Change and Water. 2010. *Aboriginal cultural heritage consultation requirements for proponents*.
- NSW National Parks and Wildlife Act 1974.
- NSW Office of Environment and Heritage. 2010. Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.
- NSW Office of Environment and Heritage. 2011. *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.*

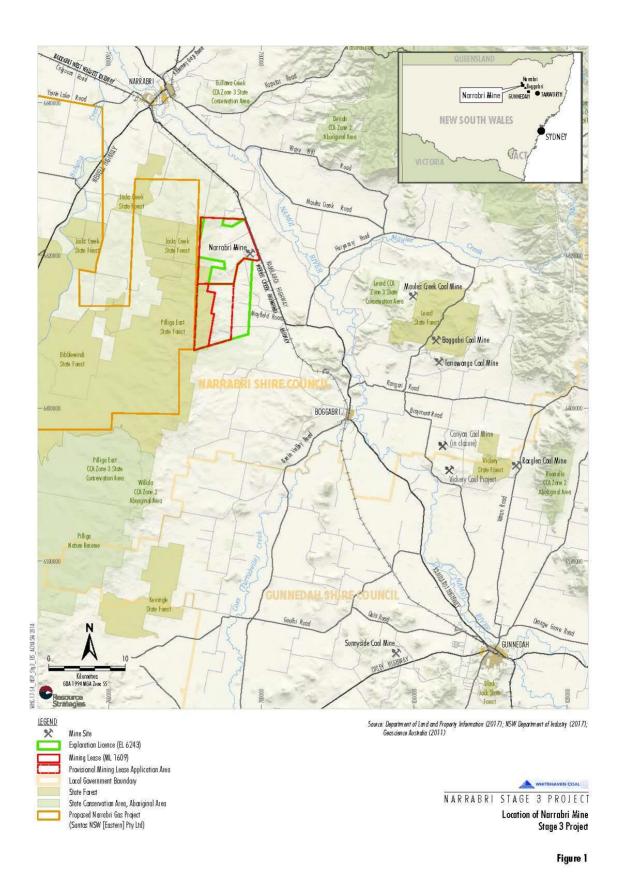


Figure 1: Location of the Project

8 of 11

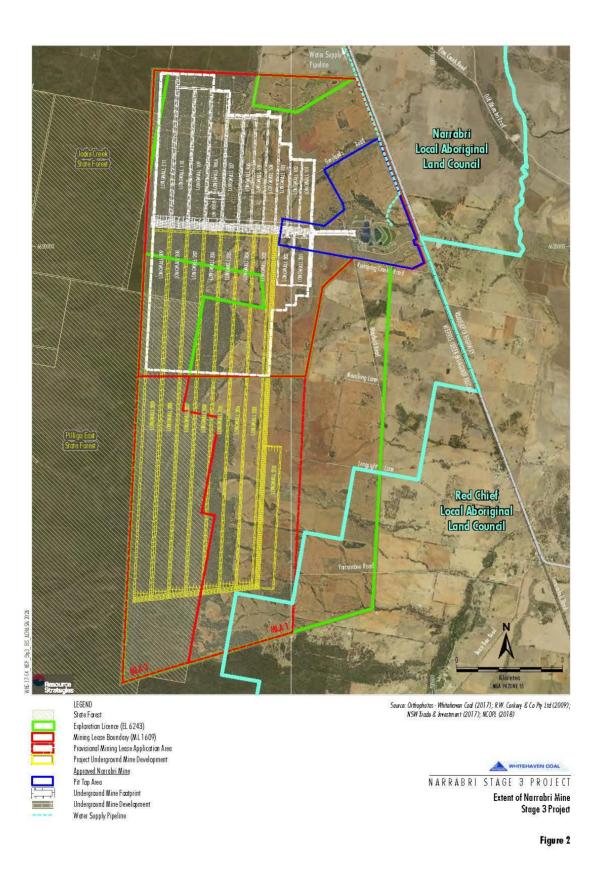


Figure 2: Extent of the Project

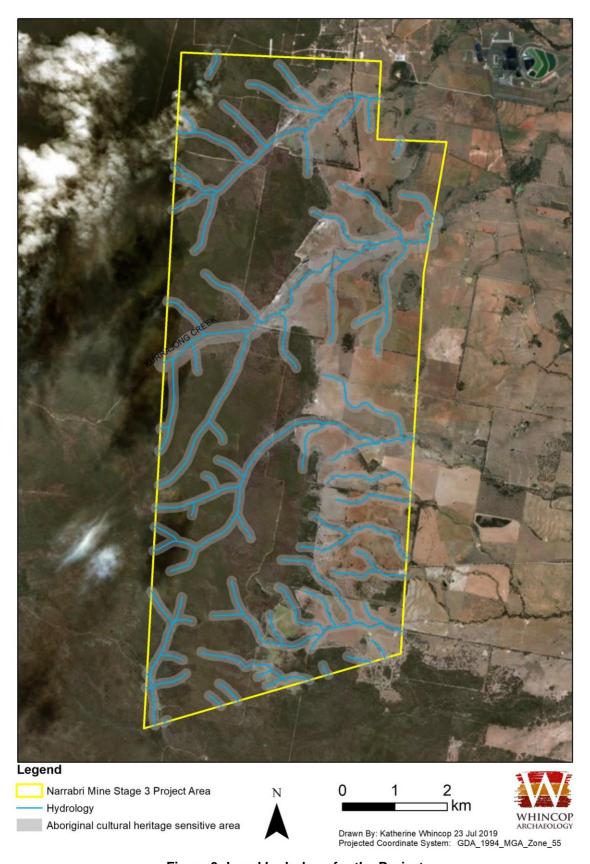


Figure 3: Local hydrology for the Project

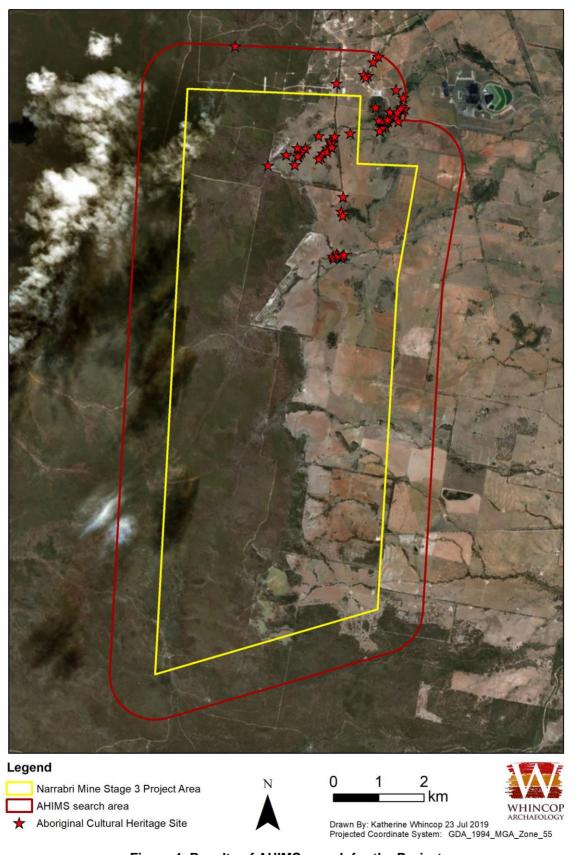


Figure 4: Results of AHIMS search for the Project

APPENDIX 5: AHIMS SEARCHES



AHIMS Web Services (AWS) Search Result

Purchase Order/Reference: WhinArch_076a

Client Service ID: 436581

Date: 22 July 2019

Whincop Archaeology Pty Ltd

11 Sowden Street

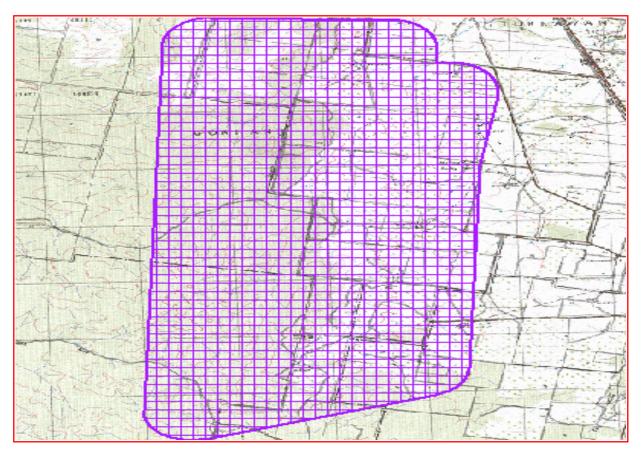
Tarragindi Queensland 4121 Attention: Matthew Whincop

Email: matt@whincoparchaeology.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Search using shape-file AHIMS search area. SHP with a buffer of 0 meters. Additional Info: Preparing a methodology for ACHA, conducted by Matthew Whincop on 22 July 2019.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

64 Aboriginal sites are recorded in or near the above location.

0 Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it.
 Aboriginal places gazetted after 2001 are available on the NSW Government Gazette
 (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are
 recorded as grid references and it is important to note that there may be errors or omissions in these
 recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.

ABN 30 841 387 271

Email: ahims@environment.nsw.gov.au

Web: www.environment.nsw.gov.au

• This search can form part of your due diligence and remains valid for 12 months.



Extensive search - Site list report

Your Ref/PO Number: WhinArch_076a

Client Service ID: 436581

<u>SiteID</u>	SiteName	<u>Datum</u>	Zone	Easting	Northing	Context	Site Status	<u>SiteFeatures</u>	<u>SiteTypes</u>	Reports
9-6-0085	Pine Creek T1/OS 18	GDA	55	776010	6621200	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.]	ohn Appletor	1			Permit	2	
19-6-0086	Pine Creek T1/ISO 9	GDA	55	775900	6621080	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
19-6-0087	Pine Creek T1/ISO 10	GDA	55	775780	6620780	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0088	PIne Creek T1/OS 19	GDA	55	775690	6620800	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0089	Pine Creek T1/OS 20	GDA	55	775730	6620740	Open site	Valid	Artefact: 3		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
19-6-0093	PIne Creek T1/FP1	GDA	55	775080	6620610	Open site	Valid	Hearth : -		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0095	Kurrajong T1/OS 55	GDA	55	776560	6620006	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0096	Kurrajong T1/OS 56	GDA	55	776590	6620043	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0098	Kurrajong T1/OS 58	GDA	55	776558	6620297	Open site	Valid	Artefact : 4		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0100	Kurrajong T1/OS 60	GDA	55	776400	6620467	Open site	Valid	Artefact : 4		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	1			<u>Permit</u>	2	
9-6-0101	Kurrajong T1/OS 61	GDA	55	776529	6620088	Open site	Valid	Artefact : 7		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0102	Kurrajong T1/OS 62	GDA	55	776503	6620048	Open site	Valid	Artefact: 3		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	1			<u>Permit</u>	2	
9-6-0103	Kurrajong T1/ISO 64	GDA	55	776419	6619946	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
19-6-0104	Kurrajong T1/OS 65	GDA	55	776354	6619896	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	ı			<u>Permit</u>	<u>s</u>	
9-6-0105	Kurrajong T1/OS 66	GDA	55	776046	6619560	Open site	Valid	Artefact : 4		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	ı			<u>Permit</u>	<u>s</u>	
9-6-0106	Kurrajong T1/OS 67	GDA	55	776269	6619975	Open site	Valid	Artefact : 2		
	<u>Contact</u>	Recorders	s Mr.J	ohn Appletor	1			<u>Permit</u>	<u>s</u>	
9-6-0107	Kurrajong T1/ISO 68	GDA	55	775946	6620079	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	1			<u>Permit</u>	<u>s</u>	

Report generated by AHIMS Web Service on 22/07/2019 for Matthew Whincop for the following area at Search using shape-file AHIMS search area. SHP with a buffer of 0 meters. Additional Info: Preparing a methodology for ACHA. Number of Aboriginal sites and Aboriginal objects found is 64

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



Extensive search - Site list report

Your Ref/PO Number: WhinArch_076a

Client Service ID: 436581

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
19-6-0108	Kurrajong T1/OS 69	GDA		776353	6619843	Open site	Valid	Artefact : 3		
	Contact	Recorders	Mr.Io	hn Appleton				Permits		
19-6-0109	Kurrajong T1/OS 70	GDA		776393	6619862	Open site	Valid	Artefact : 4		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0110	Kurrajong T1/OS 71	GDA		776453	6619769	Open site	Valid	Artefact : 2		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0111	Kurrajong T1/OS 72	GDA		776174	6619651	Open site	Valid	Artefact : 9		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0112	Kurrajong T1/ISO 73	GDA	55	776111	6619633	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0113	Kurrajong T1/OS 74	GDA	55	776035	6619560	Open site	Valid	Artefact : 2		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0114	Kurrajong T1/OS 75	GDA	55	776054	6619757	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0115	Kurrajong T1/OS 76	GDA	55	776129	6619772	Open site	Valid	Artefact : 2		
	<u>Contact</u>	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0116	Kurrajong T1/ISO 77	GDA	55	776069	6619787	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0117	Kurrajong T1/OS 78	GDA	55	776021	6619792	Open site	Valid	Artefact : 3		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0118	Kurrajong T1/ISO 79	GDA	55	776219	6619775	Open site	Valid	Artefact : 1		
	<u>Contact</u>	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0119	Kurrajong T1/OS 80	GDA	55	776210	6619810	Open site	Valid	Artefact : 5		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0120	Kurrajong T1/ISO 81	GDA	55	774687	6619444	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0121	Kurrajong T1/OS 82	GDA	55	774400	6619174	Open site	Valid	Artefact : 9		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
19-6-0122	Kurrajong T1/OS 83	GDA	55	774312	6619099	Open site	Valid	Artefact : 7		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		
9-6-0123	Kurrajong T1/OS 84	GDA	55	774282	6619053	Open site	Valid	Artefact : 5		
	Contact	Recorders		hn Appleton				<u>Permits</u>		
9-6-0124	Kurrajong T1/OS 85	GDA	55	774250	6619003	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.Jo	hn Appleton				<u>Permits</u>		

Report generated by AHIMS Web Service on 22/07/2019 for Matthew Whincop for the following area at Search using shape-file AHIMS search area. SHP with a buffer of 0 meters. Additional Info: Preparing a methodology for ACHA. Number of Aboriginal sites and Aboriginal objects found is 64

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Extensive search - Site list report

Your Ref/PO Number: WhinArch_076a

Client Service ID: 436581

<u>SiteID</u>	SiteName	<u>Datum</u>	Zone	Easting	Northing	Context	Site Status	<u>SiteFeatures</u>	<u>SiteTypes</u>	Reports
9-6-0125	Kurrajong T1/OS 86	GDA	55	774230	6618998	Open site	Valid	Artefact: 2		
	Contact	Recorders	<u>s</u> Mr.]	ohn Appletor				Permits	i	
19-6-0126	Kurrajong T1/ISO 87	GDA	55	774166	6618811	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor				<u>Permits</u>		
9-6-0127	Kurrajong T1/OS 88	GDA	55	773570	6618800	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor				<u>Permits</u>	į	
9-6-0128	Kurrajong T1/ISO 89	GDA	55	773971	6619030	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor				<u>Permits</u>	i	
9-6-0129	Kurrajong T1/OS 90	GDA	55	774221	6619181	Open site	Valid	Artefact : 5		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor				<u>Permits</u>	İ	
19-6-0130	Kurrajong T1/OS 91	GDA	55	774975	6619298	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor				<u>Permits</u>	i	
9-6-0131	Kurrajong T1/ISO 92	GDA	55	774954	6619212	Open site	Valid	Artefact : 1		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor				<u>Permits</u>	I	
9-6-0132	Kurrajong T1/OS 93	GDA	55	774958	6619354	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor				<u>Permits</u>		
9-6-0133	Kurrajong T1/OS 94	GDA	55	774955	6619330	Open site	Valid	Artefact : 6		
	Contact	Recorders	<u>s</u> Mr.J	ohn Appletor	l			<u>Permits</u>	1	
9-6-0134	Kurrajong T1/OS 95	GDA	55	774977	6619291	Open site	Valid	Artefact : 7		
	Contact	Recorders	s Mr.J	ohn Appleton	ı			<u>Permits</u>		
9-6-0135	Kurrajong T1/OS 96	GDA	55	774877	6619178	Open site	Valid	Artefact: 3		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	Į.			<u>Permits</u>		
9-6-0136	Kurrajong T1/ISO 97	GDA	55	774783	6619064	Open site	Valid	Artefact : 1		
	Contact	Recorders	s Mr.J	ohn Appletor	l			Permit:		
9-6-0137	Kurrajong T1/OS 98	GDA	55	774742	6618977	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor	l			<u>Permits</u>	i	
9-6-0138	Kurrajong T1/OS 99	GDA	55	774697	6618941	Open site	Valid	Artefact : 2		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appleton	l			<u>Permits</u>		
9-6-0139	Kurrajong T1/OS 100	GDA	55	774878	6619099	Open site	Valid	Artefact : 4		
	<u>Contact</u>	Recorders	<u>s</u> Mr.)	ohn Appletor	l			<u>Permits</u>	i	
9-6-0140	Kurrajong T1/ISO 101	GDA	55	774980	6619194	Open site	Valid	Artefact : 1		
	Contact	Recorders	s Mr.J	ohn Appleton				<u>Permits</u>		
9-6-0141	Kurrajong T1/OS 102	GDA	55	775044	6619434	Open site	Valid	Artefact: 3		
	Contact	Recorders	<u>s</u> Mr.)	ohn Appletor				<u>Permits</u>	i	

Report generated by AHIMS Web Service on 22/07/2019 for Matthew Whincop for the following area at Search using shape-file AHIMS search area. SHP with a buffer of 0 meters. Additional Info: Preparing a methodology for ACHA. Number of Aboriginal sites and Aboriginal objects found is 64

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Extensive search - Site list report

Your Ref/PO Number: WhinArch_076a

Client Service ID: 436581

<u>SiteID</u>	SiteName	<u>Datum</u>	Zone	Easting	Northing	Context	Site Status	<u>SiteFeatures</u>	<u>SiteTypes</u>	Reports
19-6-0142	Kurrajong CR/OS 103	GDA	55	775195	6617782	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.J	ohn Appleton				<u>Permits</u>		
19-6-0143	Kurrajong CR/OS 104	GDA	55	775220	6617682	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.J	ohn Appleton				<u>Permits</u>		
19-6-0144	Kurrajong CR/OS 105	GDA	55	775233	6618102	Open site	Valid	Artefact: 2		
	Contact	Recorders	Mr.J	ohn Appleton				<u>Permits</u>		
19-6-0145	Kurrajong CR/OS 106	GDA	55	775007	6616792	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0146	Kurrajong CR/OS 107	GDA	55	775020	6616744	Open site	Valid	Artefact: 34		
	<u>Contact</u>	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0147	Kurrajong CR/OS 108	GDA	55	775185	6616760	Open site	Valid	Artefact : 12		
	Contact	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0148	Kurrajong CR/OS 109	GDA	55	775089	6616834	Open site	Valid	Artefact : 4		
	Contact	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0149	Kurrajong CR/OS 110	GDA	55	775119	6616801	Open site	Valid	Artefact: 3		
	Contact	Recorders	Mr.J	ohn Appleton	Į.			<u>Permits</u>		
19-6-0150	Kurrajong CR/OS 111	GDA	55	775217	6616803	Open site	Valid	Artefact: 36		
	Contact	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0151	Kurrajong CR/OS 112	GDA	55	775248	6616821	Open site	Valid	Artefact: 50		
	Contact	Recorders	Mr.J	ohn Appleton	l			<u>Permits</u>		
19-6-0161	Kurrajong T1/OS 63	GDA	55	776430	6619968	Open site	Valid	Artefact : 7		
	Contact	Recorders	Mr.J	ohn Appleton	ı			<u>Permits</u>		
19-6-0166	Pine Creek T3 ISO 131	GDA	55	772841	6621434	Open site	Valid	Artefact : -		
	Contact	Recorders				e,Mr.Balazs Hansel		<u>Permits</u>		
36-3-3319	Kurrajong T1 OS 136	GDA	55	775391	6619507	Open site	Valid	Artefact : -		
	Contact	Recorders	Nich	e Environme	nt and Heritag	e,Niche Environmen	t and Heritage,Mr.	Balazs Hanse Permits		





Aboriginal Site Recording Form

AHIMS Registrar PO Box 1967, Hurstville 2220 NSW

AHIMS site II	1 9-6-0180]	Date recorded:	13-12-2019		
Site Location	n Information	1					
Site name:	Mayfield IA8	•					
Easting: 7	76106	Northing:	6616942	Coordinates must b	e in GDA (MGA)		
.			0010342		,		
Horizontal A	ccuracy (m):	5					
Zone: 55		Location method:	Non-Differentia	GPS			
	Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surn	ame		First name			
Dr. Whine		a ala any Dhy I tal	Matthey	<u>V</u>			
Organisation:	Whincop Archae	ue Holland Park QLI	7.4121				
Address:	99 Murton Aven	ue Holland Park QLI	J 4 1 2 1				
Phone: 04070)38584	E-mail: matt@wh	nincoparchaeology.c	om.au			
Site Context	Information						
Land Form Pattern:	Undulating Plair	1	Land Use:	Pastoral/Grazing			
Land Form Unit:	Stream Channe	l	Vegetation:	Cleared			
Distance to Water (m):		rimary eport:					
How to get to the site:							
Other site information:	None						

Site location map NW Ν NE Ν Е W 10 ⊐ km 5

Site Name ★ Mayfield IA8

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
	openiologica site:	Scarred Trees
Features:	Number of Length of Width	Of Coar Donth Degrouth
. outur oo:	Number of feature(s) features extent (m) exten	re (s) (cm) Scar shape Tree Species
1. Artefact	1 10 10	
Description: Chert flake fragment identified.		
Description: Chert flake fragment identified.		Scarred Trees
	Number of Length of Width feature(s) features	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Chert flake fragment identified.	Number of Length of Width features extent (m) exten	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Chert flake fragment identified. Features:	features (6) icatur	Scarred Trees of Scar Depth Regrowth (cm) Scar shape Tree Species
Chert flake fragment identified. Features: 2.	features (6) icatur	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

Site plan



Site photographs Chert flake fragment Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar PO Box 1967, Hurstville 2220 NSW

AHIMS site ID): 19-6-0181				Date recorded:	13-12-2019	
Site Location	Information	1					
Easting: 7	76022		Northing:	6616822	Coordinates must	be in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5					
Zone: 55		Locatio	n method:	Non-Differentia	II GPS		
Recorder Info		and submiss	sion of this forn	n)			
Title	Surna	ame			First name		
Dr. Whind Organisation:	Whincop Archae	eology Ptv	/ I td	Matthe	W		
Address:	99 Murton Aven			4121			
Phone: 04070	38584	E-mail:	matt@whi	incoparchaeology.o	com.au		
Site Context	Information						
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channel	l		Vegetation:	Cleared		
Distance to Water (m):		rimary eport:					
How to get to the site:							
Other site information:	None						

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

* Mayfield IA7

SW

Narrabri Stage 3 Investigation Area

WHINCOP

SE

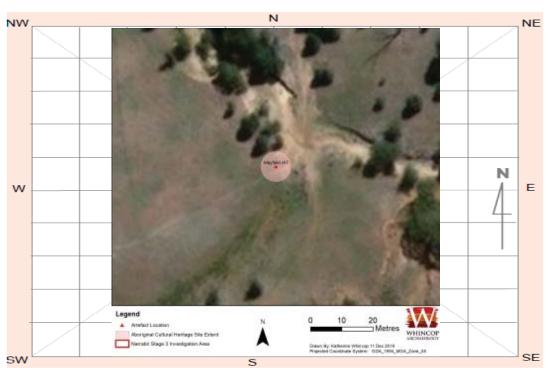
Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) features extent (m) Width	e (s) (cm) (cm) Scar shape Tree Species
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width features extent (m)	of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	extent (m) extent	
Description:		

S

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	

Site plan



Site photographs Chert proximal flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site I	1 9-6-0182			Date recorded:	13-12-2019	
Site Location	Information	l				
Site name:	Mayfield IA6					
Easting: 7	76000	Northing:	6616959	Coordinates must be	e in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location method:	Non-Differential GPS	5		
Recorder Info		and submission of this form)			
Title	Surna	ame		First name		
Dr. Whind	сор		Matthew			
Organisation:	Whincop Archae	ology Pty Ltd				
Address:	99 Murton Avenu	ue Holland Park QLD	4121			
Phone: 04070	038584	E-mail: matt@whir	ncoparchaeology.com.a	ıu		
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use: Pas	toral/Grazing		
Land Form Unit:	Stream Channel		Vegetation: Clea	ared		
Distance to Water (m):		imary eport:				
How to get to the site: Other site	Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located on Kurrajong Creek within central section of Mayfield property. None					
information:						

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

★ Mayfield IA6

SW

Narrabri Stage 3 Investigation Area

WHINCOP

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Width of width of feature (s) feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature(s)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	extent (m) extent (m	
Description:		

S

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Length of Width of feature (s) feature (s) (cm) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

Site plan



Site photographs Mayfield IA6 looking south Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar PO Box 1967, Hurstville 2220 NSW

AHIMS site I	19-6-0183				Date recorded:	13-12-2019
Site Location Information Site name: Mayfield IA5						
Easting: 7	75765		Northing:	6616937	Coordinates must l	be in GDA (MGA)
Horizontal Ac	ccuracy (m):	5 Location	on method:	Non-Differentia	al GPS	
Recorder Information (The person responsible for the completion and submission of this form)						
Title Dr. Whind	Surn	ame		Matthe	First name	
Organisation:	Whincop Archae	eology Pt	y Ltd			
Address:	99 Murton Aven	ue Hollar	nd Park QLD	4121		
Phone: 04070	38584	E-mail:	matt@whi	incoparchaeology.	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channel		Vegetation	Cleared		
Distance to Water (m):		rimary eport:				
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located on Kurrajong Creek within central section of Mayfield property.						
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

★ Mayfield IA5

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) Heature (s) feature (s) extent (m) Width of feature (s) feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature(s) feature (sextent (m) extent (m)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	extent (m) extent (m	
Description:		

S

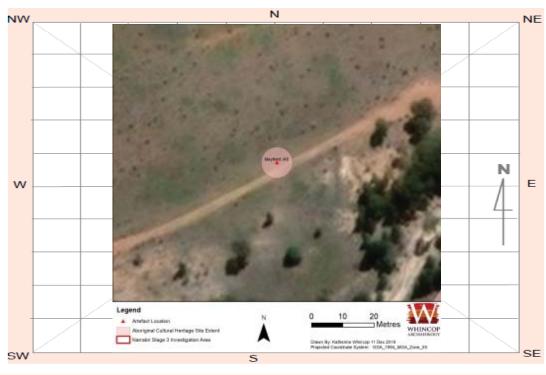
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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

	Scarred Trees
Features:	Number of features Length of width of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of features Length of width of feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species Scar
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature(s) feature(s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	

Site plan



Site photographs Mayfield IA5 looking west Silcrete distal flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site II): 19-6-0184			Date recorded:	13-12-2019
Site Location Information Site name: Mayfield IA4					
	774562 Northing: 6616300 Coordinates must be in GDA (MGA)				e in GDA (MGA)
Horizontal A	ccuracy (m):	5		-	
Zone: 55		Location method:	Non-Differential GPS	8	
Recorder Information (The person responsible for the completion and submission of this form)					
Title	Surna	ame		First name	
Dr. Whind			Matthew		
Organisation:	Whincop Archae	eology Pty Ltd ————— ue Holland Park QLD	4121		
Address:			4121		
Phone: 04070)38584	E-mail: matt@whi	ncoparchaeology.com.a	u	
Cita Cantavt	lu fa uma ati a u				
Land Form	text Information orm				
Pattern:	Undulating Plain Land Use: Pastoral/Grazing				
Land Form Unit:	Stream Channel		Vegetation: Clea	ared	
Distance to Water (m):		imary eport:			
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located within the southwest corner of the Mayfield property adjacent to Merrilong boundary.					
Other site information:	None				

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

★ Mayfield IA4

SW

Narrabri Stage 3 Investigation Area

WHINCOP

SE

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) Heature (s) feature (s) extent (m) Width of feature (s) feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature (s)	Scar Depth Regrowth) (cm) (cm) Scar shape Tree Species
2.	extent (m) extent (m	
Description:		

S

<u> </u>	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Length of Width of feature (s) feature (s) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) Length of feature(s) feature(s) feature(m) Extent (m) Extent (m) Scar Depth Regrowth (cm) Scar Shape Tree Species
5.	
Description:	
Other Site None	
Info:	



Site photographs Mayfield IA4 looking west Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site ID	19-6-0185				Date recorded:	13-12-2019
Site Location		1				
Site fiame.	Mayfield IA3					
Easting: 7	74521		Northing:	6616263	Coordinates must	be in GDA (MGA)
Horizontal Ac	ccuracy (m):	5				
Zone: 55		Locatio	on method:	Non-Differenti	al GPS	
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna	ame			First name	
Dr. Whind		l Dt	1 4 4	Matthe	9W	
Organisation:	Whincop Archae			1101		
Address:	99 Murton Aven	ue Hollar	10 Park QLD	74121		
Phone: 04070	38584	E-mail:	matt@wh	incoparchaeology	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channel			Vegetation	: Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located within the southwest corner of the Mayfield property adjacent to Merrilong boundary.						
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊐ km 5

Site Name ★ Mayfield IA3

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) feature (s) extent (m) extent (m	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of feature(s) feature (s) extent (m) extent (m)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	CACIT (III) EXTERIT (III	
2.		
Description:		

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WHINCOP

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Mayfield IA3 looking west Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site ID	1 9-6-0186				Date recorded:	13-12-2019	
Site Location		1					
Oite name.	Mayfield IA2						
Easting: 7	74346		Northing:	6616392	Coordinates must	be in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5					
Zone: 55		Locatio	on method:	Non-Differentia	al GPS		
Recorder Information (The person responsible for the completion and submission of this form)							
Title Dr. Whind	Surn	ame		Matthe	First name		
Organisation:		Whincop Archaeology Pty Ltd					
Address:	99 Murton Aven			4121			
	Address.						
Site Context	Information						
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channe	l		Vegetation	Cleared		
Distance to Water (m):		rimary eport:					
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located within the southwest corner of the Mayfield property adjacent to Merrilong boundary.							
Other site information:	None						

WHINCOP

SE

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

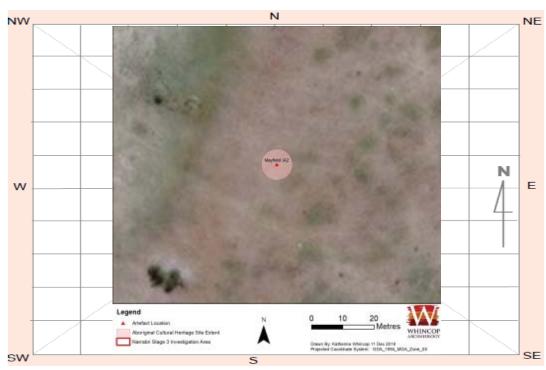
★ Mayfield IA2

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	features feature(s) feature	fidth of ature (s) (cm) Scar Depth Regrowth (cm) Scar shape Tree Species
1. Artefact	1 10 10	10
Description:		
Chert flake identified.		
Chert flake identified.		Scarred Trees
Chert flake identified. Features:	features feature(s) fea	Scarred Trees fidth of ature (s) (cm) (cm) Scar shape Tree Species
	features feature(s) fea	Scarred Trees fidth of ature (s) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features:	features feature(s) fea	Scarred Trees fidth of ature (s) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2.	features feature(s) fea	Scarred Trees fidth of ature (s) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2.	features feature(s) fea	Scarred Trees fidth of ature (s)

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Chert flake Mayfield IA2 looking east Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site ID): 19-6-0187				Date recorded:	13-12-2019
Site Location	Information Mayfield IA1	1				
Easting: 7	74385	No.	orthing:	6615811	Coordinates must l	be in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location n	nethod:	Non-Differentia	I GPS	
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surn	ame			First name	
Dr. Whind		Matthew Vhincop Archaeology Pty Ltd				
Organisation: Address:	99 Murton Aven			4121		
	Address.					
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Flat			Vegetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located within the southwest corner of the Mayfield property.						
Other site information:	None					

Site location map N N N N E

Site Name

SW

* Mayfield IA1

Narrabri Stage 3 Investigation Area

10 ⊐ km

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

WHINCOP

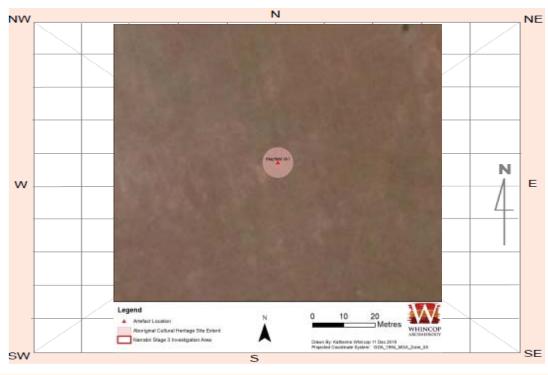
SE

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Site contents information	open/closed site: Open	Site condition: Disturbed
	openielosed site.	Scarred Trees
Features:	Number of feature(s) Feature (extent (m) Width of feature (extent (m) extent (m)	s) (cm) (cm) Scar shape Tree Species
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features features extent (m) extent (r	(cm) (cm) Scar shape Tree Species
Features: 2.	features feature(s) feature ((cm) (cm) Scar shape Tree Species
	features feature(s) feature ((cm) (cm) Scar shape Tree Species
2.	features feature(s) feature ((cm) (cm) Scar shape Tree Species

S

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Length of Width of feature (s) feature (s) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	



Site photographs Mayfield IA1 looking east Silcrete core Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I): 19-6-0188]	Date recorded:	13-12-2019		
Site Location	Information Mayfield IA9	1					
Easting: 7	76209	Northing:	6616953	Coordinates must be	e in GDA (MGA)		
Horizontal Ad	ccuracy (m):	5					
Zone: 55		Location method	Non-Differentia	I GPS			
Recorder Information (The person responsible for the completion and submission of this form)							
Title	Surn	ame		First name			
Dr. Whind		Whincop Archaeology Pty Ltd					
Organisation: Address:	·	ue Holland Park QLI	D 4121				
	038584	E-mail: matt@wh	nincoparchaeology.c	com.au			
Site Context	Information						
Land Form Pattern:	Undulating Plair	1	Land Use:	Pastoral/Grazing			
Land Form Unit:	Stream Channe	I	Vegetation:	Cleared			
Distance to Water (m):		rimary eport:					
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located on Kurrajong Creek withn central section of Mayfield property.							
Other site information:	None						

Site location map NW Ν NE Ν Е W 10 ⊐ km 5

Site Name ★ Mayfield IA9

SW

Narrabri Stage 3 Investigation Area

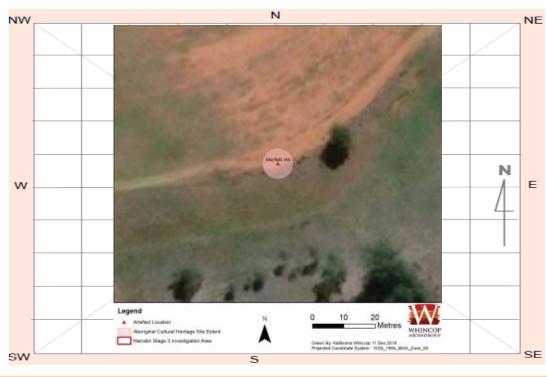
Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) feature (s) extent (m) extent (m	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of feature(s) feature (s) extent (m) extent (m)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	CACIT (III) EXTERIT (III	
2.		
Description:		

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Mayfield IA9 looking east Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site II): 19-6-0189			Date recorded:	13-12-2019	
Site Location	n Information Mayfield IA10	1				
Easting: 7	76579	Northing:	6617467	Coordinates must be	e in GDA (MGA)	
Horizontal A	ccuracy (m):	5				
Zone: 55		Location method:	Non-Differential GPS	3		
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna			First name		
Dr. Whind		.l Dt. I t.l	Matthew			
Organisation:	Whincop Archae	eology Pty Ltd ————————ue Holland Park QLD	4121			
Address: 99 Murton Avenue Holland Park QLD 4121 Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information					
Land Form Pattern:	Undulating Plair	1	Land Use: Pas	toral/Grazing		
Land Form Unit:	Stream Channel		Vegetation: Clea	ared		
Distance to Water (m):		rimary eport:				
How to get to the site:	How to get Access to be arranged via Whitehaven / Narrabri Coal Operations; site					
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

WHINCOP

SE

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

★ Mayfield IA10

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Width of width of feature (s) feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature(s)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	extent (m) extent (m	
Description:		

S

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Mayfield IA10 looking southwest Silcrete flake Description: Description: Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site IE): 19-6-0190				Date recorded:	13-12-2019
Site Location	Information Mayfield IA11	1				
Easting: 7	76365		Northing:	6617307	Coordinates must	be in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location	n method:	Non-Differentia	I GPS	
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna	ame			First name	
Dr. Whind Organisation:	Whincop Archae	ology Pty	l td	Matthe	W	
Address:	99 Murton Aven			4121		
	38584	E-mail: [matt@whi	ncoparchaeology.c	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channel			Vegetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:	How to get Access to be arranged via Whitehaven / Narrabri Coal Operations; site					
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊒ km 5 Site Name

WHINCOP

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

★ Mayfield (A11

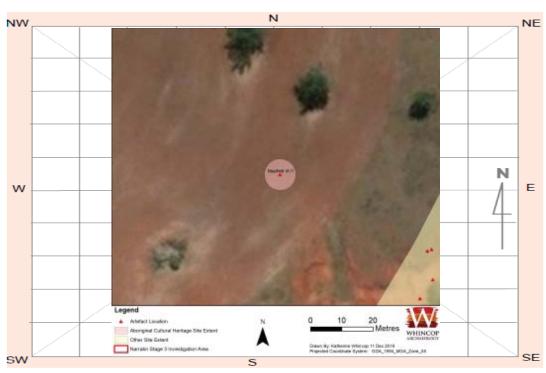
SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) features Number of feature(s) feature extent (m) extent	e (s) (cm) (cm) Scar shape Tree Species
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width features feature(s) feature extent (m) extent	of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.		
Description:		

S

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

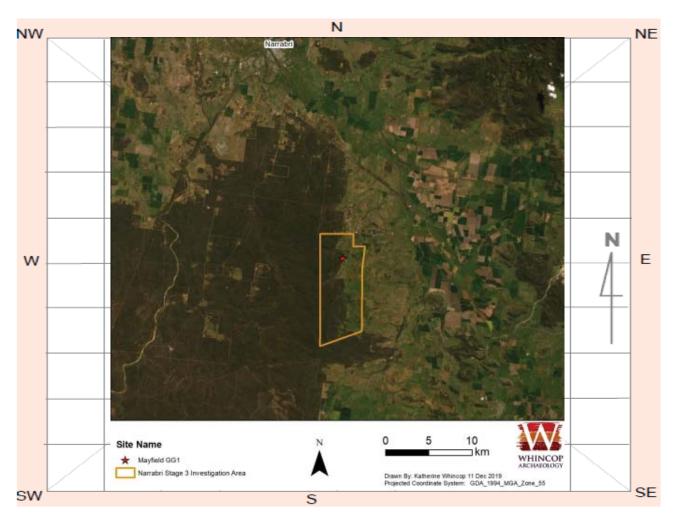


Site photographs Mayfield IA11 looking north Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



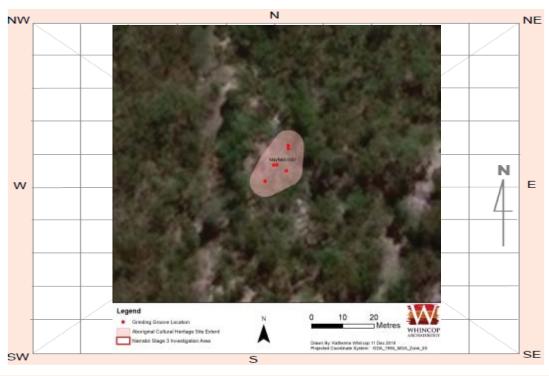
AHIMS site II	19-6-0191				Date recorded:	13-12-2019
						_
Site Location						
Site name:	Mayfield GG1					
Easting: 7	74227	Northin	9 : 66175	43	Coordinates must I	oe in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location metho	od: Non	ı-Differentia	I GPS	
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna	ame		-	First name	
Dr. Whind				Matthe	N	
Organisation:	Whincop Archae					
Address:	99 Murton Aven	ue Holland Park C	QLD 4121			
Phone: 04070	38584	E-mail: matt@	whincopare	chaeology.c	om.au	
Site Context	Information					
Land Form	I la dedatia a Diaia		L	and Use:	Da ata na MOna aina n	
Pattern:	Undulating Plair				Pastoral/Grazing	
Land Form Unit:	Stream Channel			egetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:	1	anged via Whiteh all drainage line v y.			•	
Other site information:	None					

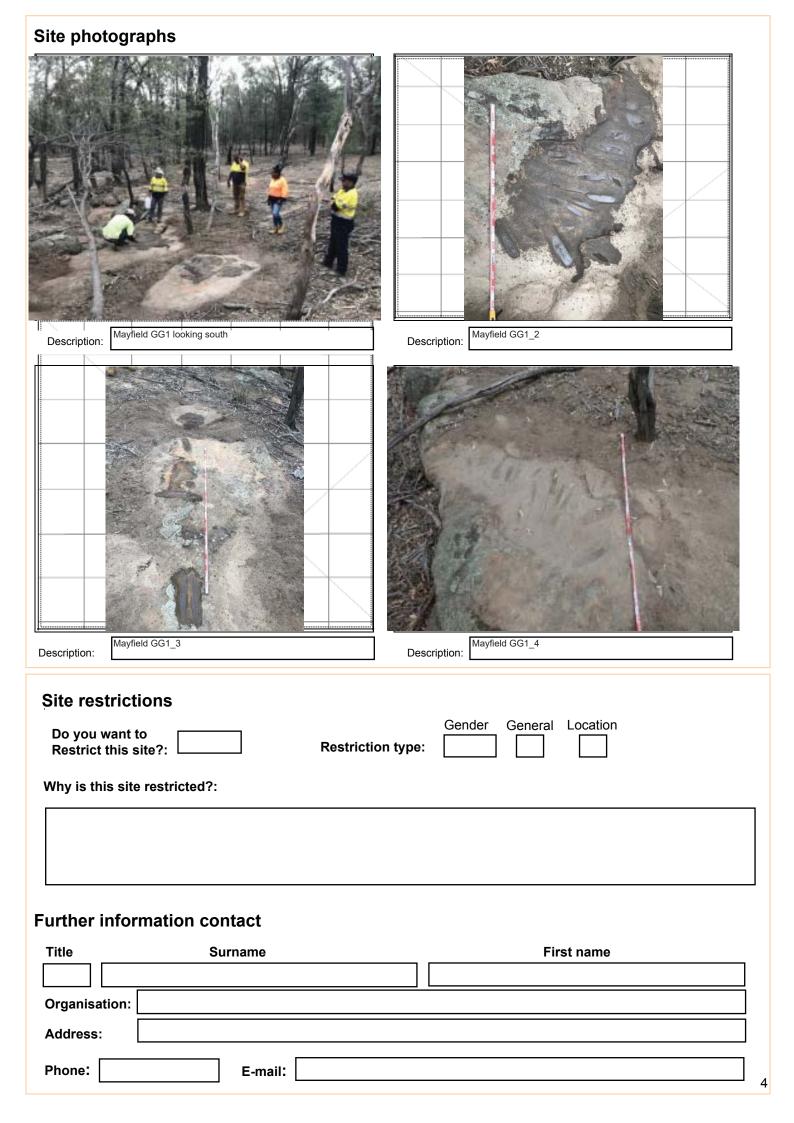
Site location map



Site contents information	open/closed site: Op	en	Site condition	
			Scarred	Irees
Features:	Number of feature(s extent (m) feature (s)	Scar Depth Regrowth (cm) (cm)	Scar shape Tree Species
1. Grinding Groove	48 23	15		
Description:				
(1-3.5cm) but all representative of axe grinding			Scarred	I Trees
Features:	Number of feature(s features extent (m) feature (s)	Scar Depth Regrowth (cm) (cm)	Scar shape Tree Species
2.				
Description:				

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

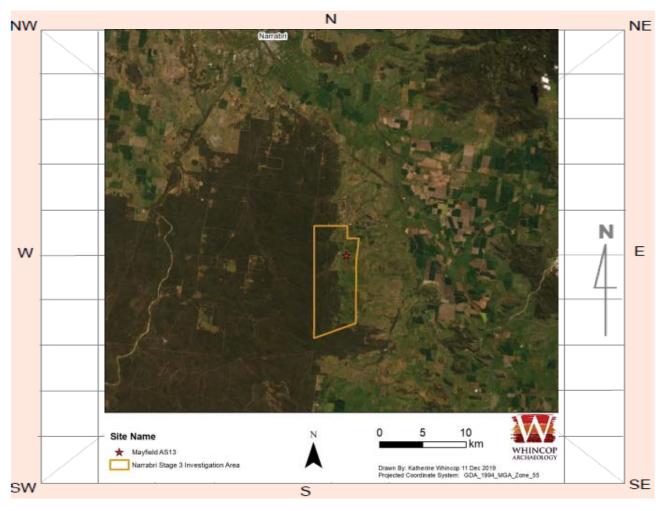






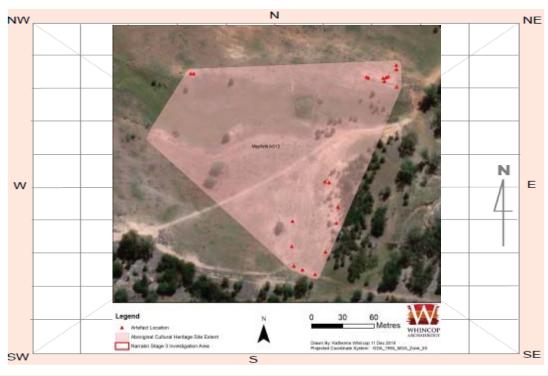
AHIMS site I	19-6-0192			Date recorded:	13-12-2019	
Site Location	Information Mayfield AS13					
Easting: 7	75312	Northing:	6616894	Coordinates must be	in GDA (MGA)	
Horizontal Ad	ccuracy (m): 5					
Zone: 55	Locati	ion method:	Non-Differential	GPS		
Recorder Information (The person responsible for the completion and submission of this form)						
Title Dr. Whind	Surname		Matthew	First name		
Organisation:	Whincop Archaeology F	Pty Ltd				
Address:	99 Murton Avenue Holla	and Park QLD 4	1121			
Phone: 04070	Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au					
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channel		Vegetation:	Cleared		
Distance to Water (m):	0 Primary Report:					
How to get to the site:	How to get Access to be arranged via Whitehaven / Narrabri Coal Operations; site					
Other site information:	None					

Site location map



te contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of Length of Width features extent (m) extent	re (s) (cm) Scar shape Tree Species
Artefact	130 250 150	
escription:		
		Scarred Trees
Features:	Number of Length of Width features extent (m) extent	re (s) (cm) Scar shape Tree Species
2. Description:		

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

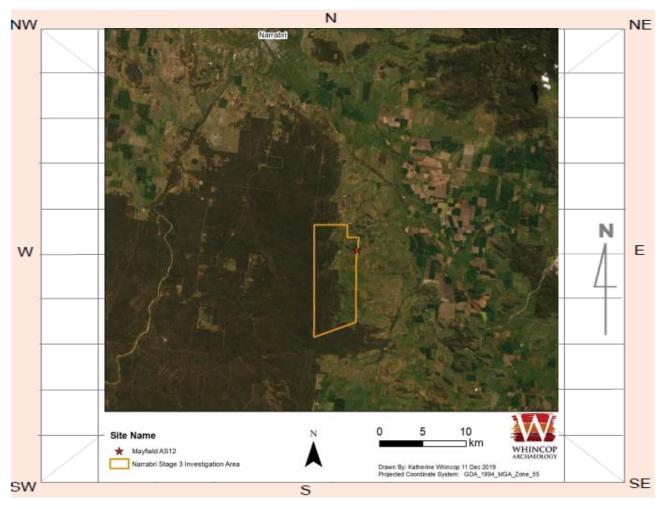


Site photographs Mayfield AS13 looking west Chert flake Description: Description: Silcrete flake fragment Silcrete flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



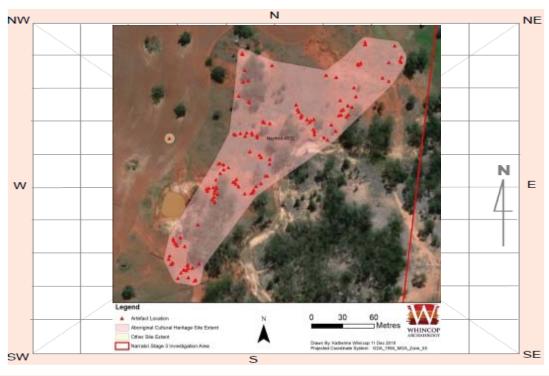
AHIMS site II): 19-6-0193			Date recorded:	13-12-2019		
Site Location Information Site name: Mayfield AS12							
	76549	Northing:	6617367	Coordinates must l	be in GDA (MGA)		
Horizontal Ad		ation method:	Non-Differential	GPS			
Recorder Information (The person responsible for the completion and submission of this form)							
Title	Surname			First name			
Dr. Whind	сор		Matthey	V			
Organisation:	Whincop Archaeology						
Address:	99 Murton Avenue Ho	olland Park QLD	4121				
Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au							
Site Context	Information						
Land Form Pattern:	Undulating Plain		Land Use:	Pastoral/Grazing			
Land Form Unit:	Stream Channel		Vegetation:	Cleared			
Distance to Water (m):	0 Primar Report						
How to get to the site:							
Other site information:	None						

Site location map



te contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature extent (m) extent	(cm) (cm) Scar shape Tree Species
1. Artefact	132 300 120	
Description:		
		Scarred Trees
Features:	Number of feature(s) feature extent (m) extent	(cm) (cm) Scar shape Tree Species
2. Description:		

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) feature (m)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Mayfield AS12 looking south Chalcedony flake Description: Description: Silcrete flake retouch Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I): 19-6-0194			Date recorded:	13-12-2019	
Site Location Site name:	Information Mayfield AS11 76519	Northing:	6617034	Coordinates must be	in GDA (MGA)	
Horizontal Ac		on method:	Non-Differential	GPS		
	le for the completion and submi	ission of this form)		<u>-</u> . ,		
Dr. Whind Organisation:	Whincop Archaeology P		Matthey	First name		
Address: 99 Murton Avenue Holland Park QLD 4121 Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channel		Vegetation:	Cleared		
Distance to Water (m):	O Primary Report:					
How to get to the site:	Access to be arranged vis located on Kurrajong viproperty.			•		
Other site information:	None					

Site location map N N N N N E

Site Name

Mayfield AS11

SW

Narrabri Stage 3 Investigation Area

features feature(s) teature(s) extent (m) 1. Artefact Description: Two chert flakes and one silcrete flake identified.	ite contents information	open/closed site: Open	Site condition: Disturbed
Two chert flakes and one silcrete flake identified. Number of feature(s) feature(s) extent (m) Two chert flakes and one silcrete flake identified. Scar Defeatures: Number of feature(s) extent (m) Width of feature(s)			Scarred Trees
Artefact Description: Two chert flakes and one silcrete flake identified. Features: Number of feature(s) Feature(s) Scar Defeature(s) Feature(s) Featu	Features:	features feature(s) feature (s)	
Two chert flakes and one silcrete flake identified. Features: Number of feature(s) Feature(s) Scar De feature(s) Feature(s)		3 50 10	
Features: Number of Length of Width of feature(s) feature(s) Scar De (cm)	Description:		
features feature(s) feature (s) (cm)			Scarred Trees
2.	Features:	features feature(s) feature (s)	
Description:	2.	features feature(s) feature (s)	(cm) (cm) Scal shape Tree Specie

S

10 ⊐ km

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

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	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) feature (m)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Mayfield AS11 looking south Chert flake Description: Description: Chert flake Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site II): 19-6-0195				Date recorded:	13-12-2019	
Site Location	Information	1					
Easting: 7	76515	1	Northing:	6616966	Coordinates must	be in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5					
Zone: 55		Location	method:	Non-Differentia	I GPS		
Recorder Info		and submissio	on of this form	1)			
Title	Surna	ame			First name		
Dr. Whind		alami Dhii	1 4 4	Matthe	W		
Organisation:	Whincop Archae			4121			
	Address: 99 Murton Avenue Holland Park QLD 4121 Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information						
Land Form Pattern:	Undulating Plair	l		Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channel			Vegetation:	Cleared		
Distance to Water (m):		rimary eport:					
How to get to the site:		_		en / Narrabri Coal C entral section of M	•		
Other site information:	None						

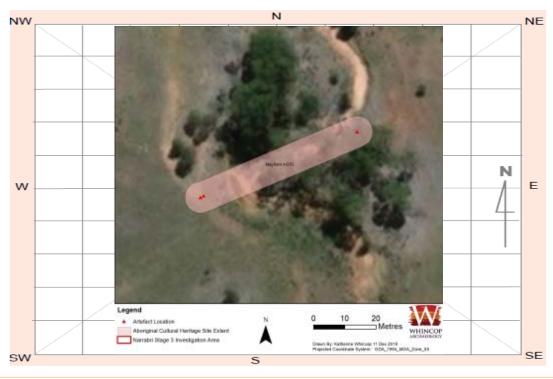
Site location map NW Narrabi Narrabi NE

W

Site Name Mayfield AS10 Narrabri Stage 3 Investigation Area	\ 	10 km WHINCOP ARCHMOLOGY 11 Dec 2019 GDA_1994_MGA_Zone_55 SE
Site contents information	open/closed site: Open	Site condition: Disturbed
Features:	Number of feature(s) feature (s) extent (m) width of extent (m)	Scarred Trees Scar Depth Regrowth (cm) Scar shape Tree Species
1. Artefact	60 10	
Description: Two silcrete flakes and angular fragments identified.		
Features:	Number of feature(s) feature (s) feature (m) Number of feature(s) feature (s) feature (m)	Scarred Trees Scar Depth Regrowth (cm) Scar shape Tree Species
2. Description:		

Е

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Mayfield AS10 looking south Silcrete flakes Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I	1 9-6-0196			Date recorded:	13-12-2019	
Site Location	Information	1				
Site name:	Mayfield AS8					
Easting: 7	75820	Northing:	6616892	Coordinates must be	e in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location method:	Non-Differential GPS	3		
Recorder Info		and submission of this form)			
Title	Surna	ame		First name		
Dr. Whind	рор		Matthew			
Organisation:	Whincop Archae	ology Pty Ltd				
Address: 99 Murton Avenue Holland Park QLD 4121						
Phone: 04070)38584	E-mail: matt@whin	coparchaeology.com.a	nu		
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use: Pas	toral/Grazing		
Land Form Unit:	Stream Channel		Vegetation: Clea	ared		
Distance to Water (m):		imary eport:				
How to get to the site: Other site		-	n / Narrabri Coal Opera entral section of Mayfie			
information:						

Site location map N N Site Name N D S Site Name N

WHINCOP

SE

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

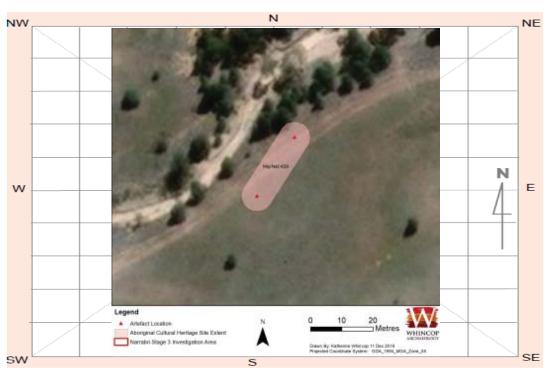
★ Mayfield AS8

SW

Narrabri Stage 3 Investigation Area

Features:	Number of Length of Width of features feature(s) feature (s	Scarred Trees
Features:	Number of facture(a) facture (a	Coor Donath Donasou th
	features extent (m) extent (m	
1. Artefact	2 35 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature(s) feature (s) extent (m) extent (m)	
2.		
Description:		

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Mayfield AS8 looking west Silcrete flake Description: Description: Silcrete flake Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address:

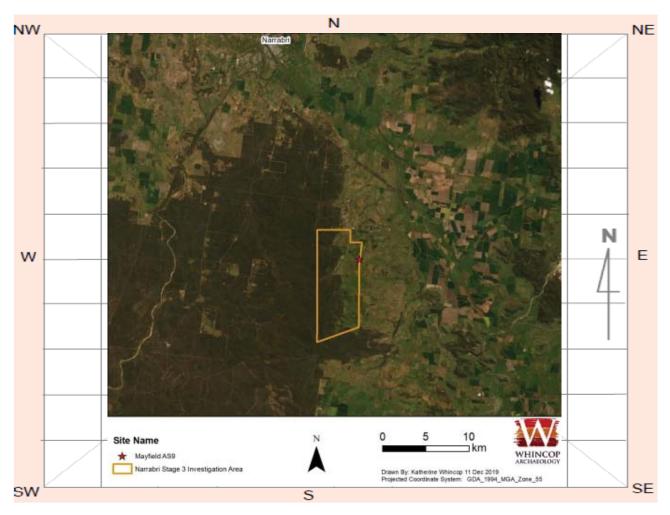
Phone:

E-mail:



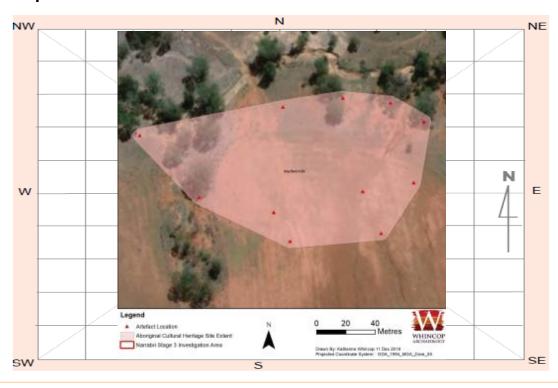
AHIMS site II) : 19-6-0197			Date recorded:	13-12-2019	
Site Location	n Information	1				
Site name:	Mayfield AS9	-				
Easting: 7	76481	Northing:	6616837	Coordinates must b	be in GDA (MGA)	
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location method:	Non-Differentia	I GPS		
Recorder Info		and submission of this for	m)			
Title	Surn	ame		First name		
Dr. Whind			Matthe	N		
Organisation:	Whincop Archae					
Address:	99 Murton Aven	ue Holland Park QLI	D 4121			
Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information					
Land Form Pattern:	Undulating Plair	1	Land Use:	Pastoral/Grazing		
Land Form Unit:	Stream Channe	I	Vegetation:	Cleared		
Distance to Water (m):		rimary eport:				
How to get to the site:		ranged via Whitehav Irrajong Creek withn				
Other site information:	None					

Site location map



1. Artefact Description: Chert 4 flakes; silcrete flake; quartzite 2 flakes; mudstone flake; siltstone flake; chalcedony flake; and quartz proximal flake identified. Scarred Trees Features: Number of feature(s) feature(s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree feature(s) extent (m) extent (m)	open/closed	nts information	n/closed site: Ope	n	Site condition	Disturbed
Number of features feature(s) feature(s)					Scarred	l Trees
Artefact Description: Chert 4 flakes; silcrete flake; quartzite 2 flakes; mudstone flake; siltstone flake; chalcedony flake; and quartz proximal flake identified. Scarred Trees Number of features Number of feature(s) feature (s) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree			features feature(s)	feature (s)		Scar shape Tree Species
Chert 4 flakes; silcrete flake; quartzite 2 flakes; mudstone flake; siltstone flake; chalcedony flake; and quartz proximal flake Scarred Trees	11		11 200	100		
Features: Number of features Length of feature (s) feature (s) extent (m) Eature (s) Ea						
features extent (m) extent (m) (cm) (cm)					Scarred	Trees
	Number features		features icatarc(s)	feature (s)		Scar shape Tree Species
2.						
Description:						

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

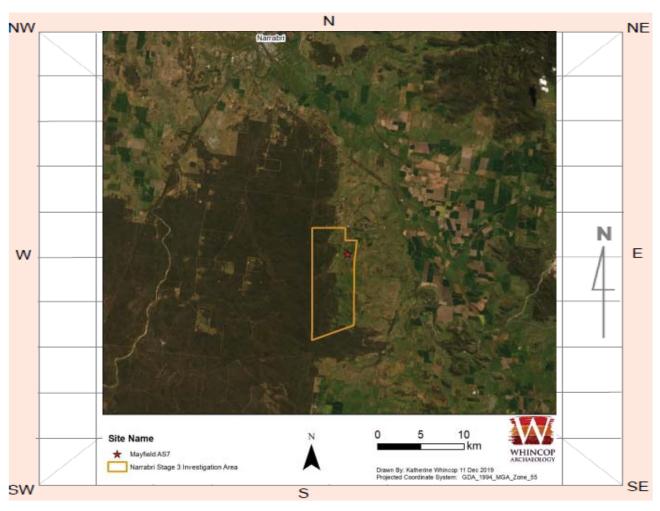


Site photographs Mayfield AS9 looking east Chert flake Description: Description: Mudstone Flake Quartz proximal flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I): 19-6-0198]	Date recorded:	13-12-2019
Site Location	n Information Mayfield AS7	1			
Easting: 7	75709	Northing:	6617249	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GP	S	
Recorder Info		and submission of this for	m)		
Title	Surna	ame		First name	
Dr. Whind		. 5	Matthew		
Organisation: Address:	Whincop Archae	eology Pty Ltd ———————ue Holland Park QLI) 4121		
			incoparchaeology.com.a	au	
Site Context	Information				
Land Form Pattern:	Undulating Plain	1	Land Use: Pas	storal/Grazing	
Land Form Unit:	Stream Channel		Vegetation: Cle	ared	
Distance to Water (m):		rimary eport:			
How to get to the site:	is located on Ku property.	•	en / Narrabri Coal Opera central section of Mayfie		
Other site information:	None				

Site location map



1. Artefact Description: Chert proximal flake, silcrete flake and silcrete distal flake identified. Scarred Trees Features: Annual of Length of Width of Sear Double Regroute.	Site contents information	open/closed site: Open	Site condition: Disturbed
Number of features feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) featur			Scarred Trees
Artefact Description: Chert proximal flake, silcrete flake and silcrete distal flake identified. Scarred Trees Number of features feature(s) feature(s) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie	Features:	features feature(s) feature ((s) (cm) (cm) Scar shape Tree Species
Chert proximal flake, silcrete flake and silcrete distal flake identified. Scarred Trees Number of features feature(s) feature(s) feature(s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie		3 30 10	
Features: Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar Shape Tree Specie	Description:		
2. Car shape Tree Specie			0 17
			Scarred Trees
Description:	Features:	features feature(s) feature (Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie
		features feature(s) feature (Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

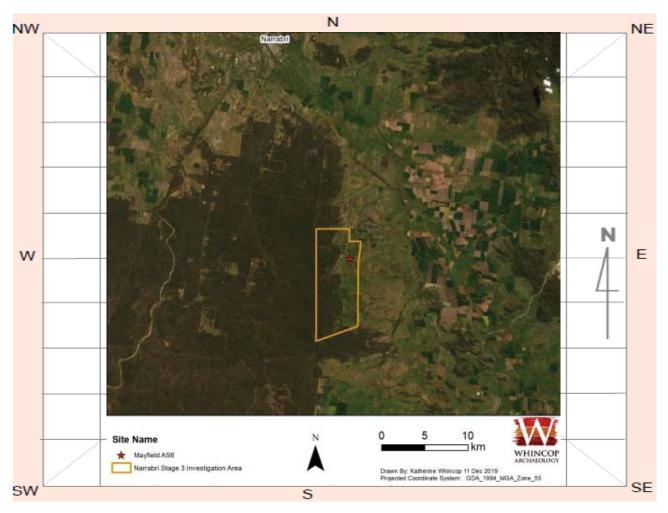


Site photographs 9 cm Mayfield AS7 looking north Chert proximal flake Description: Description: Silcrete flake Silcrete medial flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



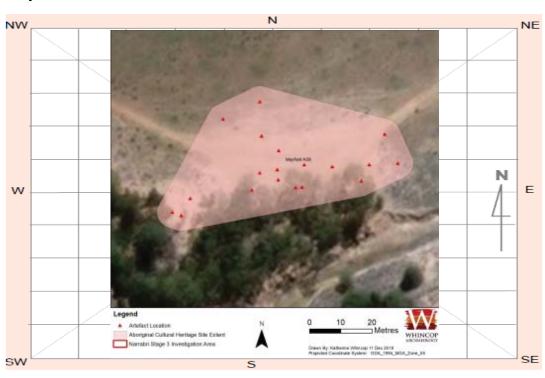
AHIMS site II): 19-6-0199			Date recorded:	13-12-2019
Site Location	n Information Mayfield AS6	1			
Easting: 7	75515	Northing:	6616874	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GPS	5	
Recorder Info		and submission of this forn	n)		
Title	Surna			First name	
Dr. Whine		. 5	Matthew		
Organisation: Address:	Whincop Archae	eology Pty Ltd ————————ue Holland Park QLD) 4121		
,			incoparchaeology.com.a	ıu	
Site Context	Information				
Land Form Pattern:	Undulating Plair	l	Land Use: Pas	toral/Grazing	
Land Form Unit:	Stream Channel		Vegetation: Clea	ared	
Distance to Water (m):		rimary eport:			
How to get to the site:	1	•	en / Narrabri Coal Opera central section of Mayfie		
Other site information:	None				

Site location map



Site contents information	open/closed site: Open	;	Site condition:	Disturbed
			Scarred T	rees
Features:	features feature(s) feature	Vidth of eature (s) extent (m)	Depth Regrowth (cm)	Scar shape Tree Species
1. Artefact	25 80	40		
Description:				
			Scarred T	
				rees
Features:	features feature(s) f	Vidth of eature (s) scar (cm)	Depth Regrowth (cm)	
2.	features (6)	eature (s) (cm)		rees Scar shape Tree Species
Peatures: 2. Description:	features (6)	eature (s) (cm)		

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

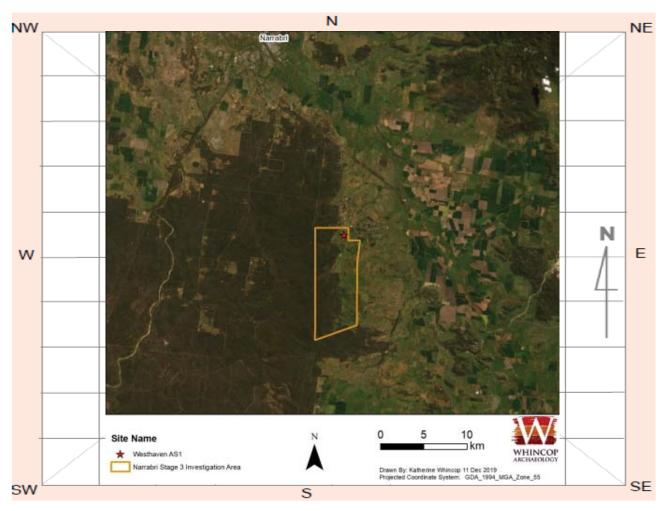


Site photographs Mayfield AS6 looking west Mudstone and chert artefacts Description: Description: Silcrete core fragment Silcrete flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



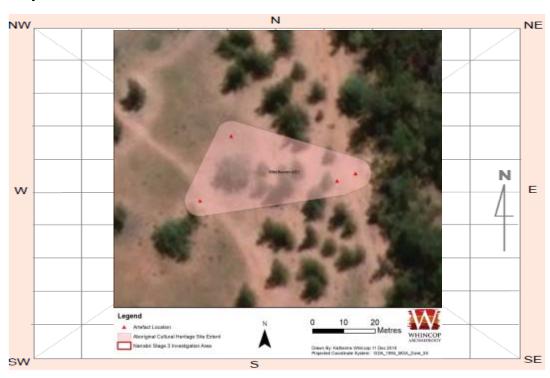
AHIMS site II): 19-6-0200			Date recorded:	13-12-2019
Site Location	n Information Westhaven AS1				
Easting: 7	75066	Northing:	6619486	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GP	S	
Recorder Info		and submission of this forr	n)		
Title	Surna	ame		First name	
Dr. Whin			Matthew		
Organisation: Address:	Whincop Archae	eology Pty Ltd ————————ue Holland Park QLD) 4121		
		· · · · · · · · · · · · · · · · · · ·	incoparchaeology.com.a	au	
Site Context	Information				
Land Form Pattern:	Undulating Plain	1	Land Use:	toral/Grazing	
Land Form Unit:	Stream Channel		Vegetation: Cle	ared	
Distance to Water (m):		rimary eport:			
How to get to the site:	is located 1.2km	ranged via Whitehave southwest from Fan	en / Narrabri Coal Opera site.	tions; site	
Other site information:	None				

Site location map



1. Artefact Description: 2 quartzite flakes; 1 siltstone flake and 1 chalcedony flake identified. Scarred Trees Features: Absolute of Length of Width of Seat Double Regressith.	Site contents information	open/closed site: Open	Site condition: Disturbed
Number of features feature (s) extent (m) feature (s) feature (s) feature (s) extent (m) feature (s) feature (s) extent (m) feature (s) feat			Scarred Trees
Artefact Description: 2 quartzite flakes; 1 siltstone flake and 1 chalcedony flake identified. Scarred Trees Features: Number of feature(s) feature(s) extent (m) extent (m) 2.	Features:	features feature(s) feature	(s) (cm) (cm) Scar shape Tree Species
2 quartzite flakes; 1 siltstone flake and 1 chalcedony flake identified. Scarred Trees Number of feature(s) feature(s) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Specients (cm) Scar Scar Depth Regrowth (cm) Scar shape Tree Specients (cm)		4 55 30	
Features: Number of features Scarred Trees	Description:		
2. Car shape Tree Speci			
			Scarred Trees
Description:	Features:	features feature(s) feature	Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
		features feature(s) feature	Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
	2.	features feature(s) feature	Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Spe

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Westhaven AS1 looking east Chalcedony Flake Description: Description: Quartzite flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site II): 19-6-0201			Date recorded:	13-12-2019
Site Location Site name:	n Information Pillaga IA1	1			
Easting: 7	73559	Northing:	6613083	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GPS	5	
Recorder Info		and submission of this forr	n)		
Title	Surna			First name	
Dr. Whind			Matthew		
Organisation:	Whincop Archae	eology Pty Ltd ue Holland Park QLD	1.4121		
Address:					
Phone: 04070	038584	E-mail: matt@whi	incoparchaeology.com.a	ıu	
Site Context	Information				
Land Form Pattern:	Undulating Plain	l	Land Use: Fore	estry	
Land Form Unit:	Stream Channel		Vegetation: Ope	en Forest	
Distance to Water (m):		rimary eport:			
How to get to the site:	1	edge of Pillage Fore	en / Narrabri Coal Opera st adjacent to western b		
Other site information:	None				

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Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

★ Pillaga IA1

SW

Narrabri Stage 3 Investigation Area

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) Heature (s) feature (s) extent (m) Width of feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features feature(s)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
	extent (m) extent (m)	(CIII) (CIII)
2.	extent (m) extent (m)	(CIII) (CIII)
2. Description:	extent (m) extent (m)	(CIII) (CIII)
	extent (m) extent (m)	(CIII) (CIII)
	extent (m) extent (m)	(CIII) (CIII)

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) feature (m)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Pilliga IA1 looking west Mudstone flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site II	1 9-6-0202]	Date recorded:	13-12-2019	
Site Location	n Information Mayfield AS2	l				
Easting: 7	73257	Northing:	6615382	Coordinates must be	e in GDA (MGA)	
Horizontal A	ccuracy (m):	5				
Zone: 55		Location method:	Non-Differential GP	S		
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna	ame		First name		
Dr. Whin						
Organisation: Address:	-	Whincop Archaeology Pty Ltd 99 Murton Avenue Holland Park QLD 4121				
Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information					
Land Form Pattern:	Undulating Plain		Land Use: Pas	storal/Grazing		
Land Form Unit:	Stream Channel		Vegetation: Cle	ared		
Distance to Water (m):		imary eport:				
How to get to the site: Access to be arranged via Whitehaven / Narrabri Coal Operations; site is located within the southwest corner of the Mayfield property.						
Other site information:	None					

Site location map N N N E

Site Name

Mayfield AS2

SW

Narrabri Stage 3 Investigation Area

		Scarred Trees
Features:	Number of feature(s) features extent (m) extent	re (s) (cm) (cm) Scar shape Tree Species
1. Artefact	3 35 10	
Description:		
	Scarred Trees	
Features:	Number of feature(s) features extent (m) extent	re (s) (cm) (cm) Scar shape Tree Species
2.		
- · · ·		
Description:		

S

10 ⊐ km

Drawn By: Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1994_MGA_Zone_55

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	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

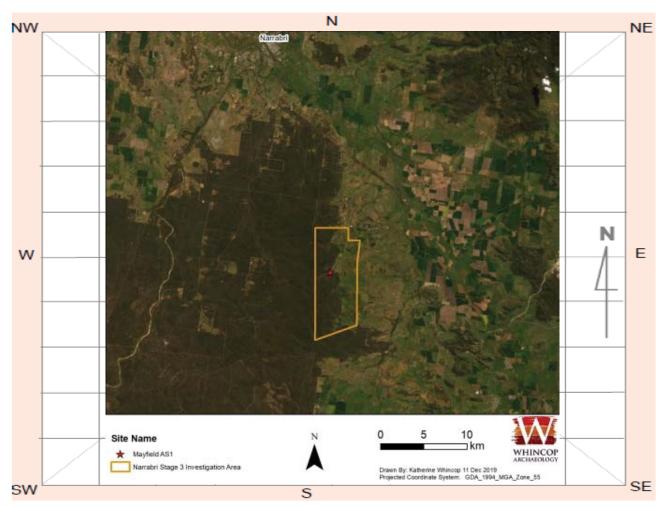


Site photographs Mayfield AS2 looking southeast Silcrete flake Description: Description: Silcrete flake 2 Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



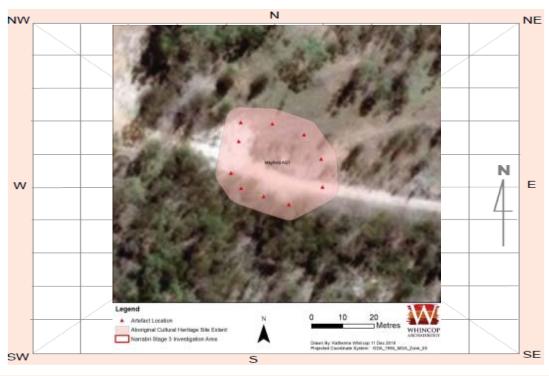
AHIMS site ID	1 9-6-0203				Date recorded:	13-12-2019
Site Location	Information Mayfield AS1	1				
Easting: 7	73265		Northing:	6615279	Coordinates must	be in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location	n method:	Non-Differentia	al GPS	
Recorder Info		and submiss	sion of this form	n)		
Title	Surn	ame			First name	
Dr. Whind		. I Dt	. 1 4 1	Matthe	W	
Organisation: Address:	Whincop Archae			/121		
		E-mail: [·	ncoparchaeology.	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channe			Vegetation	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:		_		en / Narrabri Coal (r of the Mayfield pr		
Other site information:	None					

Site location map



Site contents information	open/closed site: Open		Site condition	n: Disturbed
			Scarre	d Trees
Features:	features feature(s)	Width of feature (s) extent (m)	Scar Depth Regrowth (cm) (cm)	Scar shape Tree Species
1. Artefact	28 40	35		
Description: 3 Chert flakes; siltstone 2 flakes and 1 core; chald flake; silcrete distal flake and 3 flakes; and crystal			· 	
3 Chert flakes; siltstone 2 flakes and 1 core; chalc				d Trees
3 Chert flakes; siltstone 2 flakes and 1 core; chalc flake; silcrete distal flake and 3 flakes; and crystal	quartz angular fragment all identified within and state of the state			
3 Chert flakes; siltstone 2 flakes and 1 core; chalc flake; silcrete distal flake and 3 flakes; and crystal	quartz angular fragment all identified within and state of the state	width of feature (s)	Scarred Scar Depth Regrowth	
flake; silcrete distal flake and 3 flakes; and crystal	quartz angular fragment all identified within and state of the state	width of feature (s)	Scarred Scar Depth Regrowth	d Trees Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

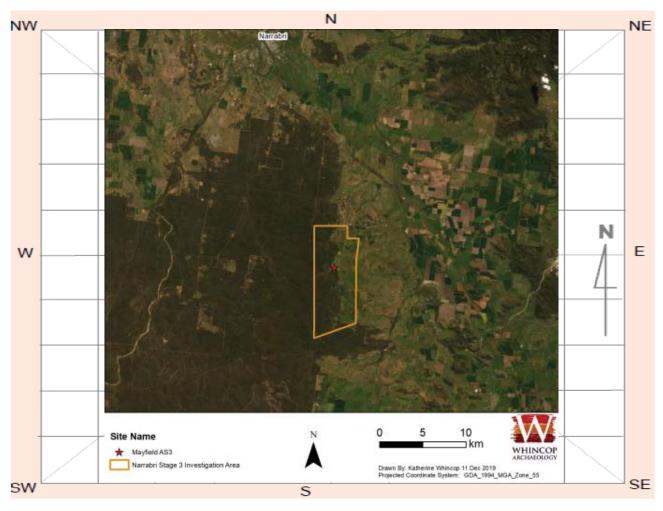


Site photographs Mayfield AS1 looking east Silcrete flakes Description: Description: Chalcedony artefacts Chert artefacts Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



AHIMS site ID	19-6-0204				Date recorded:	13-12-2019
Site Location	Information Mayfield AS3	1				
Easting: 7	73853		Northing:	6615567	Coordinates must l	be in GDA (MGA)
Horizontal Ac	ccuracy (m):	5 Location	on method:	Non-Differentia	al GPS	
Recorder Info	le for the completion a		sion of this form	n)		
Title Dr. Whind	Surn	ame		Matthe	First name	
Organisation:	Whincop Archae	eology Pt	y Ltd			
Address:	99 Murton Aven	ue Hollar	nd Park QLD	4121		
Phone: 04070	38584	E-mail:	matt@whi	ncoparchaeology.	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channe			Vegetation	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:		_		en / Narrabri Coal (r of the Mayfield p		
Other site information:	None					

Site location map



ite contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (sextent (m) width of feature (sextent (m)	
1. Artefact	5 125 20	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features extent (m) extent (m)	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2. Description:	features routero(s) routero (s	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

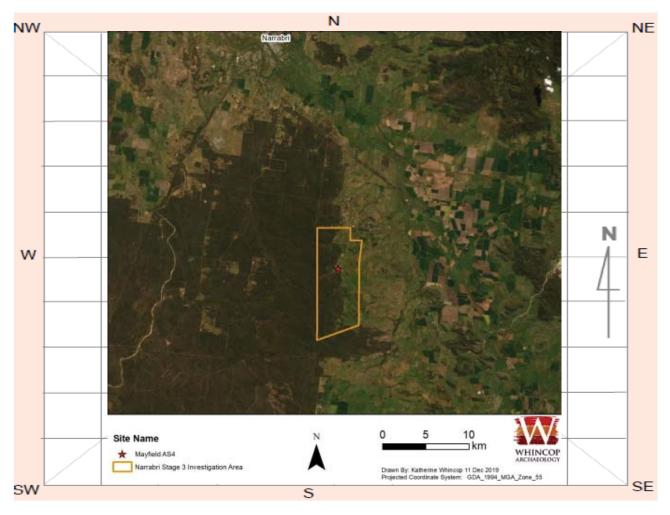


Site photographs Mayfield AS3 looking west Siltstone core Description: Description: Chalcedony blade Chert core and chert flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



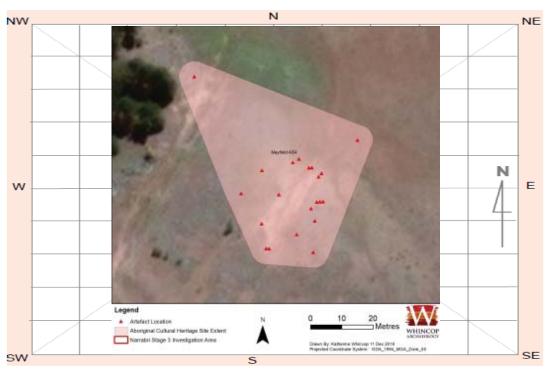
AHIMS site II	1 9-6-0205			Date recorded:	13-12-2019
Site Location	n Information	1			
Easting: 7	73965	Northing:	6615658	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GP	3	
Recorder Info		and submission of this forn	n)		
Title	Surna	ame		First name	
Dr. Whine Organisation:	COP Whincop Archae	eoloav Ptv Ltd	Matthew		
Address:	-	ue Holland Park QLD	4121		
Phone: 04070	038584	E-mail: matt@whi	incoparchaeology.com.a	nu	
Site Context	Information				
Land Form Pattern:	Undulating Plain	1	Land Use:	toral/Grazing	
Land Form Unit:	Stream Channel		Vegetation: Cle	ared	
Distance to Water (m):		rimary eport:			
How to get to the site:	1		en / Narrabri Coal Opera r of the Mayfield propert		
Other site information:	None				

Site location map



Site contents information	open/closed site: Open	l	Site condition	1: Disturbed
			Scarred	d Trees
Features:	Number of feature(s) extent (m)	Width of feature (s) extent (m)	Scar Depth Regrowth (cm) (cm)	Scar shape Tree Species
1. Artefact	5 125	20		
Description:				
			Scarred	d Trees
Features:	Number of feature(s) extent (m)	Width of feature (s) extent (m)	Scar Depth Regrowth (cm) (cm)	Scar shape Tree Species
2.				
Description:				

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

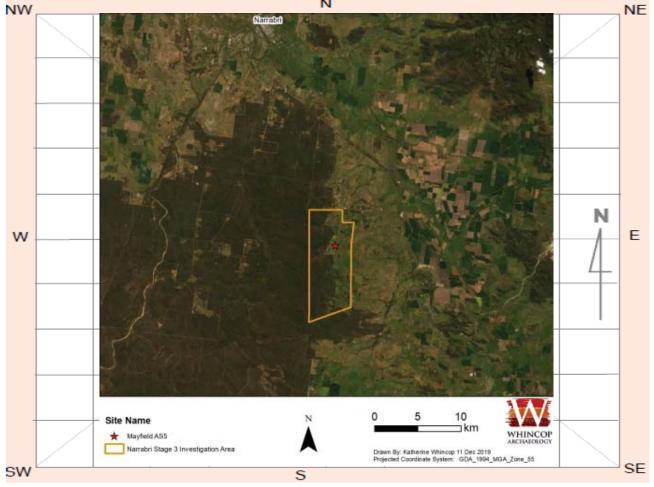


Site photographs Mayfield AS4 looking east Chert core Description: Description: Mixed artefacts Silcrete blade Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title Surname First name Organisation: Address: Phone: E-mail:



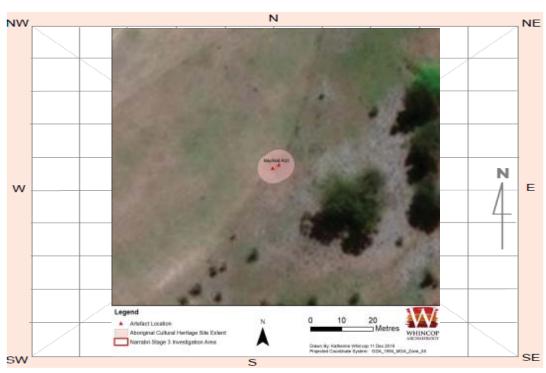
AHIMS site II): 19-6-0206			Date recorded:	13-12-2019
Site Location	n Information Mayfield AS5	1			
Easting: 7	74587	Northing:	6616229	Coordinates must be	in GDA (MGA)
Horizontal A	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GPS	3	
Recorder Info		and submission of this forn	n)		
Title	Surn			First name	
Dr. Whind			Matthew		
Organisation:	Whincop Archae	eology Pty Ltd ————————ue Holland Park QLD	1/121		<u> </u>
Address:					
Phone: 04070	038584	E-mail: matt@whi	incoparchaeology.com.a	u	
Site Context	Information				
Land Form Pattern:	Undulating Plair	l	Land Use: Pas	toral/Grazing	
Land Form Unit:	Stream Channe		Vegetation: Clea	ared	
Distance to Water (m):		rimary eport:			
How to get to the site:		the southwest corne	en / Narrabri Coal Opera r of the Mayfield propert		
Other site information:	None				

Site location map



Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) width of feature (s) feature (s)	
1. Artefact	2 15 10	
Description:		
Mudstone proximal flake and chert flake identifi	ed.	
	ed.	Scarred Trees
Mudstone proximal flake and chert flake identific	Number of Length of Width of feature(s) feature (sextent (m) extent (m)	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Mudstone proximal flake and chert flake identific	Number of Length of Width of features feature(s) feature (s	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Mudstone proximal flake and chert flake identified by the state of the	Number of Length of Width of features feature(s) feature (s	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	



Site photographs Mayfield AS5 looking east Chert flake Description: Description: Mudstone proximal flake Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I	19-6-0207				Date recorded:	13-12-2019
Site Location	Information Westhaven IA1	1				
Easting: 7	75119		Northing:	6619233	Coordinates must I	oe in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location	n method:	Non-Differentia	I GPS	
Recorder Info		and submiss	ion of this form	n)		
Title	Surn	ame			First name	
Dr. Whind Organisation:	Whincop Archae	eology Pty	Ltd	Matthe	W	
Address:	99 Murton Aven			4121		
Phone: 04070	38584	E-mail: [matt@whi	ncoparchaeology.c	com.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Flat			Vegetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:	Access to be an is located 1.3km	-		n / Narrabri Coal C site.	Operations; site	
Other site information:	None					

Site location map N N N Site Name Westbaren IA1

Narrabri Stage 3 Investigation Area

SW

Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) Heature (s) feature (m) width of feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of	Scarred Trees Scar Depth Regrowth Sear shape Taxa Outside
	features feature(s) feature (s) feature (m)	(cm) (cm) Scal shape Tree Species
2.		
Description:		

S

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

SE

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	



Site photographs Westhaven IA1 looking east Chalcedony flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address:

Phone:

E-mail:



AHIMS site II) : 19-6-0208				Date recorded:	13-12-2019
Site Location	n Information	<u> </u>				
Site name:	Merrilong IA2	•				
Faating: 7	74643	Northin	g: 6616	2061	Coordinates must	be in GDA (MGA)
.			9- 0010	0001		
Horizontal A	ccuracy (m):	5				
Zone: 55		Location metho	od: No	on-Differential	GPS	
Recorder Info		and submission of this	form)			
Title	Surn	ame			First name	
Dr. Whind		I Dt I t. I		Matthey	V	
Organisation:	Whincop Archae	ue Holland Park Q	N.D. 4404			
Address:	99 Murton Aven		QLD 4121			
Phone: 04070)38584	E-mail: matt@	whincopa	archaeology.c	om.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channe	I		Vegetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:		ranged via Whiteh the eastern bound				
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊐ km 5

Site Name

SW

★ Merrillong IA2

Narrabri Stage 3 Investigation Area

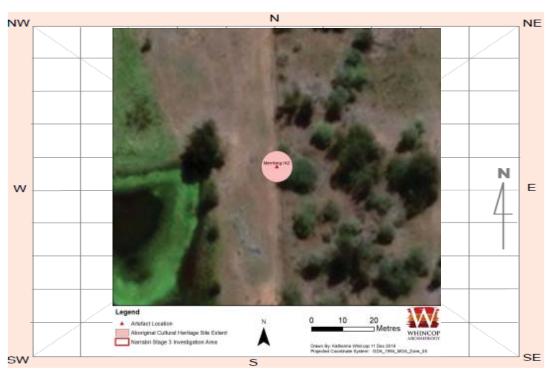
Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) feature (s) extent (m) extent (m	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of feature(s) feature (s) extent (m) extent (m)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.	CACIT (III) EXTERIT (III	
2.		
Description:		

WHINCOP

SE

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	



Site photographs Merrilong IA2 looking south Silcrete flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site II	19-6-0209				Date recorded:	13-12-2019
Site Location	n Information) 1				
Site name:	Merrilong IA1					
Easting: 7	74804	Northin	g: 6616	341	Coordinates must	be in GDA (MGA)
Horizontal Ad	ccuracy (m):	5				
Zone: 55		Location metho	od: No	n-Differential	GPS	
Recorder Info		and submission of this	form)			
Title	Surn	ame			First name	
Dr. Whind				Matthey	V	
Organisation: [Whincop Archae		N. D. 4404			
Address:	99 Murton Aven	ue Holland Park 0	QLD 4121			
Phone: 04070)38584	E-mail: matt@	whincopa	rchaeology.c	om.au	
Site Context	Information					
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channe	I		Vegetation:	Cleared	
Distance to Water (m):		rimary eport:				
How to get to the site:		ranged via Whiteh the eastern bound				
Other site information:	None					

Site location map NW Ν NE Ν Е W 10 ⊐ km 5 Site Name WHINCOP ★ Merrillong IA1 Narrabri Stage 3 Investigation Area

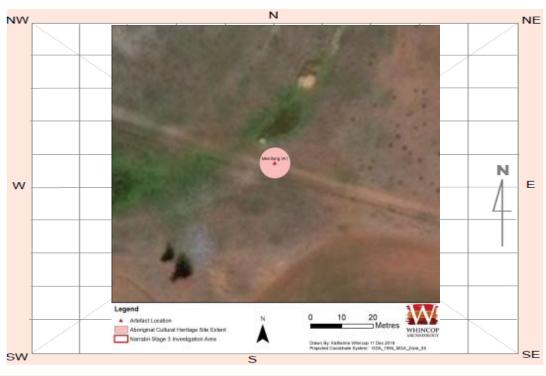
Nite contents information		
Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of Length of Width features extent (m) exten	re (s) (cm) (cm) Scar shape Tree Species
1. Artefact	1 10 10	
Description:		
Chert flake identified.		
Chert flake identified.		Scarred Trees
Chert flake identified. Features:	Number of Length of Width features features extent (m) exten	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
	features rodiaro(c) realur	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features:	features (6) icatai	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2.	features (6) icatai	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2.	features (6) icatai	Scarred Trees of Scar Depth Regrowth (cm) (cm) Scar shape Tree Spec

SW

Drawn By. Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

SE

	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature(s) feature(s) extent (m) feature(s) f
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) extent (m) feature (s) extent (m) feature (s)
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None	
Info:	
_	

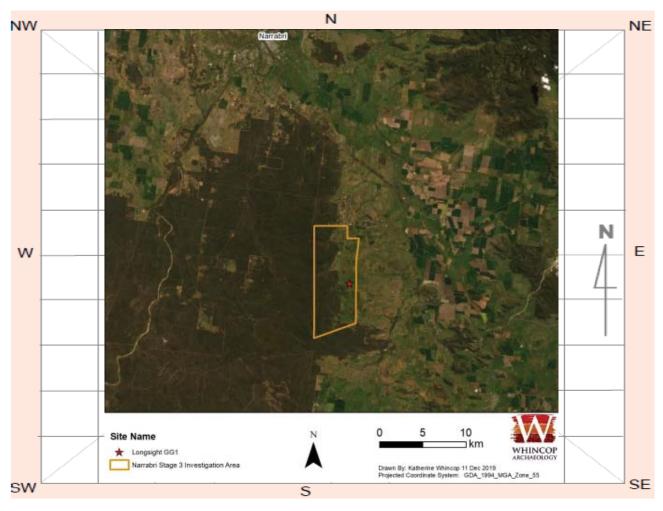


Site photographs Merrilong IA1 looking west Chert flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site II) : 19-6-0210			Date recorded:	13-12-2019
Site Location	n Information	 1			
Site name:	Longsight GG1	-			
Easting: 7	75534	Northing	: 6603612	Coordinates must	be in GDA (MGA)
Horizontal Ad	ccuracy (m):	5			
Zone: 55		Location method	Non-Different	al GPS	
Recorder Info		and submission of this fo	orm)		
Title	Surn	ame		First name	
Dr. Whind			Matth	ew	
Organisation:	Whincop Archae		D 4404		
Address:	99 Murton Aven	ue Holland Park QL	.D 4121		
Phone: 04070)38584	E-mail: matt@w	hincoparchaeology	.com.au	
Site Context	Information				
Land Form Pattern:	Undulating Plair	1	Land Use:	Pastoral/Grazing	
Land Form Unit:	Stream Channe	l	Vegetation	Cleared	
Distance to Water (m):		rimary eport:			
How to get to the site:		ranged via Whiteha the central section			
Other site information:	None				

Site location map



ite contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature extent (m) extent (c)	(s) (cm) (cm) Scar shape Tree Species
1. Grinding Groove	2 10 10	
Description:		
g	outcrop within drainage line.	
g		Scarred Trees
Features:	Number of Length of Width of features extent (m) extent (control or feature)	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
	Number of Length of Width of features feature(s) feature	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Length of Width of feature (s) feature (s) (cm) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	



Site photographs Description: Groove 1 (42x7x2cm) Longsight GG1 looking east Description: Groove 2 (21x5x2cm) Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



AHIMS site I): 19-6-0211]	Date recorded:	13-12-2019	
Site Location Information Site name: Karinda IA1						
Easting: 7	74922	Northing:	6611861	Coordinates must be	e in GDA (MGA)	
Horizontal Accuracy (m): 5						
Zone: 55		Location method:	Non-Differential GF	PS		
Recorder Information (The person responsible for the completion and submission of this form)						
Title	Surna	ame	Motthou	First name		
Dr. Whind Organisation:	Whincop Archae	eology Pty Ltd	Matthew			
Address:	99 Murton Avenue Holland Park QLD 4121					
Phone: 0407038584 E-mail: matt@whincoparchaeology.com.au						
Site Context	Information					
Land Form Pattern:			Land Use:	storal/Grazing		
Land Form Unit:	Stream Channel		Vegetation:	eared		
Distance to Water (m):		imary eport:				
How to get to the site:	is located within the Karinda property approx 1.4km west fo Karinda house.					
Other site information:	None					

Site location map

Site Name

SW

* Karinda IA1

Narrabri Stage 3 Investigation Area

10 ⊒ km

Drawn By: Katherine Whincop 11 Dec 2019 Projected Coordinate System: GDA_1914_MGA_Zone_55

WHINCOP

SE

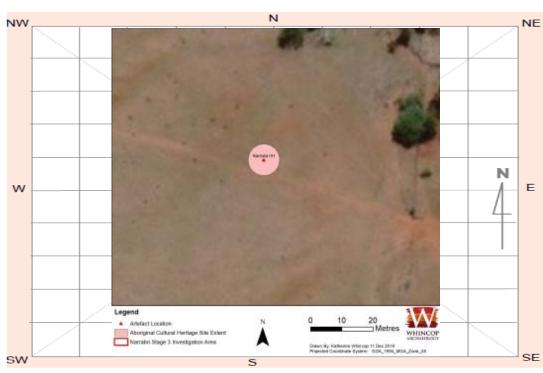
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Site contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) Heature (s) feature (s) extent (m) Width of feature (s) feature (s)	
1. Artefact	1 10 10	
Description:		
		Scarred Trees
Features:	Number of feature(s) feature (s extent (m) extent (m)	Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
2.		
Description:		

S

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

Site plan



Site photographs Karinda IA1 from west Siltstone distal flake Description: Description: Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:

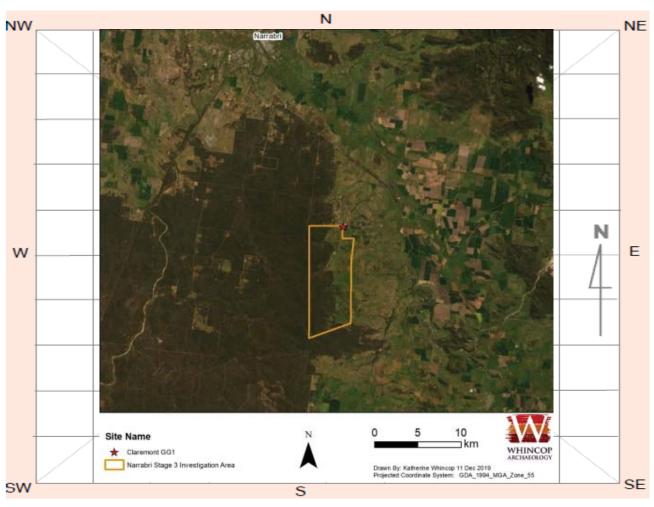


Aboriginal Site Recording Form

AHIMS Registrar PO Box 1967, Hurstville 2220 NSW

AHIMS site ID	19-6-0212				Date recorded:	13-12-2019			
Site Location	Information	1							
Easting: 7	75711		Northing:	6620205	Coordinates must I	pe in GDA (MGA)			
Horizontal Ad	ccuracy (m):	5							
Zone: 55		Location	n method:	Non-Differentia	I GPS				
Recorder Info		and submiss	ion of this form	n)					
Title	Surn	ame			First name				
Dr. Whind Organisation:	Whincop Archae	enlogy Pty	. I td	Matthe	N .				
Address:	99 Murton Aven			4121					
	38584	E-mail: [matt@whi	ncoparchaeology.c	com.au				
Site Context	Information								
Land Form Pattern:	Undulating Plair	1		Land Use:	Pastoral/Grazing				
Land Form Unit:	Flat			Vegetation:	Vegetation: Cleared				
Distance to Water (m):		rimary eport:							
How to get to the site:	Access to be an is located 230 m	_		en / Narrabri Coal C ı Fan site.	perations; site				
Other site information:	None								

Site location map



ite contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) Width of feature (s)	(cm) (cm) Scar shape Tree Species
1. Grinding Groove	1 10 10	
Description:		
		Scarred Trees
Features:	Number of Length of Width of features extent (m) extent (m)	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Features: 2. Description:	features (catalog) leature (c	Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of features Length of feature (s) feature (s) extent (m) Extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
5.	
Description:	
Other Site None Info:	
_	

Site plan



Site photographs Claremont GG1 from east Grinding groove Description: Description: Survey team looking for more grooves Description: Description: **Site restrictions** Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-6-01120	
Ph. 4		
Date received		
Entered by (I.D.	.) [
Information		Office Use Only
Gender/ma		O.I.,
For Further	Information Contact:	
	d Trustee Surpame First Name Initials	
Title	Guinaline	Client on
السلسال		system
Organisation		\mathbf{x}
Address	0428 978 863 Fax	
Phone number	0428 978 863 Fax	
Knowledg		
Title		lient on
		system
Organisation	NARRABRULALC	<u></u>
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal I	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	
	MURRASIONG MILISO BILL (ST	τ€ 81)
		-
Easting	Troumg	
Zone		
	55 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re	ecorder	
Title	Surname First Name Initials	
	APPLETON TOHN	
Organisation		lient on system
Address	16 CULTUS STU ARMUDALE	\mathbf{X}
Phone number	02 6772 6512 Fax 02 6772 4567	<i>(</i> -
Date recorded	15/07/09	

÷	CLOSED SITE	P OPEN SITE
Site Context		0. 2 0 2
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagcon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees		
•		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KURRATIONG
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
X Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached.
□ N/A	Semi-rurai	
	Service corridor	
	Transport corridor	
	Urhan evnansion	Site Location Map
	N/A	NW NE
Current Land Tenure		
		•
Public National Park	/ other Government Dept.	
rivate		
Primary report I.D.	(I.D. Office Use only)	See attached
ABORIGINAL	+ HERITAG	see attached
EASSESSME	NT: NARRA	W
BRI COAL A	VINE STAG	w Å E
E 2 LONGWA	ILL PROJE	
ETT		
		SW S SE

NPWS Aboriginal Site Recording Form - Site Information

. Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∟ N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	⊠ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling Boulder	Sheiter Aspect North		9. Fish Trap 10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
й	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc.	ilcate scale, boundaries of site, fea N	tures NE	
			•
			Site Dimensions
W		Х // Е	Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area
			Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area

SE

SW

S

	AVOID IF POSSIBLE
.0	SALVACE IF NECESSARY (PART 3A)
Preliminary Site Asses	sment
ite Cultural & Scientific Ar	nalysis and Preliminary Management Recommendations
	<u> </u>
	LOW RESEARCH POTENTIAL
	ANALYSE IF NECESSARY TO SALVAGE
his section should only be fi	
	wiedge Holder Nominated Trustee Native Title Hekter Community Conse
indorsed by: Liknov	1 141-1-
indorsed by: Likhov	Surname First Name Initials
Title	Surname First Name Initials TRINDALL CRAIG
Title	Surname First Name Initials TRINDALL GOMEROI TRADOWNERS
Title Organisation	Surname First Name Initials TRINDALL CRAIG
Title Organisation Address	Surname First Name Initials TRINDALL GOMEROI TRADOWERS NARRABRI GOMEROI TRADOWERS
Title Organisation Address Phone number	Sumame First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWMARRABRI Fax
Organisation Address Phone number Attachments (No.)	Surname First Name IIIIIIIII TRINDALL GOMEROI TRADOWERS DECCW NARRABRI
Title Organisation Address Phone number	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.)	Sumame First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWMARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Surname First Name IIIIIIIII TRINDALL GOMEROI TRIDOWERS DECCWAARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables	Sumame First Name TRINDALL CRAICH NARRABRI GOMEROI TRADOWERS DECCW MARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Sumame First Name Initials TRINDALL GOMEROL TRADOUNERS DECCW MARRABRI Fax

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	О/Н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
	776054	6619757	5	F	MET	33	30	8	F	7	3				Α	R	0		
				F	MET	19	19	3	F	11	3		х	Х	F		0	•	
				F	Q	15	10	2	7	3	2				F		0		
					<u>-</u> .														
76	KURRAJONG '	T1/OS 76																-	
	776129	6619772	5	F	MET	28	20	3	BR	10	3		х		Α	2R	15		
	-			F	СН	25	13	5	BR	9	4		X		F	R	5		
77	KURRAJONG	 																	
	776069	6619787	5	F	СН	24	20	5	F	5	3		Х	-	S	R	0		
78	KURRAIONG	 																	
	776021	6619792	5	F	IG	26	26	5	SHAT	23	5		х		F	R	20		
				F	СН	16	13	3	?	2	1				F		30		RETOUCH, SCRAPER?
				FP	Q	23	20	6									0		RETOUCH, SCRAPER?
79	KURRAJONG	T1/ISO 79																	
	776219	6619775	5	F	CH	20	16	4	F	8	3		X		F	R	0		
80	KURRAJONG 1	 																	
	776210	6619810		F	СН	24	25	7	BR	18	5				F		10		
				F	Q	17	13	3	F	3	1				F		50		·
				F	QZ	30	28	10	BR	10	3				S	R	0		
				FP	CH	28	25	8								CORTEX	50		
				FP	СН	27	10	6							!		0		STEP FRACTURE SCAR
81	KURRAJONG	 T1/ISO 81																	
	774687	6619444	6	F	MET	34	28	19	?	5	3				Α		25		
82	KURRAJONG T	T1/OS 82																	
	774400	6619174	6	F	BAS	63	27	10	F	18	6		х		F	R	0	Х	
				F	MET	27	12	5	SHAT					•	F	R	15		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	ТН	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL.	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		х				0		<u> </u>
				FP	MET	63	48	17									20	_	
120	KURRAJONG 1	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG 1	Γ1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35			-						40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Wldth	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	\$	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	1		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
C	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 81 - Site 80 viewed from the south.

Site (80) name: Location: GDA Map:

Site type:

Contents:

Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 80" 55J E.0776210 N.6619810 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Open artefact scatter

5 artefacts along 15m of narrow

track

Cattle grazing

80m 95% Chert flake

2 chert flaked pieces Quartzite flake Quartz flake



Plate 82 - Site 81 viewed from the northeast.

Site (81) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/ISO 81" 55J E.0774687 N.6619444 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

1: 50,000 scale Isolated artefact Isolated artefact Cattle grazing 30m

50% Metasedimentary flake



Plate 83 - Site 82 viewed from the northeast.

Site (82) name: Location: GDA Map:

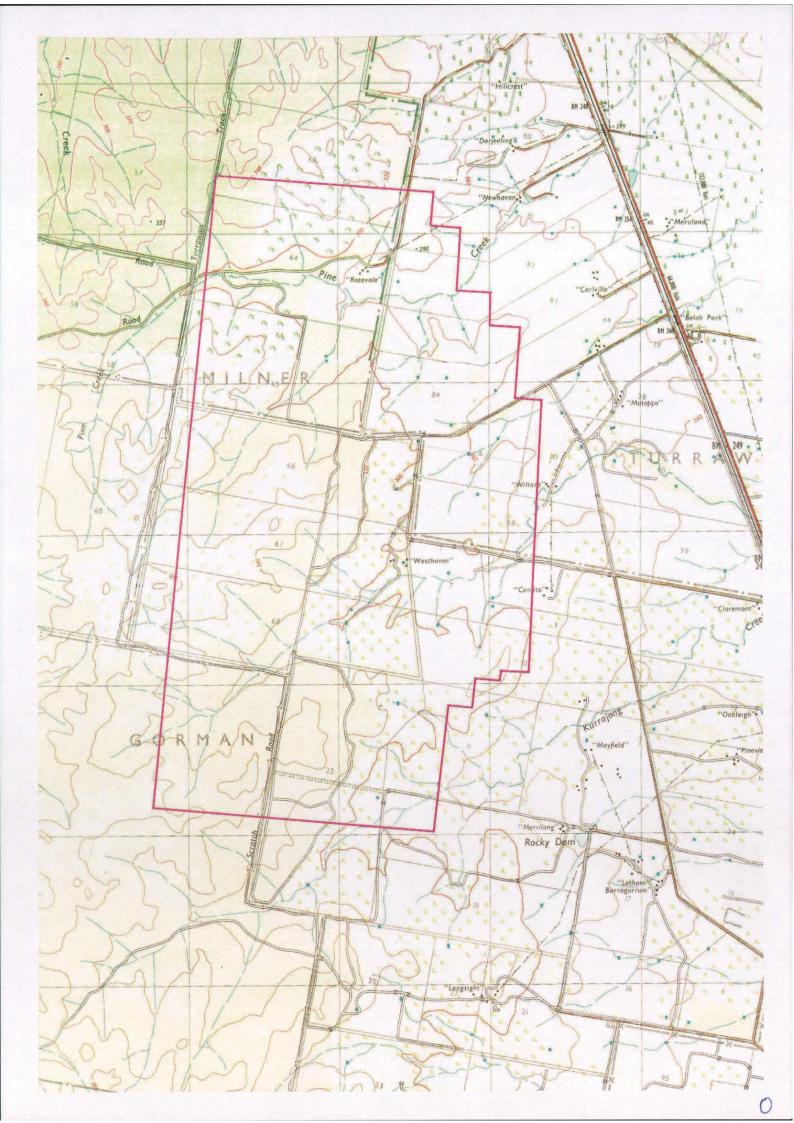
Site type: Contents:

Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 82" 55J E.0774400 N.6619174 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

9 artefacts scattered in area of 30m x 20m

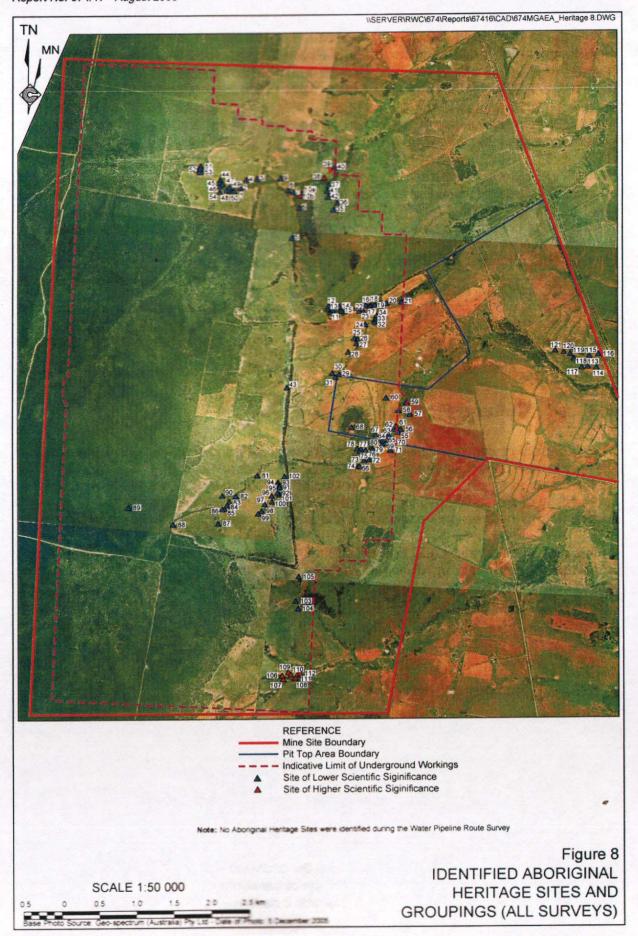
Cattle grazing 30m 65-95% Materials: Basalt

Metasedimentary Chert Quartzite Chalcedony



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 1 9 - 61 - 01/12/1	
Date receive		
Entered by (I.D.	.) [
Information	Access	Office Use
Gender/ma	ale Gender/female Location restriction General restriction No access	Only
For Further	Information Contact:	
Nominated	h Add 1	
Title	Surname First Name Initials	
		Client on system
Organisation	MARRABRI GOMEROI TRAD OWNERS	
Address		
Phone number	0428 978 863 Fax	
Mnowledg		
Title	* Sumame First Name Initials	Client on
	TRINDALU LYNN	system
Organisation	NARRABRULALCI	
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fex 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	
	KURRATIONS 1812	SITE 82)
Easting		
the state of the s	BAAN BAA 8836-N	
Zone		
	≥ 55 ≥ 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re	ecorder	
Title	Surname First Name Initials	
	APP LETON IGHN	
Organisation	ARCHAEOLOGICAL SURVEYS A REP	Client on
Address	16 CURTIS ST ARMIDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	س
Date recorded	15/07/09	

NPWS Aboriginal Site Recording Form - Site Information

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Kolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 30 metres
Isolated clumps of trees	Farming-Intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KulqZa=on6
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rural	
LI IVA	Service corridor	
	Transport corridor	Site Location Map
	Urban expansion	NW NE
	L N/A	
Current Land Tenure		
Public National Park	/ other Government Dept.	See 1
➤ Private		
Primary report I.D.	(I.D. Office Use only)	See attached.
		$N_{\rm l}$
BRU COAL A		w
E 2 LONGWA		$f_{\overline{t}}$.
E A LUNGWA	11-1-11-12-12-1	
		1
		SW e e

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
ä	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Ind	dicate scale, boundaries of site, fea	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		\	Shelter height
W		ε	Shelter floor area
		1	Ones Ste Dimensions (m)
		;	Open Site Dimensions (m) Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area
			.

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Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
	776054	6619757	5	F	MET	33	30	8	F	7	3				Α	R	0		
				F	MET	19	19	3	F	11	3		Х	Х	F		0		
				F	Q	15	10	2	7	3	2				F		0		
76	KURRAJONG 1	F1/OS 76																	
	776129	6619772	5	F	MET	28	20	3	BR	10	3		х		A	2R	15		
	.,,,,,,	0013772		F	СН	25	13	5	BR	9	4		Х		F	R	5		
77	KURRAJONG 1	F1/ISO 77										1							
	776069	6619787	5	F	CH	24	20	5	F	5	3		Х		S	R	0		
78	KURRAJONG 1	 																	
	776021	6619792	5	F	IG	26	26	5	SHAT	23	5		х		F	R	20	-	
				F	СН	16	13	3	?	2	1				F		30		RETOUCH, SCRAPER?
				FP	Q	23	20	6									0		RETOUCH, SCRAPER?
79	KURRAJONG 1	F1/ISO 70																	
	776219	6619775	5	F	СН	20	16	4	F	8	3		х		F	R	0		
80	KURRAJONG 1	F1/OS 80																	
	776210	6619810		F	СН	24	25	7	BR	18	5				F		10		
				F	Q	17	13	3	F	3	1				F		50		
				F	QZ	30	28	10	BR	10	3				S	R	0		
				FP	СН	28	25	8								CORTEX	50		
				FP	СН	27	10	6			·						0		STEP FRACTURE SCAR
81	KURRAJONG 1	 											!						
	774687	6619444	6	F	MET	34	28	19	?	5	3				A		25	-	
82	KURRAJONG	 Г1/OS 82																	
	774400	6619174	6	F	BAS	63	27	10	F	18	6		Х		F	R	0	х	
				F	MET	27	12	5	SHAT						F	R	15		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	13	17	3	SHAT						F		0		
,				FP	СН	12	10	2									0		
				F	QZ	30	25	11	BR	24	11				F	R	0		
			_	F	MET	68	43	22	BR	8	3				Α		60		
				FP	CHAL	23	10	7								2NS	50		
				F	MET	28	32	9	BR	16	7				Α		0		
				F	MET	43	22	5	BR	15	3				Α	2R	0		
83	KURRAJONG 1	1/OS 83																	
	774312	6619099	5	FP	MET	17	10	3								NS	10		
				FP	СН	17	7	6							<u> </u>		0		
				FP	СН	15	8	3									0		
				FP	PW	20	8	8									0		RETOUCH
				F	MET	32	16	6	F	10	3				F		20		
				FP	MET	65	45	32									75		STEEP EDGE SCRAPER
				F	MET	21	35	9	CORT	15	5	i	X		F		5		
84	KURRAJONG 1	1/05 84	:						İ										
	774282	6619053	5	FP	QZ	20	13	5								R	0		
				FP	CHAL	18	13	4	BR	8	4		х		F		0		
				FP	MET	50	50	25									80		STEEP EDGE SCRAPER
				F	MUD/R	23	38	7	F	26	5			Х	F		50	-	
				F	СН	29	18	9	F	14	6	Р				R	0		-
85	KURRAJONG 1	1/OS 85																	
	774250	6619003	5	F	MUD/R	28	15	8	SHAT				х		S	R	5	·	RETOUCH L MARGIN
				F	СН	21	19	5	BR	11	5		Х		н		0	Х	
				С	MET	60	47	26									60		2 NEG FL SCARS + STEP FRACTURE
86	KURRAJONG 1	1/OS 86										-							
	774230	6618998	5	F	СН	22	30	5	BR	16	5	_			F	R	0		
			-	F	MUD/R	16	24	5	F	8	3				F	R	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
			0000000	FP	MET	63	48	17				2					20		
120	KURRAJONG	T1/ISO 120								1									
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0	3 0 3	
121	KURRAJONG	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40	0-00	
8				FP	PW	30	30	10							Ÿ		0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21								8:	75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
							10.												L.

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	MetasedImentary				
Е	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2N\$	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
C	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 81 - Site 80 viewed from the south.

Site (80) name: Location: GDA

Мар:

"Kurrajong T1/OS 80" 55J E.0776210 N.6619810 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

Site type: Contents:

5 artefacts along 15m of narrow

track Cattle grazing 80m

Land use: Dist. from water:

Arch. Visibility: Artefact descript:

95% Chert flake

2 chert flaked pieces Quartzite flake Quartz flake



Plate 82 - Site 81 viewed from the northeast.

Site (81) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript:

"Kurrajong T1/ISO 81" 55J E.0774687 N.6619444 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 30m

50% Metasedimentary flake



Plate 83 - Site 82 viewed from the northeast.

Site (82) name: Location: GDA

Site type: Contents:

Мар:

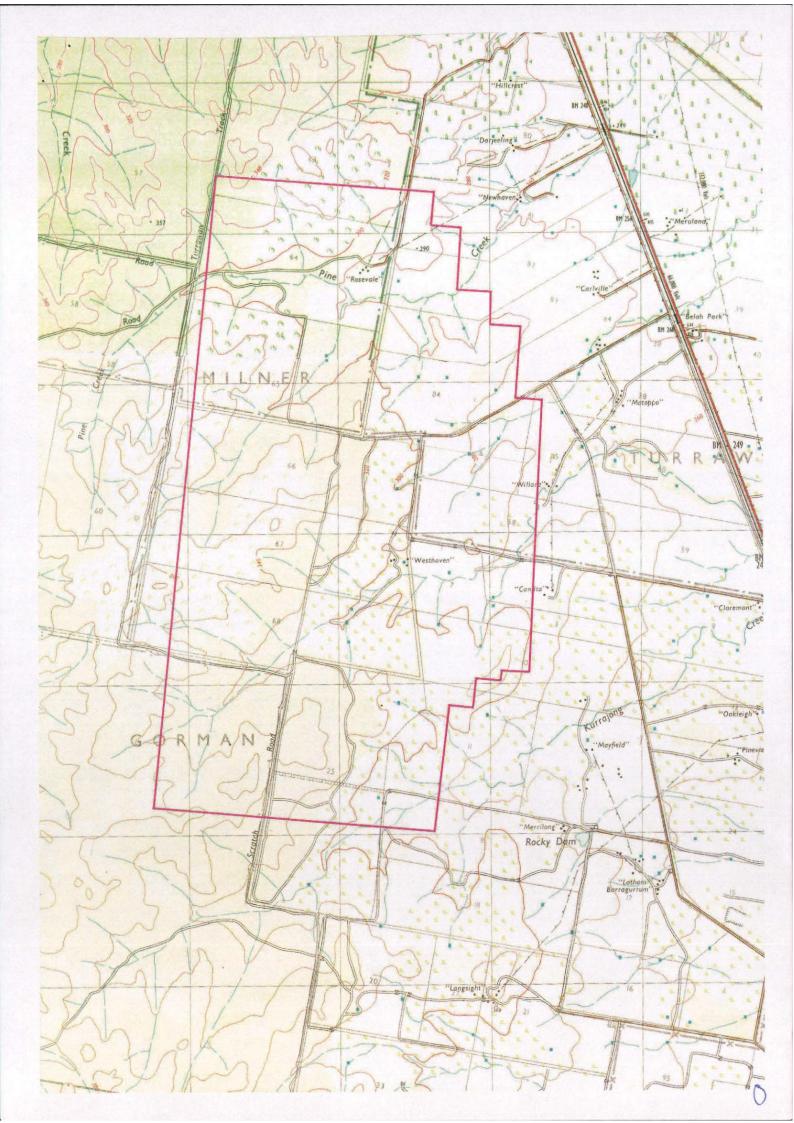
Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 82" 55J E.0774400 N.6619174 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

9 artefacts scattered in area of

30m x 20m Cattle grazing 30m 65-95% Materials: Basalt

Metasedimentary Chert

Quartzite Chalcedony



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 1191-161-10111212	
Date receive	[7] 9 /95	
Entered by (I.D		
Information		Office Use
Gender/ma		,
	Information Contact:	
∟ Nominate Title	d Trustee Surname First Name Initials	
	TRINDALLI CRAIG	Client on
Organisation	NARRABRI GOMERON TRAD OWNERS	system
Address		L / S
Phone number	0428 978 863 Fax	
☐ Knowledg	e Holder	
Title	Surname First Name Initials	Client on
	TRINDALL LYNN	system
Organisation	NARRABRULALCIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic		()
Site Name		SITE 83
Easting		
Mapsheet	BAHN BAA 8836-N	·
Zone	54 1:25k topographic map Non differential GPS	KAR
	✓ 55 ✓ 1:50k topographic map ✓ Differential GPS	•
	58 Ingineering survey plan or map	
	Client GIS or CAD system	
Primary R	ecorder	
Title	Surname First Name Initials	
	APPLETON	2000
Organisation	ARCHAEOLOGICAL SURVEYS & REP	Client on system
Address	16 CURTUS ST ARMUDALE	X
Phone number	02 6772 6512 Fax 02 6772 4567	
Date recorded	15/07/09	

SE

	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	☐ Flat ☐ Tor ☐ Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		
Vegetation	Land use	Water
Closed forest Grasslands	Conservation Established urban	Distance to permanent water source metres Distance to temporary water source metres
Isolated clumps of trees		
· ·	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low Intensity	Name of nearest temporary water KURRATONG
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	X Pastoral/grazing	see attached
Revegetated	Recreation	see andered
L N/A	Semi-rural	
	Service corridor	
	Transport corridor	
Ī	Urban expansion	Site Location Map
ĺ		NW NE
	N/A	
Current Land Tenure		•
	/ other Government Dept.	
Private		
Primary report I.D.		
ABORIGINAL	(I.D. Office Use only)	See attached
EASSESSME	THE PARTY OF THE P	N .
		W ·
	INE STAG	<u>/L</u>
E 2 LONGWA	LL PROJE	
<u></u>		
<u> </u>		
	S	SW s

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-s	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
n	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan tre NW	ilicate scale, boundaries of site, fea N	tures NE	•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X F	Shelter height
W		E	Shelter floor area
			Open Site Dimensions (m)
		ţ	Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	13	17	3	SHAT						F		0		
				FP	СН	12	10	2				-					0		
				F	QZ	30	25	11	BR	24	11				F	R	0		
				F	MET	68	43	22	BR	8	3				Α		60		
-				FP	CHAL	23	10	7								2NS	50		
				F	MET	28	32	9	BR	16	7				Α		0		
				F	MET	43	22	5	BR	15	3				A	2R	0		
83	KURRAJONG 1	T1/OS 83																	
	774312	6619099	5	FP	MET	17	10	3								NS	10		
				FP	СН	17	7	6									0		
				FP	СН	15	8	3									0		
				FP	PW	20	8	8									0		RETOUCH
				F	MET	32	16	6	F	10	3				F		20		
		<u> </u>		FP	MET	65	45	32									75		STEEP EDGE SCRAPER
				F	MET	21	35	9	CORT	15	5		Х		F		5		
84	KURRAJONG 1	T1/OS 84																	
	774282	6619053	5	FP	QZ	20	13	5								R	0		
				FP	CHAL	18	13	4	BR	8	4		Х		F		0		
				FP	MET	50	50	25		•							80		STEEP EDGE SCRAPER
				F	MUD/R	23	38	7	F	26	5			Х	F		50		
		-		F	CH	29	18	9	F	14	6	Р				R	0		
85	KURRAJONG 1	1/OS 85																	
	774250	6619003	5	F	MUD/R	28	15	8	SHAT				Х		S	R	5		RETOUCH L MARGIN
				F	СН	21	19	5	BR	11	5		Х		Н		0	х	
				С	MET	60	47	26						_			60		2 NEG FL SCARS + STEP FRACTURE
86	KURRAIONG 1	[1/OS 86				,					<u> </u>								
	774230	6618998	5	F	СН	22	30	5	BR	16	5				F	R	0		
				F	MUD/R	16	24	5	F	8	3		-		F	R	0	·	

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
			,	FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120							 								•		
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAIONG	 T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	A		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36								-	60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>
HEAD

HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	A	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	5	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	I		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 84 - Site 83 viewed from the northeast

Site (83) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 83" 55J E.0774312 N.6619099 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 7 artefacts in 30m x 20m area

Cattle grazing

30m 95%

Materials include,

Chert

Petrified wood with retouch

Metasedimentary

Metasedimentary steep-edged

scraper



Plate 85 - Site 84 viewed from the northeast.

Site (84) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 84" 55J E.0774282 N.6619053 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

5 artefacts in 10m x 5m area Cattle grazing 40m 95%

Metasedimentary steep-edged

scraper Quartzite Chalcedony Mudstone Chert



Plate 86 - Site 85 viewed from the northeast.

Site (85) name: Location: GDA Мар:

Site type: Contents:

Land use: Dist. from water: Arch. Visibility:

Artefact descript:

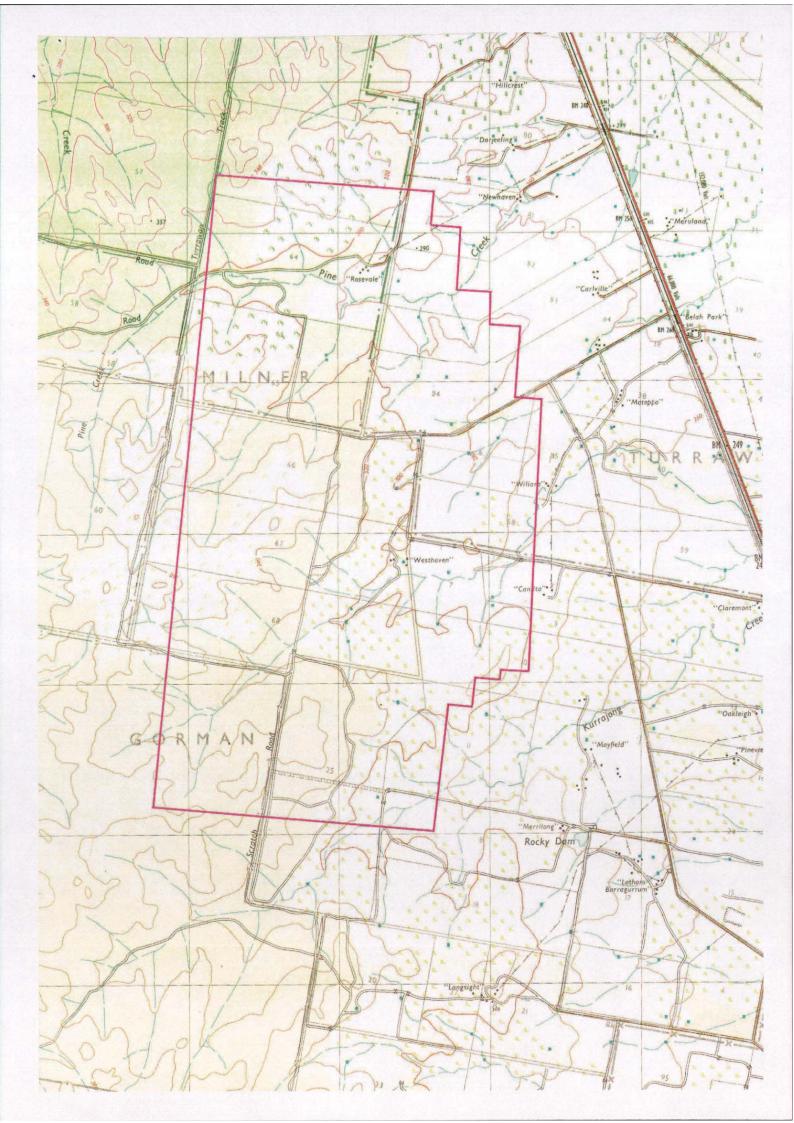
"Kurrajong T1/OS 85" 55J E.0774250 N.6619003 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts scattered over

10m x 5m area Cattle grazing

30m 40%

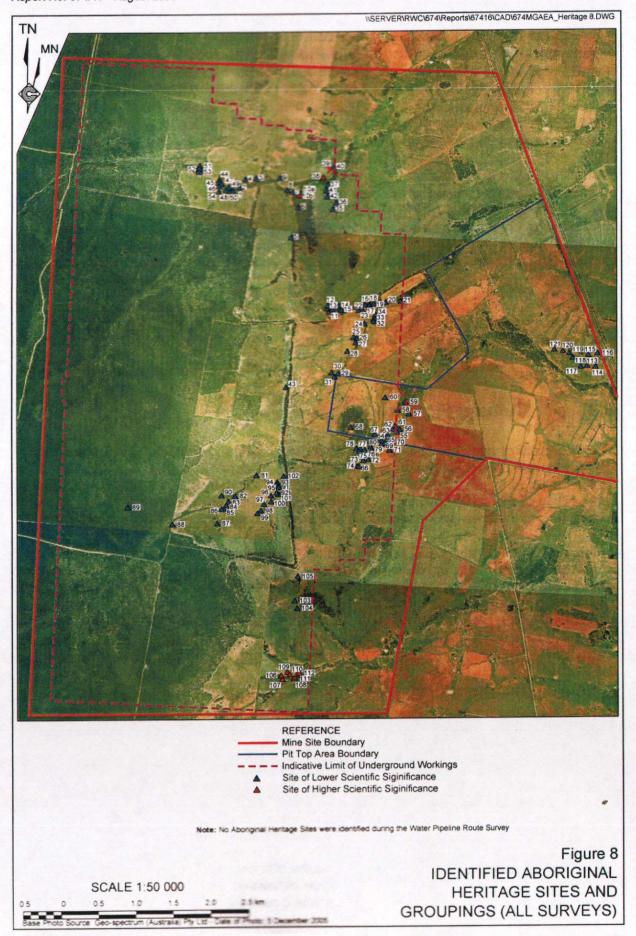
Metasedimentary core Mudstone with retouch

Chert



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-6-01/12-3								
Date received								
Entered by (I.D.)								
Entered by (I.D.)								
Information Access	Office Use							
Gender/male Gender/female Location restriction General restriction No access	Only							
For Further Information Contact:								
Mominated Trustee Title Surparne First Name Initials								
Title Surname First Name Itiliais	Client on							
Organisation NARRABRI GOMEROI TRAD OWNERS	system							
Address Address								
Phone number 0428 978 863 Fax								
Knowledge Holder								
Title * Surname First Name Initials	Client on							
TRINDALL LYNN	system							
Organisation NARRABRULALC								
Address PO BOX 37 NARRABRI 2390								
Phone number 62 6792 4228 Fax 02 6792 4258								
Aboriginal Heritage Unit or Cultural Heritage Division Contacts								
Geographic Location								
Site Name KURRAZONG TU/OS 84	SITE 84)							
Easting 77 4282 Northing 66 19053 AMG X GDA								
Mapsheet BAAN BAA 8836-N								
Zone 54 1:25k topographic map Non differential GPS								
55 1:50k topographic map Differential GPS								
56 1:100k topographic map Engineering survey plan or map								
Client GIS or CAD system								
Primary Recorder								
Title Surname First Name Initials								
APPLETON IGHN								
Organisation ARCHAEOLOGICAL SURVEYS & REP	Client on							
Address 16 CURTUS ST ARMUDALE	system							
Phone number 02 6772 6512 Fax 02 6772 4567	162							
Date recorded 15/07/09								

Transport corridor Urban expansion N/A	NW	Site Location Map
Current Land Tenure Public National Park / other Government Dept. Private		
Primary report I.D	See w	attached.
	sw	s

SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	เพ-ร	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
*	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, feat	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		\	Shelter height
W		įE	Shelter floor area
			O College Discours (m)
			Open Site Dimensions (m)
			Total length of visible site Average width of visible site
			Estimated area of visible site
			Length of assessed site area
			•

SE

SW

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	ТН	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	13	17	3	SHAT						F		0		
-				FP	СН	12	10	2									0		
				F	QZ	30	25	11	BR	24	11				F	R	0		
				F	MET	68	43	22	BR	8	3				Α		60		
				FP	CHAL	23	10	7								2NS	50		
				F	MET	28	32	9	BR	16	7				Α		0		
				F	MET	43	22	5	BR	15	3				A	2R	0		
83	KURRAJONG 1	T1/OS 83																	
63	774312	6619099	5	FP	MET	17	10	3								NS	10		
<u></u>			-	FP	СН	17	7	6									0		
				FP	СН	15	8	3									0		
				FP	PW	20	8	8									0		RETOUCH
				F	MET	32	16	6	F	10	3				F		20		
				FP	MET	65	45	32									75		STEEP EDGE SCRAPER
				F	MET	21	35	9	CORT	15	5		Х		F		5		
84	KURRAJONG	1/05 84															•		
	774282	6619053	5	FP	QZ	20	13	5				<u> </u>				R	0		
				FP	CHAL	18	13	4	BR	8	4		x		F		0		
				FP	MET	50	50	25									80		STEEP EDGE SCRAPER
				F	MUD/R	23	38	7	F	26	5			Х	F		50		
				F	СН	29	18	9	F	14	6	Р				R	0		
85	KURRAJONG 1	F1/OS 85																	
- 65	774250	6619003	5	F	MUD/R	28	15	8	SHAT				х		s	R	5		RETOUCH L MARGIN
				F	СН	21	19	5	BR	11	5		X		Н	,,	0	×	
				С	MET	60	47	26									60	·	2 NEG FL SCARS + STEP FRACTURE
86	KURRAJONG T	[[1/OS 86								· · · · -									
	774230	6618998	5	F	СН	22	30	5	BR	16	5				F	R	0		
			 -	F	MUD/R	16	24	5	F	8	3				F	R	0	-	

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17				·			-		20		
120	KURRAJONG 1	 T1/ISO 120					-							1					
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG T	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
																	l		

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/5?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 84 - Site 83 viewed from the northeast

Site (83) name: Location: GDA Мар:

Site type: Contents: Land use:

Arch. Visibility: Artefact descript:

Dist. from water:

"Kurrajong T1/OS 83" 55J E.0774312 N.6619099 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 7 artefacts in 30m x 20m area

Cattle grazing

30m 95%

Materials include,

Chert

Petrified wood with retouch

Metasedimentary

Metasedimentary steep-edged

scraper



Plate 85 - Site 84 viewed from the northeast.

Site (84) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 84" 55J E.0774282 N.6619053 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 5 artefacts in 10m x 5m area Cattle grazing

40m 95%

Metasedimentary steep-edged

scraper Quartzite Chalcedony Mudstone Chert



Plate 86 - Site 85 viewed from the northeast.

Site (85) name: Location: GDA Мар:

Site type: Contents:

Land use: Dist. from water: Arch. Visibility:

Artefact descript:

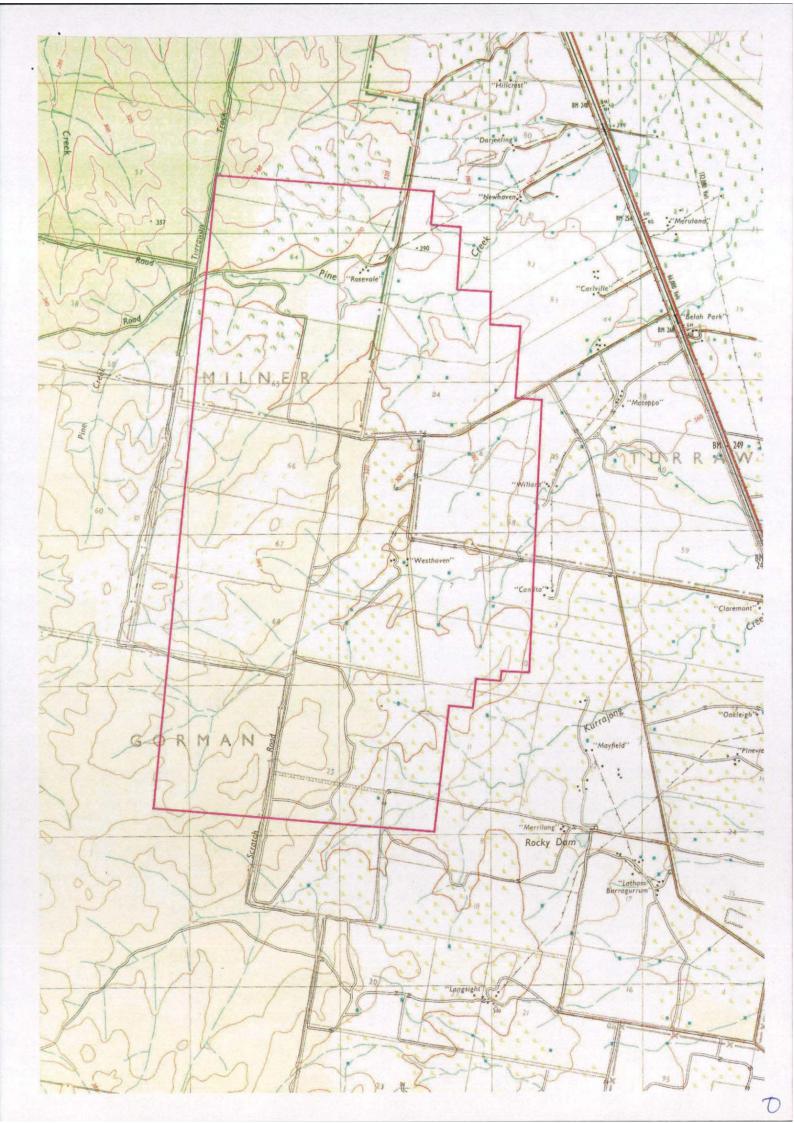
"Kurrajong T1/OS 85" 55J E.0774250 N.6619003 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

3 artefacts scattered over 10m x 5m area

Cattle grazing 30m

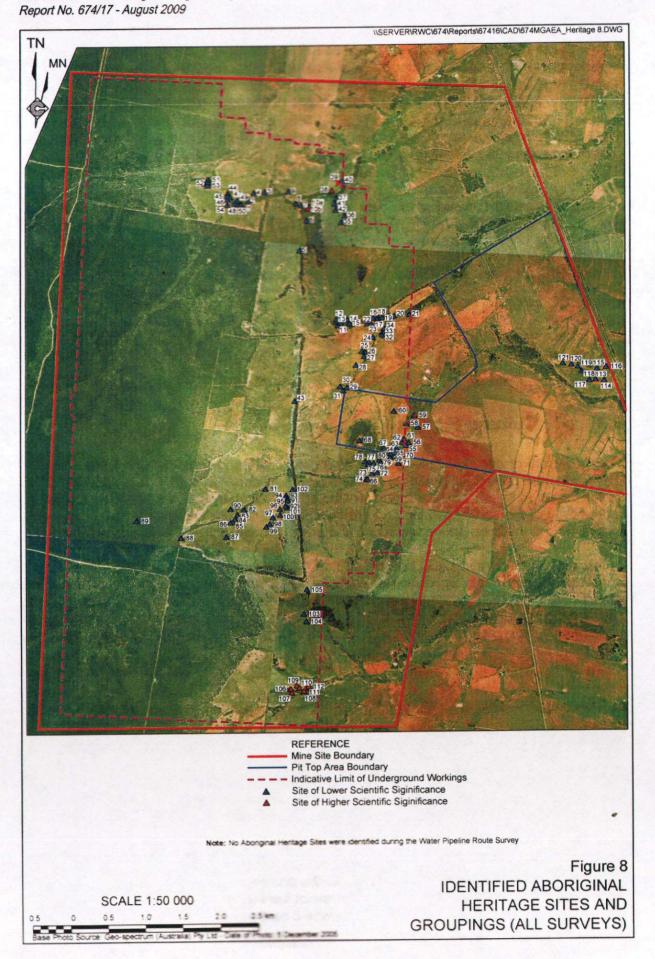
40% Metasedimentary core Mudstone with retouch

Chert



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project



1



National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19 61 01124	
Date receive		
Entered by (I.D.	.)	
Information	Access	
Gender/ma		Office Use Only
For Further	Information Contact:	
Nominated	d Trustee	
Title	Surname First Name Initials	
	TRINDALL CRAIG	Client on
Organisation	NARRABRII GOMEROI TRAD OWNERS	system
Address		4
Phone number	0428 978 863 Fax	
☐ Knowledge	e Holder	
Title	Surname First Name Initials	Cilent on
	TRINDALL	system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARRABRI 2390	
	02 6792 4228 Fax 02 6792 4258	
THORSE HEREOF	CILP IN THE PARTY FAX	
Aboriginai	Heritage Unit or Cultural Heritage Division Contacts	
<u> </u>	<u> </u>	
Geographic	Location /	SHE 85)
Site Name	KURRAJONG TI/OS 185	SHE 85)
Easting	774250 Northing 6619003 AMG X GDA	
	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
28	✓ 55 ✓ 1:50k topographic map ✓ Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
	\$17 EV	
Primary Re	ecorder Surname First Name Initials	
	APPLETON I SOHN I	
Na (49-44) 10	ARCHAEOLOGICAL SURVEYS A REP	Client on
Address	16 CURTUS ST ARMUDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	T
\$ - 10F1001111111111111111111111111111111	15/07/09	

4	CLOSED SITE	OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees	radi oron	Levy
∑ degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 30 metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	
Open woodland		Name of nearest temporary water
	Forestry	Directions for Relocation
Scrub	Industrial	
Woodland	Mining Mining	
Cleared	Pastoral/grazing	see attached.
Revegetated	Recreation	
☐ N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map N N NE
	□ N/A	NW NE
Current Land Tenure		-
	/ other Government Dept.	•
Private National Park	7 outer Government Dept.	
E FIIAGIA	-	
Primary report I.D.	(I.D. Office Use only)	See attached
ABORIGINAL	HERITAG	see attached.
EASSESSME	NT: NARRA	N
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' Gen	eral Site Information	Features					
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming				
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering				
Boulder	Boulder	∐N-S	3. Art				
Wind erosion	Sandstone platform	NE-SW	4. Artefact				
Water erosion	Silica gloss	E-W	5. Burial				
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring				
	Weathered	≥ N/A	7. Conflict				
	Other platform		8. Earth Mound				
Condition of Ceiling	Shelter Aspect		9. Fish Trap				
Boulder	North		10. Grinding Groove				
Sandstone platform	North East		11. Habitation Structure				
Silica gloss	East		12. Hearth				
Tessellated	South East		13. Non Human Bone & Organic Material				
Weathered	South		14. Ochre quarry				
Other platform	South West		15. Potential Archaeological Deposit				
	West		16. Stone Quarry				
*	North West		17. Shell				
			18. Stone Arrangement				
			19. Modified Tree				
			20. Water Hole				
Site Plan Ind	dicate scale, boundaries of site, fea N	tures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area				
			Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area				
DIA	-	SE					

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	О/Н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	13	17	3	SHAT						F		0		
				FP	СН	12	10	2									0		Į.
		•		F	QZ	30	25	11	BR	24	11				F	R	0		
				F	MET	68	43	22	BR	8	3				Α		60		
				FP	CHAL	23	10	7								2NS	50		
				F	MET	28	32	9	BR	16	7			27 10 - 12	Α		0		
				F	MET	43	22	5	BR	15	3				A	2R	0		
83	KURRAJONG '	F1 /OC 92			AN TANK A									-	 			30.000E	
83	774312	6619099	5	FP	MET	17	10	3								NS	10		
	771022	0023033		FP	СН	17	7	6			2						0		
				FP	СН	15	8	3								2	0		
2				FP	PW	20	8	8):					0		RETOUCH
				F	MET	32	16	6	F	10	3				F		20		
				FP	MET	65	45	32									75		STEEP EDGE SCRAPER
				F	MET	21	35	9	CORT	15	5		х		F		5		
84	KURRAJONG 1	F1 /OS 94									F	-	,						
04	774282	6619053	5	FP	QZ	20	13	5	-	-99						Ř	0		
	//4282	0012022	3	FP	CHAL	18	13	4	BR	8	4		x		F	N	0		
				FP	MET	50	50	25	DN	•	-4						80		STEEP EDGE SCRAPER
				F	MUD/R	23	38	7	F	26	5			X	F		50		STEEF EDGE SCRAFER
				F	CH	29	18	9	F	14	6	Р				R	0	<u> </u>	
												2)-				979			
85	KURRAJONG						1								70/25				
	774250	6619003	5	F	MUD/R	28	15	8	SHAT	200			X		S	R	5		RETOUCH L MARGIN
				F	CH	21	19	5	BR	11	5		Х		H		0	X	
				С	MET	60	47	26									60		2 NEG FL SCARS + STEP FRACTURE
86	KURRAJONG *	T1/OS 86																	
	774230	6618998	5	F	СН	22	30	5	BR	16	5				F	R	0		TO TANK IN THE TANK
7. 100				F	MUD/R	16	24	5	F	8	3				F	R	0		3 3350 33

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48_	17									20		
120	KURRAJONG 1	 T1/iSO 120																	<u></u>
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	 T 1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75	<u>-</u>	2 NEG FLAKE SCARS
	_			FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	Q Z	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	N5	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked plece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 84 - Site 83 viewed from the northeast

Site (83) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 83"
55J E.0774312 N.6619099
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
7 artefacts in 30m x 20m area

Cattle grazing

30m 95%

Materials include,

Chert

Petrified wood with retouch

Metasedimentary

Metasedimentary steep-edged

scraper



Plate 85 - Site 84 viewed from the northeast.

Site (84) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 84" 55J E.0774282 N.6619053 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

5 artefacts in 10m x 5m area Cattle grazing 40m

95% Metasedimentary steep-edged

scraper Quartzite Chalcedony Mudstone Chert



Plate 86 - Site 85 viewed from the northeast.

Site (85) name: Location: GDA Map:

Site type: Contents:

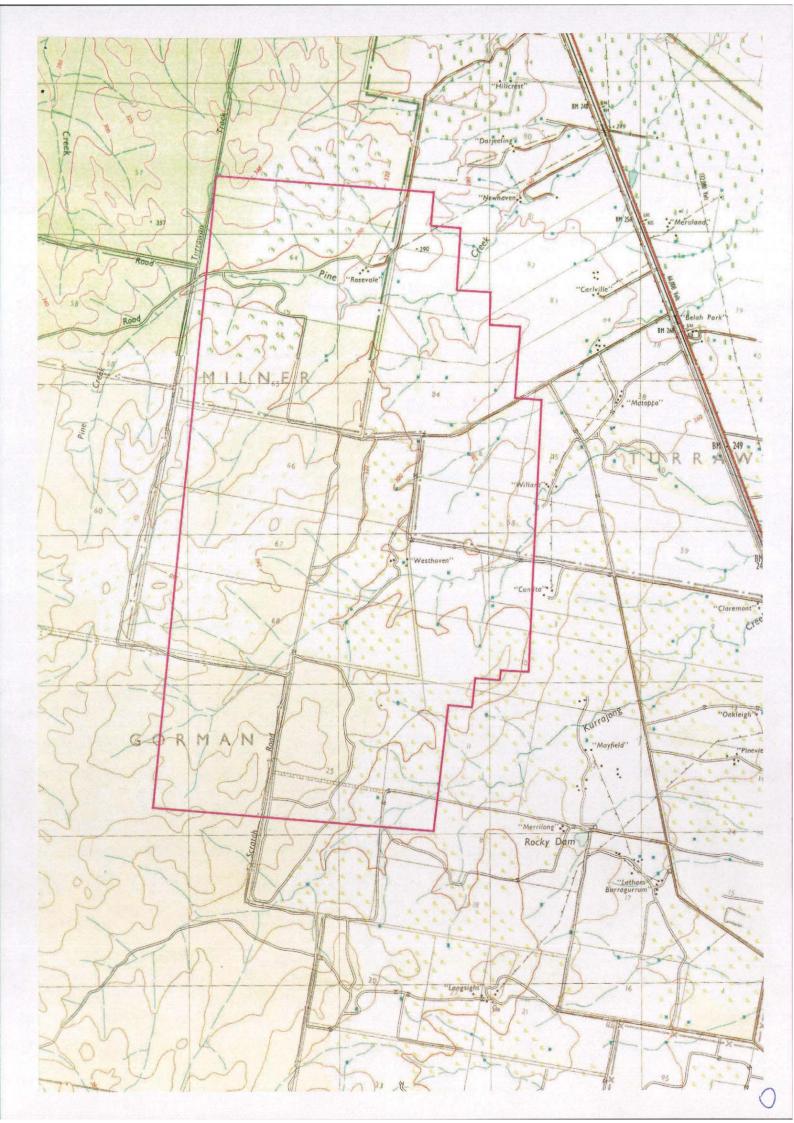
Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 85"
55J E.0774250 N.6619003
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
3 artefacts scattered over

10m x 5m area Cattle grazing

30m 40%

Metasedimentary core Mudstone with retouch

Chert



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 191-61-011215	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
	5
	Office Lise Only
Gender/male Gender/female Location restriction General restriction No access	 ,
For Further Information Contact:	
Nominated Trustee Title Surname First Name Initials	
	Client on
Organisation NARRABRI GOMEROI TRAD OWNERS	system
Address	الكان
Phone number 0426 978 863 Fax	
Knowledge Holder	
Initials	Cilent on
TRINDALL	system
Organisation NARRABRULALC	
Address POBOX 37 NARRABRI 2390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name KURRAJONG TI/OS 86	SITE 86)
Easting 774230 Northing 661899 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
★ 55 ★ 1:50k topographic map Differential GPS Differenti	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON ISHN	
Olganisation (7)	Client on system
Address 16 CURTUS ST ARMIDALE	X
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

page 2

•	CLOSED SITE	OPEN SITE
Site Context		, <u> </u>
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
	ridai Greek	Levy
degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source
Grasslands	Established urban	Distance to temporary water source Zo metres
Isolated clumps of trees	Farming-intensive	Tional of to to to to to to to to to to to to to
		Name of nearest permanent water source Name of nearest temporary water
Open forest	Farming-low intensity	Name of nearest temporary water
Open woodland	Forestry	Directions for Relocation
Scrub	Industrial	Directions for Percentage
Woodland	Mining Mining	
Cleared	Pastoral/grazing	see attached
Revegetated	Recreation	
L. N∕A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map NW NE NE
	□ N/A	WA
Current Land Tenure		_
[]	/ other Covernment Dent	·
Private	/ other Government Dept.	
riivate L	<u></u>	
Primary report I.D.	(1.D. Office Use only)	Coo all all (
ABORIGINAL	HERITAG	See attached
ELASSESSME	NT: NARRA	N₁ _
BRICOALA	VINE STAG	w :
E 2 LONGWA	ILL PROJE	R_{\perp}
< T		
		,
*		SW S SE

Gen	eral Site Information		Features					
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming					
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering					
Boulder	Boulder	∐N-S	3. Art					
Wind erosion	Sandstone platform	NE-SW	4. Artefact					
Water erosion	Silica gloss	E-W	5. Burial					
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring					
	Weathered	≥ N/A	7. Conflict					
	Other platform		8. Earth Mound					
Condition of Celling	Shelter Aspect		9. Fish Trap					
Boulder	North		10. Grinding Groove					
Sandstone platform	North East		11. Habitation Structure					
Silica gloss	East		12. Hearth					
Tessellated	South East		13. Non Human Bone & Organic Material					
Weathered	South		14. Ochre quarry					
Other platform	South West		15. Potential Archaeological Deposit					
-	West		16. Stone Quarry					
÷	North West		17. Shell					
			18. Stone Arrangement					
			19. Modified Tree					
			20. Water Hole					
Site Plan Ind	licate scale, boundaries of site, feat	tures						
NW	N	NE						
			•					
			Site Dimensions					
			Closed Site Dimensions (m)					
			Internal length					
			Internal width					
125		X E	Shelter height					
W		1	Shelter floor area					
			Open Site Dimensions (m)					
			Total length of visible site					
			Average width of visible site					
			Estimated area of visible site					
			Length of assessed site area					

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	13	17	3	SHAT						F		0		
				FP	СН	12	10	2									0		
				F	QZ	30	25	11	BR	24	11				F	R	0		
			-	F	MET	68	43	22	BR	8	3				Α		60		
				FP	CHAL	23	10	7								2NS	50		
				F	MET	28	32	9	BR	16	7				Α		۵		
				F	MET	43	22	5	BR	15	3				Α	2R	0		
83	KURRAJONG '	T1/OS 83												-					
	774312	6619099	5	FP	MET	17	10	3								NS	10		
				FP	СН	17	7	6									0		
				FP	СН	15	8	3	1								0		
				FP	PW	20	8	8									0		RETOUCH
	<u> </u>			F	MET	32	16	6	F	10	3				F		20		
				FP	MET	65	45	32									75		STEEP EDGE SCRAPER
·				F	MET	21	35	9	CORT	15	5		X		F		5		
84	KURRAJONG 1	 																	
	774282	6619053	5	FP	QZ	20	13	5						_		R	0		
				FP	CHAL	18	13	4	BR	8	4		х		F		0		
				FP	MET	50	50	25									80		STEEP EDGE SCRAPER
				F	MUD/R	23	38	7	F	26	5			Х	F		50		
				F	СН	29	18	9	F	14	6	Р				R	0		
85	KURRAJONG '	T1/OS 85																	
	774250	6619003	5	F	MUD/R	28	15	8	SHAT				Х		S	R	5		RETOUCH L MARGIN
				F	CH	21	19	5	BR	11	5		Х		Н		0	х	
				С	MET	60	47	26									60		2 NEG FL SCARS + STEP FRACTURE
86	KURRAJONG	T1/OS 86			!							<u>-</u>							
	774230	6618998	5	F	СН	22	30	5	BR	16	5				F	R	0		
				F	MUD/R	16	24	5	F	8	3				F	R	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	w	ТН	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17	_								20		
120	KURRAJONG 1	 Γ1/ISO 120																	
_	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		<u> </u>
121	KURRAJONG 1	Γ1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36						-			60		PEBBLE/4 NEG FLAKE SCARS
	·			С	СН	25	25	21									75		2 NEG FLAKE SCARS
		•	_	FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
																	·		

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralllure	IGN	lgneous	Dorsal	I		
Core R	Core rotation	Q,Z	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3N5	3 vertical negative flake scars		
C	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 87 - Site 86 viewed from the northeast.

Site (86) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 86"
55J E.0774230 N.6618998
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
2 artefacts 5m apart
Cattle grazing

20m 80% Chert flake Mudstone flake

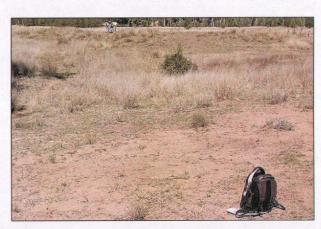


Plate 88 - Site 87 viewed from the north.

Site (87) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 87" 55J E.0774166 N.6618811 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

1: 50,000 scale Topo Isolated artefact Isolated artefact Cattle grazing 40m to drainage line

Quartzite steep-edged scraper



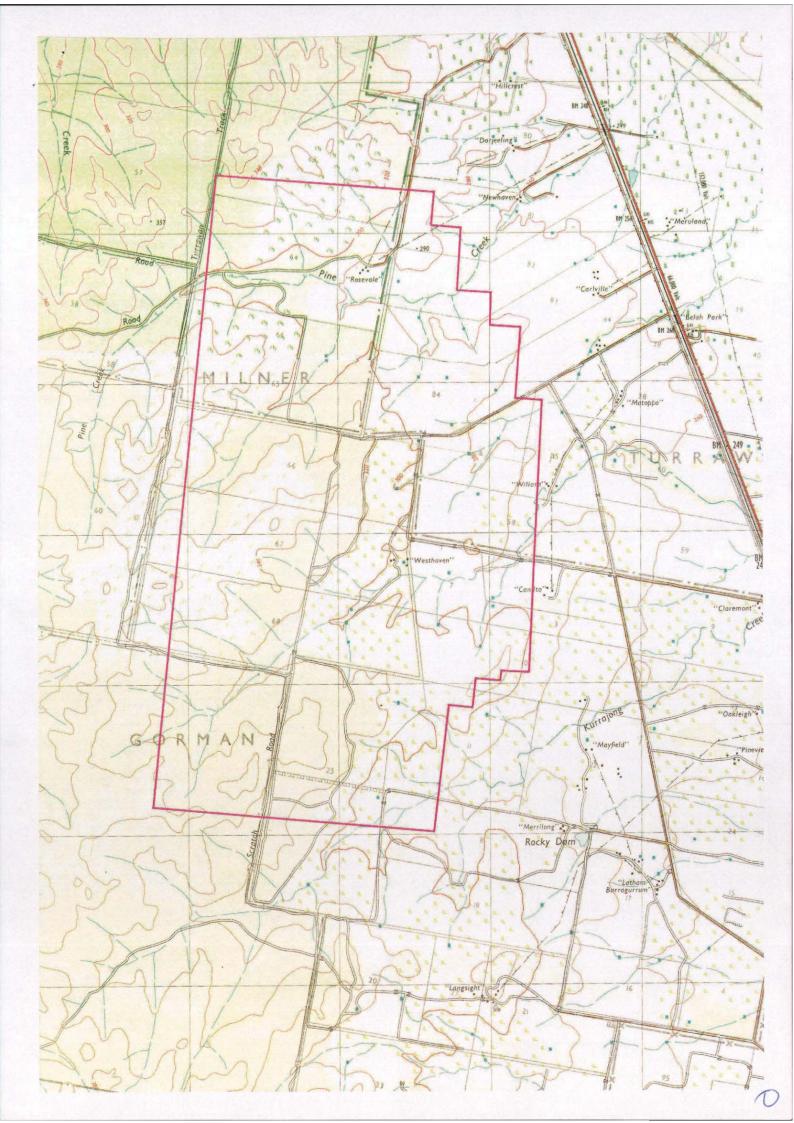
Plate 89 - Site 88 viewed from the south.

Site (88) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 88"
55J E.0773570 N.6618800
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
2 artefacts 10m apart
Cattle grazing
20m (track crossing)
95%

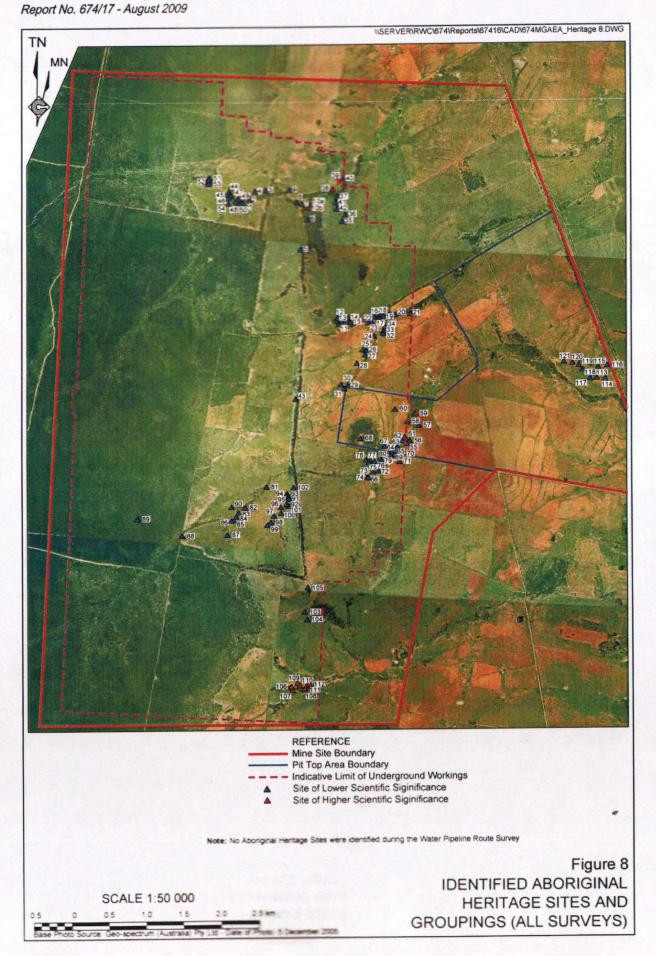
Metasedimentary

Chert



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-6-01/26	
Date received	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	90
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials CRAIG CIENT	41000000000000000000000000000000000000
Organisation NARRABRI GOMEROI TRAD OWNERS Syste	.m]
Address	2
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title " Surname First Name Initials Cilent	on
TRINDALL LYNN syste	m 1
Organisation NARABRU LALC	J
Address POBOX 37 NARRABRI 2390	
Phone number 62 6792 4226 Fax 02 6792 4258	
Abortginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	_ \
Site Name KURRATONG TI/ISO 87 SITE	(ר8 =
Easting 774166 Northing 6618811 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
55 1:50k topographic map Differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON IGHN	
Organisation ARCHAEOLOGICAL SURVEYS & REP Client system	
Address 16 CUIZTICS STUARMUDATE	1
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous Plain	Beach Coastel rock platform	Tidal Flat Upper slope Stream bank Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
2 degrees		
Vegetation	Land use	Water
Closed forest Grasslands	Conservation Established urban	Distance to permanent water source metres Distance to temporary water source metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water Kurka Tonis
Open woodland	Forestry	Name of nearest temporary water
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	Pastoral/grazing	
Revegetated	Recreation	See attached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map
	N/A	NW N
Current Land Tenure	***************************************	
	. / -	•
Private National Park	/ other Government Dept.	
1114810		
Primary report I.D.	(I.D. Office Use only)	See attached.
ABORIGINAL	HERITAG	see allached.
EASSESSME	NT: NARRA	W // E
BRI COALA	VINE STAG	/ -
E 2 LONGWA	ILL PROJE	L.]
- T		
		SW S SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∐ N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
4	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan in	dicate scale, boundaries of site, fea		
NW	N	NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
		,	Shelter height
W		E	Shelter floor area
		3 D	
			Open Site Dimensions (m)
		5	Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SE

SW

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	AVOID IF POSSIBLE
	SALVAGE IF NECESSARY (PART 3A)
TA POSTALISMO (1998)	
eliminary Site Asse	ssment
e Cultural & Scientific A	Analysis and Preliminary Management Recommendations
	LOW RESEARCH POTENTIAL
	ANALYSE IF NECESSARY TO SHLVAGE
s,	
<u> </u>	
	filled in by the Endorsees
	owledge Holder Nominated Trustee Native Title Holder Community Cons
	owiedge Holder Nominated Trustee Native Title Holder Community Conse
dorsed by: Kno	Surname Surname Native Title Holder Community Conse
ndorsed by: Kno	owiedge Holder Nominated Trustee Native Title Holder Community Conse
dorsed by: Kno	Surname Surname First Name Initials NARRABRI GOMERO I TRADOLONERS
Organisation Address	Native Title Holder Community Consumerated Burname First Name Initials NARRABRI GOMERO I TRADOLONERS DECCW NARRABRI
ndorsed by: Kno Title Organisation	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number	Native Title Holder Community Consumerated Burname First Name Initials NARRABRI GOMERO I TRADOLONERS DECCW NARRABRI
Organisation Address Phone number	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.)	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.) A4 location map B/W photographs	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.) A4 location map B/W photographs Colour photographs	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number ttachments (No.) A4 location map B/W photographs Colour photographs Slides	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number tachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax
Organisation Address Phone number ttachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Native Title Hotels Community Consumerated Surname Surname First Name Initials NARRABRI GOMEROL TRADOLONERS DECCW NARRABRI Fax

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG 1	T1/ISO 87																	
	774166	6618811	6	FP	QZ	58	55	15	BR	15	7_				F		40		STEEP EDGE SCRAPER
88	KURRAJONG 1	 																	
	773570	6618800	5	F	MET	23	22	5	F	10	4			Х	F		0		
				F	CH	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG 1	[T1/ISO 89																	
	772971	6619030	5	FP	MET	55	45	18					-			PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG 1	T 1/OS 90																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		х		Α		0	Х	SCRAPER
				F	QZ	22	16	8				D			F	R	0		
				С	CH	40	35	8			_						0	X	6 NEG FLAKE SCARS
				FP	MET	48	45	30									90		STEEP EDGE SCRAPER
				FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG 1	 T 1/OS 91																	
	774975	6619298	4	С	MET	50	37	28									20	X	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		Х				0		STEEP EDGE SCRAPER
92	KURRAJONG 1	T1/ISO 92																	
	774954	6619212	4	F	MET	23	15	5	BR	5	5		Х		F	R	0		
93	KURRAJONG 1	T1/OS 93																	
•	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5		-
				F	MUD	22	18	7	BR	18	7		_		F		0		
94	KURRAJONG	T1/OS 94															_		,
	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	СН	16	11	2	?	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	Е	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FΡ	СН	23	28	3	F	7	2		x				0		
				FP	MET	63	48	17		·							20		
120	KURRAJONG	T1/ISO 120															_		
	778757	6621065	4	F	MET	43	18	4	F	5	2	<u> </u>	Х		F	R	0		
121	KURRAJONG	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	Α		40		
				FP	PW	30	30	10									0		
	-			С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
																-			
			-																

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	A	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa	I		

QZ

CH

Q

CHAL

SERP

Quartzite

Chert

Quartz Petrified wood

Chalcedony

Serpentine

CH/SIL Mixture of chert & silcrete

Core R

ART

F

FP

С

HS

Core rotation

Artefact type

Flaked piece

Hammerstone

Flake

Core

Single vertical ridge

2NS 2 vertical negative flake scars

3NS 3 vertical negative flake scars

4NS 4 vertical negative flake scars

2R Two vertical ridgesNS Negative flake scar



Plate 87 - Site 86 viewed from the northeast.

Site (86) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 86" 55J E.0774230 N.6618998 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 5m apart

Cattle grazing 20m

80% Chert flake Mudstone flake

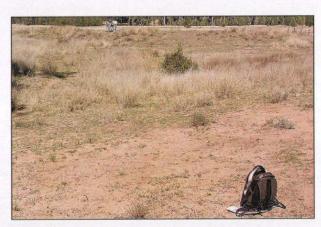


Plate 88 - Site 87 viewed from the north.

Site (87) name: Location: GDA

Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 87" 55J E.0774166 N.6618811 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Isolated artefact

Isolated artefact Cattle grazing 40m to drainage line

95%

Quartzite steep-edged scraper



Plate 89 - Site 88 viewed from the south.

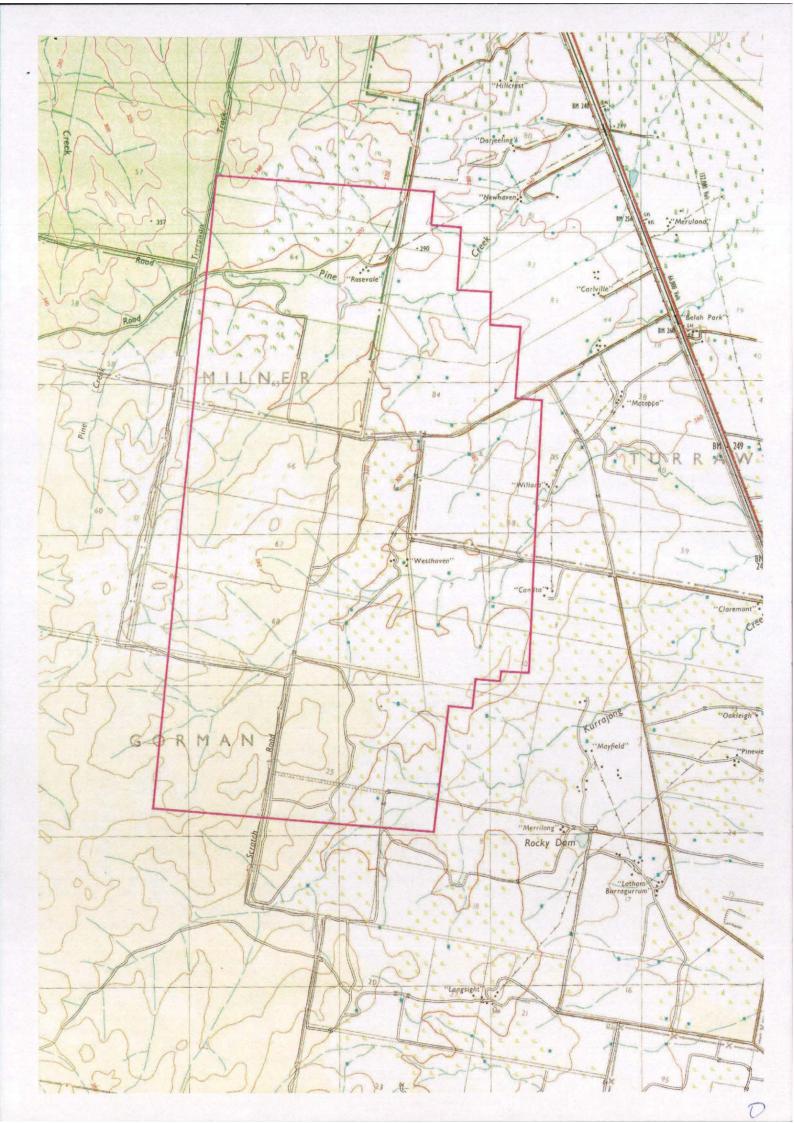
Site (88) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 88" 55J E.0773570 N.6618800 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 10m apart Cattle grazing 20m (track crossing) 95%

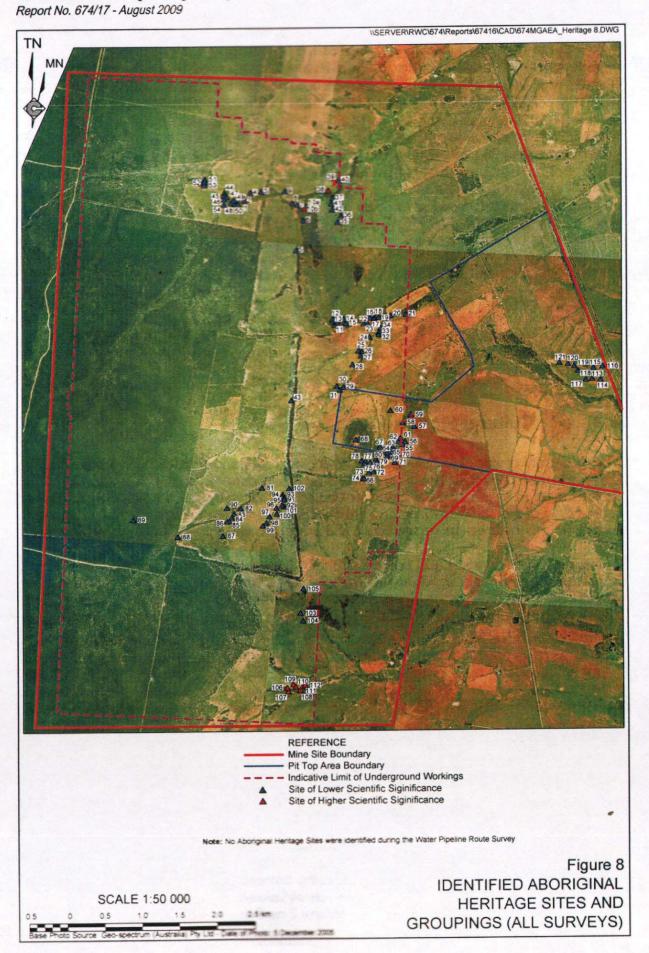
Metasedimentary Chert





Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-6-01127	
Date receive		
Entered by (I.D.	.) [
Information	Access	Office Use
Gender/ma	ale Gender/female Location restriction General restriction No access	Only
For Further	Information Contact:	
Nominate		
Title	Surname First Name Initials	A 11
		Client on system
Organisation	MARKABRI GOMERON TRAD OWNERS	X
Address		16,000 <u>1</u>
Phone number	0428 978 863 Fax	
☐ Knowledg	e Holder	
Title	Sumame First Name Initials	Client on
	TRINDALL LYNN	system
Organisation	NARRABRULALC	
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Caaranhia	Leastlen	
Geographic	KURRAJONG HIJOS 88 11 (SITE 88)
Easting	Troiting	
×	BAAN BAA 8836-N	
Zone		
	≥ 55 ≥ 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re	ecorder	
Title	Surname First Name Initials	
	APPLETON TOHN	
Organisation	ARCHAEOLOGICAL SURVEYS A REP	Client on system
Address	16 CURTUS ST ARMUDALE	X
Phone number	02 6772 6512 Fax 02 6772 4567	
Date recorded	15/07/09	

£	CLOSED SITE	OPEN SITE	
Site Context			
Landform	Landform Unit		
Mountainous	Beach	Tidal Flat Upper slope Stream bank	
Plain	Coastal rock platform	Cliff Plain Stream channel	
Rolling hills	Dune	Crest Ridge Swamp	
Steep hills	Intertidal flat	Flat Tor Terrace	
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat	
Slope	Tidal Creek	Mid slope Levy	
degrees			
uegrees			
Vegetation	Land use	Water	
Closed forest	Conservation	Distance to permanent water source metres	
Grasslands	Established urban	Distance to temporary water source 20 metres	
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source	
Open forest	Farming-low intensity	Name of nearest temporary water Kurratowi	-
Open woodland	Forestry	realise of Realest temporary water	
Scrub	Industrial	Directions for Relocation	
Woodland	Mining		
Cleared	Pastoral/grazing	see attached.	_
Revegetated	Recreation		
L_I N/A	Semi-rural		_
	Service corridor		
TRACK	Transport corridor	Site Location Map	
	Urban expansion	NW N	NE
	L. N/A		
Current Land Tenure .			
Public National Park	/ other Government Dept.		
× Private			
Primary report i.D.	(I.D. Office Use only)	See attached	
ABORIGINAL	+ HERITAG		X II
EASSESSME		W 2.4	N j E
BRI COAL A	VINE STAG	/.	<u></u>
E 2 LONGWA	ILL PROJE		
			j
		NAT.	
		s s	SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∟N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
à	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
	ilcate scale, boundaries of site, fea N	tures NE	
NW		NL	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X.	Shelter height
W		, E	Shelter floor area
		<i>;</i>	
			Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site Estimated area of visible site
			Length of assessed site area
			2011ga1 01 0000000 0110 01100

SE

SW

S



Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG	Γ1/ISO 87																	
	774166	6618811	6	FP	OZ.	58	55	15	BR	15	7_				F		40		STEEP EDGE SCRAPER
88	KURRAJONG '	T1/OS 88								:									
	773570	6618800	5	F	MET	23	22	5	F	10	4			Х	F		0		
				F	СН	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG	Γ1/ISO 89											_						
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG	Γ1/OS 90																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		Х		Α		0	x	SCRAPER
				F	QZ	22	16	8				D			F	R	0		
				С	СН	40	35	8									0	х	6 NEG FLAKE SCARS
-	_		-	FP	MET	48	45	30									90		STEEP EDGE SCRAPER
			_	FP	MET	43	35	35									0	<u>-</u> -	2 NEG FLAKE SCARS
91	KURRAJONG	 Γ1/OS 91							_								_		
_	774975	6619298	4	С	MET	50	37	28									20	Х	2 NEG FLAKE SCARS
			-	F	MET	55	60	30	BR	50	25		X				0		STEEP EDGE SCRAPER
92	KURRAJONG	 Г1/ISO 92																	
	774954	6619212	4	F	MET	23	15	5	BR	5	5		х		F	R	0		
93	KURRAJONG	 T1/0\$ 93												İ					
	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5		
·-				F	MUD	22	18	7	BR	18	7				F		0		
94	KURRAJONG	T1/OS 94																	
	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	CH	16	11	2	7	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	 Γ1/OS 121			-									190				55 55	
,	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		577, 500
				FP	PW	30	30	10									0		
				С	MET	47	45	36					= 10				60		PEBBLE/4 NEG FLAKE SCARS
-	7.5			С	СН	25	25	21	20.00								75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
								950.5										X453.	
						20													

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	A	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
Ε	Eralllure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 87 - Site 86 viewed from the northeast.

Site (86) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

"Kurrajong T1/OS 86" 55J E.0774230 N.6618998 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 5m apart Cattle grazing 20m

80% Chert flake Mudstone flake



Plate 88 - Site 87 viewed from the north.

Site (87) name: Location: GDA

Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript:

"Kurrajong T1/ISO 87" 55J E.0774166 N.6618811 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Isolated artefact

Isolated artefact Cattle grazing 40m to drainage line

95% Quartzite steep-edged scraper



Plate 89 - Site 88 viewed from the south.

Site (88) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript:

Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 10m apart Cattle grazing 20m (track crossing)

"Kurrajong T1/OS 88"

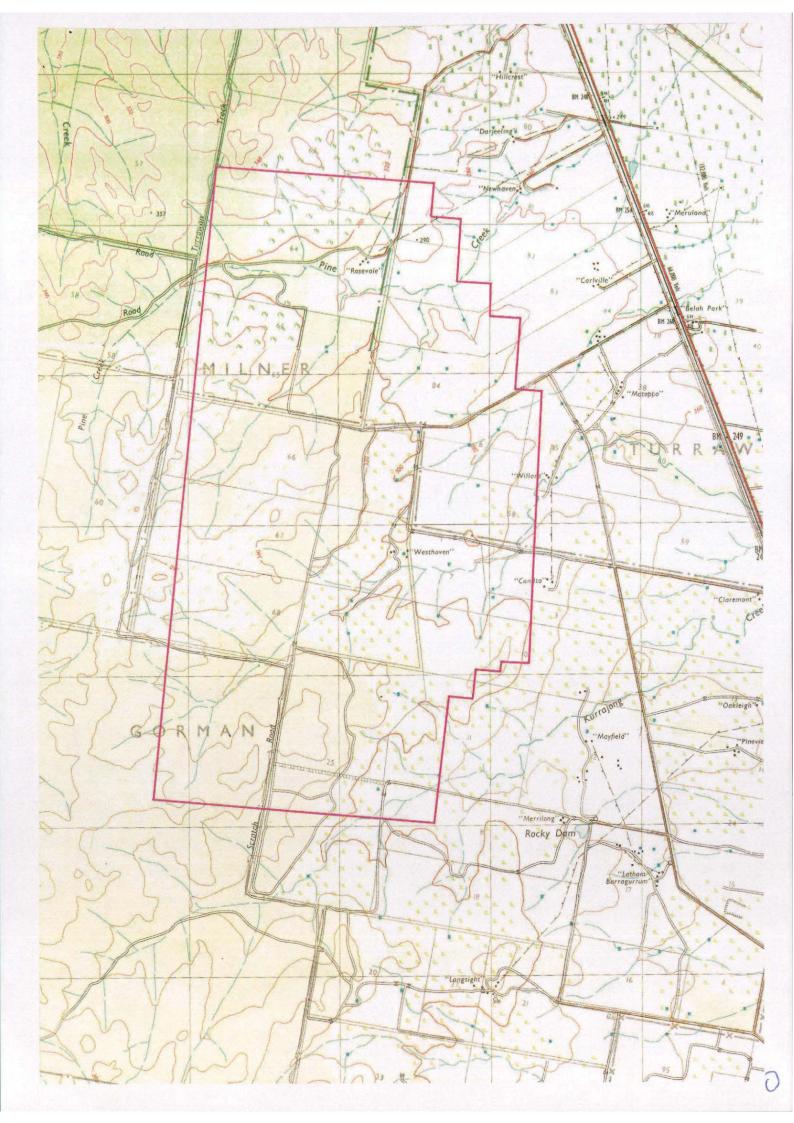
55J E.0773570 N.6618800

95%

Metasedimentary

Chert



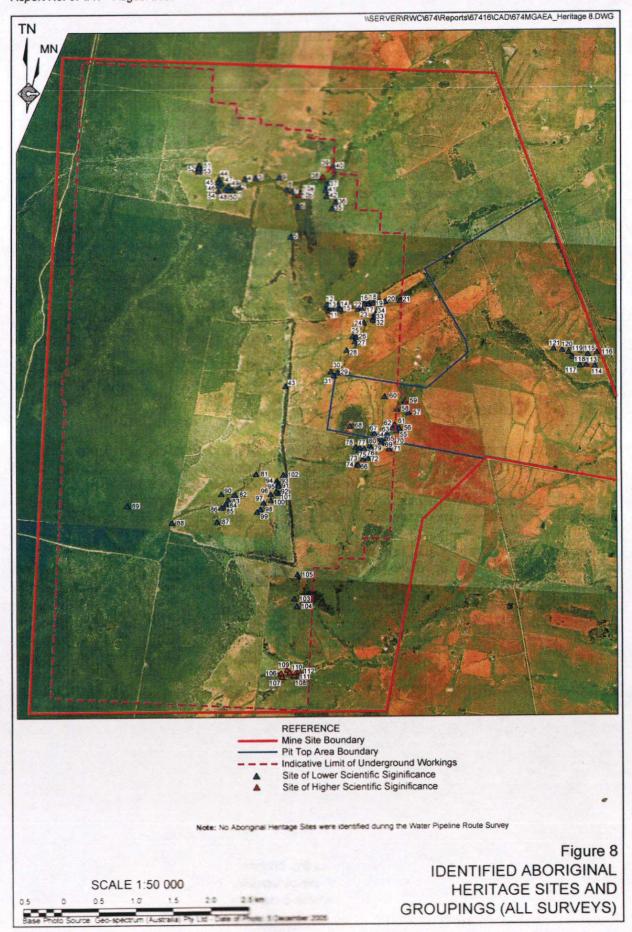


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SPECIALIST CONSULTANT STUDIES

Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	. A . A C	
	Site Number 19 1-161-101/1218	
Date receive	Date entered into system 1719109 Date catalogued	
Entered by (I.D.)	
Information	Access	
Gender/ma		Office Use Only
For Further	Information Contact:	
Nominate		
Title	Surname First Name Initials	
	TRINDALL CRAIG	Client on
Organisation	NARRABRI GOMEROI TRAD OWNERS	system
Address		q.s.
Phone number	0428 978 863 Fax	
☐ Knowledg		
Title	Surname First Name Initials	Client on
	TRINDALL	system
Organisation	NARRABRILALC	
Address	PO BOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
	I Alon	
Geographic		(SITE 89)
Site Name		(2110 01)
Easting		
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	55 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary R	ecorder	
Title	Surname First Name Initials	
	APPLETON JOHN	
Organisation	ARCHAEOLOGICAL SURVEYS A REP	Client on
Address	16 CURTIS ST ARMIDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	7
Date recorded	15/07/09	

NPWS Aboriginal S	ite Recording Form	m - Site Information pag	e 2
*	CLOSED SITE	E OPEN SITE	
Site Context			
Landform	Landform Unit		
Mountainous	Beach	Tidal Flat Upper slope Stream bank	
Plain	Coastal rock platform	Cliff Plain Stream channel	
Kolling hills	Dune	Crest Ridge Swamp	
Steep hills	Intertidal flat	Flat Tor Terrace	
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat	
Slope	Tidal Creek	Mid slope Levy	
2 degrees			
Vegetation	Land use	Water	
Closed forest	Conservation	Distance to permanent water source metres	
Grasslands	Established urban	Distance to temporary water source ZS metres	
lsolated clumps of trees	Farming-Intensive	Name of nearest permanent water source	
Open forest	Farming-low intensity	Name of nearest temporary water KURRATIONS	
Open woodland	Forestry		
Scrub	Industrial	Directions for Relocation	
Woodland "	Mining		
Cleared	Pastoral/grazing	e all al	
X Revegetated	Recreation	see attached	
□ N/A	Semi-rural		
	Service corridor		
	Transport corridor		
	Urban expansion	Site Location Map	
	N/A	NW N	NE
Current Land Tenure	Addition of the second of the	CP-	
	/ other Government Dept.	•	
> Private	r onter Government Dept.		

Pr	ima	ary	rej	oor	t		I.D	.[25.42		(1.D.	Offic	e Us	e only	1)	
A	B	0	R	ı	6	1	1	A	با	-	4	E	R	1	T	A	G
E		A	S	5	E	S	5	M	E	نہ	$\overline{\tau}$	*	7	A	R	R	A
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See attached.

W.

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NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry 15. Potential Archaeological Deposit
Other platform	South West		16. Stone Quarry
	West		
÷	North West		17. Shell 18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
			120. Vyatel Holo
014 DI			
Site Plan Ind	dicate scale, boundaries of site, fea N	itures NE	
IAAA			
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		Α	Shelter height
W		E	Shelter floor area
			Open Site Dimensions (m)
		F I ×	Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SE

SW

S

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	ТН	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG '	Γ1/ISO 87											_						
	774166	6618811	6	FP	QZ.	58	55	15	BR	15	7				F		40		STEEP EDGE SCRAPER
88	KURRAJONG	Γ1/QS 88			'			=								-			
	773570	6618800	5	F	MET	23	22	5	F	10	4			X	F		0		
				F	CH	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG T	T1/ISO 89								-									
\	772971	6619030	5	FP	MET	55	45	18						_		PEBBLE	45		STEEP EDGE SCRAPER
										-			-					_	
90	KURRAJONG	T1/OS 90																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		Х		Α		0	х	SCRAPER
				F	QZ.	22	16	8				D			F	R	0		
-			-	С	CH	40	35	8									0	х	6 NEG FLAKE SCARS
				FP	MET	48	45	30									90		STEEP EDGE SCRAPER
				FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG	F1 /OS B1																	
91	774975	6619298	4	c	MET	50	37	28									20	Х	2 NEG FLAKE SCARS
	774373	0013230	-4	F	MET	55	60	30	BR	50	25		×		<u> </u>		0		STEEP EDGE SCRAPER
				-	IAIEI			30	DIV		2.5		<u> </u>				-		JIES COGE JENNE ER
92	KURRAJONG '	Γ1/!SO 92		-															
	774954	6619212	4	F	MET	23	15	5_	BR	5	5		Х		F	R	0		
												<u> </u>							
93	KURRAJONG	-			BAS	30	15		BR	10	5			-	F	CORTEX	5		
	774958	6619354	4	F F	MUD	22	18	7	BR	18	7				F	CORTEX	0		
			1	<u> </u>				-			Ė		 		<u> </u>		-		
94	KURRAJONG	Γ1/OS 94			_														
	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	СН	16	11	2	7	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
		_		FP	СН	23	28	3	F	7	2		X				0		·
			_	FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120								_									
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	T1/OS 121					· - ··												
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
													Щ.		L				

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa	1		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petriffed wood	2NS	2 vertical negative flake scars		
FP	Flaked plece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
H\$	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 90 - Site 89 viewed from the northwest.

Site (89) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 89" 55J E.0773971 N.6619030 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 25m

50% Metasedimentary steep-edged



Plate 91 - Site 90 viewed from the southwest.

Site (90) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 90" 55J E.0774221 N.6619181 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 5 artefacts in 40m x 3m strip Cattle grazing Inner dam face 95%

Chalcedony steep-edged scraper Metasedimentary steep-edged

scraper Chert core

Quartzite flaked piece Metasedimentary flaked piece



Plate 92 - Site 91 viewed from the north.

Site (91) name: Location: GDA Мар:

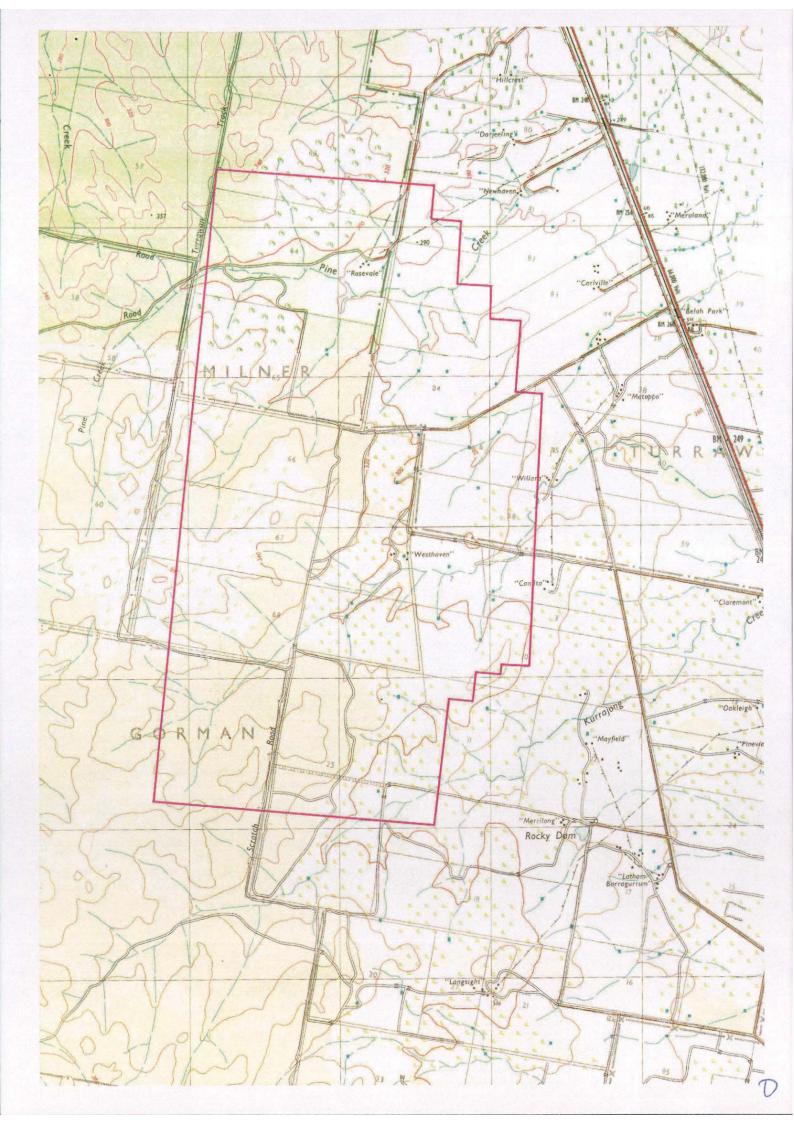
Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 91" 55J E.0774975 N.6619298 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 10m apart Cattle grazing

40m 85%

Metasedimentary steep-edged

scraper

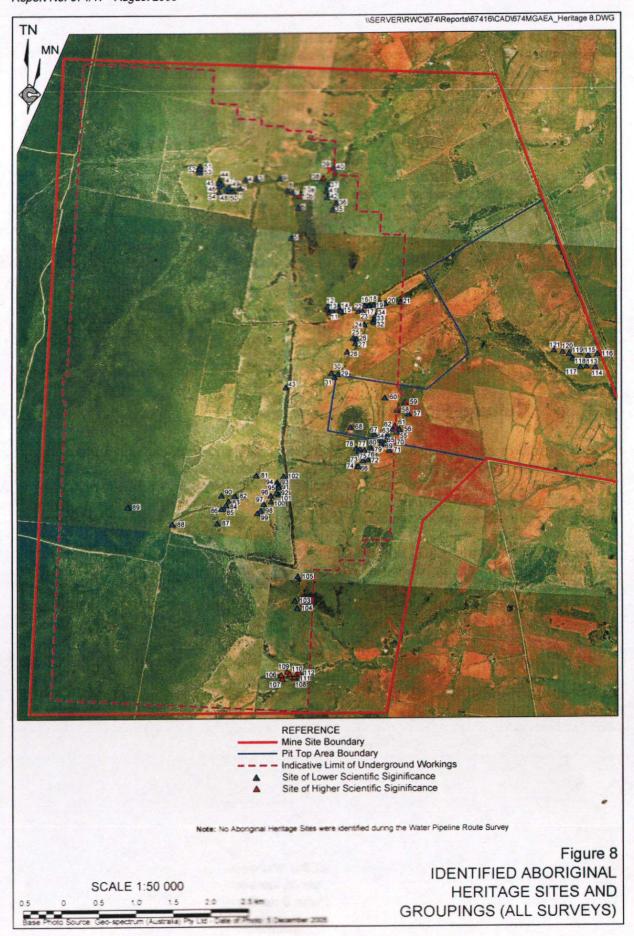
Metasedimentary flaked piece



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Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-61-61-151/129
Date received	
Entered by (I.D.	
information	Accore
Gender/ma	Office Use.
	Information Contact:
Nominated	l Trustee
Title	Surname First Name Initials
	TRINDALL CRAIGE Client on System
Organisation	NARRABRI GOMERON TRAD OWNERS
Address	
Phone number	0428 978 863 Fax
Knowledge	e Holder
Title	Surname First Name Initials Client on
	TRINDALL LYNN system
Organisation	NARRABRULALC
Address	POBOX 37 NARRABRI 2390
Phone number	02 6792 4228 Fax 02 6792 4258
Aboriginal I	feritage Unit or Cultural Heritage Division Contacts
Geographic	
Site Name	MURRATIONS 70 1 SITE 90
Easting	7 7 7 9 9 1
Mapsheet	BAAN BAA 8836-N
Zone	54 1:25k topographic map Non differential GPS
	★ 1:50k topographic map Differential GPS
	56 I 1:100k topographic map Engineering survey plan or map
4.24 -	Client GIS or CAD system
Delenant De	
Primary Re	Surname First Name Initials
	APPLETON IGHN
Organisation	ARCHAEOLOGICAL SURVEYS & REP Client on
Address	16 CURTUS ST ARMUDALE X
Phone number	02 6772 6512 Fax 02 6772 4567
Date recorded	15/07/09

SW

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SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∟_N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
Citor platform	West		16. Stone Quarry
A	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, fea	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X _c	Shelter height
W		E	Shelter floor area
		<u>;</u> ;	
		1	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site Length of assessed site area
			Lengui oi assessed site area
SW	S	SE	

Other

Feature Inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG T	1/ISO 87																	
	774166	6618811	6	FP	Q Z	58	55	15	BR	15	7				F		40		STEEP EDGE SCRAPER
88	KURRAJONG T	1/05 88								-						-			
	773570	6618800	5	F	MET	23	22	5	F	10	4			X	F		0		
				F	CH	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG T	1/ISO 89																	
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG T	1/OS 90																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		х		Α	_	0	х	SCRAPER
				F	QZ.	22	16	8				D			F	R	0		
				С	СН	40	35	8									0	Х	6 NEG FLAKE SCARS
				FP	MET	48	45	30									90		STEEP EDGE SCRAPER
				FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG T	1/OS 91																	
	774975	6619298	4	С	MET	50	37	28									20	х	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		Х				0		STEEP EDGE SCRAPER
92	KURRAJONG T	1/ISO 92																	
	774954	6619212	4	F	MET	23	15	5	BR	5	5		Х		F	R	0		
93	KURRAJONG T	1/05 93							:							_			
	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5		
				F	MUD	22	18	7	BR	18	7				F		0		
94	KURRAJONG T	1/OS 94																	
	774955	6619330	5	F	CH	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	СН	16	11	2	?	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120		-															
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	 T1/OS 121		_															
_	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36						ĺ			60		PEBBLE/4 NEG FLAKE SCARS
-	-			С	СН	25	25	21									75		2 NEG FLAKE SCARS
_				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
				_							·								
	1				·														

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3N5	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 90 - Site 89 viewed from the northwest.

Site (89) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/ISO 89" 55J E.0773971 N.6619030 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing

25m 50%

Metasedimentary steep-edged

scraper



Plate 91 - Site 90 viewed from the southwest.

Site (90) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 90" 55J E.0774221 N.6619181 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 5 artefacts in 40m x 3m strip

Cattle grazing Inner dam face

95%

Chalcedony steep-edged scraper Metasedimentary steep-edged

scraper Chert core

Quartzite flaked piece

Metasedimentary flaked piece



Plate 92 - Site 91 viewed from the north.

Site (91) name: Location: GDA Мар:

Site type: Contents:

Land use: Dist. from water: Arch. Visibility: Artefact descript:

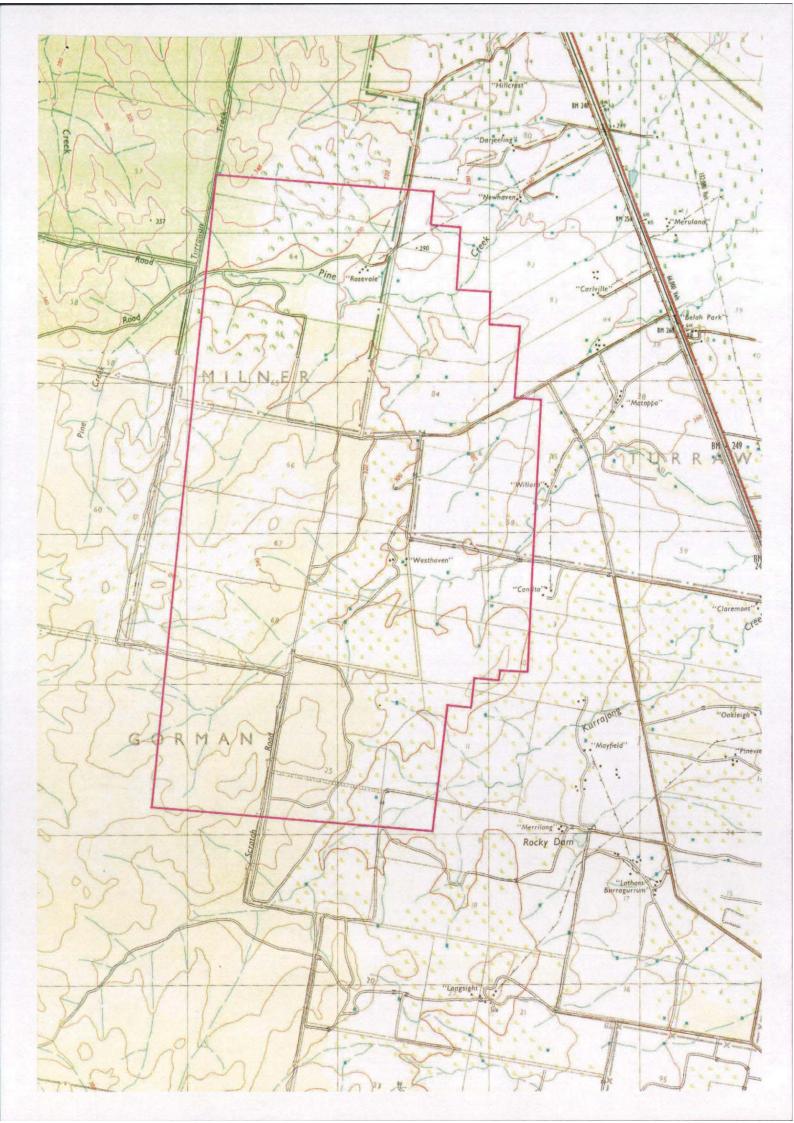
"Kurrajong T1/OS 91" 55J E.0774975 N.6619298 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

2 artefacts 10m apart Cattle grazing

40m 85%

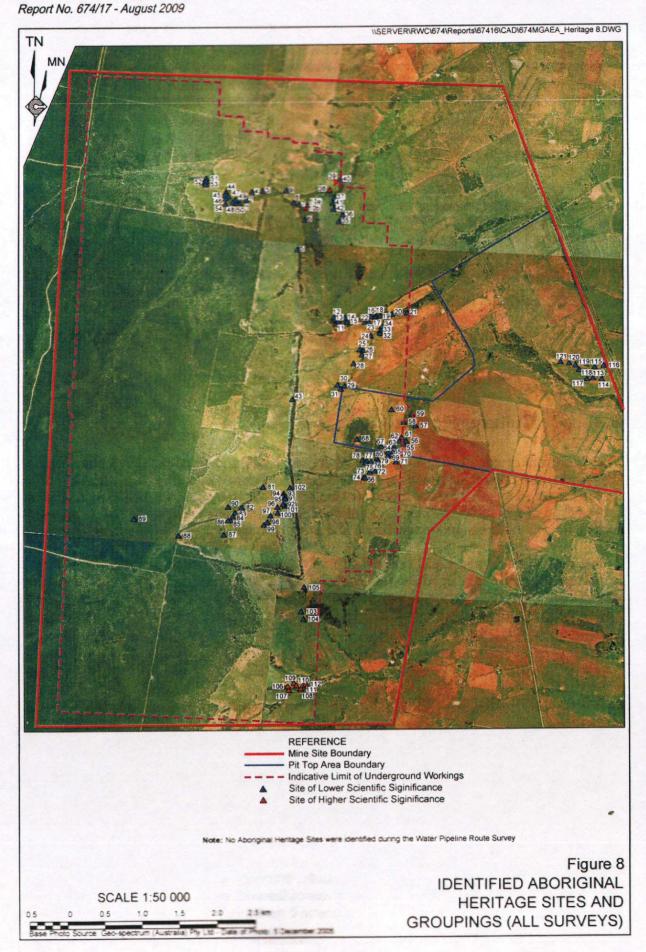
Metasedimentary steep-edged

Metasedimentary flaked piece



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19 -61-01/310	
Date receive	Date entered into system 17/9/09 Date catalogued	
Entered by (I.D.	D.) .	
Information Gender/ma		Office tise . Only
For Further	Information Contact:	
Nominated		
Title	Surname First Name Initials	Client on
Organisation	NARRABRI GOMEROI TRAD OWNERS	system
Address		[A]
Phone number	0428 978 863 Fax	
☐ Knowledg	ge Holder	
Title	Surname First Name Initials	Client on
	TRUNDALL	system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARRABRI 2390	
Phone number		
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic		site 91)
Site Name		SITE 41)
	774975 Northing 6619298 AMG X GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
20	✓ 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re		26
Title	Surname First Name Initials	¥
	APPLETON JOHN	
Organisation	ARCHAEOLOGICAL SURVEYS & REP	Client on system
Address		X
Phone number	02 6772 6512 Fax 02 6772 4567	⊢ •

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NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
19	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, fea N		
NW	IV.	NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		Α.	Shelter height
W		Ε	Shelter floor area
		₹, ₹;	
		i	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SE

SW

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG '	T1/ISO 87																	
	774166	6618811	6	FP	QZ	58	55	15	BR	15	7				F		40		STEEP EDGE SCRAPER
88	KURRAJONG														12				
	773570	6618800	5	F	MET	23	22	5	F	10	4		100-100-100 P	X	F		0		
2000177450				F	СН	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG 1	 																	
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG 1	 Γ1/OS 90								-									
	774221	6619181	4	C	CHAL	30	28	13	F	10	3		х		Α		0	х	SCRAPER
				F	QZ	22	16	8				D			F	R	0		
		8		C	CH	40	35	8					. 1001473				0	X	6 NEG FLAKE SCARS
9000				FP	MET	48	45	30	İ								90		STEEP EDGE SCRAPER
				FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG	Γ1/OS 91		!															
	774975	6619298	4	С	MET	50	37	28									20	X	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		X				0		STEEP EDGE SCRAPER
92	KURRAJONG 1	Γ1/ISO 92																	
	774954	6619212	4	F	MET	23	15	5	BR	5	5		Х		F	R	0		
93	KURRAJONG 1	 													117505				
	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5	<u> </u>	
		<u> </u>		F	MUD	22	18	7	BR	18	7				F		0		
94	KURRAJONG				· ·					-			1527F5335						
9,000,000	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	CH	16	11	2	?	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	w	TH	P/D	О/Н	Е	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X	-	F	R	0		
121	KURRAJONG 1	 Γ1/OS 121																	
	778646	6621082	5	F	MET.	42	43	10	BR	15	3		X	х	Α		40		
				FP	PW	30	30	10									0		
	_			С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21								·	75	•	2 NEG FLAKE SCARS
	_			FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
																	_		
															<u> </u>				

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
Ε	Eralllure	iGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 90 - Site 89 viewed from the northwest.

Site (89) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 89" 55J E.0773971 N.6619030 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 25m

50% Metasedimentary steep-edged scraper



Plate 91 - Site 90 viewed from the southwest.

Site (90) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 90" 55J E.0774221 N.6619181 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

5 artefacts in 40m x 3m strip Cattle grazing Inner dam face 95%

Chalcedony steep-edged scraper Metasedimentary steep-edged

scraper Chert core

Quartzite flaked piece Metasedimentary flaked piece



Plate 92 - Site 91 viewed from the north.

Site (91) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript:

"Kurrajong T1/OS 91" 55J E.0774975 N.6619298 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 10m apart

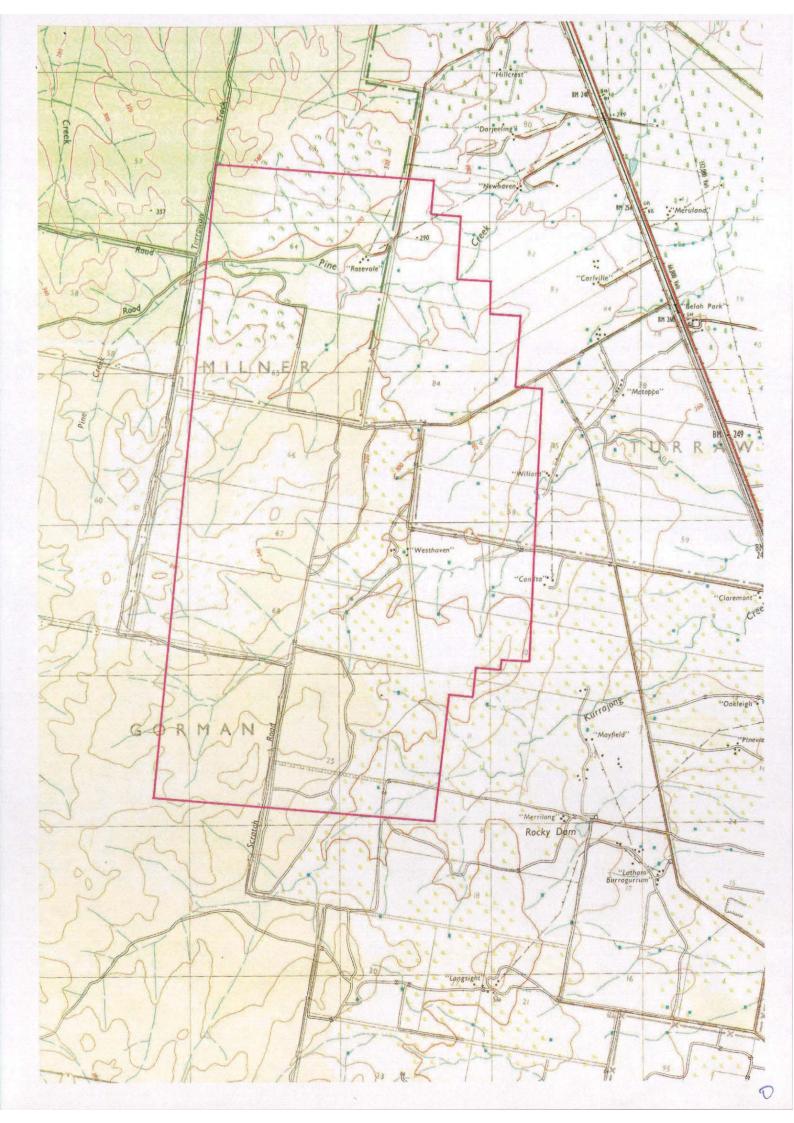
Cattle grazing 40m

85%

Metasedimentary steep-edged

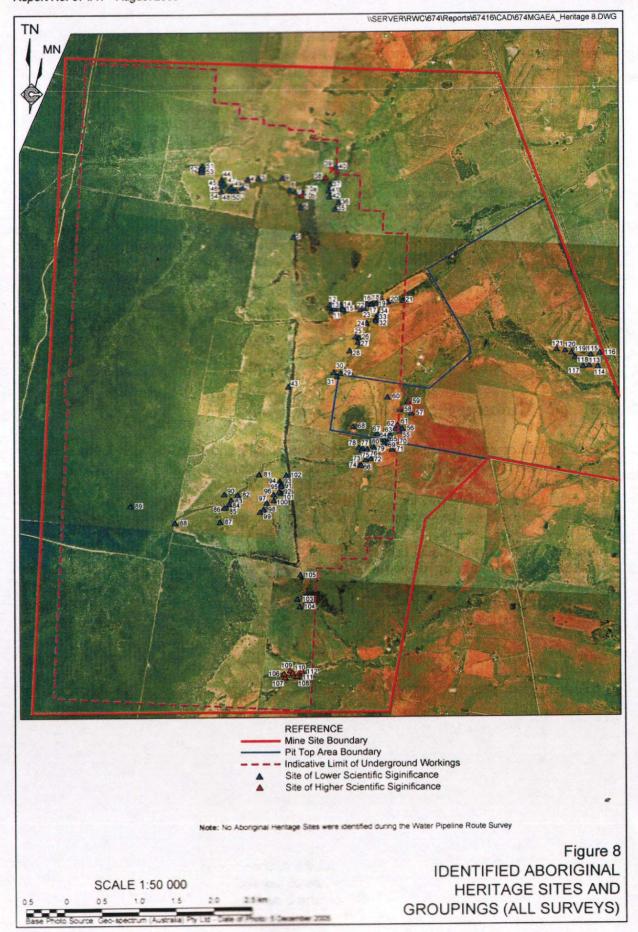
scraper

Metasedimentary flaked piece



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 191-161-1011311	
Date received	1719.00	
Entered by (I.D.		
Efficiency (i.e.		
Information	Office Use	
Gender/ma		
	Information Contact:	
Nominated	The state of the s	
Title	TRINDALL CRAIG Client on	
Organisation	NARRABRI GOMEROI TRAD OWNERS System	
Address		
Phone number	0428 978 863 Fax	
☐ Knowledge	E-186 (1/2) 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
Title	Surname First Name Initials Client on system	
	CANDA CONTRACTOR SYSTEM	
Organisation	POROX 37 NARRABRI 2390	
I Hono Hamber	OLT 10 17 TIZE 14 ZERO FAX ELEMENTED TO THE TOTAL PARTY OF THE TOTAL P	
Aboriginal I	Heritage Unit or Cultural Heritage Division Contacts	
<u> </u>		
Geographic		7
Site Name		(2
Easting	774954 Northing 66 19212 AMG & GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Mon differential GPS	
	✓ 55 ✓ 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
, .	Client GIS or CAD system	
Primary Re	ecorder	
Title	Surname First Name Initials	
	APPLETON ISOHN	
Organisation	ARCHAEOUOGICAL SURVEYS & REP Client on system	
Address	116 CUIZTUS STUARCHUDALE	
Phone number	02 6772 6512 Fax 02 6772 4567	
Date recorded	15/07/09	

	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		•
4091000		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KuRRATON6
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	Pastoral/grazing	see attached
Revegetated	Recreation	
N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map
	□ N/A	NW NE
Current Land Tenure		•
	/ other Government Dept.	
Private	, oale, coverancia pept	
Primary report I.D.	(i.D. Office Use only)	See attached
ABORIGINAL	HERITAG	
ELASSESSME	MTINARRA	₩
BRI COAL N	VINE STAG	/ -
E 2 LONGWA	LL PROJE	
	,	SW § SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∐N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
ů	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	licate scale, boundaries of site, fea	tures	
NW	N	NE	
			· ·
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
W			Shelter height Shelter floor area
**		, L	Sheker host area
		!	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	Е	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG	T1/ISO 87																	
	774166	6618811	6	FP	QZ	58	55	15	BR	15	7				F		40		STEEP EDGE SCRAPER
											<u> </u>								
88	KURRAJONG T	T1/OS 88																	
	773570	6618800	- 5	F	MET	23	22	5	F	10	4			X	F		0		
				F	СН	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG	 								1		<u> </u>							
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG	T1 (OS 00				 													
30	774221	6619181	4	С	CHAL	30	28	13	F	10	3	-	х		A		0	X	SCRAPER
	771222	00.03.03		F	QZ	22	16	8	 			D			F	R	0		
				С	CH	40	35	8	 								0	х	6 NEG FLAKE SCARS
				ĒΡ	MET	48	45	30									90		STEEP EDGE SCRAPER
			_	FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG T	T1/OS 91	<u> </u>													<u> </u>			
	774975	6619298	4	С	MET	50	37	28								-	20	х	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		Х				0		STEEP EDGE SCRAPER
92	KURRAJONG '	T1/ISO 92]			<u> </u>							
- 52	774954	6619212	4	F	MET	23	15	5	BR	5	5		X		F	R	0		
	WIDD HOUSE	T4 (05 03				_									1			<u> </u>	
93	KURRAJONG 774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5		
	774338	0019354	-	F	MUD	22	18	7	BR	18	7				F	CONTEX	0		
94	KURRAJONG	T1/OS 94																	
	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
1				F	CH	16	11	2	?	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		х				0		
				FP	MET	63	48	17			-						20		
120	KURRAJONG	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0		
121	KURRAJONG	T1/OS 121					:												
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	Α		40		
				FP	PW	30	30	10						-			0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
w	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 93 - Site 92 viewed from the south.

Site (92) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/ISO 92" 55J E.0774954 N.6619212 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 75m

80% Metasedimentary flake



Plate 94 - Site 93 viewed from the southwest.

Site (93) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 93" 55J E.0774958 N.6619354 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

2 artefacts in 40m x 3m strip Cattle grazing Inner dam face 95% Basalt flake Mudstone flake

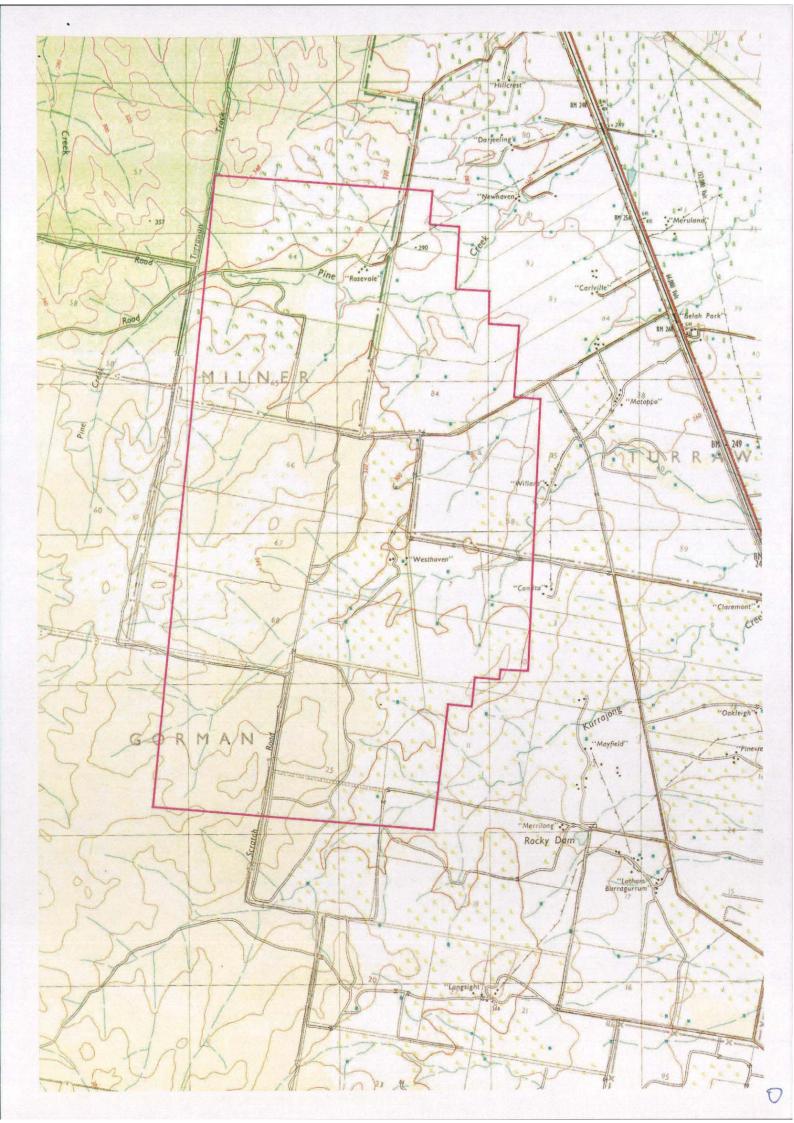


Plate 95 - Site 94 viewed from the southwest.

Site (94) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 94"
55J E.0774955 N.6619330
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
6 artefacts in 25m x 15m area
Cattle grazing
30m
85%

Quartzite steep-edged scraper Chert steep-edged scraper 2 metasedimentary flakes 2 chert flakes



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-6-01/32
Date received	[72/0 mg] [1]
Entered by (I.D.	
Information	Access Office Use
Gender/ma	Only
For Further	Information Contact:
Nominated	a aba a
Title	Surname First Name Initials TRINDALL CRAIG Client on
Organisation	NARRABRI GOMEROL TRAD OWNERS System
Address	4
Phone number	0428 978 863 Fax
Knowledge	e Holder
Title	Surname First Name Initials Client on
	TRINDALL LYNN system
Organisation	NARRABRULALC
Address	PO BOX 37 NARRABRI 2390
Phone number	02 6792 4228 Fax 02 6792 4258
Aboriginai I	Heritage Unit or Cultural Heritage Division Contacts
Geographic	
Site Name	
Easting	774958 Northing 6619354 AMG X GDA
Mapsheet	BAAN BAA 8836-N
Zone	54 1:25k topographic map Non differential GPS
	✓ 1:50k topographic map Differential GPS
	56 I 1:100k topographic map Engineering survey plan or map
	Client GIS or CAD system
Primary Re	ecorder
Title	Surname First Name Initials
	APPLETON IOHN
Organisation	ARCHAEOLOGICAL SURVEYS & REP Client on system
Address	116 CURTICIS ST ARMIDALE I
Phone number	02 6772 6512 Fax 02 6772 4567
Date recorded	15/07/09

SW

S

SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
•	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan In	dicate scale, boundaries of site, fea	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		E	Shelter height
W		ıi.	Shelter floor area
		1	Open Site Dimensions (m)
		3	Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SE

SW

0

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG 1	T1/ISO 87																	
	774166	6618811	6	FP	QZ	58	55	15	BR	15	7				F		40	-	STEEP EDGE SCRAPER
88	KURRAJONG	1/OS 88																	
	773570	6618800	5	F	MET	23	22	5	F	10	4			Х	F		0		
				F	СН	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG 1	T1/ISO 89							_										
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG 1	r1/OS 90																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		х		Α	-	0	х	SCRAPER
		·		F	QZ	22	16	8	i			D			F	R	0		
				С	CH	40	35	8									0	X	6 NEG FLAKE SCARS
				FP	MET	48	45	30									90	_	STEEP EDGE SCRAPER
		-		FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG 1	[:																
	774975	6619298	4	С	MET	50	37	28									20	X	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		Х				0		STEEP EDGE SCRAPER
92	KURRAJONG 1	[
	774954	6619212	4	F	MET	23	15	5	BR	5	5		X		F	R	0		
93	KURRAJONG 1	r1/OS 93									<u> </u>								
	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5		
				F	MUD	22	18	7_	BR	18	7				F		0		
94	KURRAJONG T	[Γ1/OS 94																	
	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
		_		F	MET	18	13	7_	BR	14	5				F		0		
				F	СН	16	11	2	7	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		X				0		
				FP	MET	63	48	17									20		
120	KURRAIONG	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		х		F	R	0		
121	KURRAJONG '	 T1/OS 121			<u>.</u>														
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	A		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35						ı			40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralliure	IGN	Igneous	Dorsa	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		СН	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 93 - Site 92 viewed from the south.

Site (92) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 92" 55J E.0774954 N.6619212 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 75m

80% Metasedimentary flake



Plate 94 - Site 93 viewed from the southwest.

Site (93) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 93" 55J E.0774958 N.6619354 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts in 40m x 3m strip

Cattle grazing Inner dam face

95% Basalt flake Mudstone flake



Plate 95 - Site 94 viewed from the southwest.

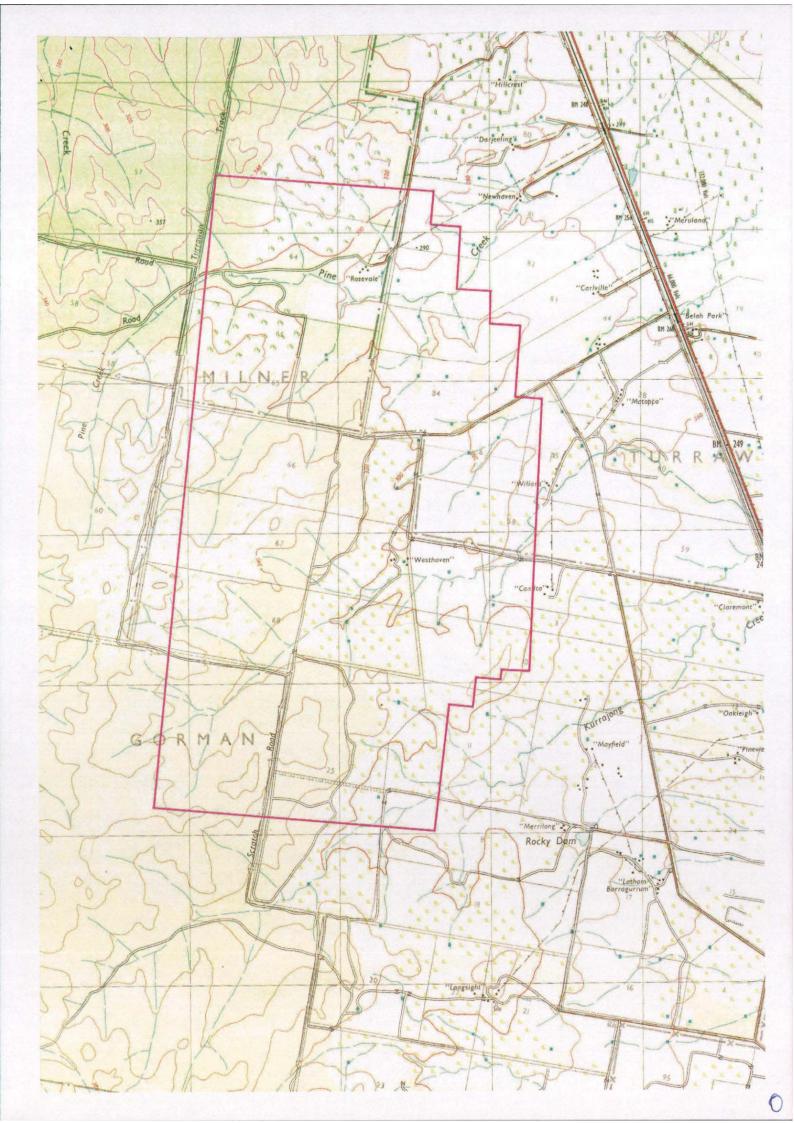
Site (94) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 94" 55J E.0774955 N.6619330 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 6 artefacts in 25m x 15m area

Cattle grazing 30m 85%

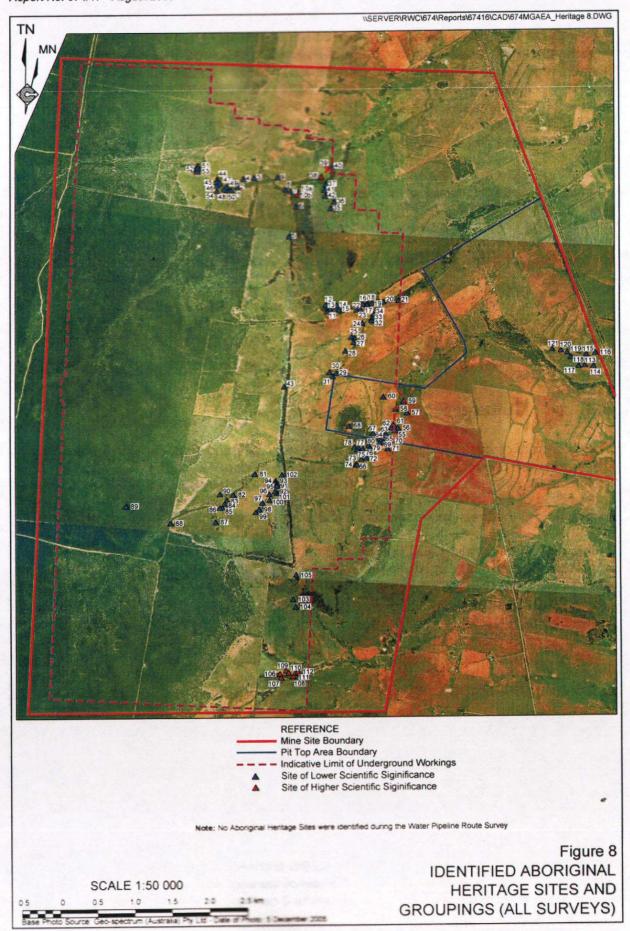
Quartzite steep-edged scraper Chert steep-edged scraper 2 metasedimentary flakes

2 chert flakes



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project
Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-6-01/33	
Date received	
Entered by (i.D.)	
Information Access	Office Use
Gender/male Gender/female Location restriction General restriction No access	Only
For Further Information Contact:	
Nominated Trustee	
Title Sumame First Name Initials TRINDALL CRAIG	Client on
Organisation NARRABRI GOMEROI TRAD OWNERS	system
Address	4-3
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title "Surname First Name Initials	Client on system
Organisation NARRABRULALC	
Address POBOX 37 NARRABRI 2390	
Phone number 02 6792 4226 Fex 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	/ - \
Site Name KURRAIONG TI/OS 94	(SITE 94)
Easting 774955 Northing 6619330 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
	;
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	. •
Title Surname First Name Initials	
APPLETON JOHN	
Organisation ARCHAEOLOGICAL SURVEYS & REP	Client on system
Address 16 CURTUS ST ARMUDALE	System [V]
Phone number 02 6772 6512 Fex 02 6772 4567	<i>T</i> -
Date recorded 15/07/09	

SW

S

SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∐n-s	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
·	West		16. Stone Quarry
à	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Ind	dicate scale, boundaries of site, fea N	tures NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
LAJ		· E	Shelter height Shelter floor area
W		4	Stielter floor area
			Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
87	KURRAJONG	T1/ISO 87																	
	774166	6618811	6	FP	QZ	58	55	15	BR	15	7				F		40		STEEP EDGE SCRAPER
88	KURRAJONG	T1/OS 88							İ					li					
	773570	6618800	5	F	MET	23	22	5	F	10	4			X	F		0		
-				F	СН	28	28	3	BR	7	2			X	F		0		
89	KURRAJONG	Γ1/ISO 8 9																	
	772971	6619030	5	FP	MET	55	45	18								PEBBLE	45		STEEP EDGE SCRAPER
90	KURRAJONG T	 																	
	774221	6619181	4	С	CHAL	30	28	13	F	10	3		х		Α		0	Х	SCRAPER
				F	QZ	22	16	8				D			F	R	0		
				С	СН	40	35	8									0	X	6 NEG FLAKE SCARS
_				FP	MET	48	45	30									90		STEEP EDGE SCRAPER
				FP	MET	43	35	35									0		2 NEG FLAKE SCARS
91	KURRAJONG T	 Γ1/OS 91																	
	774975	6619298	4	С	MET	50	37	28									20	Х	2 NEG FLAKE SCARS
				F	MET	55	60	30	BR	50	25		Х				0		STEEP EDGE SCRAPER
92	KURRAJONG ¹	 Γ1/ISO 92		_															
	774954	6619212	4	F	MET	23	15	5	BR	5	5		X		F	R	0		
93	KURRAJONG '	Γ1/OS 93								-									
	774958	6619354	4	F	BAS	30	15	6	BR	10	5				F	CORTEX	5	-	
				F	MUD	22	18	7	BR	18	7				F		0	-	
94	KURRAJONG	 				<u> </u>													
-	774955	6619330	5	F	СН	45	28	8	BR	10	4				Α	4NS	0		
				F	MET	18	13	7	BR	14	5				F		0		
				F	СН	16	11	2	7	6	1				F		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	ε	TERM	DORSAL	CORTEX	CORE R	REMARKS
			_	FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	СН	55	35	27								_	0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0	_	
95	KURRAJONG	T 1/OS 95													1				
	774977	6619291	6	F	СН	26	26	10	BR	20	10		х		F	R	0		
				С	СН	28	11	8									0		3 NEG FL SCARS + STEP FRACTURI
				F	CH	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5				F	R	0		
· · · · ·				FP	СН	23	17	5									0	_	
	-			С	СН	25	23	21									0	х	6 NEG FLAKE SCARS
				FP	СН	32	25	12		<u>-</u>							0		
96	KURRAJONG	T1 /OS 06			 														
90	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
	1/40//	00131/0	9	F	QZ	43	38	13	BR	15	7				F	R	0		4 NEG FLAKE SOARS
				FP	CHAL	20	8	4	DR		,				•	<u>"-</u>	0		
													,						
97	KURRAJONG	·															45		
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG	T1/OS 98																	
	774742	6618977	4	C	MET	40	33	24									0		RETOUCH, PROB. SCAPER
				F	MET	34	25	8	F	6	6		Х		Α_	R	20		
99	KURRAJONG	 T 1/OS 9 9																	
	774697	6618941	4	C	ARG	38	28	23									15		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			Р	х				0		
100	KURRAJONG	 T1/OS 100		<u> </u>															
	774878	6619099	6	F	MET	34	44	8	BR	37	6			х			0	X	RETOUCH, SCRAPER
		-		F	CH	38	32	10	F	20	7				Α	CORTEX	50		

SITE No.	Easting	Northing	ACC ±	ART	MAT	F	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120															-		
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0	-	
121	KURRAJONG T	T1/OS 121				l	_				_								
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
							-												

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ.	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & slicrete				



Plate 93 - Site 92 viewed from the south.

Site (92) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 92" 55J E.0774954 N.6619212 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 75m

80% Metasedimentary flake



Plate 94 - Site 93 viewed from the southwest.

Site (93) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 93" 55J E.0774958 N.6619354 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 2 artefacts in 40m x 3m strip Cattle grazing Inner dam face 95%

Basalt flake Mudstone flake



Plate 95 - Site 94 viewed from the southwest.

Site (94) name: Location: GDA Map:

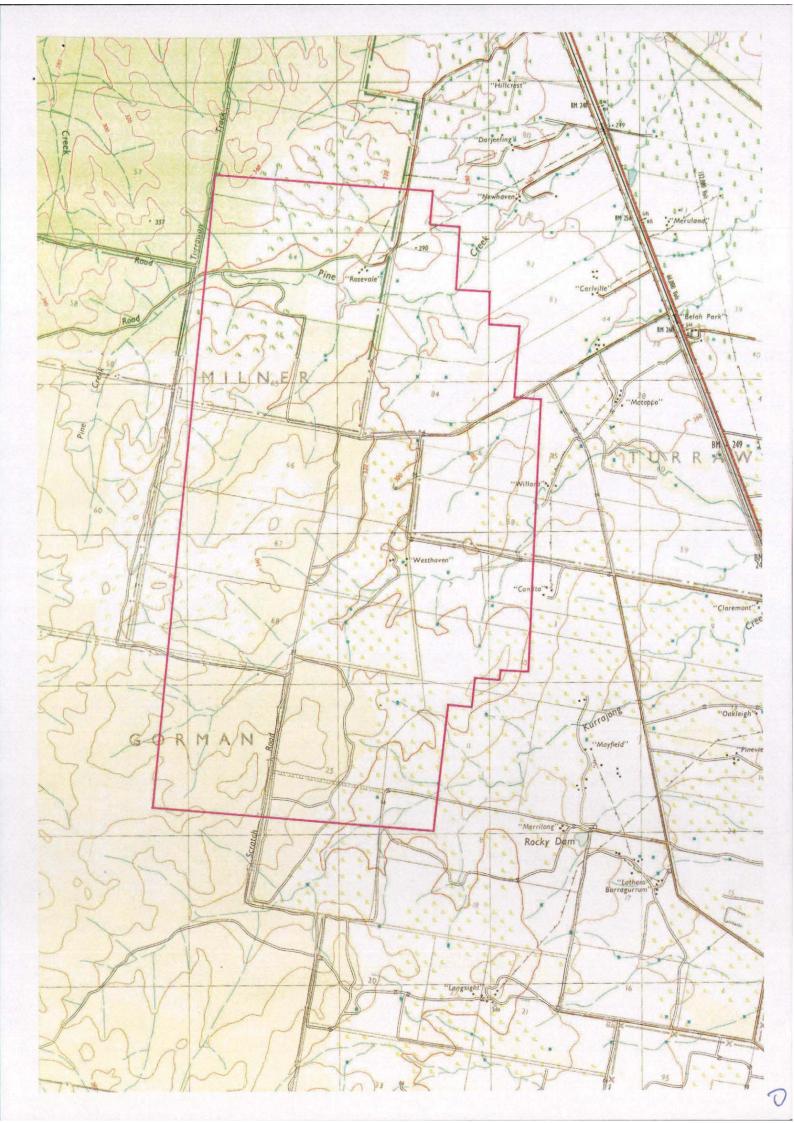
Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 94"
55J E.0774955 N.6619330
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
6 artefacts in 25m x 15m area

Cattle grazing

30m 85%

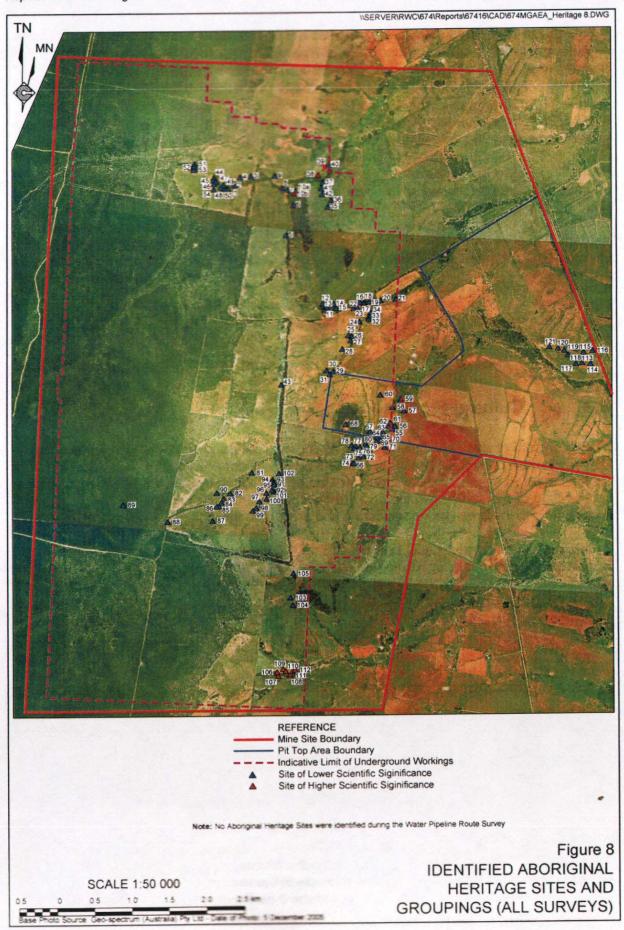
Quartzite steep-edged scraper Chert steep-edged scraper 2 metasedimentary flakes

2 chert flakes



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 181-161-101/1314	
Date received	1010.100	
2.3		
Entered by (I.D.	·/	
Information	Access	i
Gender/ma	ale Gender/female Location restriction General restriction No access	
For Further	Information Contact:	
Nominated		
Title	Surname First Name Initials TRINDALL CRAIG Client of	n
0	NADUALRI GOMEROU TRAD OWNERS system	
Organisation Address	7	
25 TANAN **	0428 978 863 Fax	
☐ Knowledge	First Name Initials	
Title	Surname Flist Name miles Client of system	
Organisation	NARRABRULALC	
Address	POBOX 37 NARRABRI 2390	
SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A SAME AND A	02 6792 4228 Fax 02 6792 4258	
Thomas indicates	Heritage Unit or Cultural Heritage Division Contacts	
	Landian	
Geographic	KURRAJONG TI/OS 95 (SITE	95)
17.5		5-3
Easting	Notuling	
Mapsheet Zone		
20116	✓ 1.50k topographic map Differential GPS	
W	56 Ingineering survey plan or map	
5 Å	Client GIS or CAD system	
Primary Re	scorder Surname First Name Initials	
	APPLETON TOHN	
Organisation	ARCHAGOLOGICAL SURVEYS A REP Cliento	
Address	16 CUIZTIS ST ARMIDALE System	Ú.
Phone number		
Date recorded	15/07/09	

	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagcon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees		Line disposition in a second
degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 40 metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KURRATIONS
Open woodland	Forestry	Hame of hearest temporary water
Scrub	Industrial	Directions for Relocation
Woodland		
	Mining	
Cleared	Pastoral/grazing	see attached.
Revegetated	Recreation	•
L N/A	Semi-rural	
Į	Service corridor	
Į	Transport corridor	
Ĺ	Urban expansion	Site Location Map NW NE NE
Į	N/A	
Current Land Tenure		
Public National Park	/ other Government Dept.	
➤ Private	- Caret Coveniment Dept	• •
Primary report I.D.	(i.D. Office Use only)	See attached
ABORIGINAL	HERITAG	see anached
ELASSESSME		W : 4 F
BRI COAL M	INE STAG	W ·
E 2 LONGWA	LL PROJE	<i>\\</i>
CT		
		'
	<u> </u>	SW S SE

. NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features Features					
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming					
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering					
Boulder	Boulder	N-S	3. Art					
Wind erosion	Sandstone platform	NE-SW	4. Artefact					
Water erosion	Silica gloss	E-W	5. Burial					
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring					
	Weathered	≥ N/A	7. Conflict					
	Other platform		8. Earth Mound					
Condition of Celling	Shelter Aspect		9. Fish Trap					
Boulder	North		10. Grinding Groove					
Sandstone platform	North East		11. Habitation Structure					
Silica gloss	East		12. Hearth					
Tessellated	South East		13. Non Human Bone & Organic Material					
Weathered	South		14. Ochre quarry					
Other platform	South West		15. Potential Archaeological Deposit					
	West		16. Stone Quarry					
ú	North West		17. Shell					
			18. Stone Arrangement					
			19. Modified Tree					
			20. Water Hole					
Site Plan Inc	dicate scale, boundaries of site, fea							
WM	N	NE						
			Site Dimensions					
			Closed Site Dimensions (m)					
			Internal length					
W		E	Shelter height Shelter floor area					
VV		/, -	Official floor area					
			Open Site Dimensions (m)					
			Total length of visible site					
			Average width of visible site					
			Estimated area of visible site					
			Length of assessed site area					

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	СН	55	35	27									0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
95	KURRAJONG 1	[1/OS 95																	
	774977	6619291	6	F	СН	26	26	10	BR	20	10		x		F	R	0		
				С	СН	28	11	8									0		3 NEG FL SCARS + STEP FRACTURE
				F	СН	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5				F	R	0		
				FP	СН	23	17	5									0		
			-	С	СН	25	23	21									0	Х	6 NEG FLAKE SCARS
				FP	СН	32	25	12									0		
<u>-</u>			-																
96	KURRAJONG T	T1/OS 96	-																
	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	QZ	43	38	13	BR	15	7				F	R	0		
-				FP	CHAL	20	8	4									0		
97	KURRAJONG T	1/ISO 97																	
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG 1	71/05 98																	
30	774742	6618977	4	С	MET	40	33	24								-	0		RETOUCH, PROB. SCAPER
	77-77-2	0010377	7	F	MET	34	25	8	F	6	6		Х		Α	R	20		nerodan, mobi saw en
99	KURRAJONG 1	F1 /OS 99																	
22	774697	6618941	4		ARG	20	20	23								 	15		CODE DECAME SCRADED
	//409/	0018941	4	C F	QZ	38 20	28	5	SHAT	·		P	х	-			0		CORE BECAME SCRAPER
-																			
100	KURRAJONG 1	Γ1/OS 100																	
	774878	6619099	6	F	MET	34	44	8	BR	37	6			X			0	X	RETOUCH, SCRAPER
1				F	СН	38	32	10	F	20	7				Α	CORTEX	50		

SITE No.	Easting	Northing	ACC ±	ART	MAT	Ļ	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	 T1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0	_	
121	KURRAJONG																		
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	A		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralllure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 96 - Site 95 viewed from the north.

Site (95) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript:

"Kurrajong T1/OS 95"
55J E.0774977 N.6619291
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
7 artefacts in 20m x 20m area

Cattle grazing 40m 80%

2 chert cores 3 chert flakes 2 chert flaked pieces



Plate 97 - Site 96 viewed from the northeast.

Site (96) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 96"
55J E.0774877 N.6619178
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
3 artefacts in 15m x 15m area

Cattle grazing
Inner dam face

95% Chert core Quartzite flake

Chalcedony flaked piece



Plate 98 - Site 97 viewed from the southwest.

Site (97) name: Location: GDA Map:

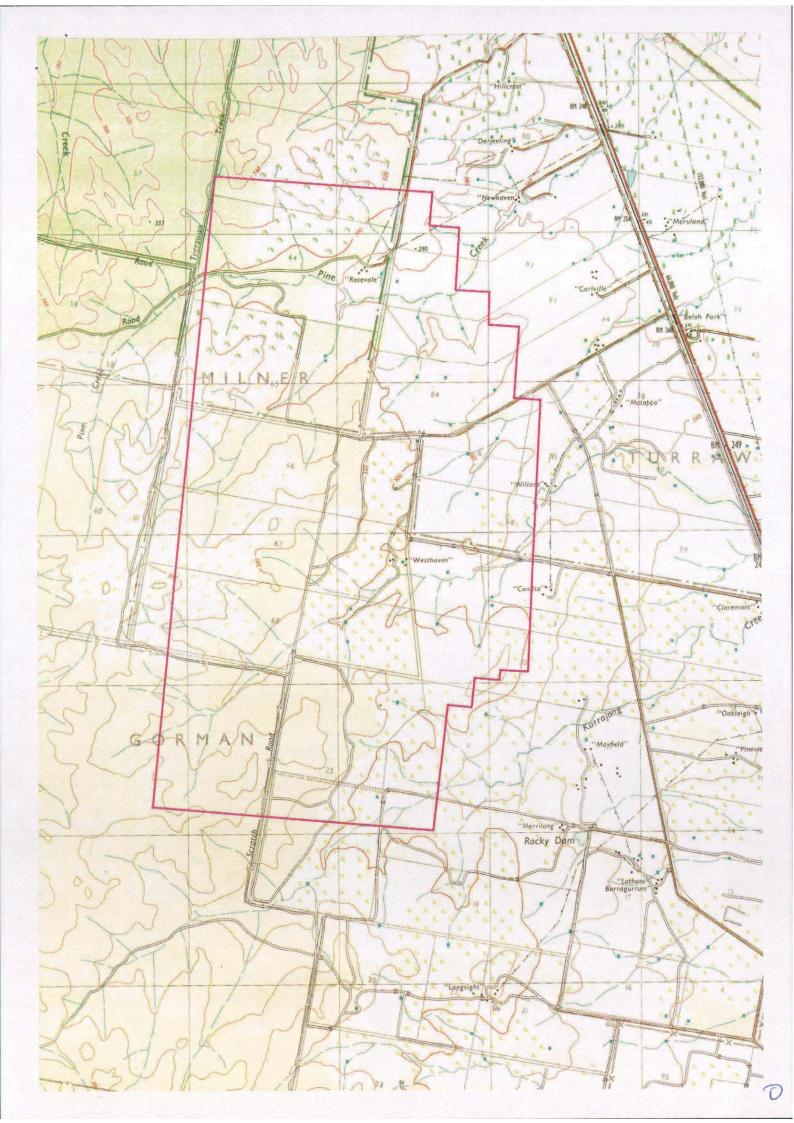
Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 97" 55J E.0774783 N.6619064 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing

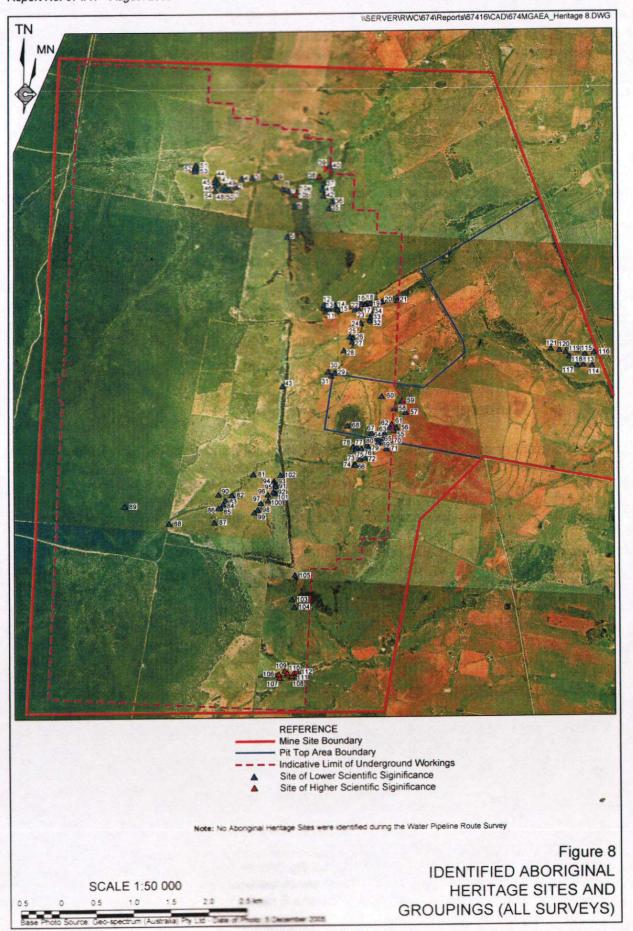
20m 85%

Metasedimentary flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project
Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-16-10/1315	
Date receive		
Entered by (I.D.	.)	
Information		Office Use Only
Gender/ma		,
<u></u>	Information Contact:	
Nominate	d Trustee	
Title	Surname First Name Initials	
	TRINDALL CRAIG	Client on
Organisation	NARRABRI GOMEROI TRAD OWNERS	system
Address		للنبات
Phone number	0428 978 863 Fax	
Knowledg	e Holder	
Title	Surname First Name Initials	Client on
	TRINDALL	system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
		,
Geographic		SITE 96)
Site Name		לפו שואכ
Easting		
Mapsheet	BAAN BAA 8836-N	
Zone	r 1	
	✓ 1:50k topographic map Differential GPS	
	1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Ro		
Title	Suitante	
	APPLETON TOHN DEP	Client on
Organisation		system
Address		X
,		
Date recorded	1/3/0/1/0 ⁻¹	

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous Plain	Beach	Tidal Flat Upper slope Stream bank
(5.40)	Coastal rock platform	
Rolling hills	Untertidal flat	Crest Ridge Swamp
Steep hills		Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees DAM		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KuRAIONS
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	X Pastoral/grazing	c Al al
Revegetated	Recreation	see attached.
□ N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map
	· ·	NW NE
l	L N/A	
Current Land Tenure		•
	/ other Government Dept	
Private		
Primary report I.D.	 1	
ABORIGINAL	(I.D. Office Use only)	see attached.
	NT: NARRA	N.
BRI COAL N		W · E
E 2 LONGWA		4.
	TO PROBE	
		i
		
	<u></u>	
		SW 5

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features				
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming				
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering				
Boulder	Boulder	N-S	3. Art				
Wind erosion	Sandstone platform	NE-SW	4. Artefact				
Water erosion	Silica gloss	E-W	5. Burial				
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring				
	Weathered	≥ N/A	7. Conflict				
	Other platform		8. Earth Mound				
Condition of Ceiling	Shelter Aspect		9. Fish Trap				
Boulder	North		10. Grinding Groove				
Sandstone platform	North East		11. Habitation Structure				
Silica gloss	East		12. Hearth				
Tessellated	South East		13. Non Human Bone & Organic Material				
Weathered	South		14. Ochre quarry				
Other platform	South West		15. Potential Archaeological Deposit				
	West		16. Stone Quarry				
'n	North West		17. Shell				
			18. Stone Arrangement				
			19. Modified Tree				
			20. Water Hole				
Site Plan Inc	dicate scale, boundaries of site, fea	tures					
NW	N	NE					
			•				
			Site Dimensions				
			Closed Site Dimensions (m)				
			Internal length				
			Internal width				
		` -	Shelter height				
W		, E	Shelter floor area				
		1	On an Otto Disconniana (m)				
			Open Site Dimensions (m) Total length of visible site				
			Average width of visible site				
			Estimated area of visible site				
			Length of assessed site area				
			300 SI ♥				

Other

Feature Inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	О/Н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	СН	55	35	27									0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
95	KURRAJONG '	T1/OS 95																	
	774977	6619291	6	F	СН	26	26	10	BR	20	10		х		F	R	0		
				С	CH	28	11	8									0		3 NEG FL SCARS + STEP FRACTURE
				F	CH	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5				F	R	0		
				FP	СН	23_	17	5									0		·
				С	СН	25	23	21									0	X	6 NEG FLAKE SCARS
				FP	СН	32	25	12									0		
96	KURRAJONG '	T1/OS 96																	
_	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	QZ	43	38	13	BR	15	7				F	R	0		
				FP	CHAL	20	8	4									0		
97	KURRAIONG	r1/ISO 97																	
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG '	r1/OS 98																	
	774742	6618977	4	С	MET	40	33	24								_	0		RETOUCH, PROB. SCAPER
				F	MET	34	25	8	F	6	6		Х		Α	R	20		
99	KURRAJONG '	T1/OS 99																	
	774697	6618941	4	С	ARG	38	28	23									15		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			P	X				0		
100	KURRAJONG T	Γ1/OS 100																	
	774878	6619099	6	F	MET	34	44	8	BR	37	6			Х			0	X	RETOUCH, SCRAPER
]	F	CH	38	32	10	F	20	7				Α	CORTEX	50		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG T	 T1/ISO 120		-															
	778757	6621065	4	F	MET	43	18	4	F	5	2		X	1200	F	R	0		
121	KURRAJONG T	Γ1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		х	Х	A		40	90	8800000
		200A TO CONTROL		FP	PW	30	30	10			1040 A2000	(40) - (a	1969 ii 186				0		
92 24				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
								20											
										20									

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/57	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	Q Z	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 96 - Site 95 viewed from the north.

Site (95) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 95" 55J E.0774977 N.6619291 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 7 artefacts in 20m x 20m area

Cattle grazing 40m

80% 2 chert cores 3 chert flakes 2 chert flaked pieces



Plate 97 - Site 96 viewed from the northeast.

Site (96) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 96" 55J E.0774877 N.6619178 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 3 artefacts in 15m x 15m area Cattle grazing

Inner dam face 95% Chert core Quartzite flake

Chalcedony flaked piece



Plate 98 - Site 97 viewed from the southwest.

Site (97) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility:

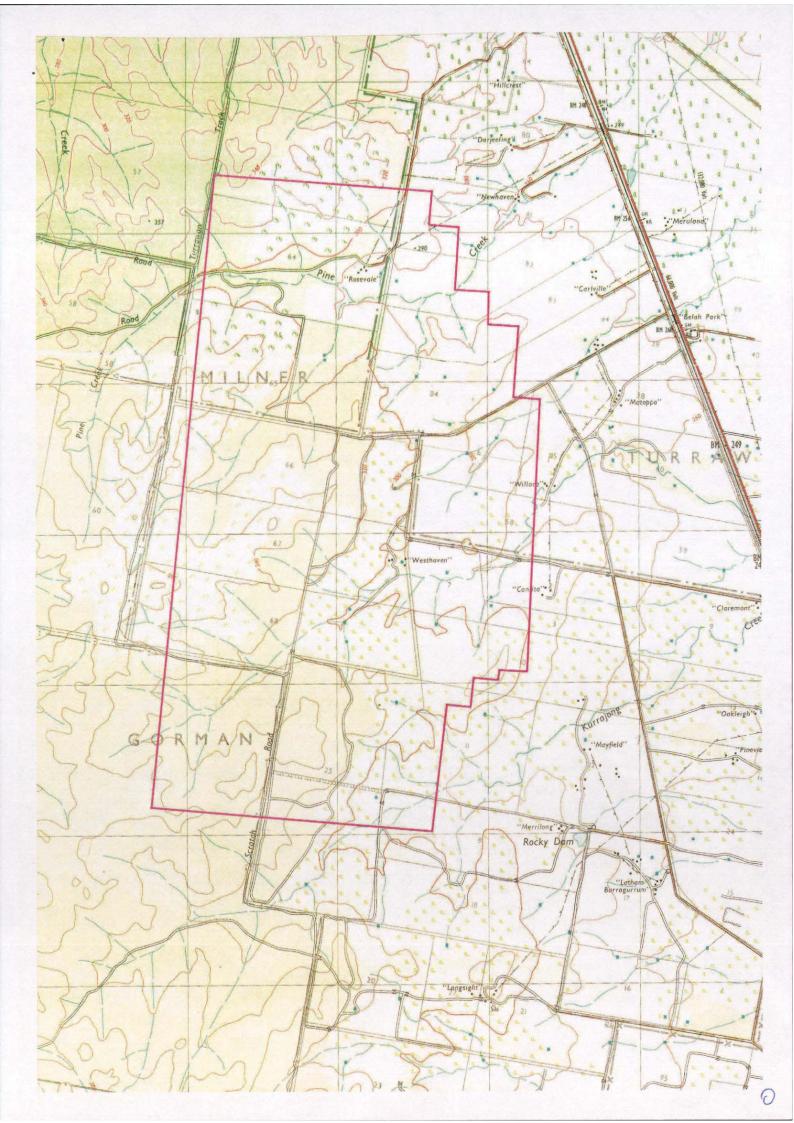
Artefact descript:

"Kurrajong T1/ISO 97" 55J E.0774783 N.6619064 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing

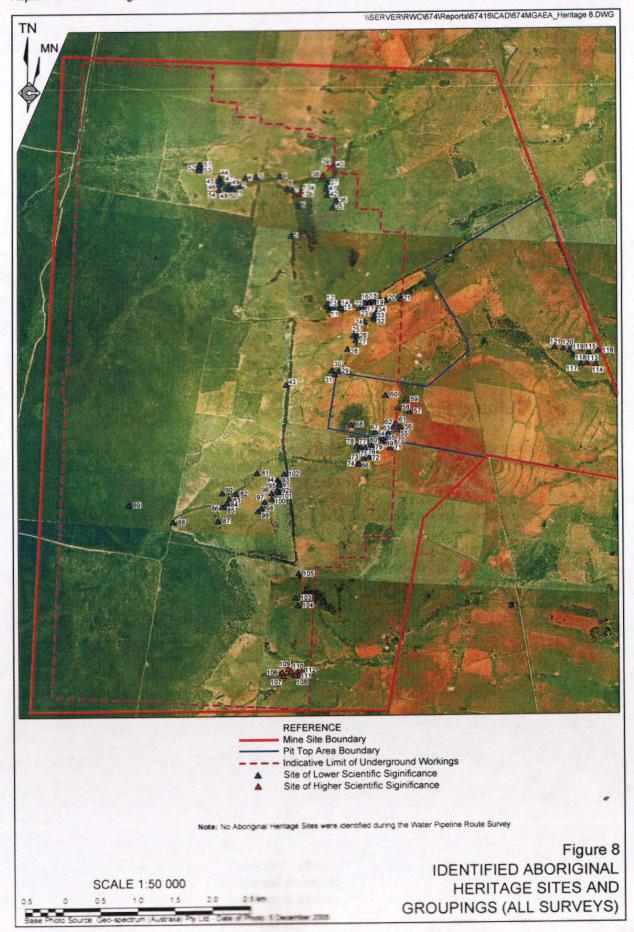
20m 85%

Metasedimentary flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-61-0136	
Date received Date entered into system [7/9/10] Date catalogued	
Entered by (I.D.)	
Information Access Gender/male Gender/female Location restriction General restriction No access	
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
TRINDALL CRAIG Client on	
Organisation NARRABRIGOMEROITRAD OWNERS system	
Address	
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title ° Surname First Name Initials Client on	
TRINDALLY LYNN system	
Organisation NARRABRU LALC	
Address POBOX 37 NARRABRI 2390	
Phone number 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	`
Site Name KURRATONG TI/ISO 97 SITE 9	7)
Easting 774783 Northing 6619664 AMG X GDA	
Mapsheet BAHN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
✓ 55 ✓ 1:50k topographic map Differential GPS	
58 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Sumame First Name Initials	
APPLETONITOHN	
Organisation ARCHAEOLOGICAL SURVEYS & REP Client on system	
Address 16 CUILFILS STUALLED AT LE	
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3-5 degrees		till told
-p - ⊃ degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 20 metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	1/ 00 - 100 -
Open woodland		Name of nearest temporary water
	Forestry	Directions for Relocation
Scrub	Industrial	
Woodland	Mining	
Cleared	Pastoral/grazing	see attached
Revegetated	Recreation	
L. N/A	Semi-rura!	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map N N NE
	N/A	NW NE
Current Land Tenure		
		•
	/ other Government Dept.	··
Private		
Primary report I.D.	(ID ON III)	
ABORIGINAL	(I.D. Office Use only)	see attached.
EASSESSME	NTINARRA	\mathcal{B}
BRI COAL N	VINE STAGE	W · · · · · / E
E 2 LONGWA		<u></u>
		i
	 	
	<u> </u>	
	<u> </u>	
		Chai .
	•	SW S SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features				
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming				
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering				
Boulder	Boulder	N-S	3. Art				
Wind erosion	Sandstone platform	NE-SW	4. Artefact				
Water erosion	Silica gloss	E-W	5. Burial				
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring				
	Weathered	≥ N/A	7. Conflict				
	Other platform		8. Earth Mound				
Condition of Ceiling	Shelter Aspect		9. Fish Trap				
Boulder	North		10. Grinding Groove				
Sandstone platform	North East		11. Habitation Structure				
Silica gloss	East		12. Hearth				
Tessellated	South East		13. Non Human Bone & Organic Material				
Weathered	South		14. Ochre quarry				
Other platform	South West		15. Potential Archaeological Deposit				
	West		16. Stone Quarry				
1 9	North West		17. Shell				
			18. Stone Arrangement				
			19. Modified Tree				
			20. Water Hole				
Site Plan Ind	dicate scale, boundaries of site, fea	tures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area				
sw	s	SE					

page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	CH	55	35	27									0	•	STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
95	KURRAJONG	T1/OS 95							1	•					<u> </u>				
	774977	6619291	6	F	СН	26	26	10	BR	20	10		х		F	R	0		
				С	СН	28	11	8						_			0		3 NEG FL SCARS + STEP FRACTURE
				F	СН	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5		-	-	F	R	0		
				FP	СН	23	17	5									0		
				С	СН	25	23	21									0	X	6 NEG FLAKE SCARS
				FP	CH	32	25	12									0		
-	-																		
96	KURRAJONG	T1/OS 96																	
	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	OZ	43	38	13	BR	15	7				F	R	0		
				FP	CHAL	20	8	4									0		
												,							
97	KURRAJONG	T1/ISO 97																	
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG	 T1/OS 98	!														i	,	
	774742	6618977	4	С	MET	40	33	24									0		RETOUCH, PROB. SCAPER
				F	MET	34	25	8	F	6	6		Х		Α	R	20		
99	KURRAJONG	T1/OS 99																	
	774697	6618941	4	С	ARG	38	28	23									1,5		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			P	X				0		
100	KURRAJONG																		
	774878	6619099	6	F	MET	34	44	8	BR	37	6			X			0	х	RETOUCH, SCRAPER
				F	CH	38	32	10	F	20	7				A	CORTEX	50		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
	-	-		FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	 																· · · · · · · · · · · · · · · · · · ·	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG T1/OS 121																		
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	Α		40		
				FP	PW	30	30	10									0	<u> </u>	
	-			С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
					!														

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2N\$	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 96 - Site 95 viewed from the north.

Site (95) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 95" 55J E.0774977 N.6619291 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

7 artefacts in 20m x 20m area

Cattle grazing

40m 80%

> 2 chert cores 3 chert flakes

2 chert flaked pieces

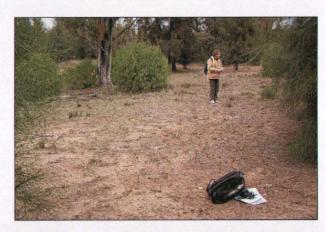


Plate 97 - Site 96 viewed from the northeast.

Site (96) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 96" 55J E.0774877 N.6619178 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts in 15m x 15m area

Cattle grazing Inner dam face 95%

Chert core Quartzite flake Chalcedony flaked piece



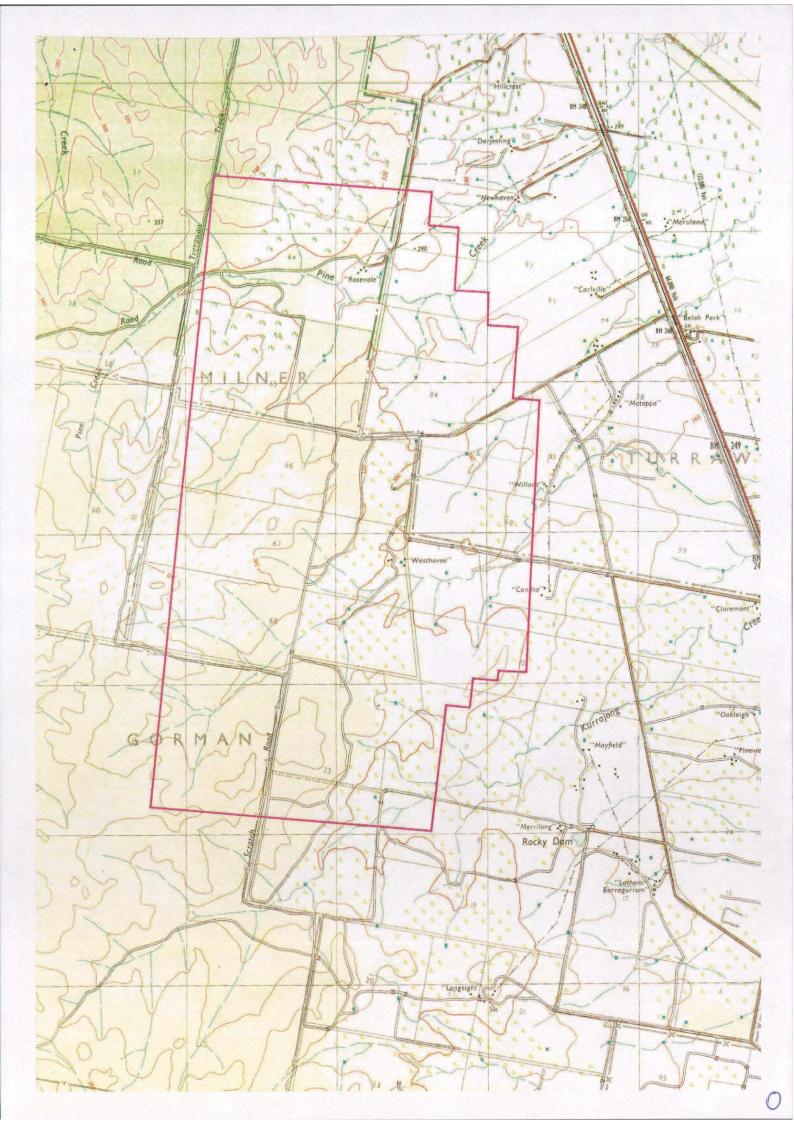
Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/ISO 97" 55J E.0774783 N.6619064 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing 20m

85% Metasedimentary flake

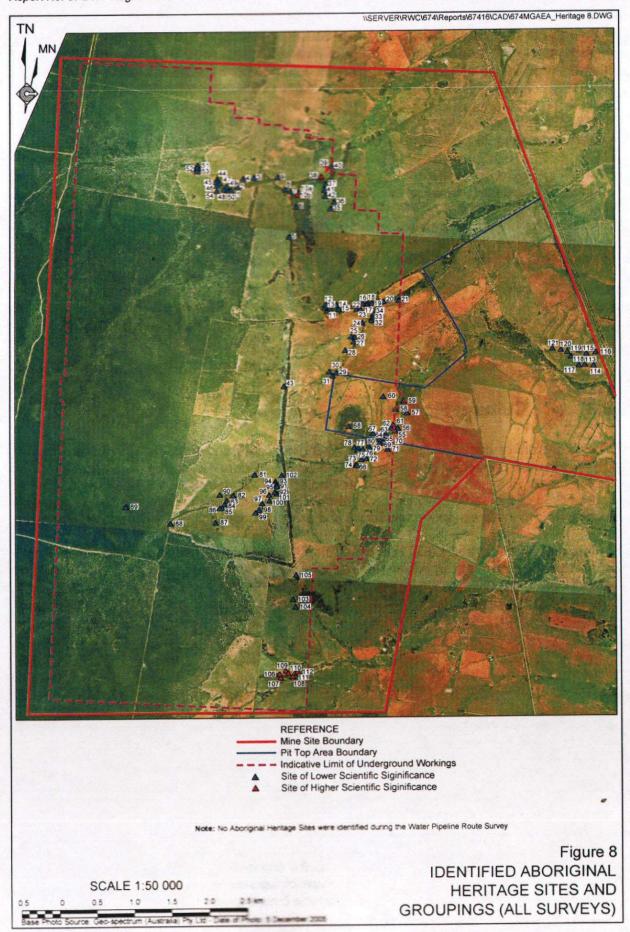


Plate 98 - Site 97 viewed from the southwest.



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 191-161-101137	
Date receive	17/100/00	
Entered by (I.D.		
Information		Office Use Only
Gender/ma		/
	Information Contact:	
└─ │ Nominate d	d Trustee Surname First Name Initials	
	TRINDALLI CRAIG	Client on
Organisation	NARRABRI GOMERON TRAD OWNERS	system
Address		4
Phone number	0428 978 863 Fax	
☐ Knowledg	ge Holder	
Title	Surname First Name Initials	Client on
	TRINDALL	system
Organisation	NARRABRILALC	
Address	PO BOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	()
Site Name	KURRAJONG TI/OS 98	(SITE 98)
Easting	774742 Northing 6618977 AMG X GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	✓ 55 ✓ 1:50k topographic map ✓ Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re	ecorder	
Title	Surname First Name Initials	
	APPLETON	2000 as
Organisation	ARCHAEOLOGICAL SURVEYS A REP	Client on system
Address	16 CURTIS ST ARMIDALE	
1 Hotto Harrison	02 6772 6512 Fax 02 6772 4567	K. State
Date recorded	15/07/09	

NPWS Aboriginal Site Recording Form - Site Information page 2 CLOSED SITE OPEN SITE **Site Context** Landform **Landform Unit** Mountainous Tidal Flat Beach Upper slope Stream bank Plain Coastal rock platform Cliff Plain Stream channel Rolling hills Dune Crest Ridge Swamp Intertidal flat Steep hills Flat Tor Теггасе Undulating plain Lagoon Lower slope Terrace flat Valley flat Tidal Creek Mid slope Slope Levy 3 degrees Vegetation Land use Water Closed forest Conservation Distance to permanent water source metres Grasslands Established urban Distance to temporary water source metres Isolated clumps of trees Farming-intensive Name of nearest permanent water source KURRATIONS Open forest Farming-low intensity Name of nearest temporary water Open woodland Forestry Directions for Relocation Scrub Industrial Woodland Mining Cleared Pastoral/grazing See attached Revegetated Recreation N/A Semi-rural Service corridor Transport corridor Site Location Map Urban expansion NW NE N/A **Current Land Tenure Public** National Park / other Government Dept. Private **Primary report** I.D. (I.D. Office Use only) See attached ABORIGINAL

Primary report I.D. (ID. Office Use anily)

ABORIGINAL HERITAG

E ASSESSMENT: NARRA

BRICGAL MINE STAG

E 2 LONGWALL PROSE

SW

S

SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
ਚੇ	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
	licate scale, boundaries of site, feat N		
N₩	14	NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X	Shelter height
W		, E	Shelter floor area
			Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site Estimated area of visible site
			Length of assessed site area
			Letign of assessed site area

SW

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	CH	55	35	27									0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
95	KURRAJONG	T1/OS 95							ļ. <u>-</u>										
	774977	6619291	6	F	CH	26	26	10	BR	20	10		Х		F	R	0		
				С	СН	28	11	8									0		3 NEG FL SCARS + STEP FRACTURE
_				F	CH	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5				F	R	0		
				FP	СН	23	17	5									0		
				С	СН	25	23	21									0	X	6 NEG FLAKE SCARS
				FP	СН	32	25	12									0		
96	KURRAJONG	T1/OS 96																	
	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	QZ	43	38	13	BR	15	7				F	R	0		
				FP	CHAL	20	8	4									0		
97	KURRAJONG	T1/ISO 97																	
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG '	T1/05 08													 				
	774742	6618977	4	С	MET	40	33	24									0		RETOUCH, PROB. SCAPER
	7,4,42	0010377	-	F	MET	34	25	8	F	6	6		x		A	R	20		natoodi, i nobi sali an
99	KURRAJONG	T1/OS 99											-						
	774697	6618941	4	С	ARG	38	28	23			-						15		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			Р	Х				0		
100	KURRAJONG	T1/06 100																	
100	774878	6619099	6	F	MET	34	44	8	BR	37	6			х			0	Х	RETOUCH, SCRAPER
	//48/8	0012023	D	F		_		_	F	20	7				Α	CORTEX	50		NETOUCH, SCHAPER
L	<u> </u>			F	СН	38	32	10		20		<u> </u>	<u> </u>	<u> </u>	A	CORTEX	30		<u> </u>

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	2,3	28	3	F	7	2		х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG T	T1/ISO 120					!						_						
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R_	0		
121	KURRAJONG 1	 T1/OS 121																_	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21					_				75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
Ļ	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	H	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralllure	IGN	Igneous	Dorsa	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked plece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 99 - Site 98 viewed from the northeast.

Site (98) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: "Kurrajong T1/OS 98"
55J E.0774742 N.6618977
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
2 artefacts 10m apart
Cattle grazing

40m 80%

Artefact descript: Metasedimentary with retouch Metasedimentary flake



Plate 100 - Site 99 viewed from the southwest.

Site (99) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 99"
55J E.0774697 N.6618941
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
2 artefacts 15m apart
Cattle grazing

Cattle of 40m 65%

Argillite steep-edged scraper Quartzite flake

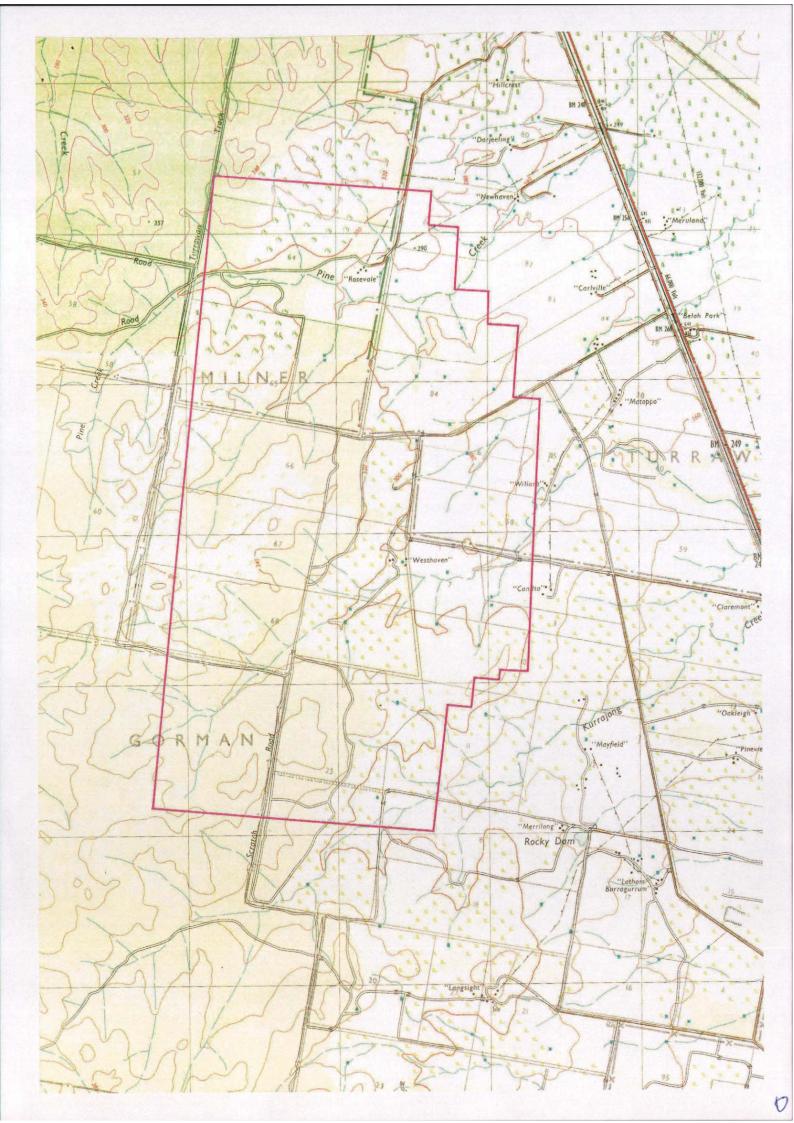


Plate 101 - Site 100 viewed from the southwest.

Site (100) name: Location: GDA Map:

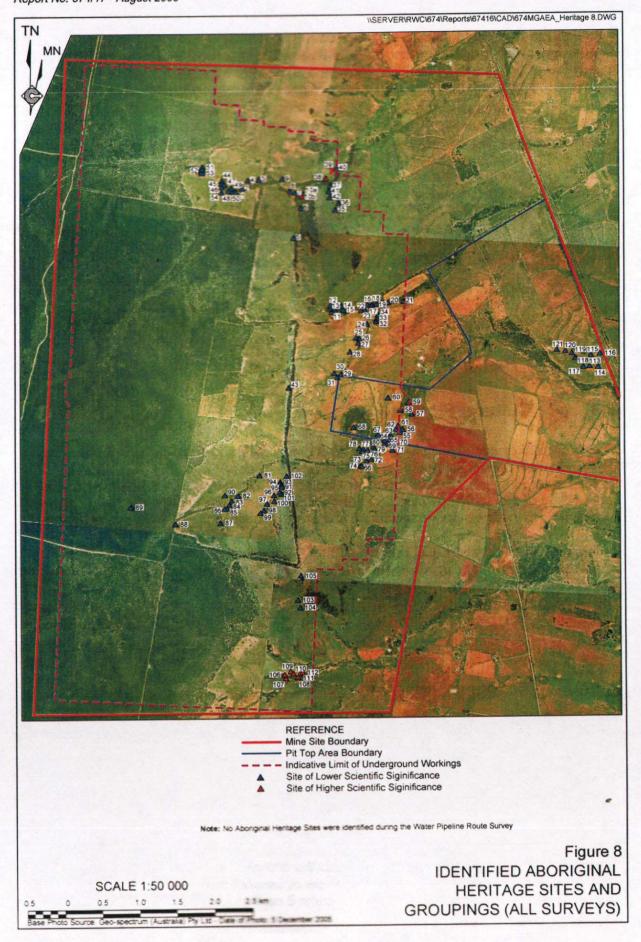
Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 100"
55J E.0774878 N.6619099
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
4 artefacts in 15m x 15m area
Cattle grazing
20m
85%

Metasedimentary scraper Chert flake Petrified wood flake Quartzite flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 19-61-101/138	
Date received	12,9109	
Entered by (I.D.)		
Entered by (i.b.		
Information	Access	Office Use
Gender/ma	le Gender/female Location restriction General restriction No access	Only
For Further	Information Contact:	
	Et A N Initiale	
Title	Surname First Name Initials	Client on
السلسل	NARRABRI GOMERON TRAD OWNERS	system
Organisation Address		
	0428 978 863 Fax	
Phone number	0428 978 863 Fax	
Knowledge	8 273 E	
Title	Surname First Name Initials	Client on
	TIZINDALU	system
Organisation	NARRABRULALC	L—J
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal I	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	/
	KURRADONG TILJOS 99	(SITE 99)
Easting	774697 Northing 6618941 AMG X GDA	
	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
Ψ,	≥ 55 1:50k topographic map Differential GPS	
1	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Bulancia Di	and the second of the second o	
Primary Re	Surname First Name Initials	
	APPLETON JOHN	
Organisation	ARCHAEOLOGICAL SURVEYS & REP	Client on
Address	16 CURTUS ST ARMUDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	
	15/07/09	

SW

S

SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features						
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming						
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering						
Boulder	Boulder	N-S	3. Art						
Wind erosion	Sandstone platform	L_NE-SW	4. Artefact						
Water erosion	Silica gloss	E-W	5. Burial						
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring						
	Weathered	≥ N/A	7. Conflict						
	Other platform		8. Earth Mound						
Condition of Ceiling	Shelter Aspect		9. Fish Trap						
Boulder	North		10. Grinding Groove						
Sandstone platform	North East		11. Habitation Structure						
Silica gloss	East		12. Hearth						
Tessellated	South East		13. Non Human Bone & Organic Material						
Weathered	South		14. Ochre quarry						
Other platform	South West		15. Potential Archaeological Deposit						
	West		16. Stone Quarry						
4)	North West		17. Shell						
			18. Stone Arrangement						
			19. Modified Tree						
			20. Water Hole						
Site Plan Ind	dicate scale, boundaries of site, fea N	tures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area Open Site Dimensions (m) Total length of visible site Average width of visible site						
SW	S	SE	Estimated area of visible site Length of assessed site area						

Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	СН	55	35	27									0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
95	KURRAJONG '	T1/OS 95						_									-		
	774977	6619291	6	F	СН	26	26	10	BR	20	10		X		F	R	0		
				С	СН	28	11	8						_			0		3 NEG FL SCARS + STEP FRACTURE
	-			F	СН	18	32	8	BR	15	7				F		0	-	
	-		-	F	CH/SIL	35	20	5	F	6	5				F	R	0		-
				FP	СН	23	17	5									0		
				С	СН	25	23	21									0	х	6 NEG FLAKE SCARS
			_	FP	СН	32	25	12									0		
				-											-				
96	KURRAJONG '	T1/OS 96																	
	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	QZ	43	38	13	BR	15	7				F	R	0		
				FP	CHAL	20	8	4									0		
-																			
97	KURRAJONG	T1/ISO 97						-											
<u>.</u>	774783	6619064	5	F	MET	53	32	20	CORT	33	17				A	R	15		
98	KURRAJONG 1	T1/OS 98																	
	774742	6618977	4	С	MET	40	33	24									0		RETOUCH, PROB. SCAPER
				F	MET	34	25	8	F	6	6		X		A	R	20		
_ 99	KURRAJONG '	T1/05 99													<u> </u>				
	774697	6618941	4	С	ARG	38	28	23							<u> </u>		15		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			Р	х				0		
100	KURRAJONG	T1/OS 100				•													
	774878	6619099	6	F	MET	34	44	8	BR	37	6			х		<u> </u>	0	x	RETOUCH, SCRAPER
		-	 	F	СН	38	32	10	F	20	7				Α	CORTEX	50		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	Γ1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2	_	X		F	R	0		
121	KURRAJONG 1	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21	İ								75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
																			-:

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	lasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2N5	2 vertical negative flake scars		
FP	Flaked piece	CHAL,	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 99 - Site 98 viewed from the northeast.

Site (98) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 98"
55J E.0774742 N.6618977
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
2 artefacts 10m apart
Cattle grazing

40m 80% Metasedimentar

Metasedimentary with retouch Metasedimentary flake



Plate 100 - Site 99 viewed from the southwest.

Site (99) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 99" 55J E.0774697 N.6618941 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 2 artefacts 15m apart Cattle grazing 40m

65% Argillite steep-edged scraper Quartzite flake

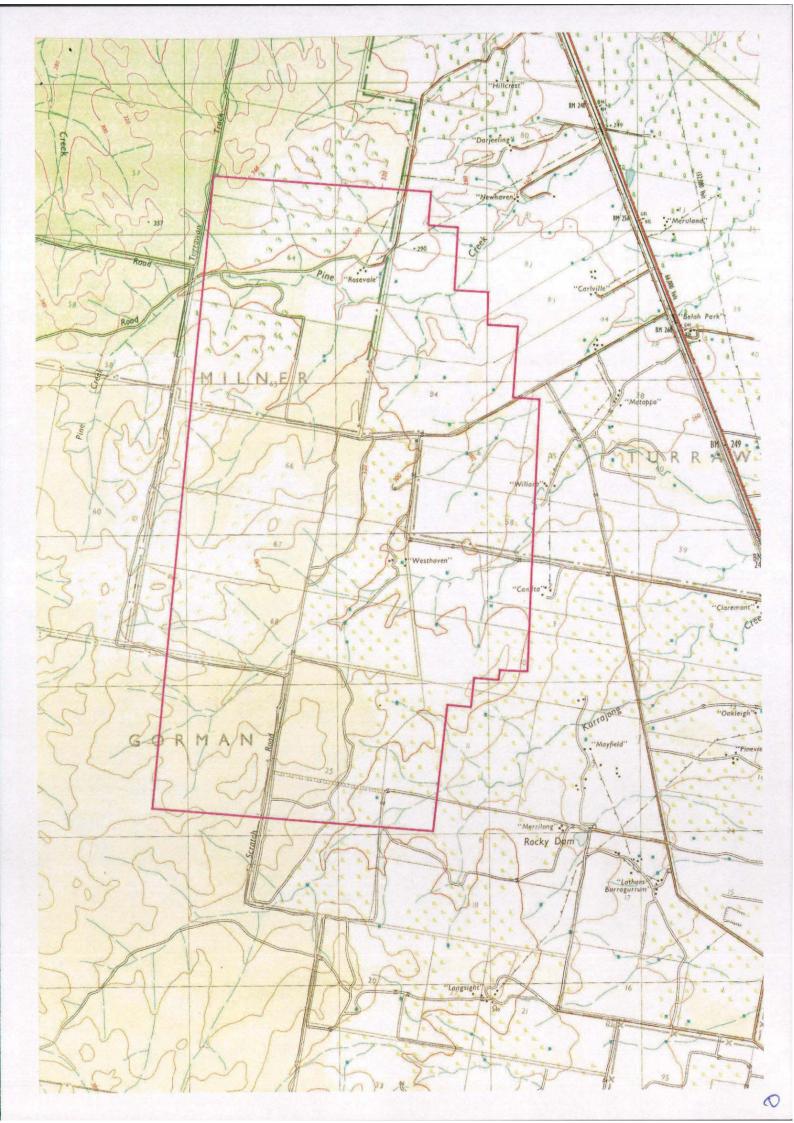


Plate 101 - Site 100 viewed from the southwest.

Site (100) name: Location: GDA Map:

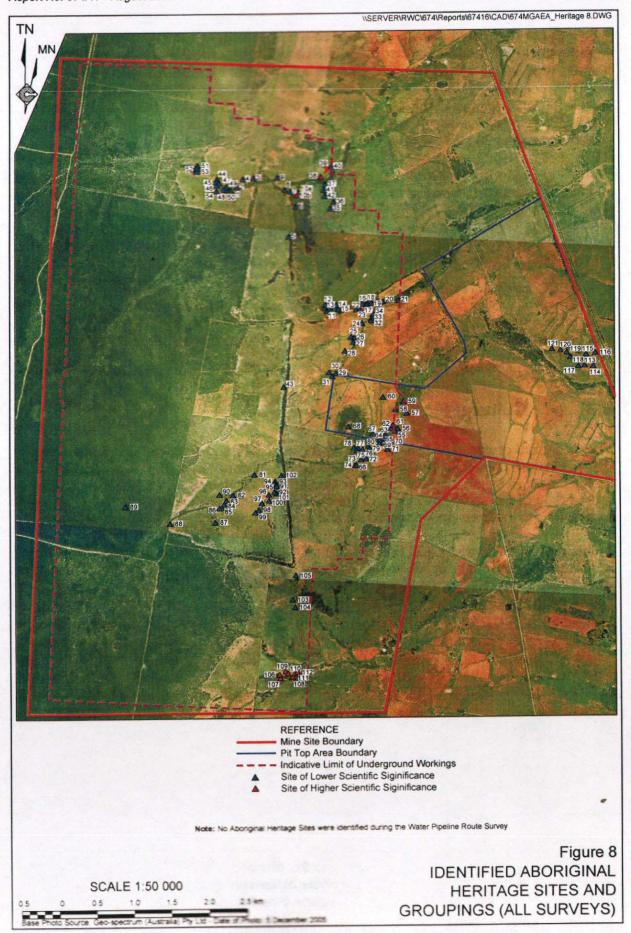
Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 100"
55J E.0774878 N.6619099
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
4 artefacts in 15m x 15m area
Cattle grazing
20m
85%

Metasedimentary scraper Chert flake Petrified wood flake Quartzite flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-6-0139	
Date received	
Entered by (I.D.)	
Information Access	Office Use
Gender/male Gender/female Location restriction General restriction No access	Cnly
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials TIZINDALL CRAIG	Client on
Organisation NARRABRI GOMEROI TRAD OWNERS	system
Address	4-3
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title * Surname First Name Initials	Client on
TRINDALL	system
Organisation NARRABRULALC	<u></u> }
Address POBOX 37 NARRABRI 2390	
Phone number 62 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	(- \)
Site Name KURRAHONG TII/OS 1100	(SITE 100)
Easting 774878 Northing 6619099 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
55 1:50k topographic map Differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON IGHN	
Organisation ARCHAEOLOGICAL SURVEYS A REP	Client on syştem
Address 16 CUIZTUS ST ARMUDALE	
Phone number 02 6772 6512 Fex 02 6773 4567	and the same
Date recorded 15/07/09	

•	CLOSED SITE	OPEN SITE
Site Context		
Landform	Landform Unit	_
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		•
dogioos		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 20 metres
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water Ku RAIONG
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland "	Mining	
Cleared	✓ Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	Site Location Map
	l	NW NE
	L N/A	
Current Land Tenure		•
Public National Park	/ other Government Dept.	
Private		
Primary report I.D.	(1.D. Office Use only)	See attached
	HERITAG	V_{c}
E ASSESSME	F 1 312 1 1 1 1 1 1 1 1	w / E
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E 2 LONGWA	ILC KINDTE	
		l
		
<u> </u>		
	1 1 1 1 1 1 1	
		SW 9 SE
	•	SW S SE

0

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∐N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
·	West		16. Stone Quarry
*	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	licate scale, boundaries of site, fea	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		\ _	Shelter height
W		E	Shelter floor area
		' : 	Once Site Dimensions (m)
		i !	Open Site Dimensions (m) Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	QZ	63	50	24									0		STEEP EDGE SCRAPER
				FP	CH	55	35	27									0		STEEP EDGE SCRAPER
				F	MET	11	21	4	BR	21	2				F		0		
					L														
95	KURRAJONG	T1/OS 95																	
	774977	6619291	6	F	СН	26	26	10	BR	20	10		X		F	R	0		
				С	СН	28	11	8									0	L	3 NEG FL SCARS + STEP FRACTURE
				F	CH	18	32	8	BR	15	7				F		0		
				F	CH/SIL	35	20	5	F	6	5				F	R	0		
			1	FP	CH	23	17	5		-							0		
			Ì	С	СН	25	23	21							<u> </u>		0	Х	6 NEG FLAKE SCARS
				FP	СН	32	25	12		_						-	0		
96	KURRAJONG	T1/OS 96				_								-					
	774877	6619178	5	С	СН	32	30	25									0		4 NEG FLAKE SCARS
				F	QZ	43	38	13	BR	15	7				F	R	0		
				FP	CHAL	20	8	4									0		
97	KURRAJONG	T1/ISO 97			_														
	774783	6619064	5	F	MET	53	32	20	CORT	33	17				Α	R	15		
98	KURRAJONG	T1/OS 98			<u> </u>														
30	774742	6618977	4	С	MET	40	33	24									0	1	RETOUCH, PROB. SCAPER
	.,,,,,	0020377		F	MET	34	25	8	F	6	6		х		A	R	20		
99	KURRAJONG	T1/OS 99																-	
	774697	6618941	4	С	ARG	38	28	23			_						15		CORE BECAME SCRAPER
				F	QZ	20	20	5	SHAT			Р	X				0		
100	KURRAJONG	T1/05 100	<u> </u>																
	774878	6619099	6	F	MET	34	44	8	BR	37	6			X			0	X	RETOUCH, SCRAPER
	//40/8	0013033	- · ·	<u> </u>							7				A	CODIES	50		RETOUCH, SCRAPER
		1		F	СН	38	32	10	F	20	1	<u> </u>	l	<u></u>	A	CORTEX	วบ	L., <u>-</u> ,	

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
				FP	QZ	53	43	15	SHAT	13	2				Α		20		PEBBLE
101	KURRAJONG	T1/ISO 101																-	
	774980	6619194	6	F	QZ	38	33	10	F	10	5				Α	CORTEX	50		PEBBLE
102	KURRAJONG '	T1/0S 102																	
	775044	6619434	6	F	MET	33	23	5	SHAT						F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	Р				R	0		
				F	MET	20	13	5		11	5				F	R	10		
-																			
103	KURRAJONG,	OS 103																	
	775195	6617782	4	С	PW	45	33	18									0	_	STEEP EDGE SCRAPER
					CH	30	28	8	BR	23	8		Х		F		0		
					MET	16	21	5	BR	17	7	P					0		
																		<u> </u>	
104	KURRAJONG	OS 104																	
	775220	6617682	4	C	MET	50	45	32									0		STEEP EDGE SCRAPER
				F	Q	20	13	3	F	12	1		?		F	CORTEX	40		PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
105	KURRAJONG,	OS 105																	
	775233	6618102	4	F	MET	20	15	4	F	9	3	P	X				0		
					MET	25	23	4	F	15	4				F	CORTEX	50		PEBBLE
																	 -		
106	KURRAJONG ,	OS 106																	
	775007	6616792	4	F	QZ	48	38	21	CORT	37	20				A	CORTEX	60		
				FP	QZ	45	18	10		. <u> </u>							0		
				F	QZ	40	25	6	BR	20	5						0		DIAGONAL SNAP
107	KURRAJONG ,	/OS 107																	
	775020	6616744	5	С	QZ	45	36	20	SHAT							CONICAL	0		



SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
		_		FP	СН	23	28	3	F	7	2		х		- Sept. 131		0		
				FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120			-														
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG 1	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
49-20-570-4		2000 2000000000000000000000000000000000		С	СН	25	25	21									75		2 NEG FLAKE SCARS
	Ed.A.PP			FP	MET	68	63	35							0.07007		40		PEBBLE CHOPPER TOOL
	531 1232	507										6							
		- 200		10.000														2007	

			20.1 9.4		DI 15	-	
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked plece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		

SERP Serpentine

CH/SIL Mixture of chert & silcrete

KEY

C

HS

Core

Hammerstone

4NS 4 vertical negative flake scars



Plate 99 - Site 98 viewed from the northeast.

Site (98) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/OS 98" 55J E.0774742 N.6618977 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts 10m apart

Cattle grazing 40m

80% Metasedimentary with retouch Metasedimentary flake



Plate 100 - Site 99 viewed from the southwest.

Site (99) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 99" 55J E.0774697 N.6618941 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 2 artefacts 15m apart Cattle grazing

40m 65%

Argillite steep-edged scraper

Quartzite flake



Plate 101 - Site 100 viewed from the southwest.

Site (100) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 100" 55J E.0774878 N.6619099 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

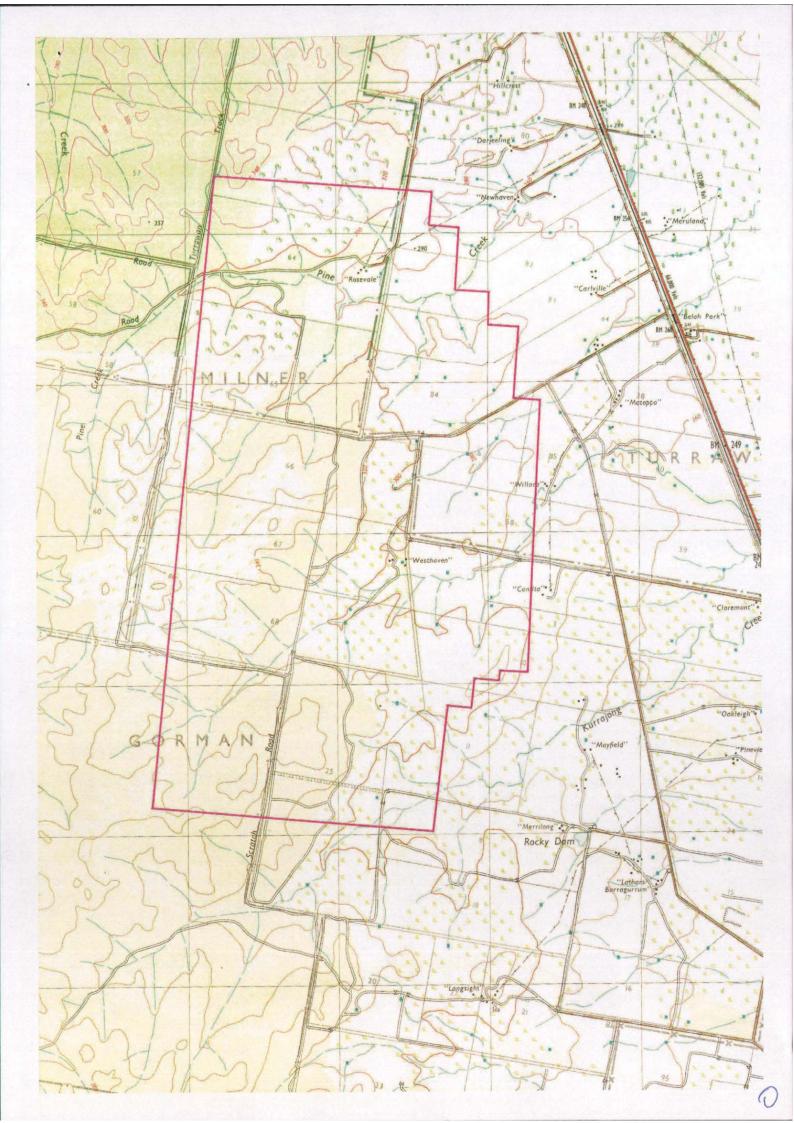
4 artefacts in 15m x 15m area

Cattle grazing

20m 85%

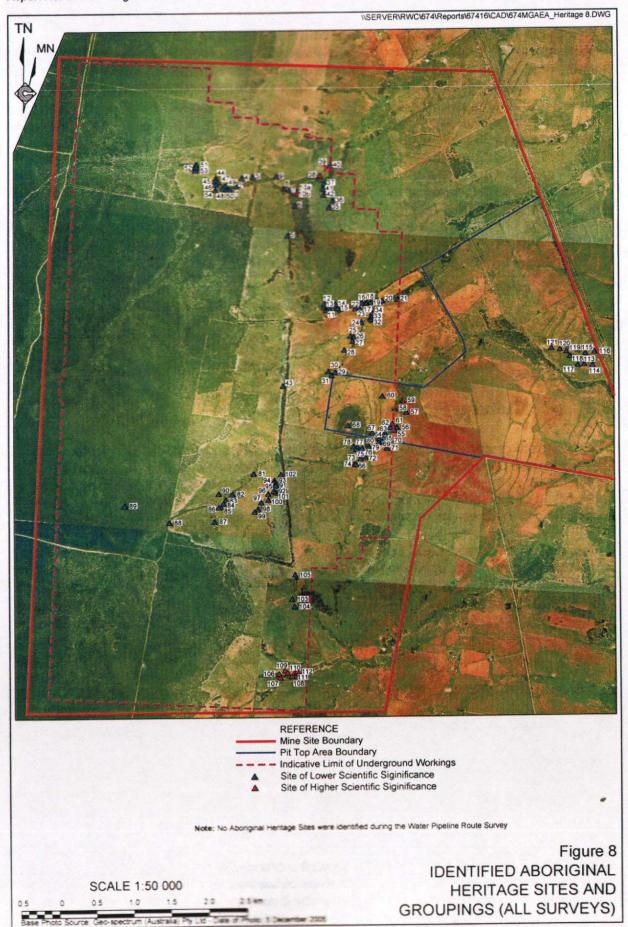
Metasedimentary scraper

Chert flake Petrified wood flake Quartzite flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

	the control of the co	
Office Use Only	Site Number 1191-161-10111410	
Date receive	MICHOLD IN THE STATE OF THE STA	
Entered by (I.D.	.)	
Information Gender/ma		Office Use Only
	Information Contact:	
Nominate		
Title Organisation	Survame First Name Initials TRINDALL CRAIG NARRABRIGOMEROITRADOWNERS	Client on system
Address Phone number	0428 978 863 Fax	·
☐ Knowledg	e Holder	
Title Organisation Address	Sumame First Name Initials TRINDALU LALC NARRABRI LALC POBOX 37 NARRABRI 2390	Client on system
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Easting	774980 Northing 6619194 AMG X GDA	(SITE 101)
Mapsheet Zone		
20116	✓ 1:25k topographic map ✓ Non unleiental GPS ✓ 1:50k topographic map ✓ Differential GPS	
	1:100k topographic map Engineering survey plan or map Client GIS or CAD system	
Primary Re		
Title	APPLETON IGHN	Client on
Organisation		system
Address		ĹΚ
Phone number		·
Date recorded	15/07/09	

Site Context Landform	٠													7,	CLO	OSE	ED SI	TE	×	OF	PEN	SITE	=		ŧ							
Mountainous Baach Tidal Flat Upper slope Stream bank Plain Coestal rock platform Cliff Plain Stream channel Stream chann		Site	e C	on	ite.	xt							_				-50,															
Plain	ı	.and	dfo	rm							Lε	and	for	m L	Init	:																
Plain Coestal rock platform Cliff Plain Stream channel Rolling hills Dune Crest Ridge Swamp Steep hills Intertited flat Tor Terrace Steep hills Intertited flat Undulating plain Lagoon Lower slope Valley flat Tor Terrace flat Slope Tidel Creek Mid slope Levy Valley flat Tor Terrace flat Slope Valley flat Tor Terrace flat Valley			Mo	uni	tair	ou	9] E	3ea	ch				[Tie	dal F	lat			Upper s	lope	X	Str	eam	bank		
Steep hills			Pla	ain								_ (Coa	stal	roc	:k p	latfor	m [CI	liff				1 ''	•		Str	eam	chann	el	
Steep hills		×	Ro	lling	g hi	ills][Dun	е						Cr	rest				Ridge			Sw	amp			
Stope Tidal Creek Mild slope Levy		╝	Ste	эер	hill	ls] ו	nte	rtide	ıl fla	at				Fla	at				1			1				
Stope Tidal Creek Mild slope Levy			Un	dul	atir	ıg p	olaio	n] [age	oon						Lo	wer e	slope	a		Valley fl	at		Ter	TACE	flat		
Vegetation Land use Closed forest Conservation Distance to permanent water source Distance to temporary water source Distance to temporary water source Name of nearest permanent water source Name of nearest permanent water source Department water source Name of nearest permanent water source Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest t	5											_			eek	(Ī							1					ii.		
Vegetation	17	_	_	leni	200	2																			,							
Closed forest				iogi	C Q.																											
Grasslands Established urban Isolated clumps of trees Farming-Intensive Open forest Open woodland Forestry Open woodland Forestry Scrub Industrial Woodland Mining Cleared Pestoral/grazing Revegetated Name of nearest temporary water wource Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water Name of nearest temporary water source Name of nearest temporary water Name of nearest temporary water source Name of nearest temporary water Name of nearest temporary w	١	/eg	eta	tio	1						La	nd	us	Ð				V	Vat	er												
Grasslands Established urban Isolated clumps of trees Farming-Intensive Farming-low intensity Name of nearest permanent water source Name of nearest temporary water Name of nearest temporary wate]	Clo	sec	l fo	res	t] c	on	serv	atio	on		Đ	ista	ance	e to p	em	ane	nt v	vater sour	ce				metre	rs.	
Isolated clumps of trees		\Box	Gra	ıssl	and	sk] [sta	blis	ned	l uri	oan											3	O	metre	s	
Open forest Open woodland Forestry Scrub Industrial Woodland Mining Cleared Pastoral/grazing Revegetated Recreation Service corridor Transport corridor Urban expansion N/A Current Land Tenure Public Private Primary report I.D. 1.D.	L	_]ı	Isol	late	d c	lun	nps	of	tre	es] _F	am	ina	-int	ens	ive							77			<u>.</u> _			,		
Open woodland		\Box	Оря	en f	ore	st	•					7		_									e.					V	URR	AZZ	NG	
Scrub		\neg	7.0				nd					7		_									10,,,,	,	ary water							
Woodland Mining Cleared Pestoral/grazing Recreation Service corridor Transport corridor Public Private See cattached, W. See cattached, W. See cattached, W. Private Pr					0.5	71100						7												Dir	rections f	or Relo	ocati	on				
Cleared Pastoral/grazing Sec attached. Revegetated Recreation Service corridor Transport corridor Urban expansion N/A Current Land Tenure Public National Park / other Government Dept. Private Private Private Private Current Land Tenure Public National Park / other Government Dept. Private Private See attached. Site Location Map NE See attached. NE Current Land Tenure Public National Park / other Government Dept. Private Private Private Private See attached. See attached.		_			and	ı	-					7	AC		.to									_	<u> </u>							
Revegetated Recreation Semi-rural Service corridor Transport corridor Urban expansion N/A Current Land Tenure Public National Park / other Government Dept Primary report I.D. RECRETACLE 4 Sew attracle 4	5	1			3400397					Ì	×	7			ara	-zin																
Service corridor Transport corridor Urban expansion N/A Current Land Tenure Public National Park / other Government Dept Primary report I.D. [I.D. Ottow Uso only) E A S S E S M E N T N A R R A PRI COAL MINE STAGE E Z LONGWALL PROSE		*				hed				j		7			-	بالكاال	y		1	33%		ڪ	ec	2 (attac	hes	t .,					
Service corridor Transport corridor Urban expansion NW NA Current Land Tenure Public National Park / other Government Dept. Private Primary report ABORIGINAL HERITAG EASSESSMENT: NARRA BRICOAL MINESTAG E 2 LONGNALL PROJE	Ĺ				- 44-41					j		1							(A=													
Transport corridor Urban expansion NW Site Location Map NE Current Land Tenure Public National Park / other Government Dept Primary report I.D. (I.D. Ottoo Uso only) ABORIGINAL HERITAG E ASSESSMENT: NARRA PRI COAL MINESTAG E 2 LONGMALL PROTE	<u> </u>		2171							Ì	-	1			7.7	عمامة			d) -											-		
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Primary report I.D. (I.D. Office Use only) ABORIGINAL HERITAG EASSESSMENT: NARRA BRI COAL MINE STAG ETZ LONGWALL PROJE ETT STAG SW	- L					1	latio	οπε	l Pi	ark.	/ at	her	Go	ven	me	ent E	Dept															
ABORIGINAL HERITAG E ASSESSMENT: NARRA BRII COAL MINE STAG E 2 LONGWALL PROJE ET	Į		Pri	vat	e	L	-		-	-																						
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BRUCOAL MINE STAGE E 2 LONGWALL PROJE ET			A	S	(E	S	<u> </u>	M	-	1	<u> </u>	-		<u> </u>	α	PA]]													(Xi)	
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	=		2		L	1	N	15	1 u	A	L			D	- 1	0	7 =]													14.	
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· Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	∐N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	⊠ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
•	West		16. Stone Quarry
÷	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, fea	tures	
NW	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		\	Shelter height
W		E	Shelter floor area
		ż	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area
			-

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Site plans, drawings

Feature inserts-No.

| Recording tables

Other

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
	DALANGONE TELVATAIN			FP	QZ	53	43	15	SHAT	13	2				Α		20		PEBBLE
				55												F - 27 - 100 1 100 1			
101	KURRAJONG	T1/ISO 101																	
	774980	6619194	6	F	QZ	38	33	10	F	10	5				A	CORTEX	50		PEBBLE
102	KURRAJONG	T1/0S 102						2									58150150500 E		
	775044	6619434	6	F	MET	33	23	5	SHAT						F	CORTEX	50		PEBBLE
		e and the feet		F	MET	8	10	3	F	7	3	P				R	0		
			3 3 3	F	MET	20	13	5	0.001700	11	5				F	R	10		
70									100 00100										
103	KURRAJONG .	/OS 103																	
	775195	6617782	4	Ç	PW	45	33	18									0		STEEP EDGE SCRAPER
					СН	30	28	8	BR	23	8		X		F		0		
					MET	16	21	5	BR	17	7	P				ii.	0		
104	KURRAJONG ,				ļ.				<u></u>										
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
				F	Q	20	13	3	F	12	1		?		F	CORTEX	40		PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
105	KURRAJONG	/OS 105						<u> </u>											
	775233	6618102	4	F	MET	20	15	4	F	9	3	Р	х				0		
					MET	25	23	4	F	15	4				F	CORTEX	50		PEBBLE
															1				
106	KURRAJONG	/OS 106	A 500000-30													our/Ichrenenii II			
and the state of t	775007	6616792	4	F	QZ	48	38	21	CORT	37	20				Α	CORTEX	60		1 1 mar 1/1/1/1/1/1
				FP	QZ	45	18	10								32	0		
				F	QZ	40	25	6	BR	20	5				1		0		DIAGONAL SNAP
107	KURRAJONG	/OS 107							<u> </u>							30			
	775020	6616744	5	С	QZ	45	36	20	SHAT							CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	T1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0		
121	KURRAJONG 1	T1/OS 121		20															
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60	3	PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
000000				FP	MET	68	63	35									40	2	PEBBLE CHOPPER TOOL
0.000																			

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/57	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa!	ĺ		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 102- Site 101 viewed from the southwest.

Site (101) name: Location: GDA Map:

1: 50,000 scale Topo. Map
Site type: Isolated artefact
Contents: Isolated artefact
Land use: Cattle grazing

Dist. from water: 30m Arch. Visibility: 90%

Artefact descript: Quartzite flake



Plate 103 - Site 102 viewed from the northwest.

Site (102) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 102" 55J E.0775044 N.6619434 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

"Kurrajong T1/ISO 101" 55J E.0774980 N.6619194

Narrabri 8837-S First Edition

Open artefact scatter
3 artefacts in 20m x 20m area
Cattle grazing

50m 85%

3 metasedimentary flakes



Plate 104 - Site 103 viewed from the south.

Site (103) name: Location: GDA Map:

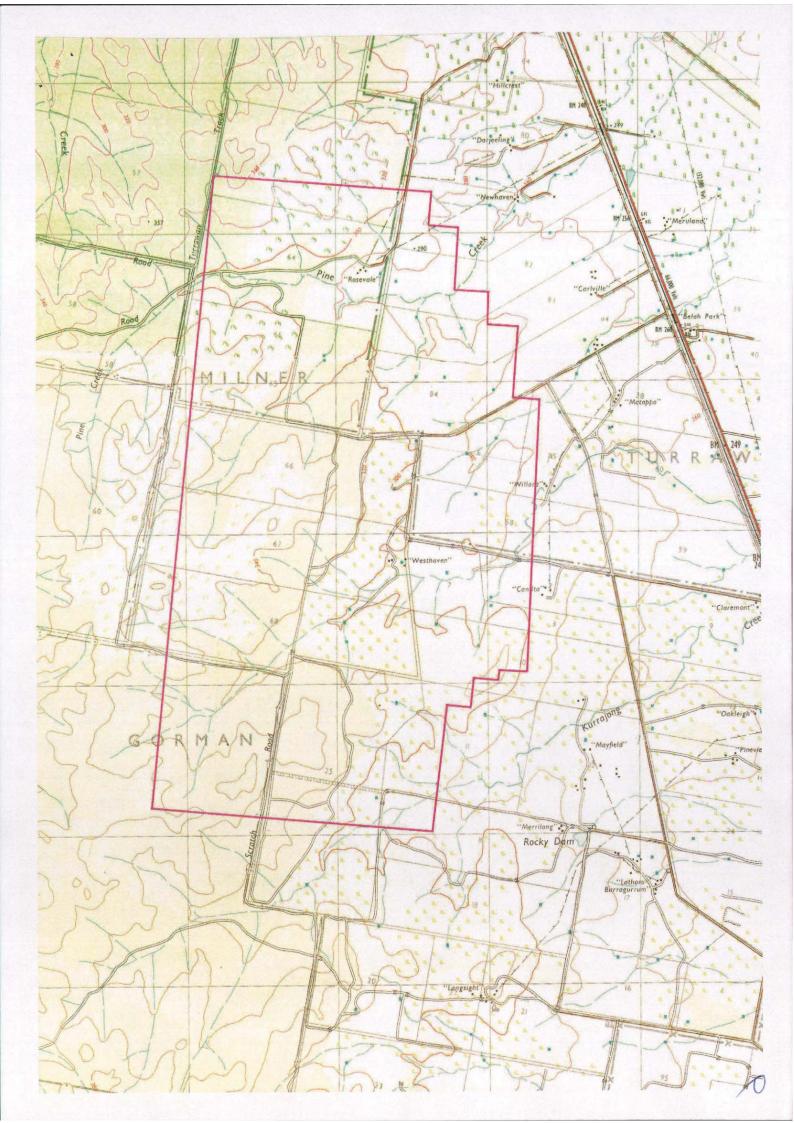
Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Arch. Visibility: Artefact descript: "Kurrajong CR/OS 103"
55J E.0775195 N.6617782
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
3 artefacts in 30m x 30m area
Cattle grazing
80m

85% Petrified wood steep-edged scraper

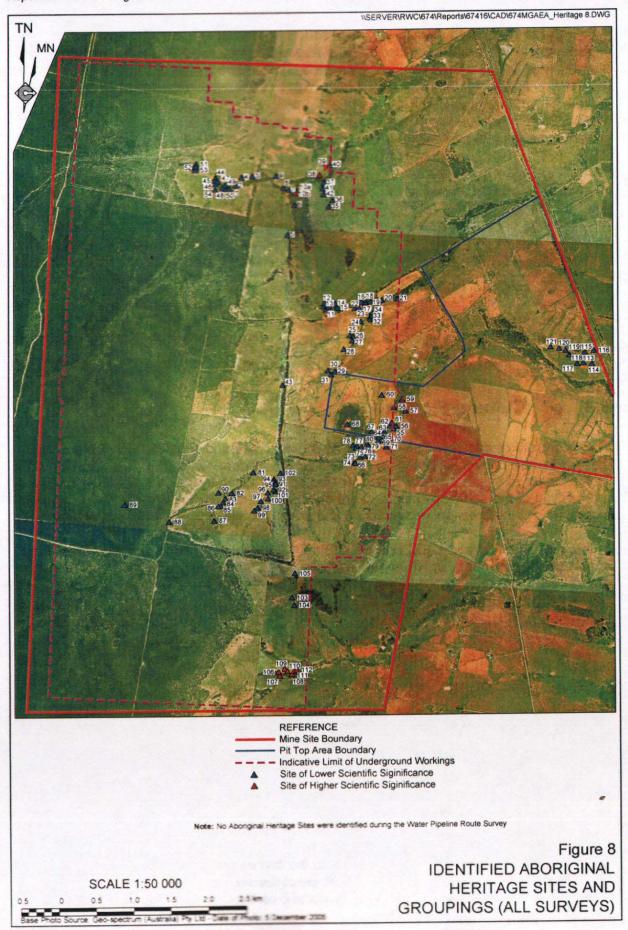
Chert flake

Metasedimentary flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 1191-161-10111411	
Date receive	[710 100]	
Entered by (I.D.		
Information		Office Usa Only
Gender/ma	· · · · · · · · · · · · · · · · · · ·	ou,
1	Information Contact:	
Nominated		
Title	Surname First Name Initials TRINDALL CRAIG	Client on
Organisation	NARRABRI GOMEROI TRAD OWNERS	system
Address		Æ.
Phone number	0428 978 863 Fax	
☐ Knowledg	e Holder	
Title	Surname First Name Initials	Client on
	TRINDALL LYNN	system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	
	KURRATIONE TIVOS 1102	(SITE 102)
Easting	775044 Northing 6619434 AMG X GDA	
_	BAHN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	55 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Re	acorder	
Title	Surname First Name Initials	
	APPLETON IGHN	
Organisation	ARCHAEOLOGICAL SURVEYS A REP	Client on
Address	16 CURTIS ST ARMIDALE	system
(TIONS HANGE	02 6772 6512 Fax 02 6772 4567	4
Date recorded	15/07/09	

page 2

•	CLOSED SITE	OPEN SITE
Site Context		
Landform	Landform Unit	_
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
2 degrees		
•		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source
Isolated clumps of trees	Farming-Intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KURZATIONG
Open woodland	Forestry	The stripe of th
Scrub	Industrial	Directions for Relocation
Woodland *	Mining	
Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rurat	
	Service corridor	
[
	Transport corridor	Site Location Map
Ĺ		NW N NE
Ĺ	N/A	
Current Land Tenure		•
	/ other Government Dept.	
Private		
Primary report I.D.		
ABORIGINAL	(I.D. Office Use only)	see attached.
EASSESSME		M
BRI COAL M		w ⊬ E
E 2 LONGWA	LL PROJE	Λ.
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Gene	eral Site Information		Features					
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming					
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering					
Boulder	Boulder	N-S	3. Art					
Wind erosion	Sandstone platform	NE-SW	4. Artefact					
Water erosion	Silica gloss	E-W	5. Burial					
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring					
	Weathered	≥ N/A	7. Conflict					
	Other platform		8. Earth Mound					
Condition of Celling	Shelter Aspect		9. Fish Trap					
Boulder	North		10. Grinding Groove					
Sandstone platform	North East		11. Habitation Structure					
Silica gloss	East		12. Hearth					
Tessellated	South East		13. Non Human Bone & Organic Material					
Weathered	South		14. Ochre quarry					
Other platform	South West		15. Potential Archaeological Deposit					
	West		16. Stone Quarry					
•	North West		17. Shell					
			18. Stone Arrangement					
			19. Modified Tree					
			20. Water Hole					
Site Plan (no	dicate scale, boundaries of site, fea	tures						
NW	N	NE						
			•					
			Site Dimensions					
			Closed Site Dimensions (m)					
			Internal length					
			Internal width					
		X _	Shelter height					
W		'I	Shelter floor area					
			Once Site Dimensions (m)					
		•	Open Site Dimensions (m) Total length of visible site					
			Average width of visible site					
			Estimated area of visible site					
			Length of assessed site area					
			-					

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L,	w	TH	PLAT	w	ТН	P/D	О/Н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
				FP	QZ	53	43	15	SHAT	13	2				Α		20		PEBBLE
													·						
101	KURRAJONG 1	Γ1/ISO 101													-				
	774980	6619194	6	F	QZ	38	33	10	F	10	5				Α	CORTEX	50		PEBBLE
102	KURRAJONG 1	Γ1/0S 102																	
-	775044	6619434	6	F	MET	33	23	5	SHAT						F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	P				R	0		
				F	MET	20	13	5		11	5				F	R	10	<u></u> .	
103	KURRAJONG ,	OS 103																	
	775195	6617782	4	С	PW	45	33	18									0		STEEP EDGE SCRAPER
					СН	30	28	8	BR	23	8		X		F		0		
					MET	16	21	5	BR	17	7	Р					0		
								•									i		
104	KURRAJONG,	OS 104																	
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
		_		F	α	20	13	3	F	12	1		?		F	CORTEX	40		PEBBLE
				С	MET	50	38	26	<u> </u>								25		PEBBLE, STEEP EDGE SCRAPER
105	KURRAJONG	/OS 105										i							
103	775233	6618102	4	F	MET	20	15	4	F	9	3	P	x				0		
	773233	0016102	7		MET	25	23	4	F	15	4	'	^		F	CORTEX	50	 	PEBBLE
106	KURRAJONG,	OS 106																	
	775007	6616792	4	F	QZ	48	38	21	CORT	37	20				Α	CORTEX	60		
				FP	QZ	45	18	10									0		
				F	QZ	40	25	6	BR	20	5						0		DIAGONAL SNAP
																_			
107	KURRAJONG			<u> </u>				_	ļ				<u> </u>		1				-
	775020	6616744	5	С	QZ	45	36	20	SHAT						1	CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	Γ1/ISO 120	_																
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0		
121	KURRAJONG 1	 									_					_			
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	X	Α		40		
	_			FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
		-		С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	A	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralliure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
C	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 102- Site 101 viewed from the southwest.

Site (101) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong T1/ISO 101" 55J E.0774980 N.6619194 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Isolated artefact Isolated artefact Cattle grazing

30m 90%

Quartzite flake



Plate 103 - Site 102 viewed from the northwest.

Site (102) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong T1/OS 102" 55J E.0775044 N.6619434 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

3 artefacts in 20m x 20m area

Cattle grazing 50m

85%

3 metasedimentary flakes



Plate 104 - Site 103 viewed from the south.

Site (103) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript:

"Kurrajong CR/OS 103" 55J E.0775195 N.6617782 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

3 artefacts in 30m x 30m area

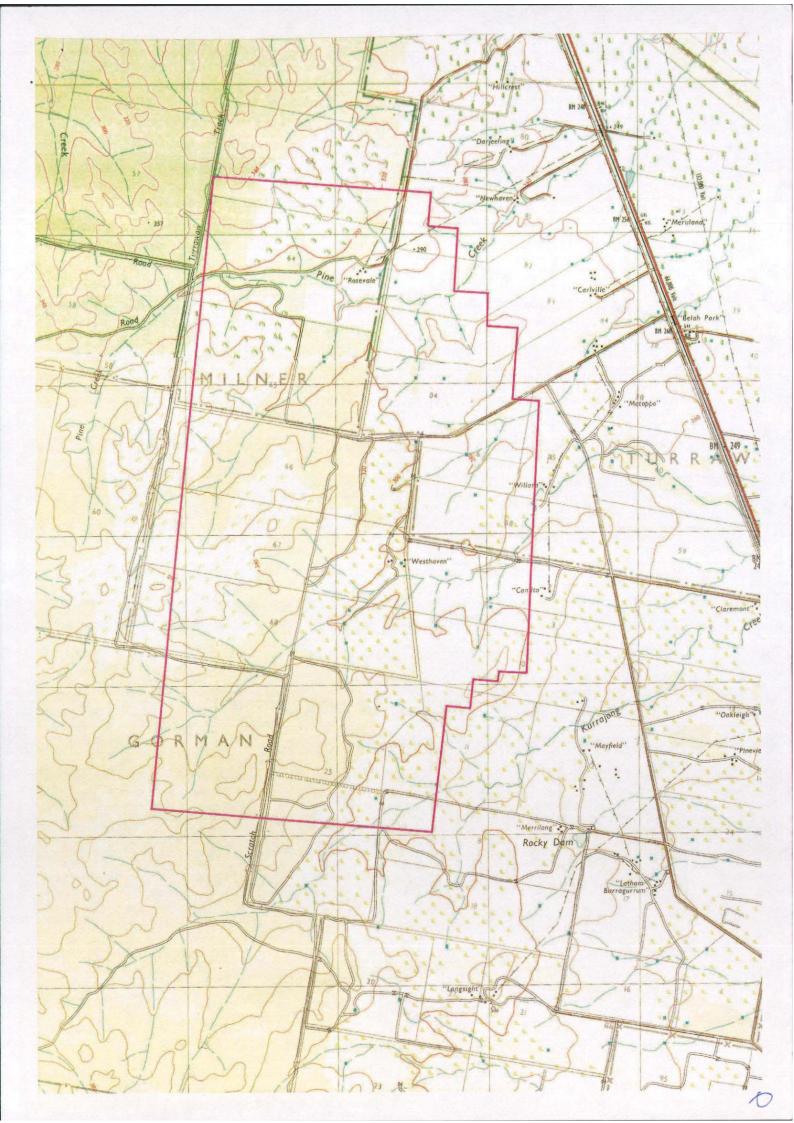
Cattle grazing

80m 85%

Petrified wood steep-edged

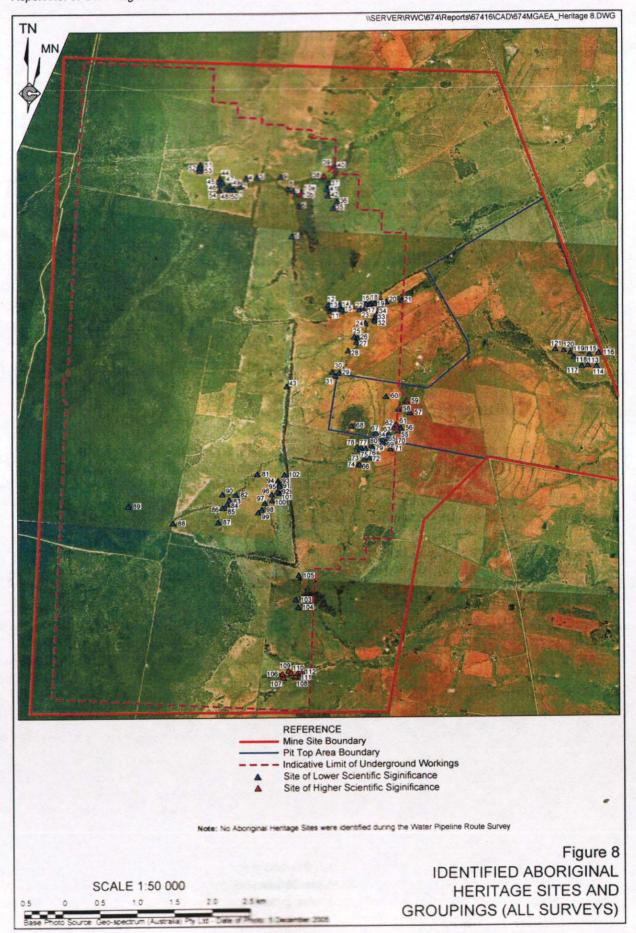
scraper Chert flake

Metasedimentary flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 191-61-01142	
D-t- masshes	taid ind	
Date receive		
Entered by (I.D.	D.)	
Information	Access	Office Use
Gender/ma	ale Gender/female Location restriction General restriction No access	Only
For Further	Information Contact:	
Nominate	d Trustee	
Title	Surname First Name Initials	
	TRINDALL CRAIG	Client on
Organisation	NARLABRI GOMEROI TRAD OWNERS	system
Address		4
Phone number	0428 978 863 Fax	
☐ Knowledg	ro Haldon	
Title	* Sumame First Name Initials	Oli t
	TRINDALL LYNN LYNN	Client on system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARRABRI 2390	
:		
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
<u> </u>		
Geographic	Location	/
	MURRAJONG CR/05 1103 . (SITE 103)
Easting		
_	BAHN BAA 8836-N	
Zone		
• •	56 1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Drimont De		
Primary Re	Surname First Name Initials	
	APPLETON ICHN	
Organisation	ARCHAGOLOGICAL SURVEYS & REP	Client on
Address	16 CURTUS ST ARMIDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	ĽΧ
Date recorded		

SW

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SE

Gen	erai Site information		reatures
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	∠4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
•	West		16. Stone Quarry
*1	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan ind	dicate scale, boundaries of site, fea N	tures NE	
			•.
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X -	Shelter height
W			Shelter floor area
			Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
				FP	QZ	53	43	15	SHAT	13	2				Α		20		PEBBLE
																	-		
101	KURRAJONG T	T1/ISO 101	ĺ																
-	774980	6619194	6	F	QZ	38	33	10	F	10	5				Α	CORTEX	50		PEBBLÉ
102	KURRAJONG 1	Γ1/0S 102																	
	775044	6619434	6	F	MET	33	23	5	SHAT	_			!		F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	Р				R	0		
				F	MET	20	13	5		11	5	<u> </u>			F	R	10		
103	KURRAJONG /			_															
	775195	6617782	4	С	PW	45	33	18			-						0		STEEP EDGE SCRAPER
					СН	30	28	8	BR	23	8		Х		F		0		
		_			MET	16	21	5	BR	17	7_	Р					0		
104	KURRAJONG /	/OS 104											:						
70-4	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
	773220	0017002	_	F	Q	20	13	3	F	12	1		7		F	CORTEX	40		PEBBLE
	<u> </u>			С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
																		-	
105	KURRAJONG ,	OS 105																	
	775233	6618102	4	F	MET	20	15	4	F	9	3	Р	X				0		
					MET	25	23	4	F	15	4				F	CORTEX	50		PEBBLE
1.06	KURRAJONG ,										<u> </u>								
	775007	6616792	4	F	QZ	48	38	21	CORT	37	20				Α	CORTEX	60		
				FP	QZ	45	18	10	ļ								0		
				F	QZ	40	25	6	BR	20	5						0	<u> </u>	DIAGONAL SNAP
107	KURRAJONG ,	OS 107								<u> </u>	-						_		
	775020	6616744	5	С	QZ	45	36	20	SHAT						 	CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	T1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG T	Γ1/OS 121			-														
	778 6 46	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		·
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
	-			FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
												ļ							

<u>KEY</u>							
HEADING\$		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 102- Site 101 viewed from the southwest.

Site (101) name: Location: GDA Map:

1: 50,000 scale Topo. Map
Site type: Isolated artefact
Contents: Isolated artefact
Land use: Cattle grazing
Dist. from water: 30m

Arch. Visibility: 90%

Artefact descript: Quartzite flake



Plate 103 - Site 102 viewed from the northwest.

Site (102) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong T1/OS 102" 55J E.0775044 N.6619434 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

"Kurrajong T1/ISO 101"

55J E.0774980 N.6619194

Narrabri 8837-S First Edition

Open artefact scatter
3 artefacts in 20m x 20m area
Cattle grazing

50m 85%

3 metasedimentary flakes



Plate 104 - Site 103 viewed from the south.

Site (103) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 103" 55J E.0775195 N.6617782 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

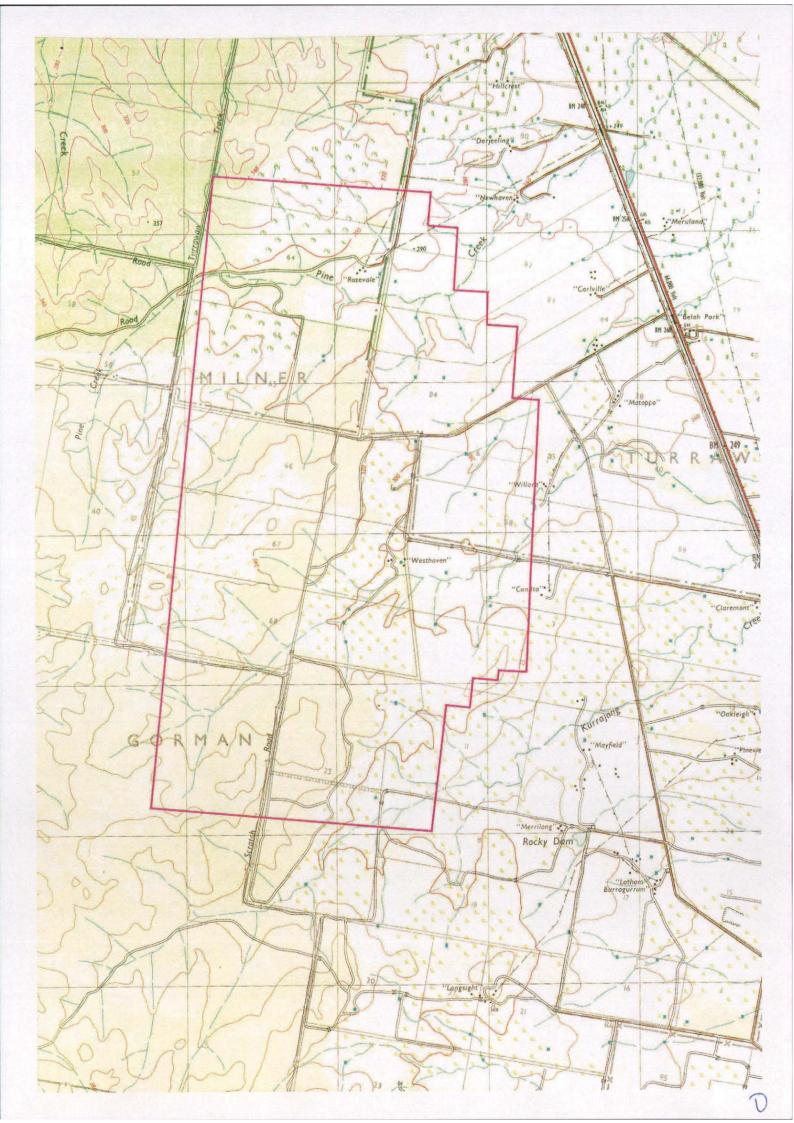
3 artefacts in 30m x 30m area Cattle grazing 80m

85% Petrified wood steep-edged

scraper

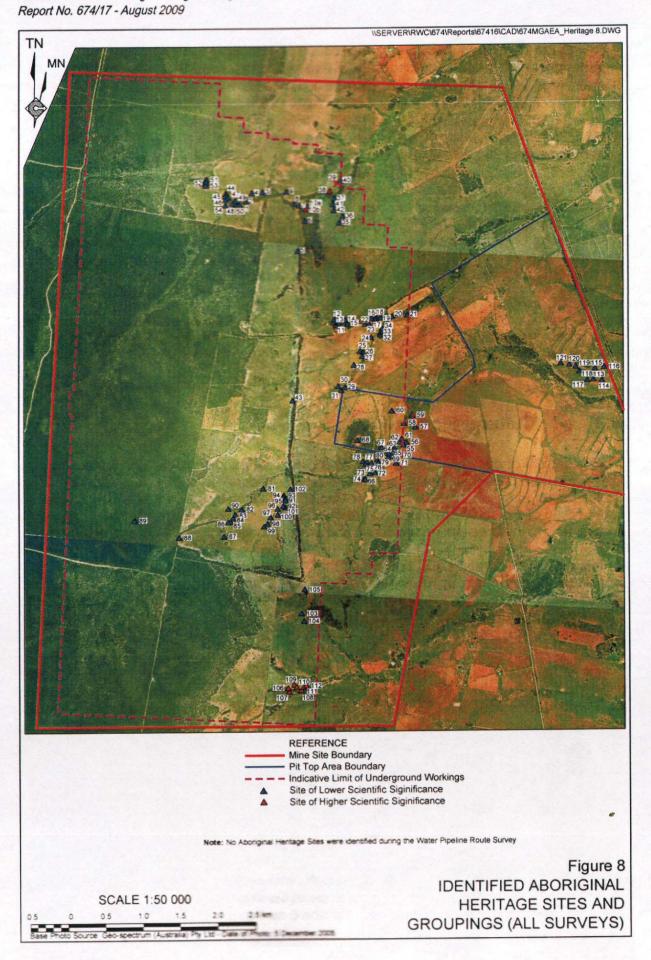
scraper Chert flake

Metasedimentary flake



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 191-161-101/1413	
[7] [8] [8]	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials CRAIG CRAIG CIENT OF	1
Organisation NARKABRIGOMEROITRAD OWNERS System	
Address	
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title * Surname First Name Initials Client on	K
TIRINDALU LYNN System	2
Organisation NARRABRULALC	
Address POBOX 37 NARLABRIZ390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location SITE	Sugar
Site Name	
Easting 775226 Northing 6617682 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
★ 1:50k topographic map Differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON IGHN	
Organisation ARCHAEOLOGICAL SURVEYS A REP Client on	į.
Address 16 CURTUS ST ARMUDALE system	
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

NPWS Aboriginal Site Recording Form - Site Information page 2 CLOSED SITE 🔀 OPEN SITE Site Context Landform Landform Unit Mountainous Tidal Flat Upper slope Beach Stream bank Plain Coastal rock platform Cliff Plain Stream channel Rolling hills Dune Crest Ridge Swamp Intertidal flat Steep hills Flat Tor Terrace Undulating plain Lagoon Lower slope Valley flat Terrace flat Tidal Creek Mid slope Slope Levy degrees Vegetation Land use Water Closed forest Conservation Distance to permanent water source metres 150 Grasslands Established urban Distance to temporary water source metres Isolated clumps of trees Farming-intensive Name of nearest permanent water source KURRAZONG Open forest Farming-low intensity Name of nearest temporary water Open woodland Forestry **Directions for Relocation** Scrub Industrial Woodland Mining Cleared Pastoral/grazing attached Revegetated Recreation N/A Semi-rural Service corridor Transport corridor **Site Location Map** Urban expansion NW NE N/A **Current Land Tenure Public** National Park / other Government Dept.

Pr	lm	агу	rej	301	t		I.D	.[(I.D. Office Use only)						
A	B	0	R	1	6	FI.	N	A	L	F	4	E	R	1	T	A	6	
E		A	S	5	E	S	5	M	€	نم	T	*	7	A	R	R	A	
B	R	T		C	0	A	L		M		N	E		٤	T	A	G	
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See attached.

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Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-s	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
4	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan tred	licate scale, boundaries of site, feat N	tures NE	Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Shelter height
W		X E	Shelter floor area
•		, !	Chord, her area
		\$ 1	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area
CIAI	e	SE	

SW

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Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
		·		FP	QZ	53	43	15	SHAT	13	2				Α		20		PEBBLE
											-			-					
101	KURRAJONG	T1/ISO 101																	
	774980	6619194	6	F	QZ	38	33	10	F	10	5	:			A	CORTEX	50		PEBBLE
		-																	
102	KURRAJONG	T1/0S 102																	
	775044	6619434	6	F	MET	33	23	5	SHAT						F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	P				R	0		
				F	MET	20	13	5		11	5				F	R	10		
		<u>. </u>																	
103	KURRAJONG	/OS 103																	
	775195	6617782	4	С	PW	45	33	18									0		STEEP EDGE SCRAPER
					CH	30	28	8	BR	23	8		Х		F		0		
					MET	16	21	5	BR	17	7	P					0_		
104	KURRAJONG	/OS 104																,	
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
				F	Q	20	13	3	F	12	1		3		F	CORTEX	40		PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
				<u> </u>															
105	KURRAJONG	1																	
	775233	6618102	4	F	MET	20	15	4	F	9	3	P	X			_	0		
					MET	25	23_	4	F	15	4				F	CORTEX	50		PEBBLE
106	KURRAJONG																		
	775007	6616792	4	F	Q Z	48	38	21	CORT	37	20				A	CORTEX	60		
		1		FP	QZ	45	18	10						<u> </u>		_	0		
				F	QZ	40	25	6	BR	20	5	<u> </u>					0		DIAGONAL SNAP
407	KIIDDAIONG	/05 107	 		<u> </u>								ļ <u>.</u>						
107	KURRAJONG		-	_	67	45	36	20	CUAT			 				CONICAL	0		
	775020	6616744	5	С	QZ	45	36	20	SHAT				L		1	CONICAL		1	

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120						. –								-	_		
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	X	_ A		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
			İ	С	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

	Fermination Feather
	eather
ACC± GPS ACCURACY SIL Silcrete F Facetted F Fe	
L Length MUD Mudstone BR Broad (single flake) A A	Axial
W Width MUD/R Mudstone or rhyolite SHAT Shattered H H	linge
TH Thickness BAS Basalt CORT Cortical 5 St	Step
P/D Proximal or Distal JASP Jasper A/S? A	Axial or step
O/H Overhang removal MET Metasedimentary	
E Eraillure IGN Igneous Dorsal	
Core R Core rotation QZ Quartzite R Single vertical ridge	
CH Chert 2R Two vertical ridges	
ART Artefact type Q Quartz NS Negative flake scar	
F Flake PW Petrified wood 2NS 2 vertical negative flake scars	
FP Flaked plece CHAL Chalcedony 3NS 3 vertical negative flake scars	
C Core SERP Serpentine 4NS 4 vertical negative flake scars	
HS Hammerstone CH/SIL Mixture of chert & silcrete	



Plate 105- Site 104 viewed from the south.

Site (104) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong CR/OS 104" 55J E.0775220 N.6617682 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts in 30m x 30m area

Cattle grazing 150m 90%

2 Metasedimentary steep-edged

scrapers Quartz flake



Plate 106 - Site 105 viewed from the east.

Site (105) name: Location: GDA

Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: 2 metasedimentary flakes

"Kurrajong CR/OS 105" 55J E.0775233 N.6618102 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts in 20m x 20m area Cattle grazing

150m 95%



Plate 107 - Site 106 viewed from the east.

Site (106) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility:

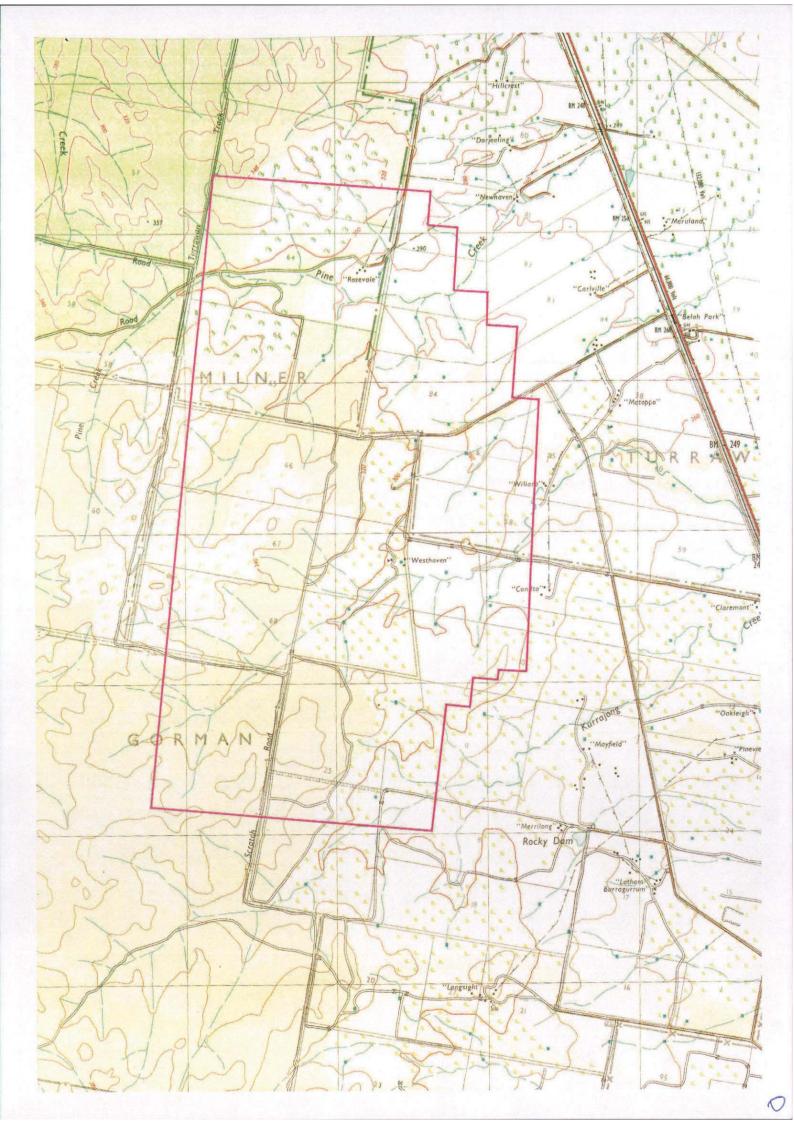
Artefact descript:

"Kurrajong CR/OS 106" 55J E.0775007 N.6616792 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts in 40m x 15m strip

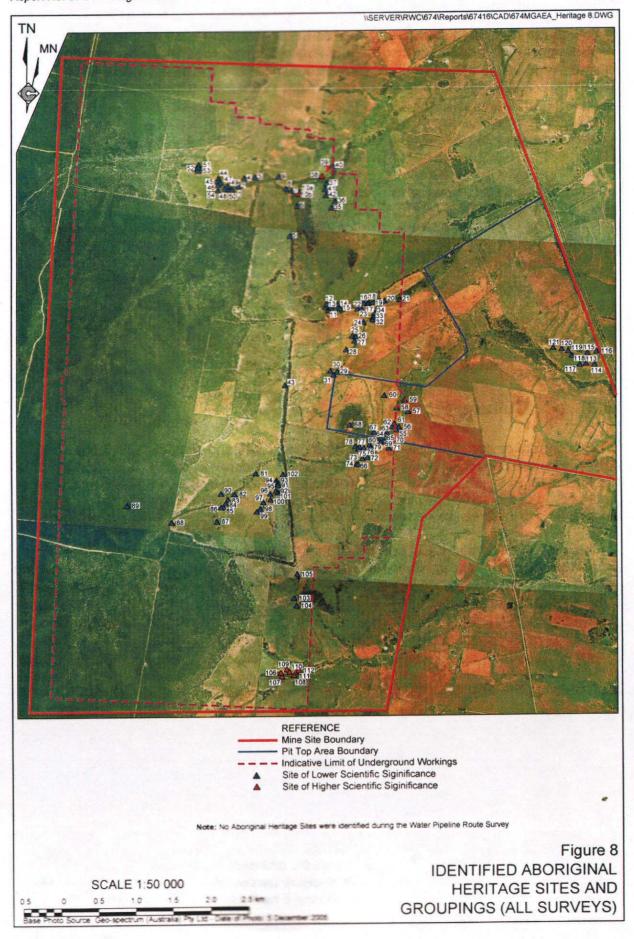
Cattle grazing 30m 85%

2 quartzite flakes Quartzite flaked piece



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 1191-161-10111414	
Date received	Date entered into system 77707 Date catalogued	
Entered by (I.D.)		
1.	▲	
Information A		Office Use Only
Gender/mal		City
For Further I	nformation Contact:	
Nominated	Et a Neuron Initiale	
Title	Surname First Name Initials TRINDALL CRAIG	Client on
Organisation	NARRABRI GOMEROI TRAD OWNERS	system
Address		LXI.
Phone number	0428 978 863 Fax	
☐ Knowledge	e Holder	
Title	Surname First Name Initials	Client on
	TRINDALL	system
Organisation	NARRABRULALC	
Address	PO BOX 37 NARCABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal I	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	/
Site Name	MURRAJONG CR/OS 105	(SITE 105)
Easting	775233 Northing 6618102 AMG X GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	★ 1:50k topographic map Differential GPS	
	56 1:100k topographic map Engineering survey plan or map	
*	Client GIS or CAD system	
Primary Re		îi.
Title	Surname First Name Initials	
	APPLETON TOHN	
Organisation	ARCHAEOLOGICAL SURVEYS & REP	Client on system
Address	16 CURTIS STI ARMIDALE	System
1 110110 110111-01	02 6772 6512 Fex 02 6772 4567	
Date recorded	15/07/09	

page 2

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Bezch	Tidal Flat
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		•
409.000		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water WURZAIONG
Open woodland	Forestry	The state of the s
Scrub	Industrial	Directions for Relocation
Woodland	Mining	<u> </u>
Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	Site Location Map
		NW N NE
1	L N∕A	
Current Land Tenure		•
	/ other Government Dept.	
Private		
Belmany report 10		
Primary report I.D. ABORIGINAL	(I.D. Office Use only)	See attached
E ASSESSME	NT: NARRA	V_{i}
BRI COAL N		₩ / E
E' 2 LONGWA		ℓ_{l}
	TO PICO TE	
		Ì
	' 	SW S SE
		30

Gene	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Sheiter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	ุ N-S	3. Art
Wind erosion	Sandstone platform	ME-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
·	West		16. Stone Quarry
wi	North West		17. Sheli
			18. Stone Аггаngement
			19. Modified Tree
			20. Water Hole
Site Plan Ind	ilcate scale, boundaries of site, fea N	itures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area
CIAL		SE	Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area

SW

S

Other

Feature Inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
			1,135	F	PW	25	45	17	BR	38	16		X		F		0		
	<u> </u>			FP	QZ	53	43	15	SHAT	13	2				Α		20	· <u> </u>	PEBBLE
101	KURRAJONG 1	Γ1/ISO 101				-													
	774980	6619194	6	F	QZ.	38	33	10	F	10	5		-		Α	CORTEX	50		PEBBLE
102	KURRAJONG 1	 												·					
	775044	6619434	6	F	MET	33	23	5	SHAT			-			F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	Р				R	0		
				F	MET	20	13	5		11	5			<u> </u>	F	R	10		
103	KURRAJONG /	OS 103																	
	775195	6617782	4	С	PW	45	33	18									0		STEEP EDGE SCRAPER
					CH	30	28	8	BR	23	8		х		F		0		
					MET	16	21	5	BR	17	7	Р					0		
104	KURRAJONG /	/OS 104	-																
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
	***************************************			F	Q	20	13	3	F	12	1	-	?		F	CORTEX	40		PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
105	KURRAJONG /	 /OS 105								<u> </u>									
-	775233	6618102	4	F	MET	20	15	4	F	9	3	Р	х				0		
					MET	25	23	4	F	15	4				F	CORTEX	50		PEBBLE
106	KURRAJONG /	/OS 106					_ _						_						
	775007	6616792	4	F	QZ.	48	38	21	CORT	37	20				Α	CORTEX	60		
				FP	OZ	45	18	10									0		
				F	QZ	40	25	6	BR	20	5						0		DIAGONAL SNAP
107	KURRAJONG	/OS 107																	
	775020	6616744	5	C	QZ	45	36	20	SHAT							CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	Е	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
•				FP	MET	63	48	17			1						20		
120	KURRAJONG	[
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG 1	Γ1/OS 121									-								
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	Х	Α		40		
				FP	PW	30	30	10									O		
				С	MET	47	45	36							·		60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35		•							40		PEBBLE CHOPPER TOOL
						-													

K	EY.	
-		

HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
w	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S7	Axial or step
O/H	Overhang removal	MET	MetasedImentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
C	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 105- Site 104 viewed from the south.

Site (104) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: 55J E.0775220 N.6617682 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts in 30m x 30m area Cattle grazing

"Kurrajong CR/OS 104"

150m 90%

Artefact descript: 2 Metasedimentary steep-edged

scrapers Quartz flake



Plate 106 - Site 105 viewed from the east.

Site (105) name: Location: GDA

Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 105" 55J E.0775233 N.6618102 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

2 artefacts in 20m x 20m area Cattle grazing 150m

95% 2 metasedimentary flakes



Plate 107 - Site 106 viewed from the east.

Site (106) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript:

3 artefacts in 40m x 15m strip Cattle grazing 30m 85%

script: 2 quart

2 quartzite flakes Quartzite flaked piece

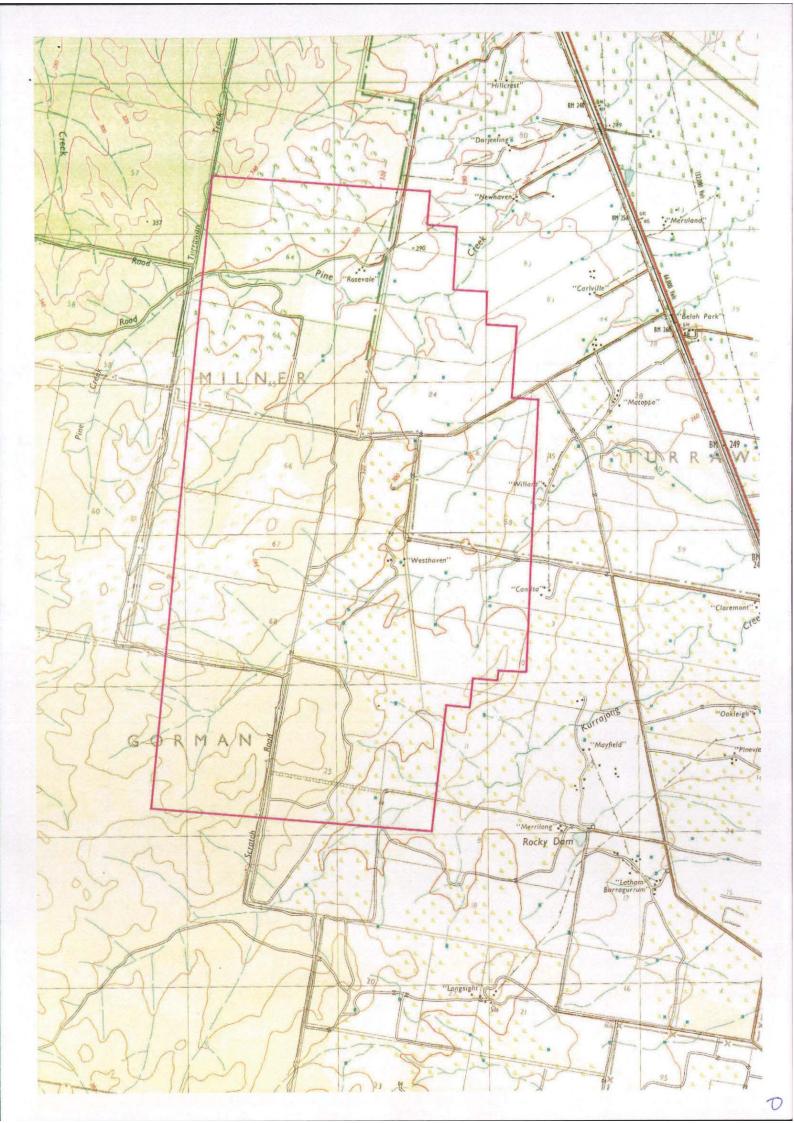
"Kurrajong CR/OS 106" 55J E.0775007 N.6616792

Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map

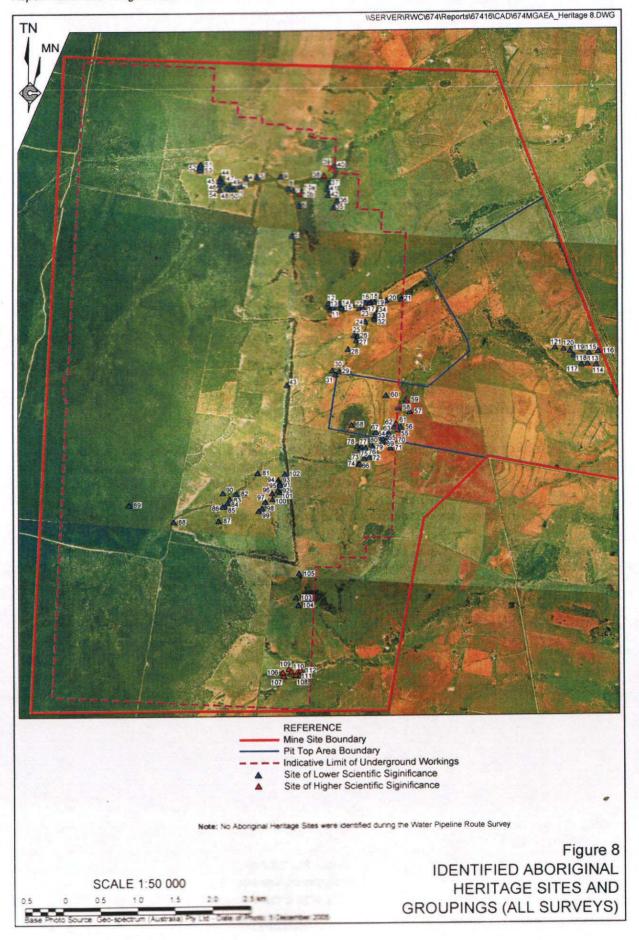
Open artefact scatter





Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 191-61-1011415	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Entered by (i.b.)	
Information Access	Office Use
Gender/male Gender/female Location restriction General restriction No access	Only
For Further Information Contact:	
Mominated Trustee Title Surgame First Name Initials	
Title Surname First Name Initials TRINDALL CRAIG	Client on
Organisation NARRABRI GOMEROI TRAD OWNERS	system
Address	Œ
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
TRINDALU LYNN	system
Organisation NARABRULALC	
Address PO GOX 37 NARRARRI 2390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Abbrigation terralige of the crown and the c	
Geographic Location	(SITE 106)
Site Name KURRAZONG CR/OS 106	(SILE 100)
Easting 775007 Northing 6616792 AMG SGDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
55 1:50k topographic map Differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON TOHN	
Organisation ARCHAEOLOGICAL SURVEYS A REP	Client on system
Address 16 CURTUS ST ARMUDALE	<u> </u>
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

•	CLOSED SITE	DPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Şlope	Tidal Creek	Mid slope Levy
3 degrees		
-		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source
Grasslands	Established urban	Distance to temporary water source 30 metres
Isolated clumps of trees	Farming-Intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KuRRAJoNE
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map
	N/A	NW N NE
	L IN/A	
Current Land Tenure		•
	/ other Government Dept.	
Private	<u> </u>	
Primary report I.D.	(I.D. Office Use only)	A 1
ABORIGINAL	- HERITAG	See attached.
EASSESSME	NT: NARRA	$oldsymbol{b}$
BRICOALA	VINE STAG	W · E
E 2 LONGWA	ILL PROJE	
en		
		·
		SW S SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
ડ ા	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
	dicate scale, boundaries of site, fea N		
NW	N	NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		N.	Shelter height
W		<i>,</i> ∈	Shelter floor area
		<u> </u>	
		n E	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site Length of assessed site area
			Length of assessed site area

SE

SW

Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	О/Н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		Х		F		0		
				FP	QZ	53	43	15	SHAT	13	2				A		20		PEBBLE
101	KURRAJONG	T1/ISO 101																	
	774980	6619194	6	F	QZ	38	33	10	F	10	5				Α	CORTEX	50		PEBBLE
		T4 (05 400															-	_	
102	KURRAJONG '													<u> </u>		CONTEX		i	950015
	775044	6619434	6	F	MET	33	23	5	SHAT					<u> </u>	F	CORTEX	50		PEBBLE
				F	MET	8	10	3	F	7	3	Р		-	<u> </u>	R	0		
				F	MET	20	13	5		11	5				F	R	10	_	
103	KURRAIONG ,	/OS 103					<u> </u>											<u></u>	
	775195	6617782	4	С	PW	45	33	18		_							0		STEEP EDGE SCRAPER
			-		CH	30	28	8	BR	23	8		х		F		0		
					MET	16	21	5	BR	17	7	Р					0		
104	KURRAJONG ,	/OS 104																	
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
				F	Q	20	13	3	F	12	1		7		F	CORTEX	40		PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
405	WI IDDA IOAIC	IOC ADT							-										
105	KURRAJONG			г-	DATE:	20	15	4	F	9	3	Р	x	-			0		
	775233	6618102	4	F	MET	25	23	4	F	15	4	r	^		F	CORTEX	50		PEBBLE
					1411-1	23	2.5	7	'		-				•				LUGE
106	KURRAJONG	/OS 106						-								-			
	775007	6616792	4	F	QZ	48	38	21	CORT	37	20				Α	CORTEX	60		
				FP	QZ	45	18	10		_							0		
				F	QZ	40	25	6	BR	20	5						0		DIAGONAL SNAP
		lon en-									-			ļ			!		
107	KURRAJONG					<u> </u>						<u> </u>		 		CONTRACT			
	775020	6616744	5	С	QZ	45	36	20	SHAT				<u> </u>	<u>L</u>		CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L,	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG '	Γ1/ISO 120							:										
	778757	6621065	4	F	MET	43	18	4	F	5	2		X	'	F	R	0		
121	KURRAJONG	Γ1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
w	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	5	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralllure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 105- Site 104 viewed from the south.

Site (104) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

"Kurrajong CR/OS 104" 55J E.0775220 N.6617682 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 3 artefacts in 30m x 30m area Cattle grazing

150m 90%

Artefact descript: 2 Metasedimentary steep-edged

scrapers Quartz flake



Plate 106 - Site 105 viewed from the east.

Site (105) name: Location: GDA

Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong CR/OS 105" 55J E.0775233 N.6618102 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 2 artefacts in 20m x 20m area

Cattle grazing 150m 95%

2 metasedimentary flakes



Plate 107 - Site 106 viewed from the east.

Site (106) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

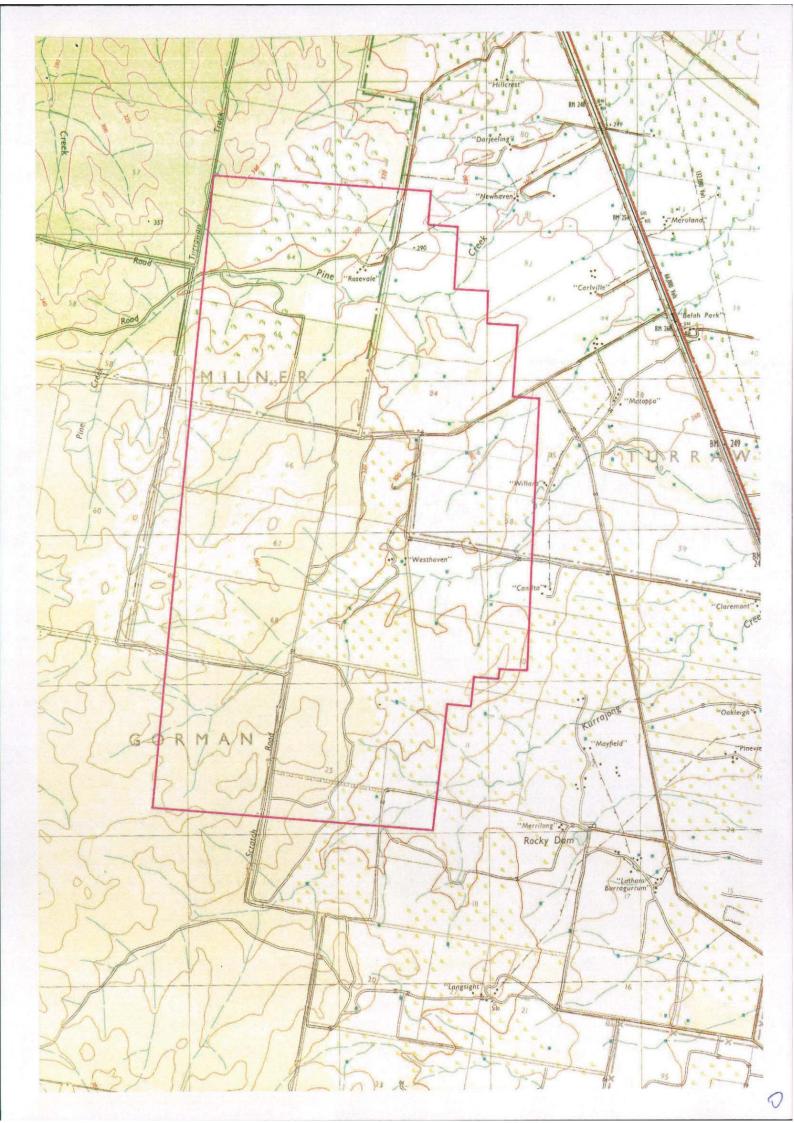
Artefact descript:

"Kurrajong CR/OS 106" 55J E.0775007 N.6616792 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

3 artefacts in 40m x 15m strip Cattle grazing

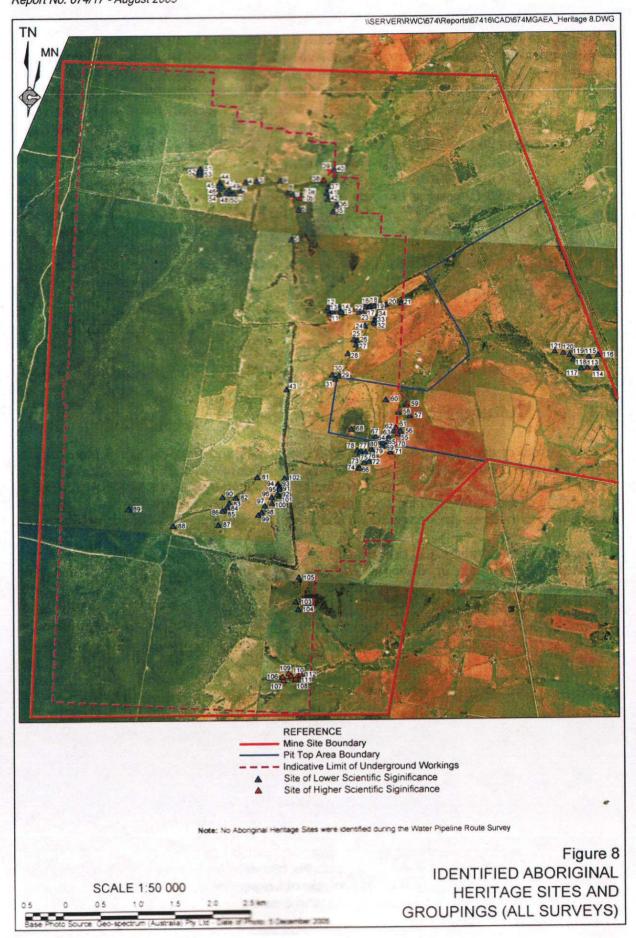
30m 85%

2 quartzite flakes Quartzite flaked piece



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 191-161-101(1416)	
Date receives	17/0/06	
Entered by (I.D.		
Entered by (i.b.	,	
Information	Access	Office Use
Gender/ma	le Gender/female Location restriction General restriction No access	Only
For Further	Information Contact:	
Nominated	A NAME OF	
Title	Surname First Name Initials	Cllent on
	NADOAZRI GOMEROL TRAD OWNERS	system
Organisation		
Address	0428 978 863 Fax	
Phone number	0428 978 863 Fax	
Knowledg	W 845 AT	
Title	Surname First Name Initials	Client on
	TRINDALL LYNN	system
Organisation	NAILKABRU LALC	-
Address	PO BOX 37 NARRABET 2590 1	
Phone number	021 6 7 F 1 21 14 12 23 F F 8X 0 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic	Location	/. \
Site Name	WURRATIONG CR/OS 107	(SITE 107)
Easting	775020 Northing 6616744 AMG X GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	≥ 55 ≥ 1:50k topographic map Differential GPS	(2) (2)
# * \$	56 I:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Drimone De		
Primary Re	Surname First Name Initials	
	APPLETON IGHN	
Organisation	ARCHAGOLOGICAL SURVEYS A REP	Client on
Address	16 CURTIS ST ARMIDALE	system
Phone number	02 6772 6512 Fax 02 6772 4567	ليما
Date recorded	15/07/09	

•		
Site Context	L CLOSED SITI	E OPEN SITE
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	
Steep hills	Intertidal flat	☐ Crest ☐ Ridge ☐ Swamp ☐ Flat ☐ Tor ☐ Terrace
Undulating plain		
	Lagcon Tidal Creek	Lower slope Valley flat Terrace flat
Slope	ridar Creek	Mid slope Levy
23 degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source
Grasslands	Established urban	
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	
Open woodland	Forestry	Name of nearest temporary water WURRATIONG
Scrub	Industrial	Directions for Relocation
Woodland *		
	Mining Pastoral/grazing	
		see attached
Revegetated	Recreation	
L N/A ℓ	Semi-rural	
Ĺ	Service corridor	
<u> </u>	Transport corridor	•••
L	Urban expansion	Site Location Map NW NE NE
Ļ	N/A	
Current Land Tenure		·
Public National Park	/ other Government Dept.	
➤ Private		**************************************
Primary report I.D.	(I.D. Office Use only)	See attached
ABORIGINAL	HERITAG	see anached,
ELASSESSME		W
BRI COAL M	INE STAG	W E
E 2 LONGWA	LL PROJE	14.
		·
	S	SW S SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
·	West		16. Stone Quarry
٩	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Ins	dicate scale, boundaries of site, fea	itures	
NAV	N	NE	
			•
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		X	Shelter height
W		E	Shelter floor area
		: · · · · · · · · · · · · · · · · · · ·	Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area
			2

SE

SW

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	PW	25	45	17	BR	38	16		X		F		0		
	<u> </u>			FP	QZ	53	43	15	SHAT	13	2				Α	-	20		PEBBLE
			,														-		
101	KURRAJONG	T1/ISO 101			_														
	774980	6619194	6	F	OZ	38	33	10	F	10	5				Α	CORTEX	50		PEBBLE
400	WIND A IONIC:	TA (OS 4 63										1						_	
102	KURRAJONG 775044	6619434	6	F	MET	33	23	5	SHAT	-					F	CORTEX	50	<u></u>	PEBBLE
	773044	0013434	- 0	F	MET	8	10	3	F	7	3	P			'	R	0		1 1001
		_		F	MET	20	13	5		11	5	· ·			F	R	10		
103	KURRAJONG,	/OS 103			_														
	775195	6617782	4	С	PW	45	33	18									0		STEEP EDGE SCRAPER
]				СН	30	28	8	BR	23	8		X		F		0		
					MET	16	21	5	BR	17	7	Р					0		
104	KURRAJONG ,	 /OS 104								<u> </u>									
	775220	6617682	4	С	MET	50	45	32									0		STEEP EDGE SCRAPER
				F	Q	20	13	3	F	12	1		?		F	CORTEX	40	_	PEBBLE
				С	MET	50	38	26									25		PEBBLE, STEEP EDGE SCRAPER
105	KURRAJONG	/OS 105	1		<u> </u>					1									
103	775233	6618102	4	F	MET	20	15	4	F	9	3	Р	Х				0		
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		<u> </u>	<u> </u>	MET.	25	23	4	F	15	4				F	CORTEX	50		PEBBLE
		•									<u> </u>								
106	KURRAJONG			<u> </u>		40		04			20	<u> </u>				CORTEX	60	<u> </u>	
	775007	6616792	4 _	F	QZ QZ	48	38	21	CORT	37	20		 .		A	CORTEX	0		
				FP F	QZ QZ	45	18 25	10 6	BR	20	5		,				0		DIAGONAL SNAP
- 107	KURRAJONG	/OS 107																	
	775020	6616744	5	С	QZ	45	36	20	SHAT							CONICAL	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
	···			F	QZ	23	16	7	CORT	17	5				Α		20		
				Q	F	10	7	2	F	7	2				F	R	0		
-				FP	MET	26	23	5								R?	0		
				F	QZ	17	22	7	F	23	8		Х	Х	Α		5		
				C	MET	40	18	12									0	_	
				F	QZ	21	17	3	SHAT						F		0		
				F	MET	40	30	20	CORT	20	10				Α	R	15	•	
				С	MET	20	20	17									30		
				С	MET	45	27	22									30		
				F	CH	28	25	5				D			F	CORTEX	50		
				F	MET	33	18	7	SHAT				Х		F	R	50		
				С	MET	38	33	20									0	X	
				F	MET	30	20	10	SHAT								0		
				F	MET	28	25	11	F	13	5		Х		Α		0	х	
				F	IGN	17	25	5				D			F	R	0		
				F	MET	21	19	6	BR	5	4				Α	R	0		
				F	MET	21	25	5	F	13	4				F	R	30		
		-		F	СН	27	14	5	BR	8	2				F		15		
				F	СН	15	12	3	F	8	3	Р				R	0		
				F	MET	22	20	5	F	15	5				F		20	<u> </u>	
				F	Q	17	7	4	BR	4	2	D			F	R	0		
	-			F	Q	13	13	3	BR	3	3			-	F		0		
	_			F	MET	11	12	2	?	3	1				F		5		
				F	MET	22	12	6	BR	11	5	Р				R	0		
				F	MET	12	7	3	SHAT			Р				R	0		
				F	MET	7	8	2	SHAT						F		0		TRIMMING FLAKE
		-		F	MET	18	15	2	F	12	2				S	R	0		·
				F	Q	12	12	1	SHAT						S		0		
				FP	СН	15	13	3								R	0		POT LIDS
				F	SIL	48	34	18	?	2	1		Х		Α	R	20		
				FΡ	IGN	17	8	2									0		POT LID
				F	MET	17	12	2	F	8	2	Р	Х				0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				С	CH	39	35	24									0	X	STEEP EDGE SCRAPER
108	KURRAJONG /	/ns 109										<u> </u>							
100	775185	6616760	4	С	IGN	52	35	23									40		STEEP EDGE SCRAPER
	773233		· -	С	IGN	40	29	27									0		
	:			С	MET	35	30	28							<u>. </u>		0	х	MULTIPLE STEP FRACTURES
				F	СН	35	18	10	F	12	3		Х		F	R	0		
				F	Q	25	20	5	BR	15	5			_	F	R	0		
				F	MET	23	15	8	F	3	2	Р				R	0		
				F	QZ	20	26	6				D					0		
				F	QZ	32	23	7	F	10	7				F	CORTEX	50		PEBBLE
				С	MET	28	16	8									0		STEEP EDGE SCRAPER
				F	CH	25	12	7	SC				X		A/S?		0		SPLIT CONE
				F	MET	23	13	5	BR	12	4				F		15		
				FP	CHAL	10	8	3									0		
400	14 mm 4 10115	(00.400																-	
109	KURRAJONG /				СН	40	35	25									0		
	775089	6616834	6	C F	MET	35	33	7	F	24	6		x		F		0		
				FP	QZ	35	30		<u> </u>	24	-		^				0		
			-	F	MET	40	45	10	BR	31	11			_	Н		0		
																			
110	KURRAJONG /OS 110															i 			
	775119	6616801	6	F	MET	28	16	10	F	3	2		Х		F	R	0	_	
				F	CH	23	10	3	F	5	1	Р				2R	0		
				F	MET	20	12	4	F	10	3				F	R	0		
111	KURRAJONG ,	 /OS 111																	
	775217	6616803	5	F	MET	12	21	5	F	17	3		Х		Н		0		
			<u> </u>	F	Q	30	20	6	F	15	5		х		F		0		
				F	MET	15	11	3	F	10	3	Р				2R	0		
				FP	CHAL	16	8	2									0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
i - 100 i				FP	CH	23	28	3	F	7	. 2		Х				0		
-				FP	MET	63	48	17									20		
120	KURRAJONG 1	T1/ISO 120																	.,
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0	980	
121	KURRAJONG T1/OS 121																		
200-7	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	X	Α		40		
				FP	PW	30	30	10									0		
manana (22.2.03 m)	100			С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21									75		2 NEG FLAKE SCARS
	1000-0-0-0			FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		СН	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 108- Site 107 viewed from the southwest.

Site (107) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript:

"Kurrajong CR/OS 107" 55J E.0775020 N.6616744 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

34 artefacts in 40m x 40m area

Cattle grazing 150m 90%

Chert scraper Materials: Quartzite Metasedimentary

Igneous Silcrete Quartz



Plate 109 - Site 108 viewed from the northwest.

Site (108) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility:

Artefact descript:

"Kurrajong CR/OS 108" 55J E.0775185 N.6616760 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

12 artefacts in 40m x 20m area Cattle grazing

40m

95%

Igneous steep-edged scraper Metasedimentary steep-edged

scraper Materials: Chert Quartz Chalcedony



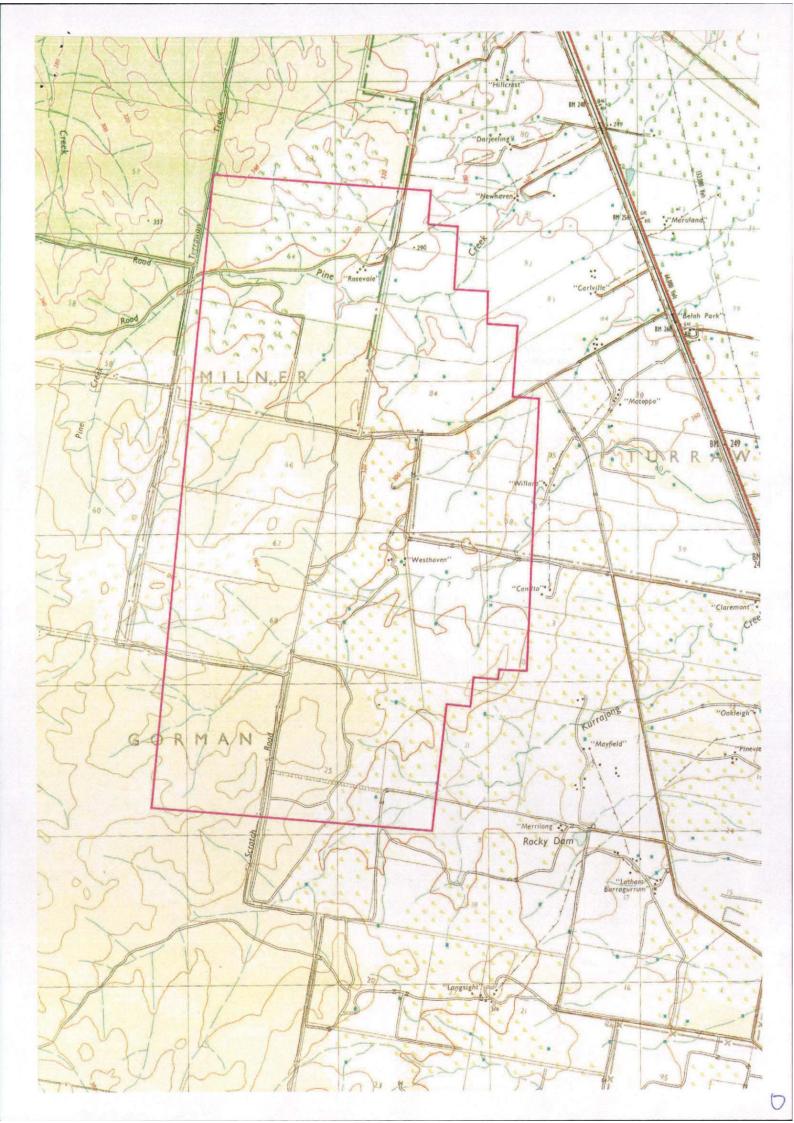
Plate 110 - Site 109 viewed from the northeast.

Site (109) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 109" 55J E.0775089 N.6616834 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 4 artefacts in 40m of track

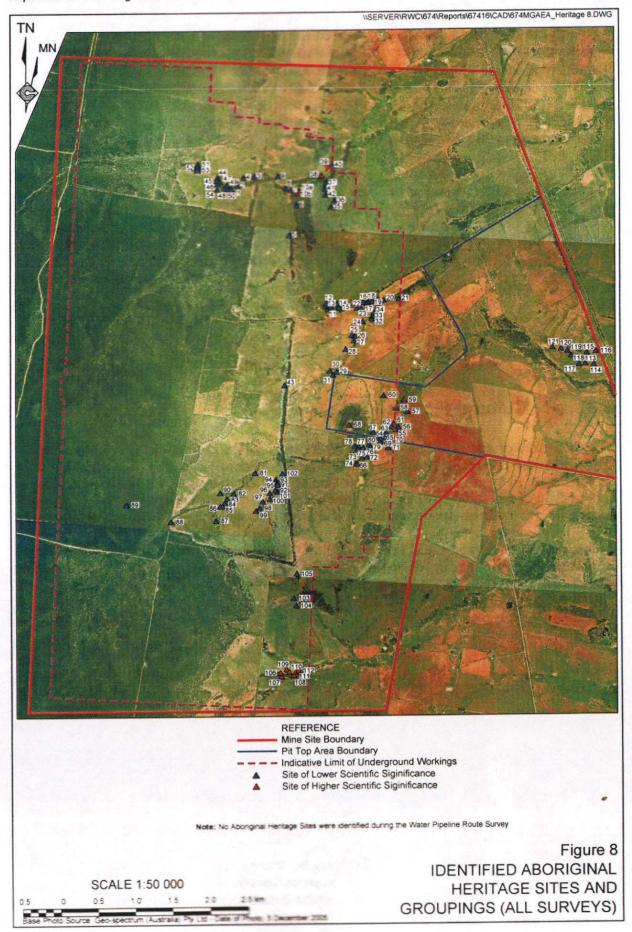
Cattle grazing

30m 85% Chert Quartzite Metasedimentary



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Power Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-6-0147	
Date received	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
TRINDALL CRAIG	Client on
Organisation NARRABRIGOMEROI TRADOWNERS	system
Address	L)
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title ° Surname First Name Initials	Client on
TRINDALL	system
Organisation NARRABRULALC	
Address PO 30× 37 NARRABR1 2390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name WURRAJONS CR JOS 108	(SIT€ 108)
Easting 775185 Northing 6616760 AMG X GDA	
Mapsheet BAAN BAA 8836-N	•
Zone 54 1:25k topographic map Non differential GPS	
55 1:50k topographic map Differential GPS	.
56 1:100k topographic map Engineering survey plan or map	•
Client GIS or CAD system	
Primary Recorder Title Surname First Name Initials	
APPLETON TOHN	
Organisation ARCHAGOLOGICAL SURVEYS & REP	Client on
Address 16 CUIZTUS ST ARMUDALE	system
Phone number 02 6772 6512 Fax 02 6772 4567	Del
Date recorded (5/07/09)	

	_	·
•	CLOSED SITE	OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source
isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KURRATIONS
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	X Pastoral/grazing	see attached
Revegetated	Recreation	see anached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	Urban expansion	Site Location Map
	N/A	NW NE
Current Land Tenure		
		•
	/ other Government Dept.	
Private		
Primary report I.D.	(LD. Office Use only)	
ABORIGINAL	HERITAG	See attached.
EASSESSME		b.
BRI COAL N	VINE STAG	w / E
E 2 LONGWA	LL PROJE	
E-11		
		,
		•
<u> </u>		s se

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarту
Other platform	South West		15. Potential Archaeological Deposit
*	West		16. Stone Quarry
4	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, fea		
NW	N	NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Shelter height
w		N E	Shelter floor area
AA		*** ****	Official floor died
			Open Site Dimensions (m)
		5	Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

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page 4

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
		-		С	СН	39	35	24									0	X	STEEP EDGE SCRAPER
108	KURRAJONG /	OS 108																	
	775185	6616760	4	С	IGN	52	35	23									40		STEEP EDGE SCRAPER
				С	IGN	40	29	27									0		
				С	MET	35	30	28									0	X	MULTIPLE STEP FRACTURES
				F	СН	35	18	10	F	12	3		Х		F	R	0		
				F	Q	25	20	5	BR	15	5				F	R	0		
				F	MET	23	15	8	F	3	_2	P				R	0		
				F	QZ	20	26	6				D					0		
				F	QZ	32	23	7	F	10	7				F	CORTEX	50		PEBBLE
•				С	MET	28	16	8									0		STEEP EDGE SCRAPER
				F	CH	25	12	7	sc				X		A/S?	_	0		SPLIT CONE
				F	MET	23	13	5	BR	12	4				F		15		
				FP	CHAL	10	8	3									0		
															<u></u>				
109	KURRAJONG /	OS 109																	
	775089	6616834	6	C	CH	40	35	25									0		
				F	MET	35	33	7	F	24	6		X		F		0		
				FP	QZ	35	30	8									0		
				F	MET	40	45	10	BR	31	11				Н		0		
															_				
110	KURRAJONG /	OS 110																	
	775119	6616801	6	F	MET	28	16	10	F	3	2		X		F	R	0		
				F	СН	23	10	3	F	5	1	P				2R	0		
				F	MET	20	12	4	F	10	3				F	R	0		
		<u></u>				_			<u> </u>		<u> </u>								<u>.</u> .
111	KURRAJONG ,	/OS 111							ļ										
	775217	6616803	5	F	MET	12	21	5	F	17	3		X		Н		0		
				F	Q	30	20	6	F	15	5		Х		F		0		
				F	MET	15	11	3	F	10	3	Р	L			2R	0		
				FP	CHAL	16	8	2									0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		х				0		
		_		FP	MET	63	48	17									20		
120	KURRAJONG "	T1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х	<u> </u>	F	R	0		
121	KURRAJONG "	 T 1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	Х	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	СН	25	25	21		·							75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

K	<u>ey</u>	

HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S7	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal	l		
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				
С	Core	SERP	Serpentine		-		



Plate 108- Site 107 viewed from the southwest.

Site (107) name: Location: GDA Мар:

Contents: Land use:

Arch. Visibility: Artefact descript:

Site type: Dist. from water:

"Kurrajong CR/OS 107" 55J E.0775020 N.6616744 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

34 artefacts in 40m x 40m area

Cattle grazing 150m 90%

Quartz

Chert scraper Materials: Quartzite Metasedimentary Igneous Silcrete



Plate 109 - Site 108 viewed from the northwest.

Site (108) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 108" 55J E.0775185 N.6616760 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

12 artefacts in 40m x 20m area Cattle grazing

40m 95%

Igneous steep-edged scraper Metasedimentary steep-edged

scraper Materials: Chert Quartz Chalcedony



Plate 110 - Site 109 viewed from the northeast.

Site (109) name: Location: GDA Map:

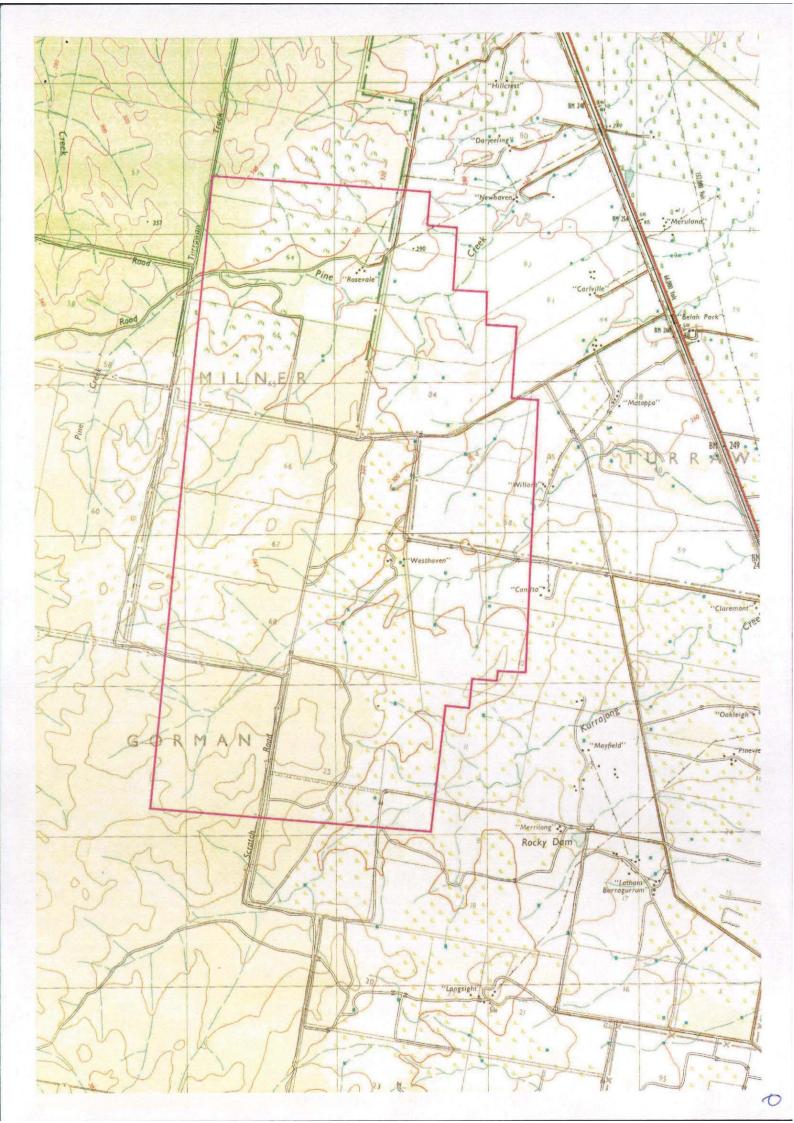
Site type:

Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript:

"Kurrajong CR/OS 109" 55J E.0775089 N.6616834 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 4 artefacts in 40m of track

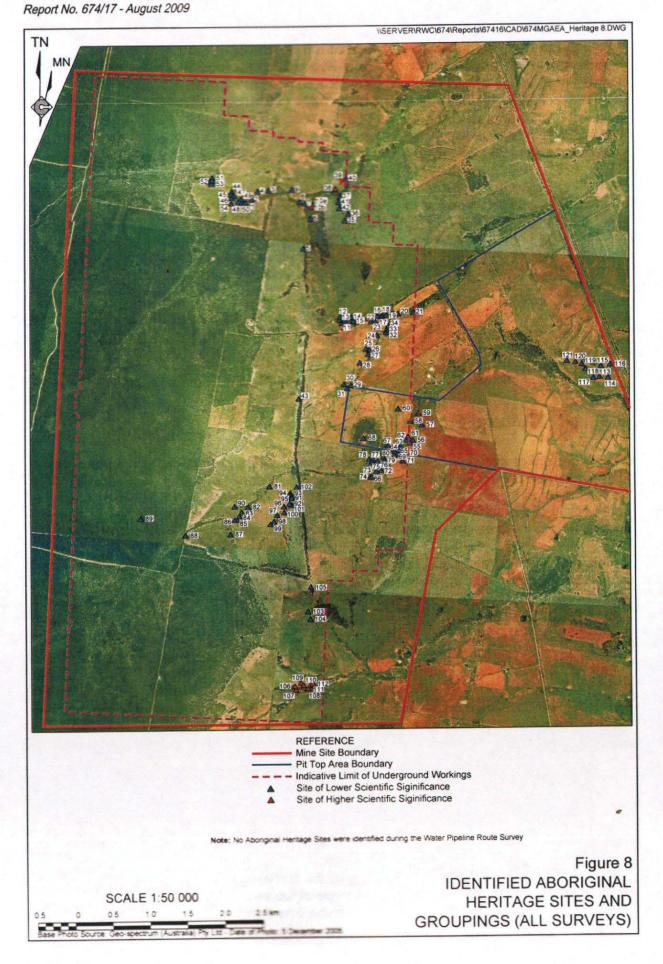
Cattle grazing 30m

85% Chert Quartzite Metasedimentary



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number 1191-161-1011418	
Date receive	(2 to 12)	
Entered by (I.D.)	
	A	
Information		Office Use Only
Gender/ma	le Gender/female Location restriction General restriction No access Information Contact:	
Nominated		
Title	Surname First Name Initials	
	TRINDALL CRAIG	Client on
Organisation	MARRABRI GOMEROI TRAD OWNERS	system
Address		ш
Phone number	0428 978 863 Fax	
☐ Knowledg	e Holder	
Title	" Surname First Name Initials	Client on
	TRINDALU LYNN LYNN	system
Organisation	NARRABRULALC	
Address	POBOX 37 NARRABRI 2390	
Phone number	02 6792 4228 Fax 02 6792 4258	
Aboriginal	Heritage Unit or Cultural Heritage Division Contacts	
Geographic		/
Site Name	KURRATIONG CR/OS 109	(SITE 109)
Easting	775089 Northing 6616834 AMG X GDA	
Mapsheet	BAAN BAA 8836-N	
Zone	54 1:25k topographic map Non differential GPS	
	∑ 1:50k topographic map	
,	56 1:100k topographic map Engineering survey plan or map	
	Cilent GIS or CAD system	
Primary Re	corder	
Title	Surname First Name Initials	
	APPLETON ISHN ISHO	***
-194	ARCHAGOLOGICAL SURVEYS A REP	Client on system
Address	16 CURTUS ST ARMUDALE	K
THORSE HAIRING	02 6772 6512 Fax 02 6772 4567	
Date recorded	15/07/09	

page 2

•	CLOSED SITE	OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Ferrace flat
Slope	Tidal Creek	Mid slope Levy
3 degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 30 metres
lsolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
Cleared	X Pastoral/grazing	
Revegetated	Recreation	see attached
N/A	Semi-rural	
	Service corridor	
	Transport corridor	Site Location Map
,		NW N NE
l	N/A	
Current Land Tenure		•
	/ other Government Dept.	
> Private		
Primary report I.D.		
ABORIGINAL	(LD. Office Use arily)	See attached.
E ASSESSME	NT: NARRA	N Company
BRI COAL N		W · E
E 2 LONGWA		/ .
		1
		···
		SW S SE

Gene	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gioss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
•	West		16. Stone Quarry
ú)	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Ind NW	ilicate scale, boundaries of site, fea N	tures NE	
			Site Dimensions
			Closed Site Dimensions (m)
			Internal length
			Internal width
		\ \	Shelter height
W		E	Shelter floor area
			Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area

Slides

Other

Aerial photographs
Site plans, drawings

Feature inserts-No.

1 Recording tables

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				С	CH	39	35	24									0	х	STEEP EDGE SCRAPER
108	KURRAJONG /	OS 108	<u>. </u>																-
	775185	6616760	4	С	IGN	52	35	23									40		STEEP EDGE SCRAPER
				С	IGN	40	29	27									0		
·				С	MET	35	30	28									0	х	MULTIPLE STEP FRACTURES
				F	СН	35	18	10	F	12	3		Х		F	R	0		
				F	Q	25	20	5	BR	15	5				F	R	0		
				F	MET	23	15	8	F	3	2	Р				R	0		
				F	QZ	20	26	6				D					0		
				F	QZ	32	23	7	F	10	7				F	CORTEX	50		PEBBLE
				С	MET	28	16	8									0		STEEP EDGE SCRAPER
				F	CH	25	12	7	SC				X		A/S?		0		SPLIT CONE
				F	MET	23	13	5	BR	12	4				F		15		
-				FP	CHAL	10	8	3									0		
109	KURRAJONG /	OS 109																	
	775089	6616834	6	C	CH	40	35	25									0	<u></u>	
,				F	MET	35	33	7	F	24	6		Х		F		0		
		<u> </u>		FP	QZ	35	30	8									0		
				F	MET	40	45	10	BR	31	11				Н		0		
110	KURRAJONG /	OS 110																	
	775119	6616801	6	F	MET	28	16	10	F	3	2		X		F	R	0		
				F	СН	23	10	3	F	5	1	P		ļ. <u>.</u>		2R	0		
				F	MET	20	12	4	F	10	3				F	R	0		
111	KURRAJONG /	OS 111																	
 TTT	775217	6616803	5	F	MET	12	21	5	F	17	. 3		x		Н		0		
	113211	0010003		F	Q	30	20	6	F	15	5	<u> </u>	×	-	F		0		
			-	F	MET	15	11	3	F -	10	3	P			'	2R	0		
			 	FP	CHAL	16	8	2	Г	10		 				E11	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	W	TH	P/D	0/н	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
			1	FP	СН	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG 1	T1/ISO 120																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0		
121	KURRAJONG 1	T1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		х	Х	Α		40		
		•		FP	PW	30	30	10									0		
				С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				C	СН	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
			<u> </u>																

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
Ł	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 108- Site 107 viewed from the southwest.

Site (107) name: Location: GDA Мар:

Site type:

Land use: Dist. from water: Arch. Visibility: Artefact descript:

55J E.0775020 N.6616744 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter Contents: 34 artefacts in 40m x 40m area

Quartz

Cattle grazing 150m 90%

"Kurrajong CR/OS 107"

Chert scraper Materials: Quartzite Metasedimentary Igneous Silcrete



Plate 109 - Site 108 viewed from the northwest.

Site (108) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 108" 55J E.0775185 N.6616760 Narrabri 8837-S First Edition 1: 50.000 scale Topo. Map Open artefact scatter

12 artefacts in 40m x 20m area Cattle grazing

40m 95%

Igneous steep-edged scraper Metasedimentary steep-edged

scraper Materials: Chert Quartz Chalcedony



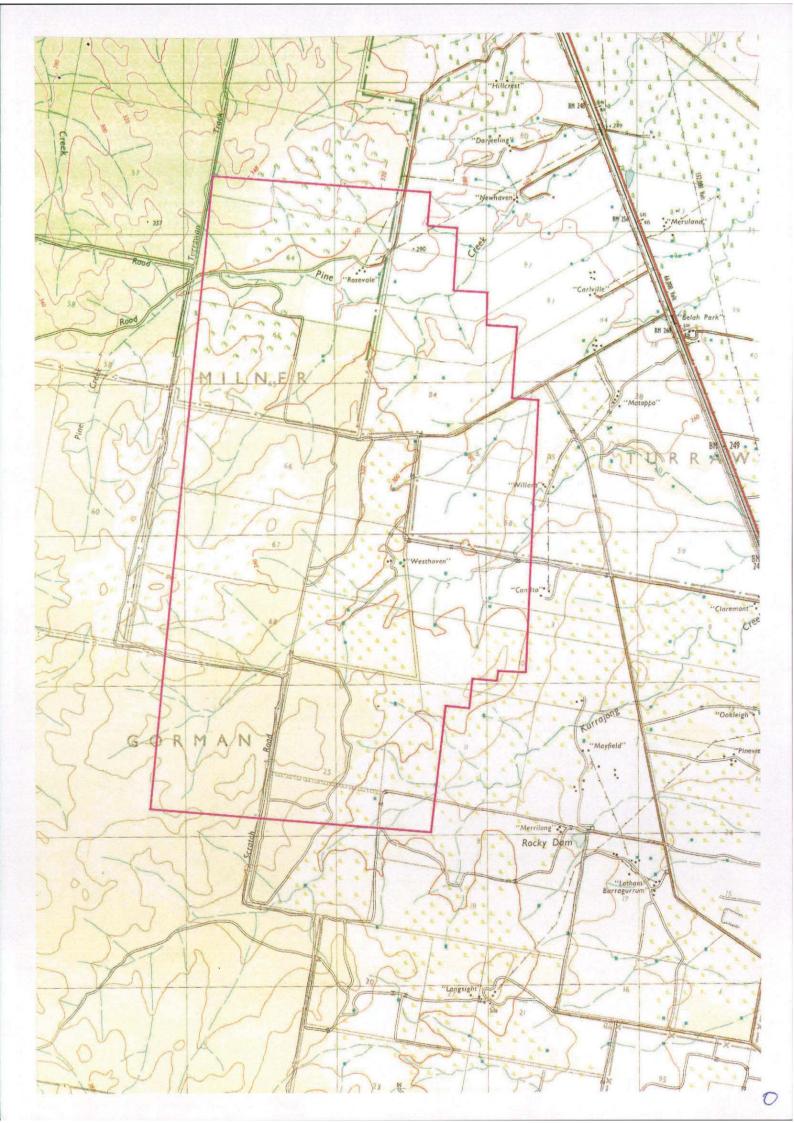
Plate 110 - Site 109 viewed from the northeast.

Site (109) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript:

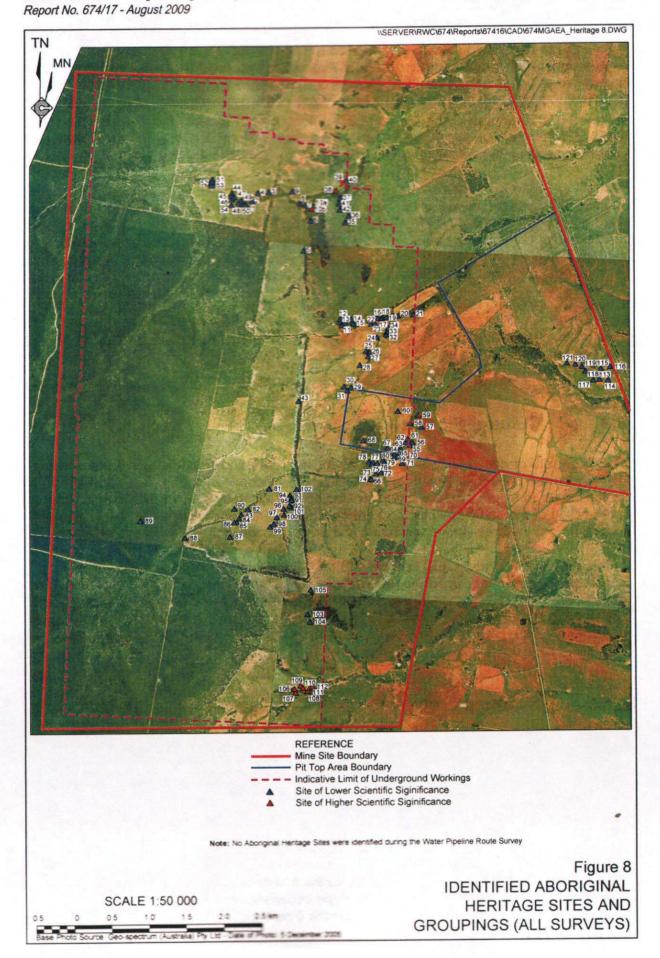
"Kurrajong CR/OS 109" 55J E.0775089 N.6616834 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 4 artefacts in 40m of track Cattle grazing

30m 85% Chert Quartzite Metasedimentary



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Site Number 191-61-01149	
Date received	
Entered by (I.D.)	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	
For Further Information Contact:	
Nominated Trustee Title Surpame First Name Initials	
Title Surname First Name Initials CRAIG Client on	j
Organisation NARRABRI GOMEROI TRAD OWNERS system	
Address	
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title Sumame First Name Initials Client on	
TRINDALL LYNN system	
Organisation NARRABRULALC	
Address POBOX 37 NARRABRI 2390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location/	\
Site Name KURRAJONE CRIOS IIIO STE	(0)
Easting 7751119 Northing 6616801 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Client GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON ISOHN	
Organisation ARCHAEOLOGICAL SURVEYS & REP Client on system	
Address 16 CUIZTICS STI AIZMIDA CEI	
Phone number 02 6772 6512 Fax 02 6772 4567	
Date recorded 15/07/09	

Ä	CLOSED SITE	e OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Plain	Coastal rock platform	
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees		
Carrier degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source
Isolated clumps of trees	Farming-intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water KuRRATION G-
Open woodland	Forestry	
Scrub	Industrial	Directions for Relocation
Woodland	Mining	
★ Cleared	Pastoral/grazing	
Revegetated	Recreation	see attached.
□ N/A	Semi-rural	
	Service corridor	
	Transport corridor	
	<u> </u>	Site Location Map
	Urban expansion	NW N NE
250 23 243-735	LLI N/A	
Current Land Tenure		•
Public National Park	/ other Government Dept_	
Private		
Primary report I.D.		
ABORIGINAL	(1.D. Office Use only)	See attached.
EASSESSME	110013111768	1/4
BRI COAL N	VINE STAG	W · E
E 2 LONGWA	LL PROJE	<i>/</i> ‡.
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		SW e er

SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
	Rock Surface Condition Boulder Sandstone platform Silica gloss Tessellated Weathered Other platform Shelter Aspect North North East East South East South West West North West	Open Site Site Orientation N-S NE-SW E-W SE-NW N/A	1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering 3. Art 4. Artefact 5. Burial 6. Ceremonial Ring 7. Conflict 8. Earth Mound 9. Fish Trap 10. Grinding Groove 11. Habitation Structure 12. Hearth 13. Non Human Bone & Organic Material 14. Ochre quarry 15. Potential Archaeological Deposit 16. Stone Quarry 17. Shell 18. Stone Arrangement 19. Modified Tree 20. Water Hole
Site Plan Ind	ilicate scale, boundaries of site, fea N	tures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area

	AVOID IF POSSIBLE
0	SALVAGE IF NECESSARY (PART 3A)
	3,70,70
Preliminary Site Asse	ssment Analysis and Preliminary Management Recommendations
216 Caltaral of 2cientific)	analysis and i foliamically management
M ODERATE	RESEARCH POTENTIAL
	ANALYSE IF NECESSARY TO SALVAGE
one of	A GRAUP OF SITES
4	
This section should only be	filled in by the Endorsees
Endorsed by: Kno	owledge Holder Nominated Trustee Native Title Holder Community Consens Surname First Name Initials
	owledge Holder Nominated Trustee Native Title Holder Community Consens Surname First Name Initials
Endorsed by: Knd	Surname Surname Native Title Holder Community Consens CRACE
Endorsed by: Kno Title Organisation	Surname Surname First Name Initials ORALG NARRABRI GOMEROL TRADOWNERS
Endorsed by: Kno Title Organisation Address	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OWNERS DECLW NARRABRI
Endorsed by: Kno Title Organisation	Surname Surname First Name Initials ORALG NARRABRI GOMEROL TRADOWNERS
Endorsed by: Kno Title Organisation Address	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OWNERS DECLW NARRABRI
Endorsed by: Knd Title Organisation Address Phone number Attachments (No.)	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Endorsed by: Kno Title Organisation Address Phone number Attachments (No.) A4 location map	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Endorsed by: Kno Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Endorsed by: Kno Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Endorsed by: Kno Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax
Title Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	Surname Surname First Name Initials ORAIGH NARRABRI GOMEROI TRAD OUNERS DECCW NARRABRI Fax

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				С	CH	39	35	24									0	Х	STEEP EDGE SCRAPER
																1			
108	KURRAJONG,		_	_														-	
	775185	6616760	4	С	IGN	52	35	23									40		STEEP EDGE SCRAPER
				С	IGN	40	29	27									0		
		·		С	MET	35	30	28			ļ	<u>-</u>					0	X	MULTIPLE STEP FRACTURES
				F	CH	35	18	10	F	12	3		X		F	R	0		
				F	Q	25	20	5	BR	15	5				F	R	0		
				F	MET	23	15	8	F	3	2	Р				R	0		
				F	OZ.	20	26	6				D					0		
				F	QZ	32	23	7	F	10	7				F	CORTEX	50		PEBBLE
				С	MET	28	16	8									0		STEEP EDGE SCRAPER
				F	CH	25	12	7	SC				Х		A/S?		0		SPLIT CONE
				F	MET	23	13	5	BR	12	4				F		15		
				FP	CHAL	10	8	3									0		
109	KURRAJONG ,	OS 109																	
	775089	6616834	6	С	CH	40	35	25									0		
				F	MET	35	33	7	F	24	6		Х		F		0		
				FP	QZ	35	30	8						_	1		0		
				F	MET	40	45	10	BR	31	11				Н		0		
									<u> </u>										-
110	KURRAJONG A	,							_								_		
	775119	6616801	5	F	MET	28	16	10	F	3	2		Х		F	R	0		
				F	СН	23	10	3	F	- 5	1	Р				2R	0		- 4.47
	<u> </u>			F	MET	20	12	4	F	10	3				F	R	0		
111	KURRAJONG ,	/OS 111						-	-										
	775217	6616803	5	F	MET	12	21	5	F	17	3		Х		Н		0		
			-	F	Q	30	20	6	F	15	5		х		F		0		
				F	MET	15	11	3	F	10	3	Р				2R	0		
				FP	CHAL	16	8	2			ļ ———				1		0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17							·		20		
120	KURRAJONG	T1/ISO 120	1							1950 N Y				_					
	778757	6621065	4	F	MET	43	18	4	F	5	2		Х		F	R	0		
121	KURRAJONG	T1/OS 121									0 3550700								
	778646	6621082	5	F	MET	42	43	10	BR	15	3		X	X	Α		40		
				FP	PW	30	30	10								2 NAGETE	0		
	**	2		С	MET	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
			110010-1	С	CH	25	25	21				V.			a lacons		75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL
	ent can																		
													r ranne neer				200		

<u>KEY</u>							
HEADINGS		MAT	Material	PLAT	Platform	TERM!	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	A	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	H	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsa			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrifled wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chaicedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mbture of chert & silcrete				



Plate 111- Site 110 viewed from the south.

Site (110) name: Location: GDA Мар:

Site type: Contents:

Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 110" 55J E.0775119 N.6616801 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 3 artefacts in 10m x 10m area

Cattle grazing 150m 15M

80% Chert

2 Metasedimentary



Plate 112 - Site 111 viewed from the northwest.

Site (111) name: Location: GDA Мар:

Site type: Contents: Land use: Dist. from water:

Arch. Visibility: Artefact descript: "Kurrajong CR/OS 111" 55J E.0775217 N.6616803 Narrabri 8837-S First Edition

1: 50,000 scale Topo. Map Open artefact scatter

36 artefacts in 40m x 20m area Cattle grazing

60m

Metasedimentary 'horseshoe' core

Materials: Chert Quartz Chalcedony Quartzite Silcrete Basalt Igneous



Plate 113 - Site 112 viewed from the northeast.

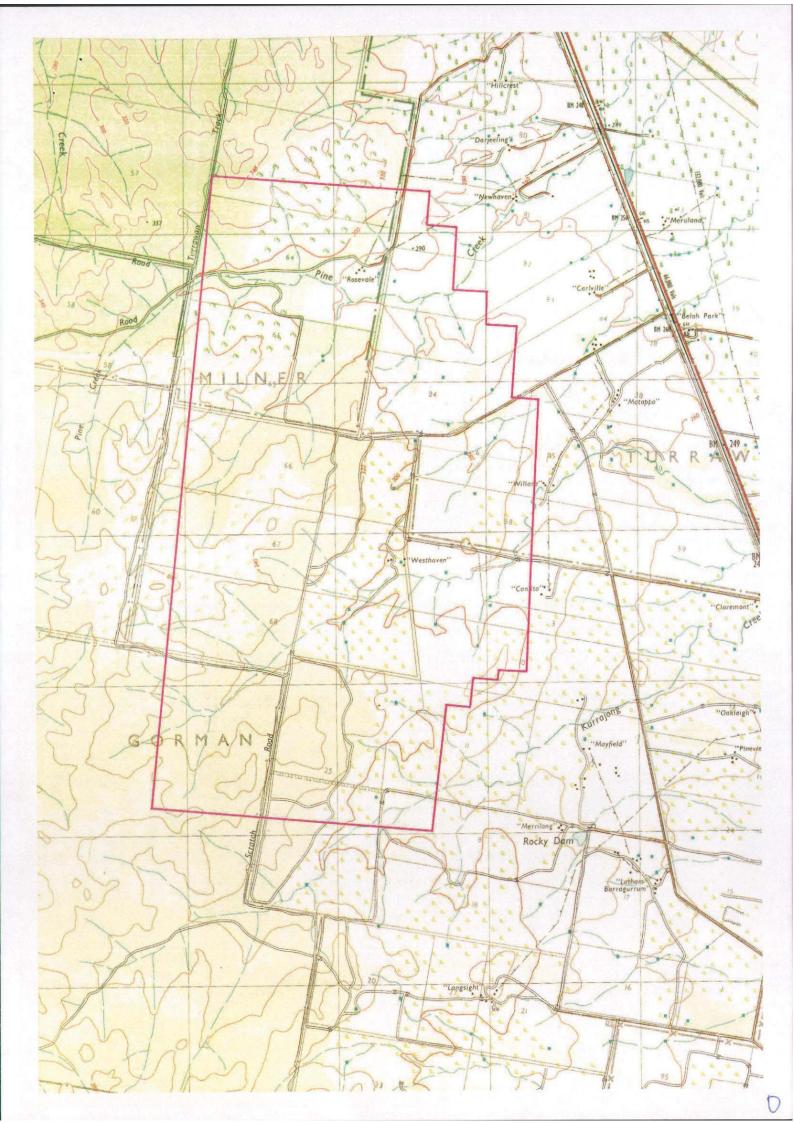
Site (112) name: Location: GDA Мар:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 112" 55J E.0775248 N.6616821 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter 50+ artefacts in track Cattle grazing 1-30m track across creek

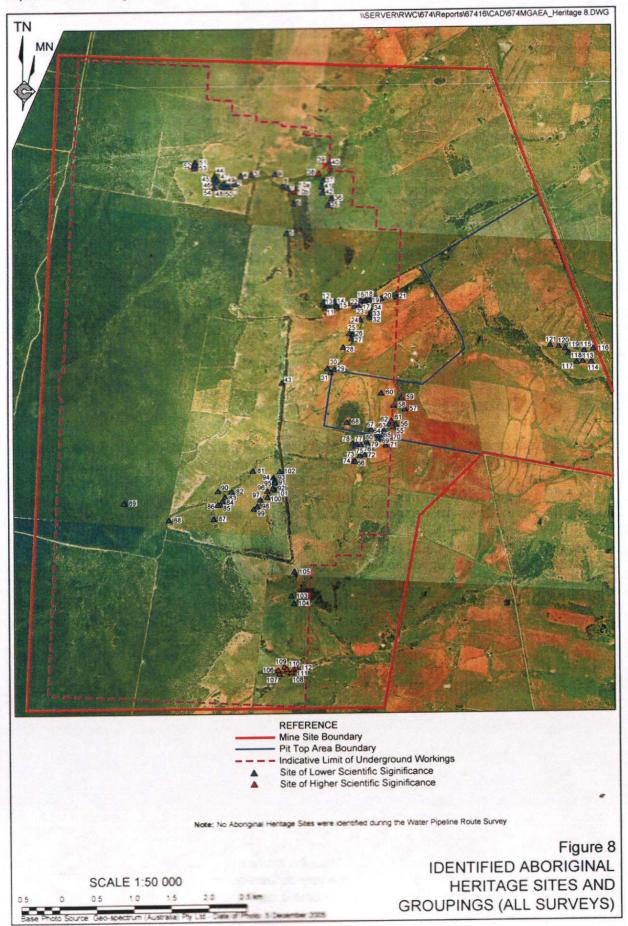
95% Includes

Chert Bondi Point



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	Site Number [Innibation 19-6-0150]	
Date received	Date entered into system 4/9/09 Date catalogued ///	
Entered by (I.D.)		
Information Access		Office Use
Gender/male Gende	er/female Location restriction General restriction No access	Only
For Further Information	1 Contact:	
Nominated Trustee		
Title	Surname First Name Initials	0111
	ARRIGOMEROL TRAD OWNERS	Client on system
Organisation MANA	ABIGI GOMERO I TRAD URNERS	Æ
Address		•
Phone number 0428	978 863 Fax	
Knowledge Holder		
Title **	Surname First Name Initials	Client on
1210	DALL	system
Organisation NAPR	ABRULALC	
Address POB	0 × 37 NARRABRI 2390	
Phone number 02 6	792 4228 Fax 02 6792 4258	
	or Cuitural Heritage Division Contacts	
Geographic Location	ATIONE CRIOS IIII	(SITE III)
Site Name KURR		
Easting 7752		
Mapsheet BAAN	BAA 8836-N	
Zone 54	1:25k topographic map Non differential GPS	
≥ 55	1:50k topographic map Differential GPS	
.56	1:100k topographic map Engineering survey plan or map	
	Client GIS or CAD system	
Primary Recorder		:
Title	Surname First Name Initials	:
APPL	ETON JOHN	
Organisation ARCH	AGOLOGICAL SURVEYS & REP	Client on
Address 16 C	URTIS ST ARMIDALE	system
Phone number 02 6	772 6512 Fex 02 6772 4567	
Date recorded 15/07/09		

Pr	ima	ary	rej)OF	t		I.D	.[(1.D,	Offic	o Usa	only)			
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Private

See attached

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Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Celling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
(D) 100 AND AND AND AND AND AND AND AND AND AND	West		16. Stone Quarry
24	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Int	dicate scale, boundaries of site, fea N	tures NE	Site Dimensions Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area Open Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area
sw	s	SE	

Other

Feature inserts-No.

SITE No.	Easting	Northing	ACC ±	ART	MAT	L,	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				С	СН	39	35	24									0	Х	STEEP EDGE SCRAPER
108	KURRAJONG	/OS 108																	_
	775185	6516760	4	С	IGN	52	35	23									40		STEEP EDGE SCRAPER
				С	IGN	40	29	27									0		
•				С	MET	35	30	28									0	х	MULTIPLE STEP FRACTURES
				F	CH	35	18	10	F	12	3		Х		F	R	0		
				F	Q	25	20	5	BR	15	5				F	R	0		
				F	MET	23	15	8	F	3	2	P				R	0		
				F	QZ	20	26	6				D					0		
				F	QZ	32	23	7	F	10	7				F	CORTEX	50		PEBBLE
				С	MET	28	16	8									0		STEEP EDGE SCRAPER
				F	СН	25	12	7	sc				Х		A/S?		0		SPLIT CONE
				F	MET	23	13	5	BR	12	4				F		15		
				FP	CHAL	10	8	3									0		
109	KURRAJONG /	(OS 100																	
109					CU	40	25	25					_						
	775089	6616834	6	C	CH	40	35	25	_	24					_		0		
				F	MET	35	33	7	F	24	6	i	Х		F		0		
	<u>-</u>			FP -	OZ	35	30	8									0	-	
				F	MET.	40	45_	10	BR	31	11				Н		0		
110	KURRAJONG /	OS 110																	
	775119	6616801	6	F	MET	28	16	10	F	3	2		X		F	R	0		
				F	СН	23	10	3	F	5	1	Р				2R	0		
				F	MET	20	12	4	F	10	3				F	R	0		
								-											
111	KURRAJONG,	OS 111																	
	775217	6616803	5	F	MET	12	21	5	F	17	3		Х		Н		0		
				F	Q	30	20	6	F	15	5		X		F		0		
				F	MET	15	11	3	F	10	3	P				2R	0		
				FP	CHAL	16	8	2				[0		,

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	w	TH	PLAT	w	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				F	MET	20	13	5	F	11	5				F		0		
				С	MET	47	45	38				i					0		HORSESHOE CORE
				С	CHAL	30	30	26				-					0	х	
				F	QZ	31	20	5	F	15	5				F	CORTEX	50		
				F	MET	25	15	6	BR	11	3			Х	Α	R	0		
	• •			F	MET	20	25	8	F	15	8	Р					0		
				Ç	SIL	40	23	23									0		
				FP	QZ	33	30	8									0		
				FP	BAS	32	19	8									0		
				С	MET	30	27	15									0	•	
				FP	CHAL	19	12	7									10		
				FP	MET	27	14	9									0		
				F	Q	21	34	6	CORT	14	7		Х		F		10		
				F	CHAL	22	10	6	F	7	з	Р	X	Х			0		
				F	MET	28	32	7	F	15	6				F	CORTEX	50		PEBBLE
				FP	MET	35	27	7									15		
				С	CHAL	22	20	19									0	X	
				F	MET	17	11	3	F	7	1		Х		F		0		
				С	MET	30	24	22									0		
				F	СН	15	20	5	F	10	4				F		0		
				F	IGN	37	32	9	BR				X		F_	CORTEX	45		
				F	MET	30	12	7	F	5	4	Р				2R	0		
				FP	QZ	22	21	11									0		
				F/C	CH	29	15	8	F	13	6						0		
				F/C	MET	23	22	11			,		i				0		
				F	СН	17	23	2	F	3	1		х		F	2R			
				F	MET	23	13	5	F	5	2	Р					0		
				F	MET	16	13	3	F	9	2	Р				2R	0		
				F	CHAL	21	10	2	BR	3	2				F		0		
				F	СН	25	13	3	F	8	2				F	R	0		
				F	CH	19	11	4	F	4	2				F		0		
				F	MET	17	10	3	F	8	2				F	R	0		

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
			!	FP	CH	23	28	3	F	7	2		Х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	T1/ISO 120					_												
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		_
121	KURRAJONG T1/OS 121																		
	778646	6621082	5	F	MET	42	43	10	BR	15	3	-	Х	X	Α		40		
				FP	PW	30	30	10									0		
			<u> </u>	С	MET.	47	45	36									60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21									75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

KEV	
177	

HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
W	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAŞ	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eralllure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked plece	CHAL.	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 111- Site 110 viewed from the south.

Site (110) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 110" 55J E.0775119 N.6616801 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map Open artefact scatter

3 artefacts in 10m x 10m area Cattle grazing 150m

80% Chert

2 Metasedimentary



Plate 112 - Site 111 viewed from the northwest.

Site (111) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 111" 55J E.0775217 N.6616803 Narrabri 8837-S First Edition 1: 50,000 scale Topo. Map

Open artefact scatter 36 artefacts in 40m x 20m area

Cattle grazing 60m 95%

Metasedimentary 'horseshoe' core

Materials: Chert Quartz Chalcedony Quartzite Silcrete Basalt Igneous



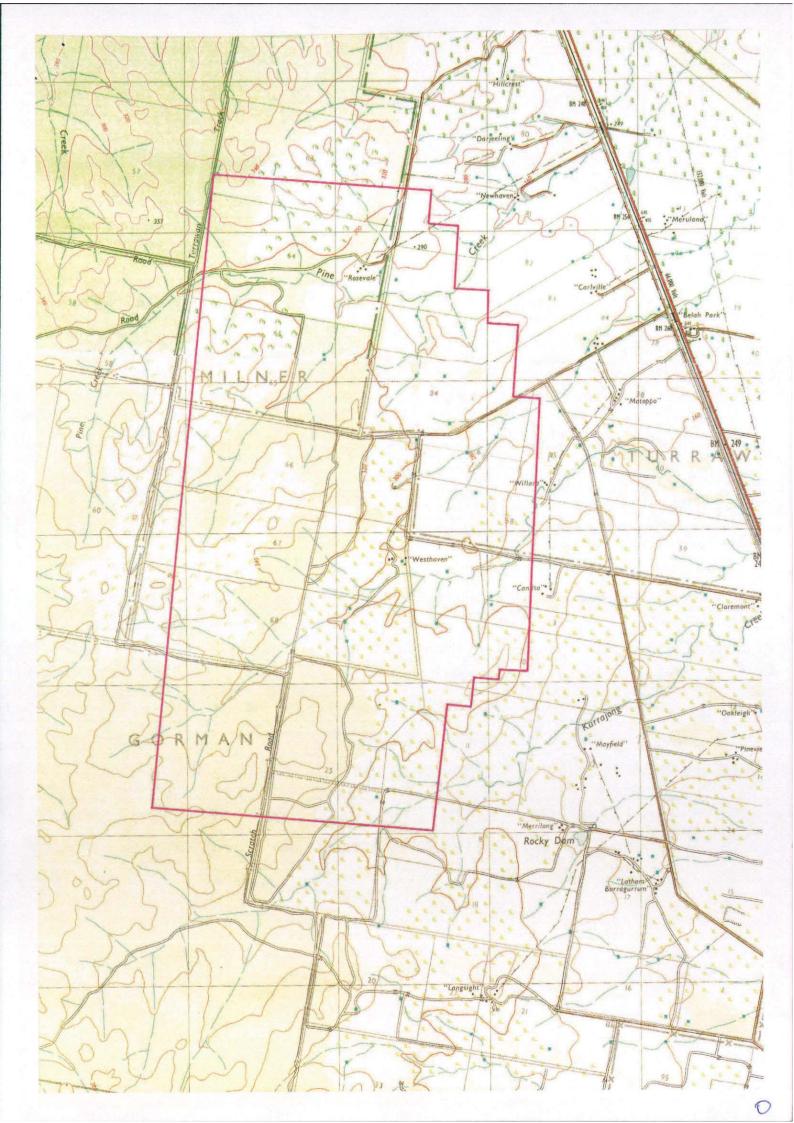
Plate 113 - Site 112 viewed from the northeast.

Site (112) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 112"
55J E.0775248 N.6616821
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
50+ artefacts in track
Cattle grazing
1-30m track across creek

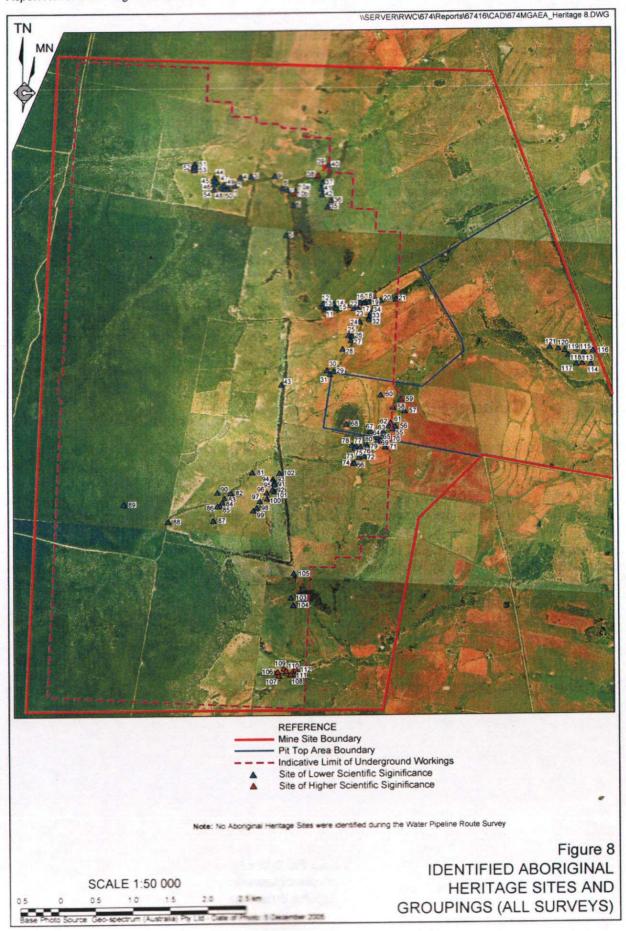
95% Includes

Chert Bondi Point



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





National Parks and Wildlife Service Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only Site Number 19-61-01/51	
Date received Date entered into system 77.909 Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials TRINDALL CRAIG Client on system	
Organisation NARRABRI GOMERON TRAD OWNERS	
Address	
Phone number 0428 978 863 Fax	
Knowledge Holder	
Title * Surname First Name Initials Client on	
TIZINDALU LYNN system	
Organisation NARABRU LALC	
Address PO BOX 37 NARRABRI 2390	
Phone number 02 6792 4228 Fax 02 6792 4258	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	٦,
Site Name KURPADONG CROS 1112 SITE 11	2)
Easting 775248 Northing 6616821 AMG X GDA	
Mapsheet BAAN BAA 8836-N	
Zone 54 1:25k topographic map Non differential GPS	
≥ 55 ≥ 1:50k topographic map Differential GPS	
56 1:100k topographic map Engineering survey plan or map	
Cilent GIS or CAD system	
Primary Recorder	
Title Surname First Name Initials	
APPLETON JOHN SURVEYS & REP Client on	
Organisation (Vision Inc.) System	
Address 16 CURTUS ST ARMUDALE 1	
Phone number	
Date recorded 15/07/09	

•	CLOSED SITE	E OPEN SITE
Site Context		
Landform	Landform Unit	
Mountainous	Beach	Tidal Flat Upper slope Stream bank
Piain	Coastel rock platform	Cliff Plain Stream channel
Rolling hills	Dune	Crest Ridge Swamp
Steep hills	Intertidal flat	Flat Tor Terrace
Undulating plain	Lagoon	Lower slope Valley flat X Terrace flat
Slope	Tidal Creek	Mid slope Levy
degrees		
Vegetation	Land use	Water
Closed forest	Conservation	Distance to permanent water source metres
Grasslands	Established urban	Distance to temporary water source 20 metres
Isolated clumps of trees	Farming-Intensive	Name of nearest permanent water source
Open forest	Farming-low intensity	Name of nearest temporary water WURGATENG
Open woodland	Forestry	
Scrub	[] (Industrial	Directions for Relocation
Woodland	Mining	
Cleared	Pastoral/grazing	See attached
Revegetated	Recreation	300 2000
N/A	Semi-rural	
	Service corridor	
TRACY	Transport corridor	
	Urban expansion	Site Location Map N N NE
[N/A	NW NE
Current Land Tenure		
	/ other Government Dept.	
Private	7 Other Coventinent Dept	
Primary report I.D.	(i.D. Office Use only)	See attached
ABORIGINAL	HERITAG	عدد تدرامد العرب
EASSESSME	NT: NARRA	V å E
BRI COAL N	VINE STAG	·
E 2 LONGWA	LL PROJE	
		DAA.
	•	SW S SE

NPWS Aboriginal Site Recording Form - Site Information

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	≥ N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
***	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole
Site Plan Inc	dicate scale, boundaries of site, fea		
NW	N	NE	
			Site Dimensions
			A TO THE STATE OF
			Closed Site Dimensions (m)
			Internal length
		\	Shelter height
W		E	Shelter floor area
••		<u>I</u>	
			Open Site Dimensions (m)
			Total length of visible site
			Average width of visible site
			Estimated area of visible site
			Length of assessed site area

SE

SW

S

Nominated Trustee

Fax

Surname

CLAIMANT

First Name

Native Title Helder

Community Consensus

Initials

This section should only be filled in by the Endorsees

Organisation Address

Phone number

Attachments (No.)

B/W photographs
Colour photographs

Aerial photographs
Site plans, drawings
Recording tables

Feature inserts-No.

A4 location map

Slides

Other

Endorsed by:

__Knowledge Holder

Comments

_		-	
•	'n		1

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
112	KURRAJONG /	OS 112																	
	775248	6616821	4	AT LEA	ST 50 ARTI	EFACTS	IN TRA	CK											
				FP	CH	29	8	4											BONDI POINT
113	KURRAJONG 1	1/05 113																	
	779082	6620856	5	FL	QZ	20	20	4	BR	7	4	Р	X	X			0		
				FP	MET	35	23	12									35		RETOUCH
114	KURRAJONG T	1/OS 114																	
	779193	5620847	5	F	MUD	18	13	3	F	6	3		х	Х	F	R	0		
	-			F	MUD	15	13	3				D					0		
				С	CHAL	23	20	11									30		2 NEG FLAKE SCARS
		-		С	CHAL	26	21	11						-			25	-	4 NEG FLAKE SCARS/RETOUCH
				F	СН	16	9	3	BR	6	3				F	R	0		
115	KURRAJONG T	1/ISO 115																	
113	779096	6621008	4	F	MET	31	28	10	BR	24	8		X			R	0		
	775050		4	-	IAIEI	31	26	10_	DIC	24	-								
116	KURRAJONG T	1/OS 116							'										
	779220	6621024	4	F	СН	36	39	10	BR	18	4		Х	х	Α		0		
	-			F	MET	22	1.8	6	F	3	2				Α	R	0		
117	KURRAJONG 1	1/ISO 117													:		<u> </u>		
	779002	6620852	4	FP	СН	20	16	3				-		_			25		
118	KURRAJONG T	1/05 118															<u> </u>		
	778892	6620972	4	С	MET	70	56	45	 			 -					40	х	LARGE PEBBLE
			<u> </u>	FP	Q/CH	35	30	15	 								0		
				С	MET	92	80	32									40		HALF PEBBLE CHOPPER?
119	KURRAJONG 1	F1/OS 110	-									<u> </u>							
TTA	778845	6621031	4	FP	IG	45	38	14								-	0	X	

SITE No.	Easting	Northing	ACC ±	ART	MAT	L	W	TH	PLAT	W	TH	P/D	O/H	E	TERM	DORSAL	CORTEX	CORE R	REMARKS
				FP	СН	23	28	3	F	7	2		х				0		
				FP	MET	63	48	17									20		
120	KURRAJONG	 																	
	778757	6621065	4	F	MET	43	18	4	F	5	2		X		F	R	0		
121	KURRAJONG	Γ1/OS 121																	
	778646	6621082	5	F	MET	42	43	10	BR	15	3		Х	X	Α		40		
				FP	PW	30	30	10									0		
				С	MET	47	45	36								_	60		PEBBLE/4 NEG FLAKE SCARS
				С	CH	25	25	21		-							75		2 NEG FLAKE SCARS
				FP	MET	68	63	35									40		PEBBLE CHOPPER TOOL

KEY							
HEADINGS		MAT	Material	PLAT	Platform	TERM	Termination
ACC±	GPS ACCURACY	SIL	Silcrete	F	Facetted	F	Feather
L	Length	MUD	Mudstone	BR	Broad (single flake)	Α	Axial
w	Width	MUD/R	Mudstone or rhyolite	SHAT	Shattered	Н	Hinge
TH	Thickness	BAS	Basalt	CORT	Cortical	S	Step
P/D	Proximal or Distal	JASP	Jasper			A/S?	Axial or step
O/H	Overhang removal	MET	Metasedimentary				
E	Eraillure	IGN	Igneous	Dorsal			
Core R	Core rotation	QZ	Quartzite	R	Single vertical ridge		
		CH	Chert	2R	Two vertical ridges		
ART	Artefact type	Q	Quartz	NS	Negative flake scar		
F	Flake	PW	Petrified wood	2NS	2 vertical negative flake scars		
FP	Flaked piece	CHAL	Chalcedony	3NS	3 vertical negative flake scars		
С	Core	SERP	Serpentine	4NS	4 vertical negative flake scars		
HS	Hammerstone	CH/SIL	Mixture of chert & silcrete				



Plate 111- Site 110 viewed from the south.

Site (110) name: Location: GDA Map:

Site type: Contents: Land use:

Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 110"
55J E.0775119 N.6616801
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
3 artefacts in 10m x 10m area

Cattle grazing 150m

80% Chert

2 Metasedimentary



Plate 112 - Site 111 viewed from the northwest.

Site (111) name: Location: GDA Map:

Site type: Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript: "Kurrajong CR/OS 111"
55J E.0775217 N.6616803
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
36 artefacts in 40m x 20m area

Cattle grazing 60m 95%

Metasedimentary 'horseshoe' core

Materials: Chert Quartz Chalcedony Quartzite Silcrete Basalt Igneous



Plate 113 - Site 112 viewed from the northeast.

Site (112) name: Location: GDA Map:

Contents: Land use: Dist. from water: Arch. Visibility: Artefact descript:

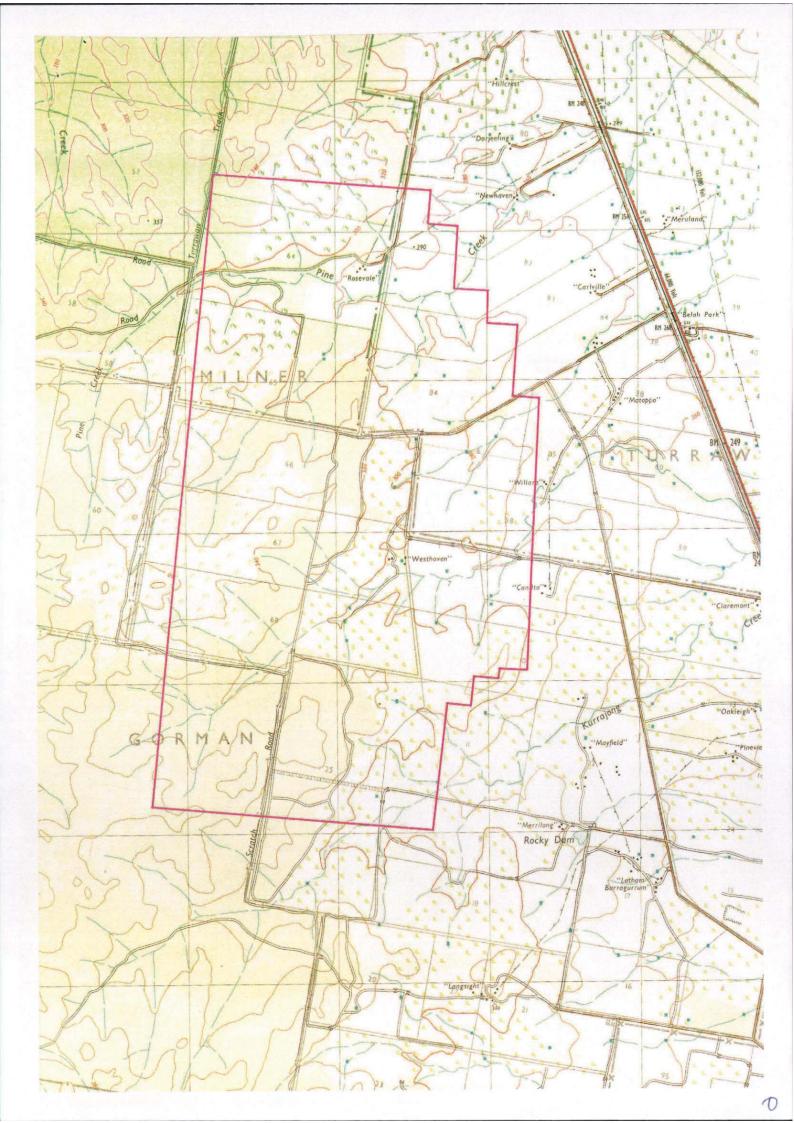
Site type:

"Kurrajong CR/OS 112"
55J E.0775248 N.6616821
Narrabri 8837-S First Edition
1: 50,000 scale Topo. Map
Open artefact scatter
50+ artefacts in track
Cattle grazing

1-30m track across creek

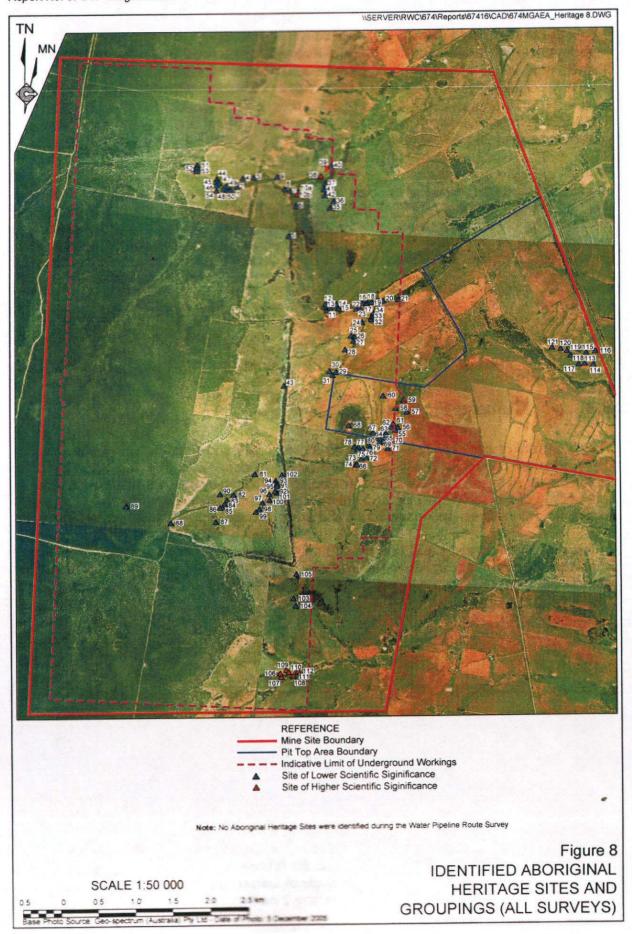
t: Includes

Chert Bondi Point



Part 5 - Aboriginal Heritage Assessment

Narrabri Coal Mine - Stage 2 Longwall Project Report No. 674/17 - August 2009





Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site II): 36-3-3319					Date recorded:	21-03-2018	
Site Location	n Information Kurrajong T1 OS							
Easting:	62620		Northing:	6416379		Coordinates must b	pe in GDA (MGA)	
Horizontal A	ccuracy (m):	5						
Zone: 55		Location	on method:	Non-Diff	erential	GPS		
Recorder Info (The person responsible)			ssion of this forn	n)		First name		
Mr. Hans		airie		[Balazs	First lidille		
Organisation:	Niche Environme	ent and I	Heritage					
Address:	19 Sorrell Street	, north P	arramatta N	SW 1750				
Phone: 0488	224300	E-mail:	bhansel@	niche-eh.co	m			
Site Context	Information							
Land Form Pattern:	Undulating Plain	1		Land		Farming Intensive		
Land Form Unit:	Stream Bank			Vege	tation:	Cleared		
Distance to Water (m):		rimary eport:	Narrabri Mir	ne LW Pane	ls 118-1	20 ACHSR - Niche 2018		
How to get to the site:	The site is locate contact NM for			9 of Narrabri	Mine (N	NM). Please		
Other site information:	Site is situated of affected by interlocated within the	nsive, sh	ort flood eve			•		

ite contents information	open/closed site: Open	Site condition: Disturbed
		Scarred Trees
Features:	Number of features Number of feature(s) feature extent (m) extent (feature)	(s) (cm) (cm) Scar shape Tree Species
1. Artefact	11 50 20	
		· ·
	e of a first order drainage line, stretching 50m N-S and 20 r rtzite and quartz.	m W-E. Complete
Artefact scatter of 11 art., located on the E side		m W-E. Complete Scarred Trees
Artefact scatter of 11 art., located on the E side flakes, hammer stone, distal pieces, chert, quar		Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
Artefact scatter of 11 art., located on the E side flakes, hammer stone, distal pieces, chert, quar Features:	Number of feature(s) feature	Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Species
flakes, hammer stone, distal pieces, chert, quar	Number of feature(s) feature	Scarred Trees f Scar Depth Regrowth (cm) (cm) Scar shape Tree Species

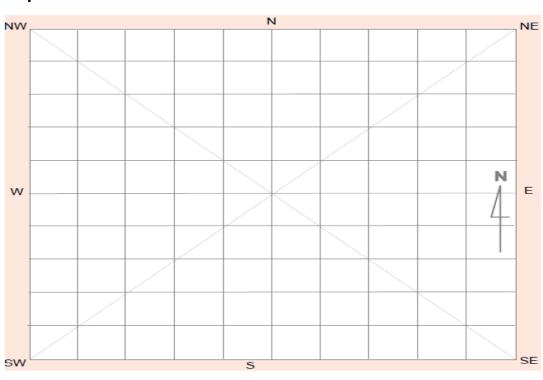
S

SW

SE

_	
	Scarred Trees
Features:	Number of feature(s)
3.	
Description:	
	Scarred Trees
Features:	Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species
4.	
Description:	
	Scarred Trees
Features:	Number of feature(s) Length of feature(s) feature(s) feature(m) Extent (m) Extent (m) Scar Depth Regrowth (cm) Scar Shape Tree Species
5.	
Description:	
Other Site Info: Site is situated on a highly eithe artefacts are located with	roded, disturbed context and possibly affected by intensive, short flood events as part of in the drainage line.

Site plan



Site photographs Bidirectional quartzite core. Location of Kurrajong T1 OS 136 facing S Description: Description: Chert complete flake, ventral surface Quartzite hammer stone Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar PO Box 1967, Hurstville 2220 NSW

ALUMO eite ID					05.05.0040
AHIMS site ID	36-3-3319			Date recorded:	25-05-2018
Site Location	Information	l			
Site name:	Kurrajong T1 OS	3 136			
Easting: 7	75391	Northing:	6619507	Coordinates must b	e in GDA (MGA)
Horizontal Ad	ccuracy (m):	5			
Zone: 55		Location method:	Non-Differential GPS	8	
Recorder Info		and submission of this form)			
Title	Surna	ame		First name	
Mr. Hanse	el		Balazs		
Organisation:	Niche Environme	ent and Heritage			
Address:	19 Sorrell Street	, north Parramatta NS	W 1750		
Phone: 04882	24300	E-mail: bhansel@r	iche-eh.com		
Site Context	Information				
Land Form Pattern:			Land Use:		
Land Form Unit:			Vegetation:		
Distance to Water (m):		imary eport:			
How to get to the site:					
Other site information:	by intense,short	• •	bed context possibly af f the artefacts were loc osition.		

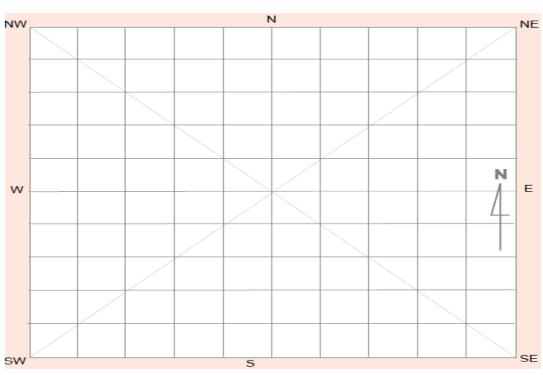
Site location map NW Ν NE Е W niche SE SW

1. Artefact Description: Artefact scatter of 11 art,located on the E side of frist order drainage line,stretching 50m N-S and 20m E-W.Complete flakes,hammer stone,distal flakes, chert, quartz and quartzite. Scarred Trees Features: Length of Width of Sear Donth Regrouth	te contents information	open/closed site: Open	Site condition: Poor
1. Artefact Description: Artefact Souther of features extent (m) feature (s) extent (m) feature (s) extent (m) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) (cm) Scar shape Tree Special features (cm) (cm) (cm) (cm) (cm) (cm) (cm) (cm)			Scarred Trees
Artefact Description: Artefact scatter of 11 art,located on the E side of frist order drainage line,stretching 50m N-S and 20m E-W.Complete flakes,hammer stone,distal flakes, chert, quartz and quartzite. Scarred Trees Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie extent (m) extent (m)	⁻ eatures:	features feature(s) feature (s)	(s) (cm) (cm) Scar shape Tree Species
Artefact scatter of 11 art,located on the E side of frist order drainage line,stretching 50m N-S and 20m E-W.Complete flakes,hammer stone,distal flakes, chert, quartz and quartzite. Scarred Trees Features: Number of features feature(s) feature(s) feature(s) extent (m) extent (m) 2. Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie (cm) (cm) (cm)	· ·	11 50 20	
Features: Number of feature(s) extent (m) Scar Depth Regrowth (cm) Scar shape Tree Species Scar Depth Regrowth (cm) Scar shape Tree Species Scar Depth Regrowth (cm) Scar shape Tree Species Scar Depth Regrowth (cm) (cm) Scar shape Tree Species Scar Depth Regrowth (cm) (cm) Scar shape Tree Species Scar Depth Regrowth (cm) (cm) (cm) Scar Shape Tree Species Scar Depth Regrowth (cm) (cm) (cm) (cm) Scar Shape Tree Species Scar Depth Regrowth (cm) (cm) (cm) (cm) (cm) (cm) (cm) (cm)	Description:		
features extent (m) extent (m) (cm) (cm) (cm)			Scarred Trees
	-eatures:	features (catalog) leature ((s) (cm) (cm) Scar shape Tree Species
Description:	2		
· · · · · · · · · · · · · · · · · · ·			

S

	Coorred Trees
Features:	Number of features Scarred Trees Number of feature(s) feature (s) extent (m) extent (m) Scar Depth Regrowth (cm) (cm) Scar shape Tree Specie
3. Description:	
<u> </u>	
	Scarred Trees
Features:	Number of feature(s) feature(s) feature (s) extent (m) feature (s)
4. Description:	
	Scarred Trees
eatures:	Number of feature(s) feature (s) feature (s) (cm) Scar Depth Regrowth (cm) Scar shape Tree Species
	extent (m) extent (m)
	extent (m) extent (m)
	extent (m) extent (m)
5. Description:	extent (m) extent (m)

Site plan



Site photographs Bidirectional quartzite core Location of Kurrajong T1 OS 136 facing S Description: Description: Chert complete flake, ventral surface Quartzite hammer stone Description: Description: Site restrictions Gender General Location Do you want to Restriction type: Restrict this site?: Why is this site restricted?: **Further information contact** Title **Surname** First name Organisation: Address: Phone: E-mail: