



Metromix Pty Ltd

ABN: 39 002 886 839

Teralba Quarry Extensions

Aboriginal Heritage Assessment

Prepared by

Archaeological Surveys & Reports Pty Ltd

April 2011

**Specialist Consultant Studies Compendium
Volume 2, Part 8**

This page has intentionally been left blank



Metromix Pty Ltd

ABN: 39 002 886 839

Aboriginal Heritage Assessment

Prepared for:

R.W. Corkery & Co. Pty Limited
1st Floor, 12 Dangar Road
PO Box 239
BROOKLYN NSW 2083

Tel: (02) 9985 8511
Fax: (02) 9985 8208
Email: brooklyn@rwcorkery.com

On behalf of:

Metromix Pty Ltd
Level 4, 107 Phillip Street
PARRAMATTA NSW 2150

Tel: (02) 9849 7400
Fax: (02) 9635 4816
Email: Bills@metromix.com.au

Prepared by:

Archaeological Surveys & Reports Pty Ltd
16 Curtis Street
ARMIDALE NSW 2350

Tel: (02) 6772 6512
Fax: (02) 6772 6512
Email: japples@northnet.com.au

April 2011

COPYRIGHT

© Archaeological Surveys & Reports Pty Ltd, 2011

and

© Metromix Pty Ltd, 2011

All intellectual property and copyright reserved.

Apart from any fair dealing for the purpose of private study, research, criticism or review, as permitted under the Copyright Act, 1968, no part of this report may be reproduced, transmitted, stored in a retrieval system or adapted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without written permission. Enquiries should be addressed to Archaeological Surveys & Reports Pty Ltd.

CONTENTS

	Page
EXECUTIVE SUMMARY	8-5
1. INTRODUCTION.....	8-7
1.1 SCOPE	8-8
1.1.1 Report Objectives	8-8
1.1.2 Report Format	8-8
1.2 THE SURVEY AREA	8-8
1.3 POTENTIAL IMPACT OF THE PROPOSED QUARRY	8-9
2. ABORIGINAL CONSULTATION	8-9
2.1 THE 2009 INVESTIGATION OF THE NORTHERN EXTENSION AREA	8-14
3. THE ENVIRONMENTAL CONTEXT.....	8-20
3.1 THE GENERAL GEOLOGY AND TOPOGRAPHY	8-20
3.2 VEGETATION.....	8-21
3.3 WATER RESOURCES	8-21
3.4 STONE RESOURCES.....	8-22
3.5 PREVIOUS IMPACTS	8-22
4. THE ARCHAEOLOGICAL RECORD	8-22
5. MODELS FOR SITE LOCATION	8-23
5.1 SITE TYPES AND THEIR LOCATION.....	8-23
5.2 A PREDICTIVE MODEL FOR THE STUDY AREA.....	8-25
6. THE SURVEY	8-26
6.1 THE SURVEY STRATEGY.....	8-26
6.2 DETAILS OF THE SURVEY	8-27
6.3 SITE RECORDING	8-27
6.4 EFFECTIVENESS OF THE SURVEY TECHNIQUE	8-27
6.5 EFFECTIVE COVERAGE	8-29
7. THE RESULTS	8-40
8. DISCUSSION.....	8-40
9. SIGNIFICANCE ASSESSMENT	8-40
9.1 CULTURAL SIGNIFICANCE	8-40
9.2 RESEARCH POTENTIAL	8-41
10. RECOMMENDATIONS.....	8-41
11. GENERAL GLOSSARY:	8-43

FIGURES

Figure 1	Topographic Map of the General Area.....	8-10
Figure 2	Aboriginal Heritage Survey Area.....	8-11
Figure 3	Topography of the Project Site	8-12
Figure 4	2011 Aboriginal Heritage Survey Coverage	8-13
Figure 5	Aerial Photograph Showing the 2011 Survey Coverage	8-28

CONTENTS

Page

APPENDICES

Appendix i	Report from Koombahtoo Local Aboriginal Land Council, 14/10/2003	8-55
Appendix ii	Advertisement for Interested Aboriginal Stakeholders, Aug 2008.....	8-59
Appendix iii	Report from Koombahtoo Local Aboriginal Land Council, 20/2/2009	8-63
Appendix iv	Letter to Government Agencies, 8/11/2010	8-67
Appendix v	Advertisement for Interested Aboriginal Stakeholders, Nov 2010.....	8-71
Appendix vi	Letter to Registered Stakeholders, 1/12/2010	8-75
Appendix vii	Letter to Registered Stakeholders with Timetable for the Survey, 1/3/2010	8-85
Appendix viii	Reports from the Stakeholders following the 2011 Survey	8-93
Appendix ix	Responses to the Draft Report from Stakeholders	8-101
Appendix x	AHIMS Search 2003	8-111
Appendix xi	AHIMS Search 2010	8-125
Appendix xii	Site Types.....	8-129

PLATES

Plate 1	Aerial Photograph of Teralba Quarry Looking Westwards	8-30
Plate 2	The Quarry Viewed from the North in 2003. The Southern Extension Extends	8-30
Plate 3	Looking Eastwards Along the Ridge from the Western End of the Southern Extension Area in 2003.....	8-31
Plate 4	Looking Southwards across the Ridge down the Powerline Easement in the Southern Extension Area in 2003.....	8-31
Plate 5	Looking Eastwards along the Centre of the Ridge Towards Lake Macquarie in the Southern Extension Area in 2003.....	8-32
Plate 6	Looking Westwards Upslope towards the Eastern End of the Ridge in the Southern Extension Area in 2003	8-32
Plate 7	Looking Southwards across the Eastern Footslopes of the Ridge in the Southern Extension Area in 2003	8-33
Plate 8	Looking Eastwards down the Head of the Drainage Depression in the Southern Extension Area in 2003	8-33
Plate 9	Looking Southwards down the First of the Three Northern Tributaries of the Main Creel on the Spitjer Extensopm Area om 2--3.....	8-34
Plate 10	Looking Northwards up the Lower Section of the Second Northern Tributary in the Southern Extension Area in 2003. Note The Exposed Conglomerate Bedrock.....	8-34
Plate 11	Looking Eastwards along the Mid-Section of the Main Drainage Depression.....	8-35
Plate 12	Looking Eastwards across the Defunct Settling Pond at the Eastern End.....	8-35
Plate 13	Walking One of the Cleared Fence-Line Access Roads to the North of the Existing Quarry in 2011.....	8-36
Plate 14	Walking One of the Older Tracks in the Northern Section in 2011.....	8-36
Plate 15	Partially Cleared Track to the North of the Existing Quarry in 2011	8-37
Plate 16	An Open Area Amongst Regrowth at the End of a Spur Ridge in the Northern Section in 2011	8-37
Plate 17	Descending One of the Many Such Slopes in the Northern Section in 2011	8-38
Plate 18	Descending One of the Dry Gullies in the Northern Section in 2011	8-38
Plate 19	Walking the Power-Line Easement Along the Ridge in the Southern Section in 2011.....	8-39
Plate 20	Crossing the Dry Dam in the South-Eastern Corner of the Southern Section in 2011	8-39

EXECUTIVE SUMMARY

This investigation was performed for R.W. Corkery & Co. Pty Limited (RWC) on behalf of Metromix Pty Limited (Metromix). Metromix is proposing to apply for development approval for proposed extensions to the existing Teralba Quarry, as a Part 3A "Major Project" (NSW Department of Planning 2006), and has contracted RWC to prepare the necessary documentation.

Archaeological Surveys & Reports Pty Ltd (AS&R) was engaged to consult with all registered Aboriginal stakeholders with a cultural interest with the Project Site, prior to conducting an archaeological investigation of the Project Site with the representatives nominated by the registered stakeholder groups, to identify any Aboriginal sites and relics that might be present.

Consultation with Aboriginal stakeholders commenced in 2003 and continued in 2008 and 2010/2011. Consultation involved correspondence circulated to a range of nominated parties and the placement of a public notice in the *Newcastle Post* and the *Newcastle Star* on 10 November 2010 inviting Aboriginal stakeholders to register their interest in the Project. As a consequence of the correspondence and public notices, nine stakeholders were identified.

Three of the nine stakeholders participated in a survey of the Project Site on 10 March 2011. Surveys were also conducted in October 2003 and February 2008.

No sites of Indigenous origin or Potential Archaeological Deposits (PADs) were observed within the Project Site during the 2011 survey or the previous surveys.

Recommendations

AS&R recommends that as a result of the field and document investigation and consultation with Aboriginal stakeholders, that there are no constraints on either cultural; or archaeological grounds to the proposed extensions to Teralba Quarry.

However the proponents are advised that The Office of Environment and Heritage (OEH) makes the following recommendations in relation to any earthworks operations as additional Statements of Commitment or as conditions of approval as appropriate:

1. If Aboriginal cultural objects are uncovered due to the development activities, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and Aboriginal community representatives must be contacted to determine the significance of the object(s). The site is to be registered in the AHIMS (managed by OEH) and the management outcome for the site included in the information provided to the AHIMS. It is recommended that the Aboriginal community representatives are consulted in developing and implementing management strategies for all sites, with all information required for informed consent being given to the representatives for this purpose.

2. If human remains are located during the project, all works must halt in the immediate area to prevent any further impacts to the remains. The NSW Police, the Aboriginal community and OEH are to be notified. If the remains are found to be of Aboriginal origin and the police consider the site not an investigation site for criminal activities, OEH should be contacted and notified of the situation and works are not to resume in the designated area until approval in writing is provided by OEH. In the event that a criminal investigation ensues, works are not to resume in the designated area until approval in writing (*has been received*) from NSW Police and OEH.
3. All reasonable efforts must be made to avoid impact to Aboriginal cultural heritage values at all stages of the development works. If impacts are unavoidable, mitigation measures are to be negotiated with the Aboriginal community and OEH.

1. INTRODUCTION

This investigation was performed for R.W. Corkery & Co. Pty Limited (RWC) on behalf of Metromix Pty Limited (Metromix). Metromix is proposing to apply for development approval for proposed extensions to the existing Teralba Quarry, as a Part 3A “Major Project” (NSW Department of Planning 2006), and has contracted RWC to prepare the necessary documentation.

Teralba Quarry produces a combination of crushed aggregates, coarse sand, primarily for roadbases and fills use in the construction industry.

Metromix is proposing to expand their extraction activities using drill and blast methods and the continued operation of a variety of heavy earthmoving equipment, including excavators, trucks and dozers. Blasting/operational practices are unlikely to change significantly for rock removed to a safe working level (at least 15 m) above the underlying mine workings within the Great Northern Coal Seam (RWC brief Ref. F:\559\Reports\55905\SCBriefs\559 A Heritage Brief.doc). In addition to the quarry extension the Company proposes to replace an existing transmission line.

Previously, in **October 2003** RWC engaged Archaeological Surveys & Reports Pty Ltd (AS&R) to undertake an investigation of an area to the south of the existing Southern Extraction Area. The investigation was performed with the assistance of Mr Kenneth J. McBride, Sites Officer, Koombahtoo Local Aboriginal Land Council (LALC). No sites were recorded (Appleton 2003).

Subsequently, in **February 2008**, RWC engaged AS&R to consult with Aboriginal stakeholders in accordance with “Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation” (Department of Environment and Conservation [DEC] 2005), and to undertake an investigation to identify any sites of Indigenous cultural significance within the Project Area which comprised two areas to the north and south of the existing quarry. The investigation was performed with the assistance of Miss Ashley Hudson, Aboriginal Cultural and Heritage Officer, Koombahtoo LALC. No sites were recorded (Appleton 2008).

In **October 2010** Metromix determined that an additional area to those previously investigated was required for a power-line easement to the north of the Northern Extension. Since 2008 new draft codes and regulations have been introduced which impose new requirements for consultation with Aboriginal stakeholders and additional obligations under a “due diligence code of practice”. These were: “NSW Draft Code of Conduct for Archaeological Practice in NSW” (NSW Department of Conservation, Climate Change and Water [DECCW] 2010a); “NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects” (NSW Minerals Council Ltd 2010); and “Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010” (DECCW 2010b).

In November 2010 RWC engaged AS&R to re-investigate the Project Site in compliance with the 2010 Codes of Practice and guidelines for Aboriginal consultation.

1.1 SCOPE

The scope of works was for AS&R to consult with all registered Aboriginal stakeholders with a cultural interest with the Study Area, prior to conducting an archaeological investigation of the Study Area with the representatives nominated by the registered stakeholder groups, to identify any Aboriginal sites and relics that might be present. The results of the investigation were to be presented in a report, which was to include an assessment of the significance of any cultural relics or places identified, an appraisal of the options and opportunities arising from the discoveries, and clear recommendations for the management of those cultural resources.

1.1.1 Report Objectives

The objectives of this report are to describe the consultation process required by the provisions for Part 3A Projects, and the subsequent archaeological investigation of the Project Site, and to record the archaeological relics and sites that were identified. Further, the report documents the participation of the Aboriginal stakeholder group's representatives in the field survey. In addition, the report includes a discussion of the results of the investigation in the context of other known sites in the area. Finally, the report includes a statement as to the recommendations for the future development of the Project Site.

1.1.2 Report Format

The report is presented in the following format:

- | | |
|----|---------------------------|
| i | Executive summary |
| ii | Contents |
| 1 | Introduction |
| 2 | Aboriginal consultation |
| 3 | The environmental context |
| 4 | The archaeological record |
| 5 | Models for site location |
| 6 | The survey |
| 7 | The results |
| 8 | Discussion |
| 9 | Significance assessment |
| 10 | Recommendations. |

1.2 THE SURVEY AREA

The Project Site is located to the west of the village of Teralba on the western shore of Lake Macquarie, approximately 7km north of Toronto, and 6km to the south of Edgeworth, on the Lake Macquarie of NSW.

The Project Site is located on Lot 1 and Lot 2, DP 224037, in the Parish of Teralba, in the County of Northumberland, which is leased by Metromix from A C Fowkes. The Project Site covers an area of approximately 130ha, and covers the proposed extension areas to the north and south of the existing quarry, a power-line easement to the north, and the surrounding buffer zone.

The existing approved quarry extraction area extends both north and south of Rhondda Road. The proposed quarry extension would include further land to both the north and south of the existing operational quarry areas.

Figures on the following pages include detail from a Topographic map of the area, an aerial photograph of the proposed extension and a proposed transmission line route showing the area subject to the investigation for Aboriginal sites, a plan detailing the topography of the Project Site, and a conceptual layout of the quarry with extensions.

1.3 POTENTIAL IMPACT OF THE PROPOSED QUARRY

The potential impact to the Project Site from clearing and quarrying will be to destroy any archaeological contexts that might be present.

As a consequence of this survey it is extremely unlikely that the same area will ever be surveyed again, thus from an archaeological perspective, this was the only opportunity to observe and record any sites that might be present, and to propose a strategy for the management of any known or potential archaeological and/or cultural material in the future development of the area.

2. ABORIGINAL CONSULTATION

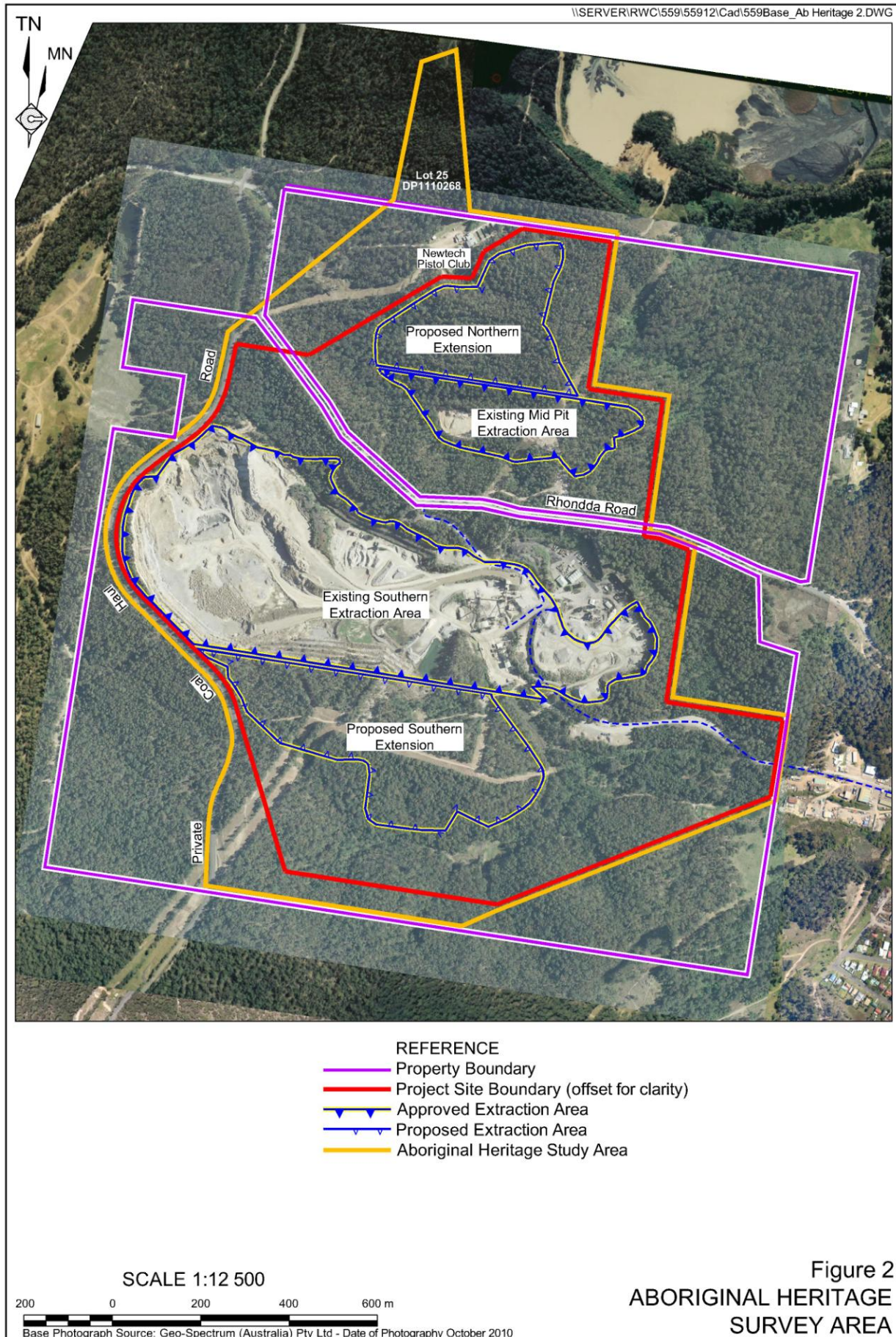
The 2003 Investigation of the Southern Extension Area

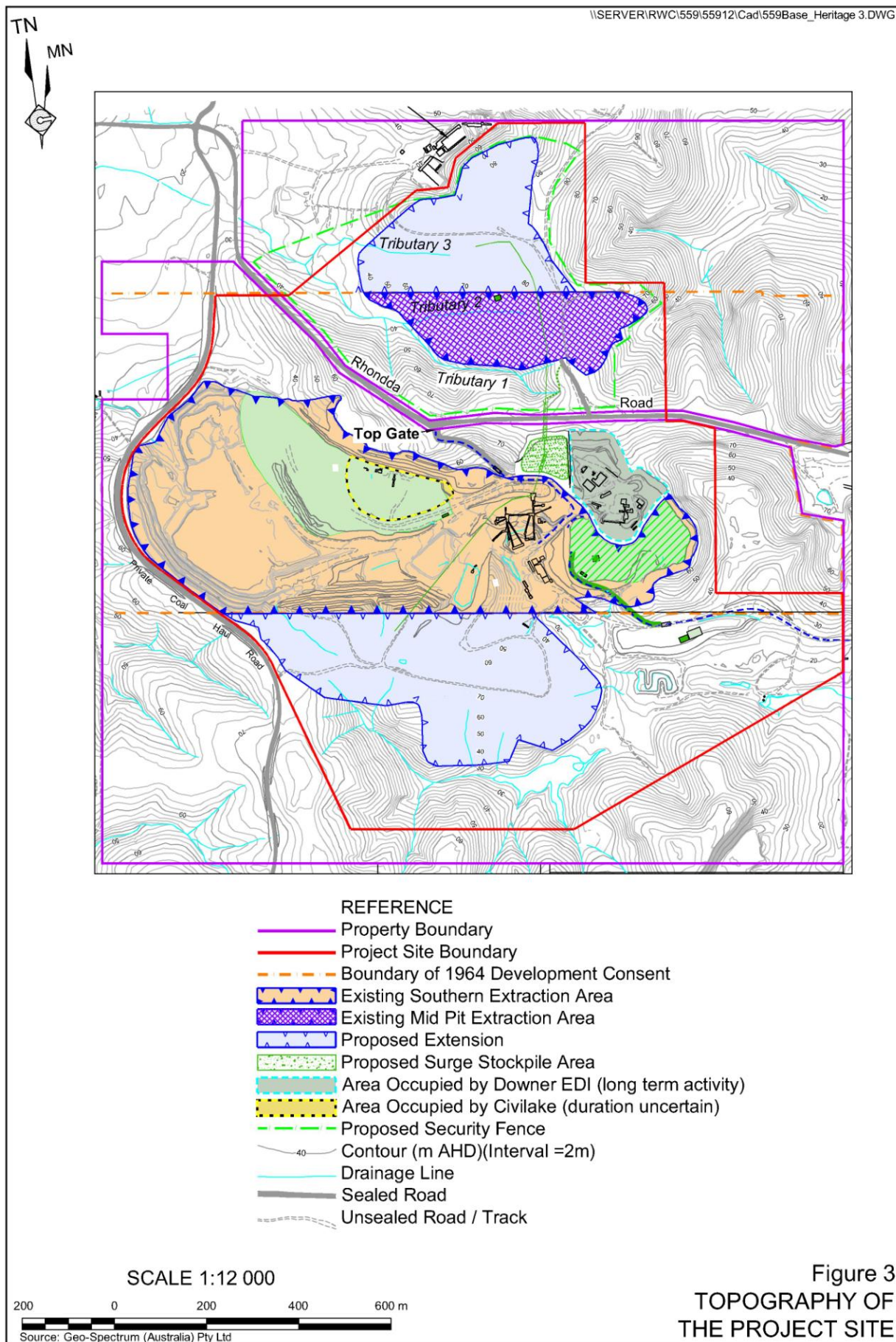
Prior to the investigation AS&R contacted the Koombahtoo Local Aboriginal Land Council (LALC) to arrange for a Sites Officer to assist in the survey of the Southern Extension Area. As a consequence Mr Kenneth J. McBride, Sites Officer assisted in the investigation, which was performed on 9th October 2003.

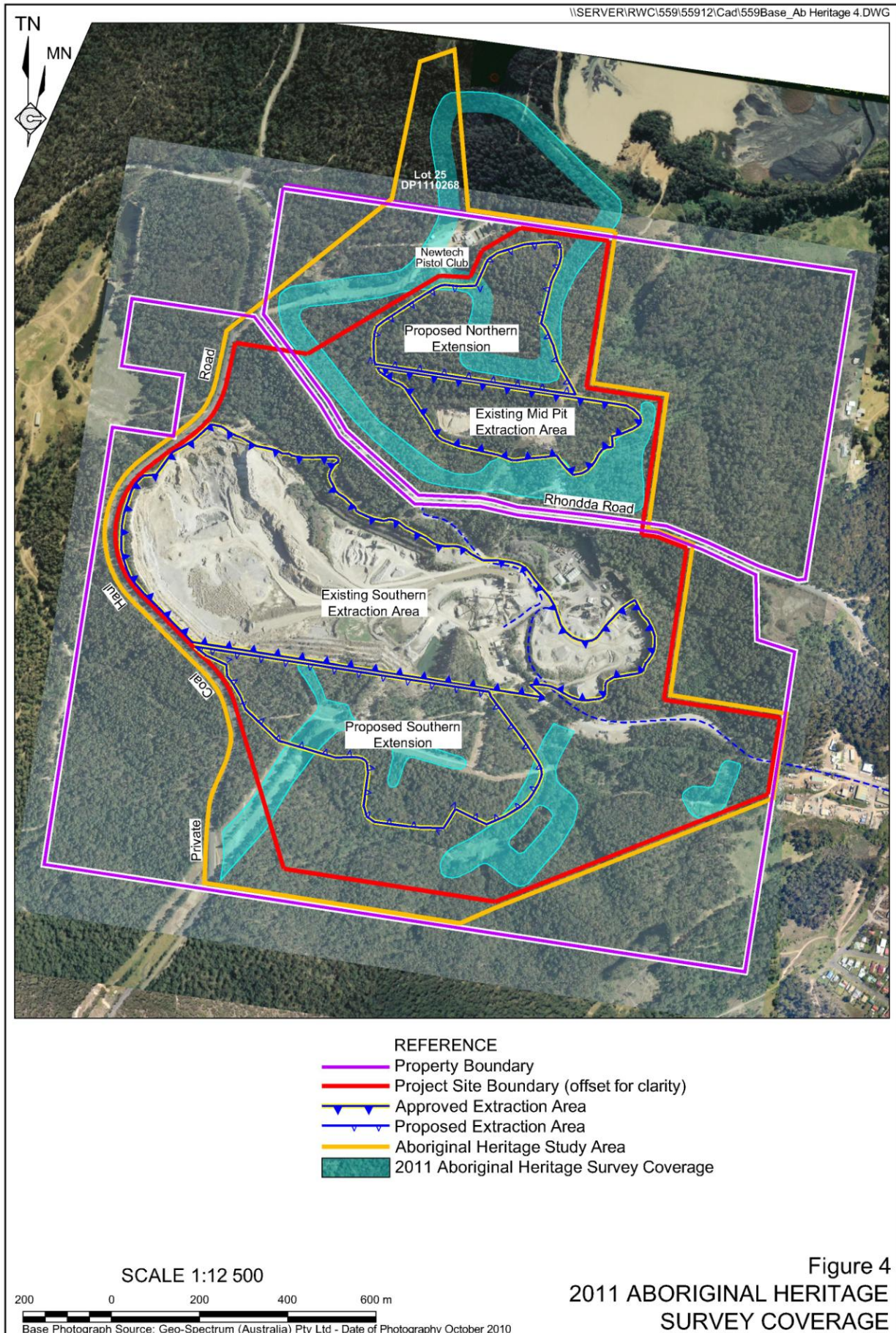
McBride was not aware of any specific Aboriginal associations with the area.

Both prior to and during the survey McBride and Appleton (AS&R) discussed the potential for particular site types to be present, and the particular environments in which they might occur. They also constantly reviewed their survey strategy, and discussed the results as they completed each transect. At the conclusion of the survey McBride agreed to provide AS&R with a letter conveying the Land Council's recommendations. A copy of those recommendations is included as **Appendix i**.









2.1 THE 2009 INVESTIGATION OF THE NORTHERN EXTENSION AREA

In the investigation undertaken in late 2008 the survey area comprised two proposed extension areas located to the north and south of the existing quarry. In accordance with the requirements of *Interim Community Consultation Requirements for Applicants*, under Part 6 Approvals of the National Parks and Wildlife Act 1974 (as amended), which apply to Part 3A Major Projects, AS&R placed an advertisement in both *The Newcastle Star* and *The Newcastle Post* in November 2008 (copies of the advertisement are included as **Appendix ii**), inviting all Aboriginal stakeholders with an interest in the project to register their interest. The only response to the advertisements was from Cacatua Culture Consultants.

On 8th January 2009 AS&R contacted Mr George Sampson, Manager of Cacatua Culture Consultants, and enquired firstly as to whether the organisation was Aboriginal – to which he responded that it was; and secondly whether the organisation had any direct cultural association with Teralba – to which he responded that it had not. I then advised him that I was therefore not obliged to include the organisation as a stakeholder group in this project – to which he agreed. As a consequence only the Koopahtoo LALC was involved in the investigation.

AS&R also concluded that as Koopahtoo LALC had participated in the survey of the area of the proposed Southern Extension in 2003, and was the only stakeholder with an interest in the Project Site, that it would not be necessary to resurvey the proposed Southern Extension area now that approval was being sought for both northern and Southern Extension Areas as a Part 3A “Major Project”.

On 12th January 2009 AS&R contacted Koopahtoo LALC to arrange for a Sites Officer to assist in the fieldwork. As a consequence Ashley Hudson, Aboriginal Cultural and Heritage Officer assisted in the investigation, which was performed on 20th February 2009. Ashley Hudson was not aware of any specific Aboriginal associations with the survey area.

Both prior to and during the survey Hudson and Appleton discussed the potential for particular site types to be present, and the particular environments in which they might occur. They also constantly reviewed the survey strategy, and discussed the results as they completed each survey transect. At the conclusion of the survey Hudson and Appleton discussed the results in general, and Hudson agreed to provide a letter conveying the land council's recommendations. A copy of Hudson's report is included as **Appendix iii**.

The 2011 Investigation of the Northern, Southern Extension Areas

In 2010 changes to the procedures for archaeological investigation and consultation with Aboriginal stakeholders were introduced; the “NSW Draft Code of Conduct for Archaeological Practice in NSW” (DECCW 2010a); “NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects” (NSW Minerals Council Ltd 2010); and “Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010” (DECCW 2010b).

In compliance with the new regulations for consultation with Aboriginal stakeholders letters were sent to each of the following requesting that they provide a list of registered Aboriginal stakeholders with an interest in the area. A copy of the letter is included as **Appendix iv**.

- NSW Native Title Services
- DECCW: Hurstville
- Lake Macquarie Shire Council
- Office of the Registrar, ALRA

In its response the Office of the Registrar, ALRA noted that the subject property was not listed on the Register of Aboriginal Owners.

Also in compliance with the new regulations for consultation with Aboriginal stakeholders advertisements were placed in the *Newcastle Post*, and the *Newcastle Star*, on the 10th November inviting Aboriginal stakeholders to register their interest in the project. A copy of the advertisement is included as **Appendix v**. As a consequence of both the advertisements and the letters to government departments the following stakeholders were identified.

Stakeholder	Contact	Contact Address
Awabakaba-Ngariliko A & TS Men's Corporation	Glen Boyd Tel.0409 227 025	
Westlake Aboriginal Elders Inc.	Gerry Edwards Coordinator	12/22 Shelley Street, Toronto 2283
Awabakal Local Aboriginal Land Council	Cheryl Kitchener Tel.4965 4532	PO Box 437, Hamilton 2303
Cacatua Culture Consultants	Donna Sampson Tel. 4028 6942	22 Ibis Parade, Woodberry 2322
Arwarbukarl Culture Resource Association	Darren McKenny Tel. 4961 0515	PO Box 240 Broadmeadow 2292
Koompahtoo Local Aboriginal Land Council	c/o Awabakal Local Aboriginal Land Council	
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer Tel. 4915 6947	PO Box 253, Jesmond 2299
Awabakal Descendants Traditional Owners Aboriginal Corporation	Shane Frost	PO Box 384, Wallabadah 2343
Awabakal Newcastle Aboriginal Co-op	Kevin McKenney Tel. 4969 4711	64 Hannell Street, Wickham 2203

Letters were then sent to each of the stakeholders/groups on 1st December 2010 outlining the investigations that had previously been undertaken of the Project Site and the results, and detailing the proposed survey strategy for the current investigation. Attached to the letters were a Topographic map of the area and an aerial photograph overdrawn with the Project Site and survey area. A copy of the letter is included as **Appendix vi**.

The only responses received to the proposed survey strategy stating that they wished to participate in the field survey were from Awabakaba-Ngariliko Aboriginal & Torres Straits Men's Corporation (Awabakaba-Ngariliko Men's Corporation), Awabakal Descendants Traditional Owners Aboriginal Corporation, and Cacatua Culture Consultants. On 1st March each of the organisations were sent the time-table for the survey (a copy included as **Appendix vii**). Unfortunately when the stakeholders were advised of the dates (10th and 11th of March 2011) on which the field-survey would take place, Shane Frost of Awabakal Descendants Traditional Owners Aboriginal Corporation stated that he could not attend the site on either of the days as he was already committed to field-work elsewhere on that date.

As part of the preliminary instructions for the fieldwork each of the participants was required to complete an on-line site induction, in addition to an on-site induction. On the morning of 10th March the following personnel, having previously completed their on-line induction, completed their on-site induction as representatives of the following stakeholder groups:

- Paul McBride representing Westlake Aboriginal Elders Inc.
- Charmaine Talbot representing Westlake Aboriginal Elders Inc.
- Xander Beale representing Awabakaba-Ngariliko Mens Corporation.
- Robert Donovan representing Awabakaba-Ngariliko Mens Corporation.
- Deidre Perkins representing Cacatua Culture Consultants.

Following the field survey reports were received from each of the three groups represented and copies of the reports are included as **Appendix viii**.

Copies of the draft report were sent to all of the Aboriginal stakeholders on 21 April, which meant that the 21 day period in which they had to respond would have been over on 12 May. No responses were received during that period, however two were received on later dates, one from Awabakal Descendants Traditional Owners Aboriginal Corporation (copy included as **Appendix ix**), and one from Awabakal Traditional Owners Aboriginal Corporation (copy included as **Appendix ix**).

In summary the responses were as follows:

Awabakal Descendants Traditional Owners Aboriginal Corporation [ADTOAC] (dated 23rd May 2011)

Issues raised:

1. Failure to include Ethno-History context of the area
2. Failure to include comprehensive Aboriginal Stakeholder Consultation Log
3. Failure to include detailed map of sites recorded on AHIMS Database
4. Failure to include within draft report a recommendation for the proponent to develop cooperation with the registered Aboriginal Stakeholders, and Aboriginal Cultural Heritage Plan of Management.

AS&R response

Issue 1: Ethno-history

“No Ethno-History context of the area” was necessary as no sites were found. If however sites been found then the Ethno-History might have been relevant. The draft reports were sent out to obtain stakeholders responses to the draft, and those responses are included in the Appendices of the final report, and so while AS&R still does not think it was relevant to the Project Site the Ethno-History provided by ADTOAC will be included in the report.

Issue 2: Stakeholder communication log.

“Requirement 11 – Archaeological Report content and format” of “*The Draft Code of Practice for Archaeological Investigation in NSW 2010*” does not require a record of communications to be included in the archaeological report. There is a requirement that the archaeologist should record all communications in a log, but the log only becomes an item of interest if DECCW requests to view the log (p.26, “Requirement 12- Records” of the Draft Code).

Issue 3: Detailed map of known sites.

Early in 2010 Appleton was instructed by the Information Systems & Assessment Section, Cultural & Heritage Division, DECCW that details and locations of sites not directly associated with the Project Site should not be included in the archaeological report, primarily because public knowledge of the locations of sites could place them under potential threat of deliberate unauthorised destruction. Subsequently all AHIMS searches have been limited to the immediately local area and in some instances to the boundaries of the Lot subject to the proposed development.

Issue 4: Development of cooperation and Aboriginal Cultural Heritage Plan of Management.

In the absence of any artefactual material on the site no specific Aboriginal Cultural Heritage Plan of Management was required as there were no sites to manage and an application for an Aboriginal Heritage Impact Permit that would otherwise be necessary if sites had been found and could not be avoided was not necessary.

As in the archaeologists opinion (based on over 520 projects over a twenty year period) there was no likelihood of artefacts being found on the Project Site no further Aboriginal participation was considered necessary. Therefore there was also no requirement to “develop cooperation” between the Aboriginal stakeholders and the mine management.

Finally, it should be noted that the final section of the report includes a provision that requires mine management to be aware that all workers on the site, if finding an item that might be of Indigenous original, should cease work in that location immediately and advise The Office of Environment and Heritage (OEH) and the Local Aboriginal Land Council of the discovery, and that work should **not continue at that location until authorised to do so**.

Awabakal Traditional Owners Aboriginal Corporation [ATOAC] (dated 23rd May 2011)

Issues raised:

1. No Aboriginal Cultural Heritage: Ethno-history.
2. No Consultation Log
3. Potential Subsurface artefactual material
4. Aboriginal Heritage Plan of Management
5. No details of sites recorded in the area.
6. Use of Aboriginal Community inappropriate and should be changed to “Traditional Descendants” to Registered Aboriginal Stakeholders”.
7. Documented evidence that Aboriginal people inhabited the area.
8. Summary of issues.

Issue 1: No Aboriginal Cultural Heritage: Ethno-history.

See response to ADTOAC.

Issue 2: No Consultation Log

See response to ADTOAC.

Issue 3: Potential Subsurface artefactual material

See response to ADTOAC. The only likely place within the Project Site that might once have contained artefactual material would be the ridge, but this feature has been stripped and graded for the powerline easement and the exposed surface is a weathered B Horizon. No artefacts will be found in this feature, or if one is found it will certainly not be in its depositional context. Elsewhere there are only steep slopes and narrow “v” shaped gullies with no distinct banks, and so there was no reason why people would leave artefacts in the gullies. The ridge has now been surveyed three times by a total of 11 people and no artefactual material was found.

Issue 4: Aboriginal Heritage Plan of Management.

See response to ADTOAC.

Issue 5: No details of sites recorded in the area.

See response to ADTOAC.

Issue 6: Use of “Aboriginal Community” inappropriate and should be changed to “Traditional Descendants” or to Registered Aboriginal Stakeholders”.

Unfortunately there is no way in which an archaeologist can determine whether or not an Aboriginal representative is traditionally attached to the land or whether they have come from elsewhere. A recent study undertaken by State Land Council found only eight of 42 registered Aboriginal Stakeholders in the Hunter Valley were “associated with country”. Invariably Local Aboriginal Land Councils are elected by the Aboriginal community but may not “belong to the place”. It would therefore be just as incorrect to refer to those involved as “Traditional Owners” as it would to “Registered Aboriginal stakeholders” (many of whom might only represent their own interests. Appleton has tried to walk the narrow path by referring to each stakeholder group/representative by name where possible but has used the term “Aboriginal community” to represent all Aboriginal people, whether or not they are registered Aboriginal stakeholders.

Issue 7: Documented evidence that Aboriginal people inhabited the area.

While there may be documented “evidence” that Aboriginal people used the (general) area there is no specific reference to Aboriginal use of the Project Site, therefore to assume Aboriginal people did use the site might seem logical but in the absence of any artefactual material, or any physical evidence, or known places of Aboriginal significance in the Project Site, there are no grounds for assuming that the Project Site was of Aboriginal cultural significance.

Issue 8: Summary of issues (additional issues to those addressed above)

Insignificant survey sample.

Based on his experience of twenty years of survey work Appleton is satisfied that the survey sample was more than sufficient, given that all of the places where sites were most likely to occur if present, were surveyed at least once, and in the case of the ridge where sites were most likely to occur, three times. To look at an aerial photograph that shows the survey coverage did not include the entire Project Site one might assume there should have been some survey undertaken in those areas, but it should be realised from the contour map (**Figure 3** in the report) that those areas that were not surveyed were steep slopes that from experience, would not have been used for activities other than food gathering and any isolated artefacts that might have been discarded would never be found amongst the leaf detritus and colluvial debris.

Inspections during earthworks.

As already stated both in the report and in the responses above if any artefacts are present they will either be isolated artefacts or very low density scatters. The only place where such artefacts might once have occurred, the main ridge, has been stripped of the topsoil for the powerline easement. Many projects are best resolved by Aboriginal monitoring of works during "turf stripping" but in those projects the Project Sites are on level ground and where there is an A Horizon that might potentially conceal artefacts. Such a situation does not exist in this Project Site and Appleton believes that Aboriginal monitoring of the turf stripping would serve no purpose.

Details of sites recorded on the AHIMS database.

Refer to response to ADTOAC.

Cultural Heritage Awareness Training.

This is perhaps a recommendation that should be considered. In reality machine operators are unlikely to see a 20mm piece of stone on the ground, perhaps partly concealed by dust, from their cab some four to five metres away; however there is always a possibility that people on foot might see an artefact but not realise what it is they are looking at. The half day program would give them enough information for them to be able to recognise "something that doesn't belong", amongst all of the various pieces of stone exposed by slopewash, bulldozers, or by treadage.

The **Cultural Awareness Training Programme** would involve Aboriginal representativeness (I suggest one person from each of the two respondents referred to above), and a qualified archaeologist.

- Firstly there would be an introduction by management as to why the program is necessary, and an introduction to those running the programme and the attendees, who would all be required to introduce themselves and also to sign their name in a log to evidence their participation. The archaeologist would briefly go through the relevant sections of the National Parks & Wildlife Act 1974 (as amended) and the penalties for destroying or damaging an Aboriginal site (time duration 30 minutes).

- The Aboriginal representatives would present a one hour session on the history and cultural significance of the Aboriginal occupation in the Awabakal area (time duration 1 hr).
- After questions and a short break of half an hour for refreshments and open discussion of the previous session (duration 30 minutes),
- there would be a one hour presentation of how to identify Aboriginal artefacts (duration 1hr). The archaeologist would provide a single A4 size page of images of artefact types to each attendee.
- After another short break of half an hour for further refreshments and open discussion (duration 30 minutes),
- There should be a hands-on “workshop” in which the attendees are required to differentiate between artefacts and non-artefactual items (duration 30 minutes).
- Final comments by the Aboriginal representatives and the archaeologist.

In total the Program would take four hours or half a day. To reduce the interruption to quarry production there may have to be two or three half-day sessions to involve all those workers and management on site, and those absent or on shift.

3. THE ENVIRONMENTAL CONTEXT

Any discussion of the likely presence of Aboriginal cultural remains or of the basis why such remains might be discovered must be within the context of the environment and the resources that would have been available to any Aboriginal occupants of the area.

3.1 THE GENERAL GEOLOGY AND TOPOGRAPHY

The survey area occurs within the Sydney-Bowen Basin, a major structural basin, which extends from Batemans Bay in the south, to Collinsville, Queensland in the north. The New South Wales portion of the basin is divided into northern and southern sections by a transverse structural high to the north of Narrabri. The southern section of the Sydney-Bowen Basin has been divided into two lower category structural basins, the Sydney Basin and the Gunnedah Basin (Menzies 1974). The Study Area occurs in the Sydney Basin.

The Sydney Basin is composed of Hawkesbury Sandstone and Wianamatta and Narrabeen Groups, comprising sandstone, shale and claystone. The Project Site occurs on the northern rim of the basin in a unit of shallow marine sedimentation of the “Shoalhaven Shelf” group. This group comprises of sandstone, shale, conglomerate and siltstone (DMR ‘Sydney’ Metallogenic Map 1992).

The Project Site straddles a series of spurs and drainage depressions emanating from a northeast / southwest trending ridge, that discharges run-off to Cockle Creek to the northwest and to Cockle Bay, Lake Macquarie to the east.

Elevations vary from over 70m AHD along the ridge crest in the Southern Extension Area, and over 80m AHD in the Northern Extension Area, down to approximately 25 m AHD in the creek-lines at the edges of the proposed extension areas.

The soils in the Project Site generally comprise of weathered conglomerates, overlying conglomerate bedrock.

3.2 VEGETATION

The Southern Extension Area (observations made in the 2003 and 2011 surveys)

As can be observed from the photographic record the vegetation of the area of the proposed Southern Extension comprised of closed dry eucalypt woodland of predominantly smooth-barked eucalypts, with minor stands of *Casuarina* sp. along the lower creek line. While there was no obvious evidence of past logging activities much of the woodland appeared to consist of new growth with only isolated larger, old growth trees along the lower slopes. This area has been devastated by bushfires in recent years which may in part explain the near absence of many large trees but very few burnt tree-stumps were observed.

There was very little understorey and that which occurred was mainly in the upper reaches of the tributary gullies immediately below the cleared strips, where it consisted of eucalypt regrowth.

Ground cover consisted predominantly of tall native grasses on the slopes with increasing bark and branch detritus on the lower slopes.

The Northern Extension Area and Power-line Easement (observations made in the 2008 and 2011 surveys)

The Northern Extension Area was thickly vegetated with eucalypt regrowth amongst tall native grasses. A severe bush fire in November 2002 totally devastated the dry eucalypt woodland and not a single old growth tree was observed on the ridges and slopes, although a few had survived in the gullies.

As referred to below a number of cleared strips criss-crossed the proposed extension areas, namely for power line easements, and vehicle access.

In terms of potential resources to Aboriginal people it is unlikely that the Project Site has been a resource-rich area since the mid-Holocene, although a wetter climate prior to then may have produced more diverse vegetation – and consequently a greater diversity in fauna and potential food resources.

3.3 WATER RESOURCES

The 2003 survey took place several days after rain and there was a steady trickle of water down each of the tributary gullies and the main west-to-east drainage line in the Southern Extension Area. Numerous rock-pools were created by outcropping bedrock in the bed of the main creek, and the pools would have provided a source of water to Aboriginal people during drier periods.

At the time of the March 2011 survey, despite the 2010/11 summer having been relatively wet compared to recent years there was no evidence of any surface water other than in dams. There were no rock-pools present which underlined the ephemeral nature of any surface water there might be soon after heavy downpours.

3.4 STONE RESOURCES

As referred to previously much of the terrain is composed of conglomerates, which contain pebbles of silicified stone such as quartz, quartzite, chert, jasper, silcrete, and mudstone, and other rock such as basalt, that would have been suitable for knapping into tools or implements.

3.5 PREVIOUS IMPACTS

As **Figure 2** and the photographic record shows the Project Site has been subject to a number of impacts, primarily from the clearing of power-line easements and access tracks. It was unclear whether the relative absence of large trees and the consequent closed woodland of what appeared to be predominantly new growth was a consequence of past logging or clearing activities or whether it was as a result of bushfires, or merely that the steep slopes and conglomerate bedrock was not conducive to the growth of larger trees.

A defunct settling pond occupies the lower reaches of the creek-line in the south-eastern corner of the Southern Extension Area. A number of trees have been felled within the settling pond (see **Plate 18**) and there has been significant disturbance to deposits immediately downstream of the creek where the soils have been dozed into a dam and introduced material brought in to raise the level of the dam wall.

4. THE ARCHAEOLOGICAL RECORD

A search of the Aboriginal Sites Register (Aboriginal Heritage Information Management System – AHIMS) on 29th September 2003 for all sites within a 10 km long (west to east) by 10 km wide area centred on the Project Site, showed that 72 sites had been recorded in the area. However, only nine occurred within the map coverage of **Figure 1**, and none within a kilometre of the Project Site. Details of the search are included as **Appendix x**.

Of the nine sites shown in Figure 1 four are axe-grinding grooves, one is a rock engraving, there is an isolated find, an open campsite, a midden, and a natural mythological site. Excluding the midden which occurs near the lake edge, and the natural mythological site for which there is no material evidence, the sites can be summarised as consisting of either marks on rock surfaces or stone artefacts.

The near absence of sites within the general locality of the Project Site is more likely to reflect the fact that few surveys have been undertaken in the area, rather than a genuine absence of sites.

A second search of the AHIMS Site Register was made on 8th April 2010 but because of the restrictions now placed on how large a search area can be the search was restricted to Lot 2, DP 224037. No sites were listed. A copy of the covering letter from the Aboriginal Heritage Information Unit is included as **Appendix xi**.

5. MODELS FOR SITE LOCATION

5.1 SITE TYPES AND THEIR LOCATION

In order to design an investigative strategy it is firstly necessary to develop a predictive model for site location. This is not to determine where the investigation should be conducted, but to establish a theoretical model for the distribution of archaeological material against which the effectiveness and subsequent analysis of the survey results can be tested, compared and reasoned. The basis upon which the predictive model is derived must however be one of consideration of which archaeological material might realistically be expected to not only be present, but also detectable.

The first objective of any archaeological investigation must be to observe and record sufficient of the archaeological record that is present to be able to propose that it is representative of the record as a whole. The investigative strategy is therefore directed and designed to detect that which is representative of the record in the particular Study Area, and naturally, as different Study Areas will comprise variations in environment, vegetation, topography, etc., so the investigative strategy must be designed to best suit the circumstances. The objective must be to detect material evidence, and so it is necessary to consider the extent to which artefactual material may be present, and the degree to which it is visible or might be discovered.

There are several factors, which are likely to affect, firstly, where Aboriginal people are most likely to have been, secondly, where they have left evidence of their activities, and thirdly, the degree to which that evidence is observable in the present record.

People visited places mainly to obtain resources, and in general places that were richest in resources were more likely to have been visited by people than those places with fewer resources. Important resources were permanent water, ephemeral water, food resources, stone raw material sources, shelter (from sun, wind, and rain), and perhaps suitable surfaces for rock art, and proximity to mythological natural features. Those resources may have been a factor in the suitability of a location for particular ceremonial activities but cultural boundaries also influenced the choice of ceremonial grounds. Alternatively, sites frequently occurred along preferred access routes and particularly where that route coincided with a watercourse.

However, the attractions of such an environment frequently resulted in the archaeological record becoming discontinuous or significantly disturbed, as stock and vehicles impacted upon it in the post-European contact phase.

Frequency of visits and use of particular locations was also determined by the 'accessibility' or freedom from environmental constraints in the area. For example, whether there were alternative, preferred or easier ways to travel around or over natural barriers, be they geological, geographical, cultural, or imposed by fauna or flora, or whether they were only seasonally accessible, such as mounds on flood terraces, or the availability of water during periods of drought, or whether or not floods, fire or snow hindered access.

Few past Aboriginal activities are represented by surviving material evidence. This in part is because many activities did not leave material evidence (eg. tools were reused), but it is also because very little cultural material survived. An exception to this was shellfish, which was very durable.

The survival of material that is durable was also affected by recent European land use. Cultivation has destroyed many archaeological sites. However, cultivation can also help expose sites that might otherwise be covered. This brings us to the other important point about site distribution, which is that to a great extent site distribution recorded by archaeologists reflects the distribution of places where the ground surface is sufficiently eroded to expose artefactual material.

By far the majority of recorded sites have been stone artefact scatters or isolated stone artefacts, and in the vast majority of sites they were found in one or more of the following contexts:

- i) On or adjacent to deposits containing quartz, quartzite, jasper, silcrete, chert, chalcedony, metamorphosed greywacke, and other indurated or siliceous sedimentary rocks, or redeposited fine-grained volcanics, or
- ii) On river banks or adjacent to river banks where the watercourse contains river pebbles of quartz, quartzite, jasper, silcrete, chert, fine-grained volcanics, basalts, etc., and particularly at the junctions of watercourses, or
- iii) On ridges and spurs overlooking watercourses or on high vantage points affording uninterrupted views of swamps, water holes, saddles, passes, and any other likely access path into the observer's area, or
- iv) In the vicinity of outcrops of suitable raw material such as basalt, silcrete, chert, or other highly silicified sedimentary rock.

Other site types do occur and perhaps because of their lower and less predictable profile, are present in far greater numbers than we are aware of. People die but there are few recorded burials. One reason may be that in many instances the soils are too acid for the preservation of bone, but a far more likely reason is simply that burial frequently entailed subsurface internment, and a surface survey will only discover a burial where there has been erosion of significant disturbance to the surface deposits. As a consequence many burials have only been discovered when exposed by erosion of a sand body or river terrace.

Other site types such as carved trees, scarred trees, stone arrangements, Bora rings, etc., may once have been present, but are unlikely to have survived in easily accessible country from the attention of non-indigenous people. Thus, much of what might have existed is now lost or destroyed, and the archaeological record has become biased by the post-contact utilisation of resources, and by the selective exploitation and preservation of particular environments.

Other factors which affect the degree to which sites are recorded during an investigation include the time of year at which the fieldwork is performed (the seasonality of some vegetation growth) and the conditions under which the survey is performed – (wet, dry, cold, windy, poor light, etc.).

A brief description of site types such as isolated artefacts, open scatters, camp sites, knapping floors, quarries, middens, mounds, hearths, carved trees, scarred trees, stone arrangements, Bora rings, burials, engravings, paintings, grinding grooves, occupation deposits (and PADs), and ceremonial and mythological sites is included as **Appendix xii**.

5.2 A PREDICTIVE MODEL FOR THE STUDY AREA

Based on all of the above the following model for site distribution was proposed for the Study Area, in which there are no shelters or overhangs, no exposed rock surfaces suitable either for grinding axes or for engraving, and with which there are no known cultural associations; but in which there are abundant sources of stone suitable for knapping tools and implements, and which contains a drainage system that might have retained water for a week or two after heavy rain.

- Isolated artefacts may be present and visible in erosion features
- Low-density artefact scatters may be present and visible in erosion features, but it is unlikely that any debitage will be visible
- If there are surviving trees of 150 years old or more there is a potential for them to exhibit scarred surfaces – but it is unlikely that any such tree has survived.
- If there are surviving trees of 150 years old or more there is a potential for them to exhibit carved surfaces – but it is unlikely that any such tree has survived.
- There will be no stone quarries
- In the absence of any shelters there will be no art sites
- In the absence of any exposed sandstone there will be no engravings, or grinding grooves within the Project Area
- There will be no shell middens
- There will be no intact occupation deposits
- There will be no visible evidence of burials
- There will be no surviving Bora rings
- There will be no surviving stone arrangements
- There is always the potential for Potential Archaeological Deposits (PADs) to exist.

Summarised in table form the predictive model for the presence of sites in the survey area can be shown as follows:

SITE TYPE	POTENTIAL CONTEXT PRESENT	SURVEYED FOR	FOUND	LIKELY TO BE PRESENT
ISOLATED ARTEFACT	YES	YES	NO	POSSIBLE
ARTEFACT SCATTER	YES	YES	NO	POSSIBLE
SCARRED TREE	NO	N/A	N/A	N/A
CARVED TREE	NO	N/A	N/A	N/A
MIDDEN	NO	YES	N/A	N/A
BURIAL	NO	YES	N/A	N/A
MOUND	NO	YES	N/A	N/A
SHELTER	NO	N/A	N/A	N/A
ROCK SURFACE	NO	N/A	N/A	N/A
QUARRY	NO	N/A	N/A	N/A
GRINDING GROOVES	NO	N/A	N/A	N/A
ENGRAVING	NO	N/A	N/A	N/A
STONE ARRANGEMENT	NO	N/A	N/A	N/A
HEARTH	NO	N/A	N/A	N/A
BORA RING	NO	N/A	N/A	N/A
PAD	YES	YES	NO	POSSIBLE

6. THE SURVEY

6.1 THE SURVEY STRATEGY

2003 Survey of the Southern Extension Area

Prior to the 2003 investigation it was decided that as the survey area was not large it would be possible to undertake a comprehensive survey of the entire survey area. In effect, the grass ground cover was so dense in many places that it was only possible to perform a sample survey. As a consequence the survey strategy involved walking tracks and roads, and targeting soil exposures and erosion features, drainage lines, and any tree that appeared to be old growth.

2009 Survey of the Northern and Southern Extension Areas

The survey area in 2009 was twice the size of that surveyed in 2003, but as before there was dense grass cover and a deep leaf litter elsewhere that limited the effective survey coverage to the ridge tops and crests where there were cleared vehicle tracks and ground exposures, and patchy ground exposures in the existing power-line easement.

2011 Survey of the Northern and Southern Extension Areas and a New Power-line Easement

With the recent clearing of newly erected fencelines and their access tracks there were additional cleared strips to investigate providing ideal linear ground exposures across a number of land units, and thereby providing cleared transect sampling strips to investigate various environments, in addition to the vehicle tracks along the ridges and ground exposures in the existing power-line easement.

6.2 DETAILS OF THE SURVEY

The survey undertaken in 2003 was undertaken by Appleton (AS&R), assisted by Ken McBride, representing the Koompahtoo LALC. The survey was made on foot, in overcast conditions, and in from light to heavy rain, but in light generally adequate for observing any artefactual material present and observable.

The survey in 2009 was undertaken by Appleton and Ashley Hudson, Aboriginal Cultural and Heritage Officer, representing Koompahtoo LALC. The survey was made on foot in overcast conditions, but in light generally adequate for observing any artefactual material present and observable. The investigators were accompanied by Mr Ian Mace, Quarry Manager Metromix.

The survey in 2011 was undertaken by Appleton assisted by Paul McBride and Charmaine Talbot representing Westlakes Aboriginal Elders Inc; Xander Beale and Robert Donovan representing Awabakaba Ngariliko A & TS Men's Corporation; and Deidre Perkins representing Cacatua Culture Consultants. Mr Ian Mace, Quarry Manager, and Mr Bill Sanderson, Manager Quarries both representing Metromix, accompanied the investigators to ensure in the absence of pegs or ribbon to define the Project Site that the investigators were searching in the right place, and at the same time they were on hand to discuss what the options were if a site was found.

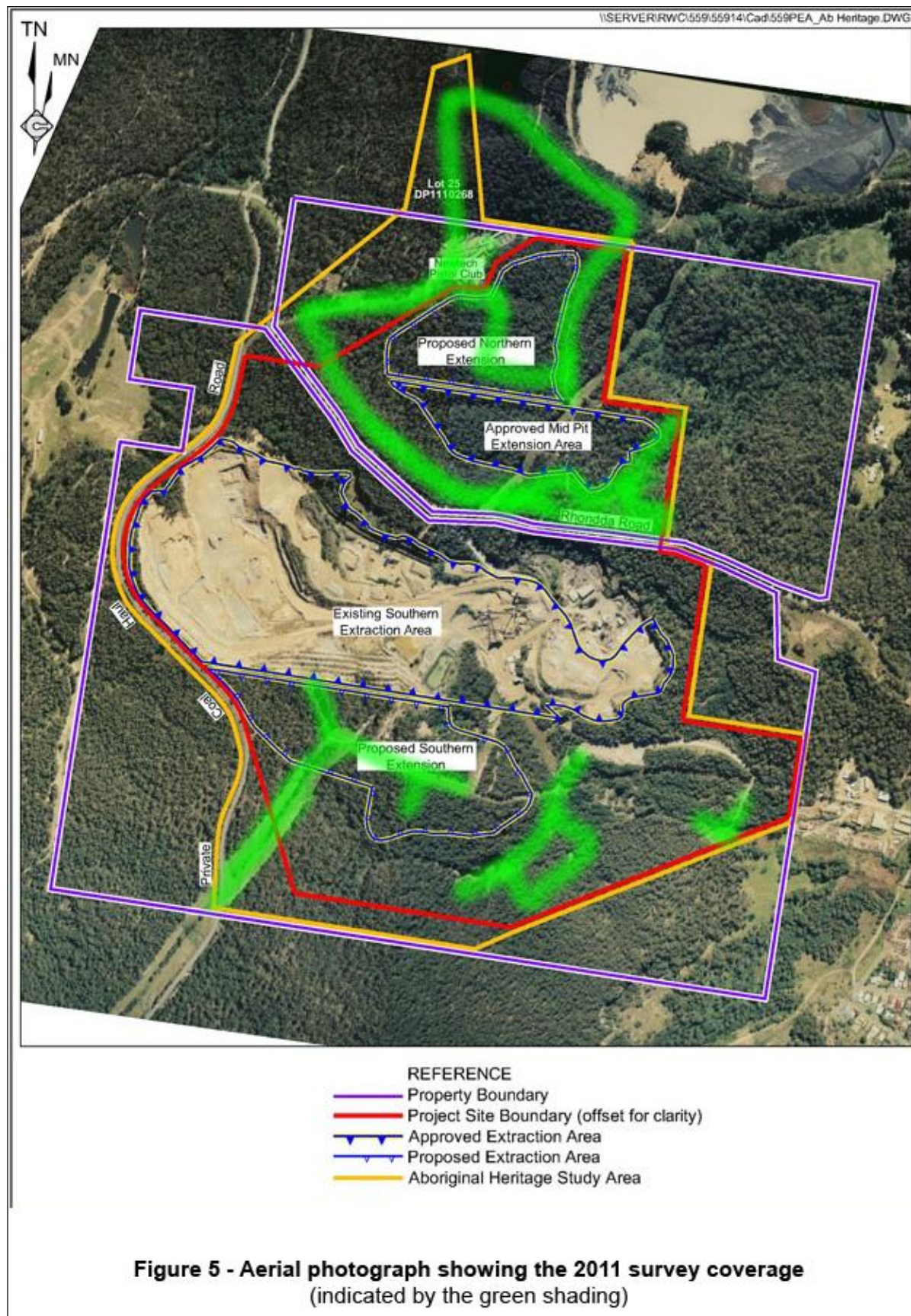
All of the areas indicated in green on **Figure 4** were surveyed on foot.

6.3 SITE RECORDING

All relevant observations as to the topography, vegetation cover, and conditions, were recorded in a field-log, and photographs taken with an Olympus Camedia C-3030 Zoom Digital Camera in 2003 and 2008, and a Panasonic Lumix DMC-TZ7 digital camera in 2011, to record the character of the survey area, and to witness survey conditions.

6.4 EFFECTIVENESS OF THE SURVEY TECHNIQUE

The following comments apply equally to all three investigations but with the addition of cleared fence-lines and access tracks in 2011.



There was a dense grass cover in most areas but there was sufficient ground surface exposure on tracks, and other erosion features, and in environments in which artefactual material was most likely to be present if at all, for an effective sampling of the survey area. In addition to the more obvious ground surface exposures some areas contained minor erosion features, which provided samples of those environments least likely to contain artefactual material. Also, there was access to all old growth trees and so the survey in respect of identifying scarred or carved trees was highly effective. Recently cleared fence-line transects in 2011 provided 5m wide (totally cleared) sampling transects through a variety of environments, thereby providing excellent archaeological visibility

The survey technique was the most appropriate one to use in the circumstances, and the results are believed to be generally representative of the archaeological record in the survey area, in which it was predicted there would be very little artefactual material. Although the entire area was sample surveyed, the groundcover was a constraint to the effectiveness of the survey.

6.5 EFFECTIVE COVERAGE

Figure 5 shows the effective survey coverage based on the assumption that most artefactual material if exposed and visible can be observed for up to 5 metres to either side of the path of the observer. Clearly this would vary significantly between a path walked through dense vegetation, and a path across a claypan, and is given as a guide only.

The proposed transmission line route in the Southern Extension Area was not specifically targeted in the survey due to the dense ground cover, but sections of the route, namely at the western end, south of the defunct settling pond, and the open areas to the east and north-east of the settling pond were some of the areas walked. Those areas of the transmission line route not walked were of the same character in slope, geology and vegetation as the slopes to the north of the drainage line where the steepness of the terrain and the dense ground cover were not conducive to sites either being present, or if present, not being archaeologically visible.

While 'best practice' would be to include a table showing the effective survey coverage as a percentage in terms of land units, land use, and environments no attempt has been made to try to estimate the areas of each because the steepness of the slopes that predominate – see **Figure 3**, it is not possible to calculate what the ground surface area is, the maps only representing the landscape in plan form. The difference between the two could be as much as 10-20%.

In terms of the likelihood that Aboriginal sites might be present at least 80% of the survey area comprises slopes in excess of 10°, and from past experience in undertaking over 500 Aboriginal investigations AS&R has found that sites do not occur on slopes greater than 10° unless there are shelters, or outcropping bedrock containing material suitable for knapping into tools or weapons. Neither of which occur in the survey area.

The 'best guess' of the effective survey coverage in the remaining 20% of the survey area comprising spur ridges and lower gully flats in the environments in which sites were most likely to occur is that there was 75% effective coverage, in which the archaeological visibility varied from zero to 100%.

The digital images shown in **Plates 1-12** on the following pages (taken in 2003) of the Southern Extension Area were taken in light to heavy rain, which explains their poor quality. The digital images in **Plates 13 -20** following show various additional aspects of the area surveyed in 2011.



Plate 1 Aerial Photograph of Teralba Quarry Looking Westwards
(photo R.W. Corkery & Co. Pty Limited, 2003)



Plate 2 The Quarry Viewed from the North in 2003. The Southern Extension Extends Southwards from the Cut Face



Plate 3 Looking Eastwards Along the Ridge from the Western End of the Southern Extension Area in 2003



Plate 4 Looking Southwards across the Ridge down the Powerline Easement in the Southern Extension Area in 2003



Plate 5 Looking Eastwards along the Centre of the Ridge Towards Lake Macquarie in the Southern Extension Area in 2003



Plate 6 Looking Westwards Upslope towards the Eastern End of the Ridge in the Southern Extension Area in 2003



Plate 7 Looking Southwards across the Eastern Footslopes of the Ridge in the Southern Extension Area, in 2003



Plate 8 Looking Eastwards down the Head of the Drainage Depression in the Southern Extension Area in 2003



Plate 9 Looking Southwards down the First of the Three Northern Tributaries of the Main Creek in the Southern Extension Area in 2003



Plate 10 Looking Northwards up the Lower Section of the Second Northern Tributary in the Southern Extension Area in 2003. Note The Exposed Conglomerate Bedrock.



Plate 11 **Looking Eastwards along the Mid-Section of the Main Drainage Depression in the Southern Extension Area In 2003**



Plate 12 **Looking Eastwards across the Defunct Settling Pond at the Eastern End of the Main Drainage Depression, in the South-Eastern Corner of the Southern Extension Area, in 2003**



Plate 13 **Walking One of the Cleared Fence-Line Access Roads to the North of the Existing Quarry in 2011**



Plate 14 **Walking One of the Older Tracks in the Northern Section in 2011**



Plate 15 **Partially Cleared Track to the North of the Existing Quarry in 2011**



Plate 16 **An Open Area Amongst Regrowth at the End of a Spur Ridge in the Northern Section in 2011**



Plate 17 **Descending One of the Many Such Slopes in the Northern Section in 2011**



Plate 18 **Descending One of the Dry Gullies in the Northern Section in 2011**



Plate 19 **Walking the Power-Line Easement Along the Ridge in the Southern Section in 2011**



Plate 20 **Crossing the Dry Dam in the South-Eastern Corner of the Southern Section in 2011**

7. THE RESULTS

No sites of Indigenous origin or Potential Archaeological Deposits (PADs) were observed within the Project Site either in the 2011 survey, or in the previous surveys (Appleton 2004; Appleton 2009).

8. DISCUSSION

The Project Site occurs in an environment that would have had few resources or attractions to Aboriginal occupants of the area. Firstly the lake shoreline to the east would have had a far wider range of potential resources, such as fish, shellfish, water birds, turtles, and terrestrial animals. It would also have been a source of silicified pebbles in the mouths of creeks feeding into the lake, and of potable water. In addition the shoreline would have supported varied vegetation which would have been a source of nectar and fruit, and which in turn would have attracted a wide variety of birds and animals – which in turn would have been another potential food resource. The banks of the shoreline would also have provided for level camping sites, and easy access around the lake to the seashore and marine resources further to the east.

In contrast, the Project Site contained a steep ridge with few resources. The smooth-barked gums dominated a closed woodland with a sparse understorey with few flowering or fruiting shrubs, and so in addition to there being few potential primary resources there were also few potential secondary resources such as birds and animals that might have been attracted to nectar or fruit. The Project Site contained no areas that might have been suitable for campsites, and it's only likely attraction was the drainage depression, which might have been used as a route through the Project Site. People passing through the Project Site might have ventured up the slopes of the ridge in pursuit of the occasional kangaroo but they would leave little evidence of their route other than the isolated discarded tool or implement.

In summary, although the survey area occurred in a region in which there is a potential for sites to occur, there was only a very low potential for the Project Site to contain archaeological material. If however archaeological material was present, it was likely to consist of isolated artefacts, none of which would be observed other than by chance.

9. SIGNIFICANCE ASSESSMENT

The NPWS policy to safeguard all sites, Aboriginal places, and archaeological material of significance wherever possible requires that some means of assessing the significance of the sites is necessary. This is not only for the purpose of determining whether the proposed development can proceed as proposed, but also to provide Cultural Resource Managers with the information for future management of the area.

9.1 CULTURAL SIGNIFICANCE

The Aboriginal or cultural significance of Aboriginal relics and sites can only be assessed by the Aboriginal community, and in particular, the Elders. It is the responsibility of the archaeologist to ensure that the Elders, or elected representatives of the Aboriginal community are advised of the survey results, and are consulted as to their knowledge and opinion of the significance of the area, and to transcribe and present those expressions in report form.

2004 Investigation

In this instance Ken McBride, who had assisted in the survey, reported the results of the investigation and his recommendations to the land council by way of a written report. With the approval of the Chairperson McBride provided AS&R with a copy of the report, which has been included in the appendices as **Appendix i**. The recommendations of the Koombahtoo LALC were that there are no cultural constraints to the further development of the Project Site.

2009 Investigation

Following the 2009 survey Ashley Hudson, Aboriginal Cultural and Heritage Officer, Koombahtoo LALC conferred with the community Elders who agreed that there were no constraints on cultural ground to the proposed quarry extensions. A copy of Hudson's report as approved by the Land Council is included as **Appendix ii**.

2011 Investigation

Following the investigation the investigators returned to the quarry to discuss the results, and the recommendations they would make on behalf of their stakeholder organisations. All of the Aboriginal representatives concluded that there were no cultural constraints to the proposed quarry extensions. Copies of their reports are included as **Appendix viii**.

9.2 RESEARCH POTENTIAL

In the absence of any artefactual material in a depositional context, or of known specific Aboriginal association with the survey area the research potential of the Project Site is assessed to be low.

10. RECOMMENDATIONS

AS&R recommends that as a result of the field and document investigation and consultation with Aboriginal stakeholders, that there are no constraints on either cultural; or archaeological grounds to the proposed extensions to Teralba Quarry.

However the proponents are advised that OEH makes the following recommendations in relation to any earthworks operations as additional Statements of Commitment or as conditions of approval as appropriate:

1. If Aboriginal cultural objects are uncovered due to the development activities, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeologist and Aboriginal community representatives must be contacted to determine the significance of the object(s). The site is to be registered in the AHIMS (managed by OEH) and the management outcome for the site included in the information provided to the AHIMS. It is recommended that the Aboriginal community representatives are consulted in developing and implementing management strategies for all sites, with all information required for informed consent being given to the representatives for this purpose.

2. If human remains are located during the project, all works must halt in the immediate area to prevent any further impacts to the remains. The NSW Police, the Aboriginal community and OEH are to be notified. If the remains are found to be of Aboriginal origin and the police consider the site not an investigation site for criminal activities, OEH should be contacted and notified of the situation and works are not to resume in the designated area until approval in writing is provided by OEH. In the event that a criminal investigation ensues, works are not to resume in the designated area until approval in writing (*has been received*) from NSW Police and OEH.
3. All reasonable efforts must be made to avoid impact to Aboriginal cultural heritage values at all stages of the development works. If impacts are unavoidable, mitigation measures are to be negotiated with the Aboriginal community and OEH.

11. GENERAL GLOSSARY:

THE DEFINITIONS THAT FOLLOW ARE FOR TERMS USED IN THIS AND OTHER REPORTS WRITTEN BY THE AUTHOR, AND DO NOT NECESSARILY APPLY TO THEIR USE IN DIFFERENT CONTEXTS.

ADZE : A modified flake with at least one steeply-retouched working edge. While all adzes are generally considered to be wood-working tools it is probable that some also served as cores and others as scrapers. Adzes with a uniform butt were frequently hafted to make a chisel-like tool, but the intended use of the adze determined the size of the adze and whether it was hafted (Flenniken and White, 1985).

AHD: Australian Height Datum

ARCHAEOLOGICAL DEPOSIT :

Sediments which contain evidence of past Aboriginal use of the place, such as artefacts, hearths, burials etc.

ARTEFACT : Any object that has attributes as a consequence of human activity (Dunnell, 1971). In this report 'artefacts' has been used generally to describe pieces of stone that have been modified to produce flakes, flaked pieces, cores, hammerstones, or axes.

BACKED BLADE :

A stone tool manufactured from a flake on which one margin has been modified by the removal of small flakes to blunt the edge or margin opposite the cutting edge.

BORA GROUND :

A ceremonial site comprising of one or two connected circles composed of compacted or mounded earth, or defined by an arrangement of stones, of 2 to 30m diameter, generally used in male initiation rites.

CAMPSITE : A place at which the density of artefacts and the variety of material indicates that people 'frequently' used the place as a stopping or resting place. Such places are also likely to contain or be close to water resources, food resources, or stone material resources. In this report a campsite is used to describe artefact scatters that are associated with hearths or fireplaces, as distinct from scatters that are not associated with hearths or fireplaces, which are described as Open Scatters.

CHALCEDONY :

A form of silica (partially translucent), which occurs as linings in cavities in rocks. When banded it is known as AGATE (Department of Mines, 1973). Chalcedony is uniformly coloured and agate has curved bands or zones of varying colour (Cook & Kirk, 1991).

CHERT : Another name for sedimentary chalcedony. It occurs most frequently in limestones, or in marine sedimentary rock, or as pebbles in sedimentary rock. In its depositional context it is often concentrated in bedding planes. Chert found in deep-water limestones is formed from radiolaria and diatoms (siliceous planktonic micro-organisms) (Cook & Kirk, 1991).

Chert is a form of amorphous or extremely fine-grained silica, partially hydrous, found in concretions and beds. It is classified as a chemical sedimentary rock although it may be precipitated both organically and inorganically (Department of Mineral Resources, n.d.).

CONGLOMERATE :

Naturally cemented gravel. Conglomerate is a coarse-grained clastic sedimentary rock composed of generally rounded fragments of other rock types larger than 2 mm in diameter, set in a fine-grained matrix of sand, silt, or any of the common natural cementing materials (Department of Mineral Resources, n.d.).

CORE : A piece of stone from which flakes have been removed, that cannot otherwise be described as a retouched or modified artefact.

CORTEX : The naturally altered surface of stone – eg. the water-worn surface of river pebbles.

DEBITAGE : The small waste material observed in knapping floors. Generally, waste material is described as all those fragments having a maximum dimension of less than 10mm

FLAKE : A fragment of stone exhibiting features indicating that it has been deliberately removed from a core piece. These features are evident as:

- i) Platform: Plane or point at which a blow was delivered to remove the flake.
- ii) Bulb of Percussion: Convex surface that occurs on the face or ventral surface of a flake, radiating from the point of impact, produced as a consequence of the force pattern.
- iii) Eriallure: see below.

Other terms:

- i) Dorsal: The back or outer face of a flake as it would have been prior to removal from a core. Frequently either ridged or exhibiting negative flake scars when removed in secondary flaking, with a natural weathered cortex when removed in primary flaking.
- ii) Ventral: The 'chest' or inner face of a flake as it would have been prior to removal from the core. The surface upon which the Bulb of Percussion occurs.
- iii) Platform Preparation: The removal of flakes from a surface to produce a level platform. May be evidenced by retouch scars to the platform.
- iv) Retouch: The removal of small flakes from an edge or margin of an artefact to modify its shape or resharpen its edge.
- v) Proximal: The end of a flake closest to the striking platform.
- vi) Distal: The end of a flake furthest from the striking platform.
- vii) Margin: The edge of an artefact.
- viii) Eriallure: A small circular to elliptical negative flake scar occurring on the surface of the bulb of percussion on flakes of very fine-grained or highly silicified material. It occurs 'naturally' as a consequence of internal forces generated at the time of flake removal.
- ix) Split Cone: Occurs when the flake splits down its axis frequently removing part of the striking platform. Generally believed to be produced by faulty knapping technique, but is also probably a consequence of flawed material.
- x) Transverse Snap: Occurs when a flake snaps across its axis. Generally believed to be caused by post-depositional impacts such as human or stock treadage, or vehicular traffic.

FLAKED PIECE :

A fragment of stone exhibiting flake scars indicating that it is an artefact, but not displaying diagnostic features, such as a Bulb of Percussion, Striking Platform, or an Eriallure.

GREYWACKE :

A type of sandstone, grey or greenish-grey in colour, tough and well indurated and typically poorly sorted (Clark & Cook, 1986).

A generally poorly sorted, dark sandstone containing feldspar and sand-sized rock fragments of metamorphic or volcanic rocks (Department of Mineral Resources, n.d.).

Usually a dark and coarse-grained rock compared to mudstones and siltstones that are much finer-grained and better sorted.

HOLOCENE PERIOD :

The period from 10,000 years ago to the present.

IGNEOUS ROCK :

Rock formed by the cooling and solidification of magma on or below the earth's surface (Geography Dictionary, 1985).

IN SITU : In its original place – as deposited.

ISOLATED ARTEFACT :

A solitary stone artefact, at least 50m from its nearest neighbour. This is based on NPWS policy that two artefacts within 50m of each other constitute a site.

KNAPPING FLOOR:

A discrete scatter of artefacts in which at least two artefacts are recognisably of the same material, and derive from the same piece of stone. Also described as a stone tool manufacturing site or floor.

LOCATION : The place at which an artefact is found, or a place identified as having either archaeological or Aboriginal significance.

MEASUREMENT :

I) Flake:

- i) Length: Measured along the percussion axis at right angles to the platform.
- ii) Width: The greatest width measured at right angles to the percussion axis.
- iii) Thickness: The greatest thickness measured at right angles to the percussion axis.

II) Flaked piece:

- i) Length: The longest dimension
- ii) Width: The greatest width measured perpendicular to the length.
- iii) Thickness: The greatest thickness measured perpendicular to the length.

III) Core:

- i) Length: The longest dimension.
- ii) Width: The greatest width measured perpendicular to the length.
- iii) Thickness: The greatest thickness measured perpendicular to the length.

MIDDEN : A refuse heap or stratum of food remains, such as mollusc shells, and other occupational debris (Dortch, 1984 – see also Meehan, 1982).

MUDSTONE : A fine-grained detrital rock, usually quite massive and well consolidated. May be black through grey to off-white, browns, reds and dark blues/greens. Frequently found in association with sandstones (Cook & Kirk, 1991).

Identification is often aided by colour variations in layering. A source for stone material tool manufacturing material found as river pebbles in creek beds, and artefacts often display a water-worn cortex.

NEGATIVE FLAKE SCAR :

A concave surface resulting from the removal of a flake, occurring on the surface of the rock from which a flake has been removed.

PLEISTOCENE PERIOD :

The period from about 10,000 years ago to 2 million years ago.

POTENTIAL ARCHAEOLOGICAL DEPOSIT (PAD) :

Synonymous with Potentially Archaeologically Sensitive : Having the potential to contain archaeological material although none is visible.

QUARTZITE :

Quartzites are formed by the regional or contact metamorphism of quartz arenites, siltstones, and flints (cherts). They are composed essentially of quartz, and usually have a fine-grained granoblastic (grains are roughly the same size) texture. Generally massive, but may sometimes show sedimentary structures (Cook & Kirk, 1991).

ROTATION :

The removal of flakes from a core by blows directed at different angles, to different platforms. May be evident on the dorsal surface of a flake as negative flake scars, which do not follow the same direction as the percussion axis of the flake. This may be confused with scars produced during core preparation.

SCAT : The solid waste material produced by an animal – dung, droppings, manure (Triggs, 1985).

SCATTER : Two or more artefacts occurring within 50 metres. Scatter may also be used in the context of 'background scatter', meaning the general distribution of artefacts across the landscape that cannot be recognised as discrete concentrations.

SILCRETE : A near surface or surface siliceous induration (Desen & Peterson, 1992).

A conglomerate consisting of surficial sand and gravel cemented into a hard mass by silica.

A siliceous duricrust (Bates & Jackson, 1980).

Crusts may form as a result of low, infrequent rainfall, on reasonably flat surfaces. These are known as duricrusts – those cemented by silica are known as silcretes (Clark & Cook, 1986), sometimes referred to locally as 'billy' (Gentili, 1968), or 'grey billy'.

Silcrete on the northern tablelands of NSW forms at the surface contact between sediments of the Sandon Beds and the Armidale Beds with overlying basalt, where groundwater (more rich in silica than surficial water) interacts with surficial water and precipitates new quartz as the matrix to the sediments (N.D.J. Cook, Dept. of Geophysics, UNE, pers. Comm.).

In softer formations of quartz sands, groundwater has apparently been responsible for the formation of concretionary layers of silcrete. Under altered climatic conditions, the less competent beds erode away leaving concretions. Since they are often the size of old-fashioned woollies and are greyish and white, they are popularly known as gray billy (slang for billy goat) (Fairbridge, 1968).

SITE : A discrete area or concentration of artefactual material, place of past Aboriginal activity, or place of significance to Aboriginal people.

SOIL SCIENCE TERMS (taken from Banks, 1995, and others as referenced).

BEDROCK : Outcrop of *in situ* rock material below the soil profile.

BENCH : A strip of relatively level earth or rock breaking the continuity of a slope.

BLOWOUT : A closed depression formed in the land surface by wind eroding sands and depositing them on adjacent land.

CHERT: A very fine-grained amorphous silicate sedimentary rock, commonly a layer of chemical precipitate or micro-organism skeletal remains (Milford 1999).

CLAY: Soil material composed of very fine particles less than 0.002 mm size. When used to describe a soil texture group, such a material contains more than 35% clay (Milford 1999).

CLAYPAN : A depression caused by the aeolian deflation of sediments, or by the presence of a prior lake.

CONGLOMERATE: A poorly-sorted detrital sedimentary rock composed of rounded gravels, stones or cobbles in a matrix of much finer material (Milford 1999).

DUNE : A ridge built up by wind action composed of sands, silts, or sand-sized aggregates of clay.

FLOODPLAIN : A large flat area, adjacent to a watercourse, characterised by frequent active erosion and aggradation by channelled and overbank stream flow.

GIBBER : A level surface covered by a thick deposit of gravel or broken siliceous pebbles, occurring in the more arid parts of the continent, thought to have been formed from the break-up of a siliceous (silcrete) surface crust, and termed gibber plains (Whittow, 1984) – see also silcrete.

GILGAI : Surface microrelief associated with soils containing shrink-swell clays. Gilgai consists of mounds and depressions, or irregularly distributed small mounds and subcircular depressions varying in size and spacing. Vertical interval usually <0.3m; horizontal interval usually 3-10m, and surface almost level.

Sometimes called 'crab-hole' soils.

GREYWACKE: A tough, well-indurated type of sandstone distinguished by detrital quartz crystals and rock fragments set in a finer-grained matrix (Milford 1999).

GULLY : An open incised channel in the landscape generally greater than 30cm deep and characterised by moderately to very gently inclined floors and steep walls (Milford 1999).

HUMMOCK : A small raised feature above the general ground surface.

LANDFORM ELEMENTS :

Crest : Landform element standing above all points in the adjacent terrain.

Flat : Neither a crest or a depression <3% slope.

Upper slope : Adjacent to and below a crest or flat but not a depression.

Midslope : Not adjacent to a crest, a flat or a depression.

Lower slope : Adjacent to and above a flat or a depression but not a crest.

LITHOSOLS : Shallow soils showing minimal profile development and dominated by the presence of weathering rock and rock fragments.

METAMORPHIC: Rocks whose composition, texture and/or structure have been altered through tectonic pressure and/or heat (Milford 1999).

METASEDIMENTARY: Partially-metamorphosed sedimentary rock (Milford 1999).

MUDSTONE: A fine-grained dark-coloured sedimentary rock, formed from lithified mud; similar to shale but more massive (Milford 1999).

pH A measure of the acidity or alkalinity of a soil. A pH of 7.0 denotes neutrality, higher values indicate alkalinity, and lower values indicate acidity. The pH scale is logarithmic, i.e., a pH of 4.0 is ten times as acid as a pH of 5.0, and one hundred times as acid as a pH of 6.0. (DLWC 1999).

RILL : A small channel cut by concentrated runoff through which water flows during and immediately after rain.

A small ephemeral channel, generally no more than 30 cm deep, created by concentrated runoff (Milford 1999).

RUNOFF : That portion of precipitation not immediately absorbed into or detained upon the soil and which thus becomes surface flow.

SCARP/CLIFF : A steep slope terminating a plateau or any level upland surface.

SCRUB : vegetation structure consisting of shrubs 2-8m tall.

SHEET EROSION : The removal of the upper layers of soil by raindrop splash and/or runoff.

SOIL PROFILE :

“A HORIZON” : The top layer of mineral soil. This may consist of two parts:

“A₁ HORIZON”: Surface soil and generally referred to as the topsoil.

“A₂ HORIZON”: Similar in texture, but paler in colour, poorer in structure, and less fertile.

“ B HORIZON” : The layer below the A Horizon. This consists of 2 parts:

“B₁ HORIZON”: A transitional horizon dominated by properties characteristic of the underlying B₂ horizon.

“B₂ HORIZON”: Typically contains concentrations of silicate clay and/or iron, and/or aluminium and/or translocated organic material.

“C HORIZON” : The parent rock. Recognised by its lack of pedological development, and by the presence of remnants of geologic organization.

“R HORIZON” : Hard rock that is continuous (Charman & Murphy, 1993; 350-1).

SPUR : A ridge which projects downwards from the crest of a mountain as a water-parting (Whittow, 1984).

SUBSOIL : Sub-surface material comprising the B and C Horizons of soil with distinct profiles; often having brighter colours and higher clay contrasts.

SURFACE CONDITION :

Gravelly : Over 60% of the surface consists of gravel (2-69mm).

Hardsetting : Soil is compact and hard.

Loose : Soil that is not cohesive.

Friable : Easily crumbled or cultivated.

Self-mulching : A loose surface mulch of very small peds forms when the soil dries out.

SWALE : A linear level-floored open depression excavated by wind or formed by the build-up of two adjacent ridges.

SWAMP : Watertable at or above the ground surface for most of the year.

TOPSOIL: The surficial layers of the soil profile, typically the A Horizon, which is usually darker, more fertile, better structured and contains more organic matter than underlying soil materials (Milford 1999).

TERRACE : A flat or gently inclined surface bounded by a steeper ascending slope on its inner margin and a steeper descending slope on its outer margin (Whittow, 1984).

TOPSOIL : A part of the soil profile, typically the A₁ horizon, containing material that is usually darker, more fertile and better structured than the underlying layers.

UNDERSTOREY : A layer of vegetation below the main canopy layer.

WEATHERING: The physical and chemical disintegration, alteration and decomposition of rocks and minerals at or near the earth's surface by atmospheric and biologic agents (Milford 1999).

BIBLIOGRAPHY

- Appleton J. 2004. The archaeological investigation for sites of cultural significance at the site of the proposed extension to Teralba Quarry Lot 2, DP 224307, Teralba, Central Coast NSW. Unpublished report for R.W. Corkery & Co. Pty Limited on behalf of Metromix Pty Ltd.
- Appleton J. 2008. The archaeological investigation for sites of Indigenous cultural significance in the Northern and Southern Extension area, Teralba Quarry, Teralba, Central Coast NSW. Unpublished report for R.W. Corkery & Co. Pty Limited on behalf of Metromix Pty Ltd.
- Banks, R.G. 1995. *Soil landscapes of the Curlewis 1:100,000 sheet*. Department of Conservation and Land Management.
- Bates, R.L., and J.A. Jackson (Eds). 1980. *Glossary of Geology*. Second Edition. American Geological Institute, Virginia.
- Clark, I.F., and B.J. Cook. 1986. *Geological Science: Perspectives of the Earth*. Australian Academy of Science, Canberra.
- Cook, D., and W. Kirk. 1991. *Field Guide to the Rocks and Minerals of the World*. Kingfisher Books, London.
- Charman, P.E.V., & B.W. Murphy. 1993. *Soil: Their Properties and Management*. Sydney University Press.
- Department of Environment and Conservation [DEC]. 2005. "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation".
- Department of Mineral Resources. 1992. *Metallogenic Study and Mineral Deposit Data Sheets. Sydney 1: 250,000 Metallogenic Map*.
- Department of Mineral Resources. n.d. Information Sheet : Sedimentary Rocks.
- Department of Mines. 1973. *Minerals and their Characteristics*. Geological Survey of New South Wales, Number 141.
- Desen, J.L., and J. Peterson. 1992. Mapping the Australian Duricrusts: can Distribution be derived from Terrain Maps. *Australian Geographical Studies*, 30(1): 87-94.
- Dortch, C. 1984. *Devil's Lair: a study in prehistory*. Western Australian Museum.
- Dunnell, R.C. 1971. *Systematics in prehistory*. Free Press, New York.
- Fairbridge, R.W. 1968. Induration. *Encyclopaedia of Geomorphology, Encyclopaedia of Earth Science Series*, Vol. III, pp.554-55. Reinhold Book Corporation, New York.
- Flenniken, J.L., and L.P. White. 1985. Australian flaked stone tools: a technological perspective. *Records of the Australian Museum*, 36: 131-51.

Gentilli, J. 1968. Duricrust. In R.W. Fairbridge (Ed.), *The Encyclopaedia of Geomorphology, Encyclopaedia of Earth Science Series*, Vol. III, pp.296-7. Reinhold Book Corporation, New York.

Geography Dictionary. 1985. Longman Group, Harlow.

Meehan, B. 1982. *Shell bed to shell midden*. Australian Institute of Aboriginal Studies, Canberra.

Menzies, I.A. 1974. 'Sydney-Bowen Basin'. In N.L. Markham & H. Basden (Eds), *The Mineral Deposits of New South Wales*, pp.453-504, Department of Mines, Sydney.

NSW Department of Conservation, Climate Change and Water [DECCW]. 2010a. "NSW Draft Code of Conduct for Archaeological Practice in NSW".

NSW Department of Conservation, Climate Change and Water [DECCW]. 2010b "Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010".

NSW Minerals Council Ltd. 2010. "NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects".

Simpson, B. 1966. *Rocks and Minerals*. Pergamon Press, Oxford.

Triggs, B. 1985. *Mammal tracks and signs: a fieldguide for southeastern Australia*. Oxford University Press, Melbourne.

Walker J., & M.S. Hopkins. 1990. Vegetation. In R.C. McDonald, R.F. Isbell, J.G. Speight, J. Walker & M.S. Hopkins (Eds), *Australian Soil and Land Survey*, pp. 58-86. Inkata Press, Sydney.

Whittow, J. 1984. *Dictionary of Physical Geography*. Penguin, London.

This page has intentionally been left blank

Appendices

(No. of pages excluding this page = 72)

Appendix i	Report from Koombahtoo Local Aboriginal Land Council, 14/10/2003
Appendix ii	Advertisement for Interested Aboriginal Stakeholders, Aug 2008
Appendix iii	Report from Koombahtoo Local Aboriginal Land Council, 20/2/2009
Appendix iv	Letter to Government Agencies, 8/11/2010
Appendix v	Advertisement for Interested Aboriginal Stakeholders, Nov 2010
Appendix vi	Letter to Registered Stakeholders, 1/12/2010
Appendix vii	Letter to Registered Stakeholders with Timetable for the Survey, 1/3/2010
Appendix viii	Reports from the Stakeholders following the 2011 Survey
Appendix ix	Responses to the Draft Report from Stakeholders
Appendix x	AHIMS Search 2003
Appendix xi	AHIMS Search 2010
Appendix xii	Site Types

This page has intentionally been left blank

Appendix i

**Report from Koompahtoo Local Aboriginal Land Council,
14/10/2003**

(No. of pages including blank pages = 2)

This page has intentionally been left blank

29-OCT-2003 WED 10:24

LAWLER PARTNERS

FAX NO. 02 49623245

P. 02

LW:JB:VP
KOOM3315

14 October 2003

Mr John Appleton
Archaeological Surveys & Reports Pty Limited
10 Roslyn Avenue
ARMIDALE NSW 2350

Fax: 02 6772 4567

Re: Koopahtoo Local Aboriginal Land Council (Administrator Appointed)
ABN 39 633 962 425
Aboriginal Site Survey

PROPOSED EXTENSION OF EXISTING METROMIX QUARRY TERALBA

K.L.A.L.C Site Officer: Ken McBride (Jnr).

Results of the survey 9 October 2003:

On 9 October 2003, Kenneth J McBride, Site Officer, Koopahtoo Local Aboriginal Land Council, undertook an investigation of the area of the proposed Teralba Quarry extensions with John Appleton of Archaeological Surveys & Reports Pty Limited on behalf of R W Corkery & Co Pty Limited for Metromix Pty Limited.

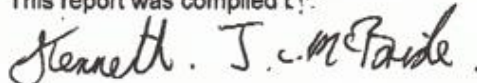
The survey area consisted of an immature open woodland (50 years old or less) of predominantly smooth barked gums. The rocks and soils throughout the area comprised of conglomerates and loose pebbles and sand derived from conglomerate. The area comprised of two main land forms, an east/west ridge, and a parallel drainage gully. Dense grass concealed most of the slopes but the crest of the ridge had been cleared (some time ago) for a power line easement. Visibility was therefore good along the ridge.

In the absence of old trees the most likely sites to be present were axe grinding grooves and stone artefacts, however no sites were found.

Recommendations:

The Koopahtoo Local Aboriginal Land Council has no objection to the proposed quarry extensions but recommend that they should be informed immediately if any Aboriginal sites are discovered when the quarry extensions proceed.

This report was compiled by:



Ken McBride Jnr
Site Officer for Koopahtoo Local Aboriginal Land Council.


This page has intentionally been left blank

Appendix ii

Advertisement for Interested Aboriginal Stakeholders, Aug 2008

(No. of pages including blank pages = 2)


This page has intentionally been left blank



Fairfax Media

FAIRFAX MEDIA PUBLICATIONS PTY LIMITED
A.B.N. 33 003 357 720

**CASUAL ADVERTISING
TAX INVOICE/ADJUSTMENT NOTE**


ARCHAEOLOGICAL SURVEYS/REPOR
16 CURTIS STREET
ARMIDALE NSW 2350

Statement Date
24 Aug 2008

Account Number
003412916

Date Due
31 Aug 2008

Previous Balance	Payments	Adjustments	Current Charges
\$0.00	\$0.00	\$0.00	\$299.48

AMOUNT DUE
\$299.48

Summary of Current Advertising Charges - Payment Terms Net 7 Days

Contact Numbers

To Place Your Classified Advertising
 Sydney Morning Herald
13 25 35
 Newcastle Newspapers
13 16 96
 Fairfax Community Newspapers
13 24 25
 Illawarra Mercury Newspapers
1300 304 255

Customer Service
 Classified Advertising
1300 858 970
 Display Advertising
1300 858 980
 Internet Advertising
1300 731 243
 Account Queries
1300 858 990

Edition	Size	Amount
NEWC HERALD CLAS LIN	33 LN	\$217.80
SW CLASS LINEAGE	33 LN	\$81.68

*clan facts 2 newcastle
 Fairfax on air
 paid cr/c 3/9/08*

**THE LARGEST DAILY CLASSIFIED MARKETPLACE IN
NEWCASTLE, LAKE MACQUARIE AND THE HUNTER**

PHONE 13 16 96

This page has intentionally been left blank

Appendix iii

**Report from Koompahtoo Local Aboriginal Land Council,
20/2/2009**

(No. of pages including blank pages = 4)

This page has intentionally been left blank

20th February 2009

John Appleton
Archaeological Surveys & Reports Pty Ltd

Metromix Pty Limited
Teralba Quarry

Aboriginal Cultural and Heritage Sites Survey
Rhonda Road, Teralba

Koompahtoo Local Aboriginal land Council
6/7 Pemmell Street, Toronto NSW, 2283

Phone: 0249 505 577
Fax: 0249 505 635

Ashley Hudson
Aboriginal Cultural and Heritage Officer

P.2/4

Tel: 0267726512

49505635

10-MAR-2009 11:16 From: KOOMPATOO

Survey Aim:

To find and preserve Aboriginal Cultural and Heritage Sites.

Survey Examination:

The survey began at approximately 12:00pm on the northern side of Rhonda Road Teralba, on the 20th February 2009. The Aboriginal Cultural and heritage Survey was conducted on foot by Ashley Hudson an Aboriginal Cultural and Heritage Officer from Koombahtoo Local Aboriginal Land Council. The proposed area extended from the northern side of Rhonda Road to the southern end of the Pistol Club (gun club), an area approximately 500 metres x 500 metres.

Outcome:


The proposed area is heavily vegetated with thick ground cover, resulting in minimal visibility and ground exposure, which was limited to the exposed tracks along the ridges. A very intense fire has swept the area numerous years ago, burning out all of the large, mature trees, which may have held potential Aboriginal scars. There were several sandstone outcrops located throughout the area, although; the quality of the sandstone is not ideal for Aboriginal grinding grooves. It has been determined that there are no Aboriginal Cultural and Heritage Sites within the proposed area, on the northern side of Rhonda Road.

Recommendation:

At the completion of the Aboriginal Cultural and Heritage Survey, I found there to be no Aboriginal Cultural and Heritage Sites of significance, therefore; I find no reason why works within the proposed area cannot proceed. No further examinations are needed on the land unless any kind of artefacts and/or sites are found or unearthed above or below the surface, if so, Koombahtoo Local Aboriginal Land Council is to be notified immediately.

These recommendations are made in consultation with Koombahtoo Local Aboriginal Land Council under the legal requirements of the National Parks and Wildlife service Act 1974. To remove or destroy an artefact and/or site without a permit is an offence under section 90, of the NPWS Act 1974.

If you have any queries regarding this report, please do not hesitate to contact Lois Towney (Coordinator) or Ashley Hudson (Aboriginal Cultural and Heritage Officer) on 0249 505 577.

Yours in Unity

Ashley Hudson

P.4/4

To: 0267726512

49505635

10-MAR-2009 11:16 From: KOOMPAHTOO

Appendix iv

Letter to Government Agencies, 8/11/2010

(No. of pages including blank pages = 2)

This page has intentionally been left blank

**Archaeological
Surveys
&
Reports
Pty Ltd**

John Appleton
A.C.I.S., A.C.I.M., B.A. (Hons)
16 Curtis Street, Armidale, NSW 2350
Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789
Email japples@northnet.com.au

ABN 67 075 625 722

General Manager
Lake Macquarie Shire Council
126-138 Main Road
Speers Point 2284

8th November 2010

Dear Sir/Madam

Re: Archaeological investigation:
Teralba Quarry Extensions, Lots 1 & 2, DP 224037, Rhonnda Road, Teralba

This is to advise that R.W. Corkery & Co. Pty Limited has been engaged by Metromix Pty Limited to prepare an application for the proposed extensions to the existing Teralba Quarry as a Part 3A "Major Project", under Part 3A of the *Environment Planning and Assessment Act 1979*. Archaeological Surveys & Reports Pty Ltd has been engaged to complete a Cultural Heritage Assessment of the proposed site.

The project site occurs in Lots 1 & 2, DP 224037, Rhonnda Road, Lake Macquarie Shire local government area, in the County of Northumberland.

We are now seeking information on any Aboriginal groups, stakeholders or traditional knowledge holders with an interest in the management of Indigenous heritage matters in the Teralba area. Would you please provide contact details for any known Aboriginal groups with a cultural interest in this area. The nominated groups can then be included in the consultation process with regard to Indigenous heritage issues.

Regards

This page has intentionally been left blank

Appendix v

Advertisement for Interested Aboriginal Stakeholders, Nov 2010

(No. of pages including blank pages = 4)

This page has intentionally been left blank

John Appleton

From: Alex [Alex@newcastlepost.com.au]
Sent: Thursday, 4 November 2010 3:31 PM
To: John Appleton; Janine
Subject: RE: Public notice

Public Announcements

PUBLIC NOTICE
ARCHAEOLOGICAL INVESTIGATION
Metromix Pty Limited intends to
apply for Part 3A Approval for
proposed extensions to the Teralba
Quarry, Rhonnda Road, Teralba.
In accordance with "interim
Community Consultation
Requirements for Applicants", Part
6 Approvals of the National Parks
& Wildlife Act 1974 (as amended)
Aboriginal stakeholders with an
interest in the project are invited
to register their interest within 14
days, with John Appleton,
Archaeological Consultant, Tel 02
6772 6512, Fax 02 6772 4567, Mob
0428 651 789 email:
japples@northnet.com.au

Hi John,
The proof for your ad is above. The cost of this ad will be \$95.00.
This cost includes GST and any production costs.
The ad will appear in both of our editions (Newcastle/Lake Macquarie & Hunter) on the 10th November, if you get back to us before 1pm tomorrow.
With the classified ads, we require upfront payment, unless the ad is continuous for more than a month. You can pay with credit card over the phone, cheque or cash.
Please don't hesitate to phone or email if you have any questions.
Thank you, alex

Alex Brougham
Graphic Designer
The Post Newspaper

A: 854 Hunter St,
Newcastle West
NSW 2302
P: (02) 4961 0310
E: alex@newcastlepost.com.au
production@newcastlepost.com.au

newcastlepost.com.au

P Please consider the environment before printing this e-mail

From: John Appleton [<mailto:japples@northnet.com.au>]
Sent: Thursday, November 04, 2010 3:10 PM
To: Janine

10th Newcastle Post

John Appleton

From: classifieds.thestar@ruralpress.com
Sent: Friday, 5 November 2010 2:24 PM
To: japples@northnet.com.au
Subject: PUBLIC NOTICE ARCHAEOLOGICAL INVESTIGATION Metromix Pty Limited intends to apply for Part 3A Approval for proposed extensions to the Teralba Quarry Rhonnda Road Teralba In accordance with XInterim Community Consultation Requirements for ApplicantsX P
Attachments: 2041856.jpg; booking_details.htm

ADVERTISING PROOF

Ref no: 362041856 Printed: 13:24:19 05/11/2010
Attention: JOHN
Company: JOHN APPLETON

BOOKING DETAILS

Name: JOHN APPLETON
Address: 16 CURTIS STREET
City: ARMIDALE
State: NSW
Postcode: 2350
Authorised by: JOHN
PO Number:
Cost: \$154.77
Size: 7 x 1
Class / section: Notices (628)

APPEARANCE DETAILS

10/11/2010	Newcastle Star	154.77 inc GST
------------	----------------	----------------

AUTHORISATION

I have checked all details contained in the advertisement (including phone numbers and spelling) and authorise you to proceed as per the booking details above.

Name: JOHN APPLETON

Signature: _____

Date: 8/11/10

Comments

Hi John Attached is proof of your ad for the Public Notices in the Newcastle Star on Wednesday 10th November. This will be \$154.77. Can you please confirm if everything is correct and you wish to go ahead. Deadline is 5pm Monday. Thank you Theresa

Once authorised, please reply with 'authorised' in the subject field to classifieds.thestar@ruralpress.com or fax back to (02) 4935 6060

Should you have any further enquiries please do not hesitate to contact me.

Appendix vi

Letter to Registered Stakeholders, 1/12/2010

(No. of pages including blank pages = 8)

This page has intentionally been left blank

**Archaeological
Surveys
&
Reports
Pty Ltd**

John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax. 02 6772 4567 Mob: 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

1st December 2010

TERALBA QUARRY
PROPOSED EXTENSIONS TO EXISTING QUARRY
ARCHAEOLOGICAL SURVEY STRATEGY

1. Background to the investigation

The proponent, Metromix Pty Limited, is proposing to lodge an application for Part 3A "Major Projects" approval for extensions to the existing quarry adjacent to Rhonnda Road, Teralba. As you will be aware, approval for the project as a Part 3A Major Project involves a process where all issues relating to salvage and protection of archaeological sites are covered in the one process. Therefore, there will be no further applications from the proponent for a Section 87 Permit to investigate further, or Section 90 Consent to Destroy. The issues that relate to these matters will all be covered in the one Part 3A process.

The southern part of the extension area was surveyed in February 2004 with the assistance of Mr Kenneth J. McBride, Sites Officer, Koompahtoo LALC, but no sites were found. Since then, the proposed extension area has been increased and so it has become necessary to re-survey those areas previously surveyed as well as the additional areas.

The Topographic map attached shows the location of the quarry, and the aerial photograph shows the area to be surveyed – the yellow line. Please bring both with you as you will want to follow where the survey is being done, and also, if a site or sites are found you will need to be able to plot them onto the aerial photograph for your reports.

2. Objectives of the investigation

This Strategy relates to the proposed Teralba Quarry extensions. At this stage of consultation, the objective is to identify where sites occur, the nature and content of each site, and recommend how the sites should be salvaged. No artefacts are to be removed until a Part 3A Project Approval has been received by Metromix.

It is proposed that the archaeologist and the Aboriginal stakeholders' representatives conduct an investigation of the Project Site on foot. Much of the Project Site is unlikely to contain visible archaeological remains, however the environments in which sites are most likely to occur if they are present, are the creek banks, and along the ridges. Some vehicle tracks follow the ridges and creek lines also providing good archaeological visibility. The slopes however, as well as having the least archaeological visibility are also those places where sites are least likely to occur.

3. The archaeological record

No Aboriginal sites have previously been recorded in the Project Site and so the only basis on which the Management Plan can be developed is a Predictive Model for Site Location. Based on the archaeological evidence from over 500 archaeological investigations undertaken by Archaeological Surveys & Reports Pty Ltd, the most likely places where Aboriginal sites might be located is within approximately 30m of any watercourse, or on saddles, or the summits of spurs, or where there is remnant old growth vegetation. The investigation will therefore concentrate on these particular environments, but the investigation will also include those places where sites are least likely to occur to test the effectiveness and accuracy of the Predictive Model.

4. Survey requirements and reporting

4.1 Equipment

All stakeholder representatives are required to wear steel toe-capped boots, a long sleeved shirt, long trousers, and must have current Public Risk insurance cover. Metromix will supply stakeholder representatives with a fluorescent vest, safety glasses and a hard hat. All representatives are responsible for supplying their own food and water.

4.2 Procedure

The archaeologist and the Aboriginal stakeholders representatives will arrive at the Site Office, Teralba Quarry at a time to be arranged once it is known how many representatives will take part in the survey.

We will have to be inducted in accordance with the quarry's OH&S requirements. The Company has a two stage induction process.

Stage 1: At least 3 days before the site visit, each visitor needs to complete an on-line induction - each visitor should contact Robert McCabe (4950 6640) to arrange a password to log in for the on-line induction.

Stage 2: A site induction – so it is important that you arrive on time.

Anyone who is not on time and misses the induction will not be allowed on the Project Site. Everyone must be suitably dressed to meet the quarry's OH&S standards. Again, anyone who has not got the required equipment/clothing will not be allowed on the Project Site.

The route the surveyors will follow will be discussed when they arrive on site. The Quarry Manager will brief all surveyors on safety issues such as what to do if they get lost, or hurt. The intention will be for each surveyor to be in sight of another surveyor at all times – but sometimes plans come unstuck and so there needs to be an awareness of what to do if someone should lose touch with the others.

The surveyors will walk abreast approximately 10m apart along a route they have agreed to and marked on their map and aerial photograph.

The survey will be completed within one day.

4.3 Site recording

Any sites found will be recorded: firstly by GPS, and secondly by approximation, and the location marked on the aerial photograph.

The artefacts or site features will be recorded in detail by the archaeologist and photographs taken of the site to aid in the relocation of the site when it becomes necessary to salvage the site contents. The site will also be marked by fluorescent ribbon to assist in its relocation.

No artefacts are to be removed. Until such time as Part 3A Approval is given, the National Parks and Wildlife Act is in force and to remove an artefact is to break the law.

4.4 What the Aboriginal representatives will be required to produce

Within seven days of the survey, each stakeholder will be required to provide the archaeologist with a letter under their organisation's letterhead, stating that the survey was carried out in the manner described in this Strategy, and with it, submit their invoice for payment. Each letter from the participating stakeholder organisations will be attached within the appendices of the survey report.

No surveyor will be paid until a letter from their organisation has been received by the archaeologist. Details for information required on invoices will be distributed on the day of the survey.

This is not because any one organisation is likely to default on producing the letter but because every organisation is then bound to the same conditions and no one can feel that any one organisation was treated differently to another.

5. The draft report

Once the fieldwork has been completed, the archaeologist will produce a draft report of the survey, detailing the methodology, who took part, what was found and where, and proposing an interpretation of the results. Finally, the draft report will propose the salvage methodology, if and when Part 3A Approval has been received by Metromix.

A copy of the draft report will be sent to each of the participating stakeholder organisations. Each organisation will be invited to comment on the investigation and the content of the draft report. Responses to the content of the report will be required within 21 days of the report being distributed to the stakeholder organisations. The archaeologist will address those comments when finalising the report.

6. The final report

A copy of the final report will be sent to each of the participating organisations.

- and afterwards!

Once the proponent, Metromix Pty Limited, has received Part 3A Project Approval, the archaeologist will consult with the Aboriginal stakeholder organisations as to when the artefactual material (if any is found) is to be salvaged, the methodology, who will take part and what will happen to the salvaged material.

This Strategy has been distributed to:

Cacatua Culture Consultants

Awabakal Traditional Owners Aboriginal Corporation

Arwarbukarl Culture Resource Association

Awabakal Descendants Traditional Owners Aboriginal Corporation

Koompahtoo LALC, C/o Awabakal LALC

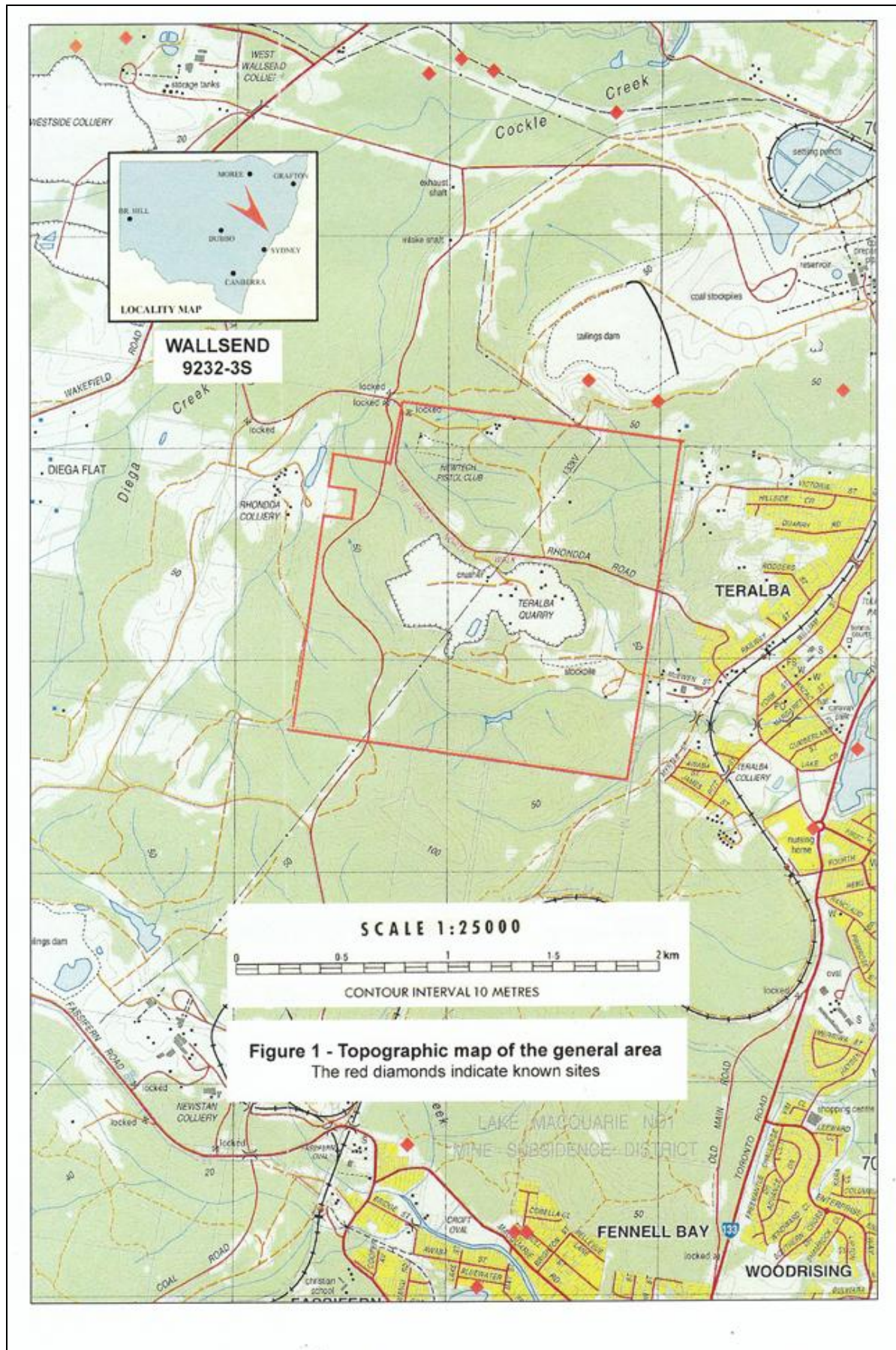
Awabakal Newcastle Aboriginal Co-op

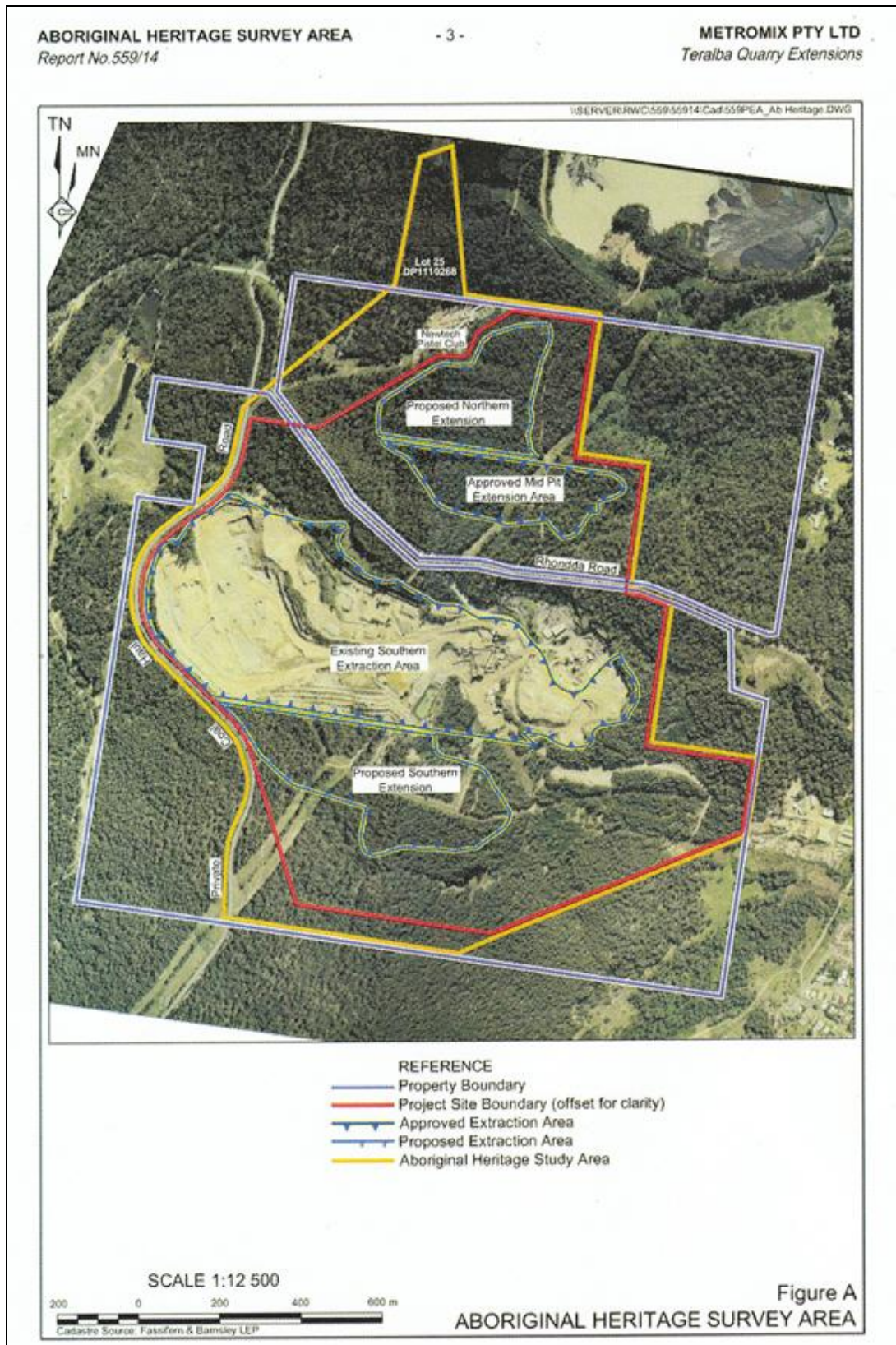
Awabakaba-Ngariliko Mens Group

Westlake Elders Group

Regards.

John Appleton





This page has intentionally been left blank

Appendix vii

Letter to Registered Stakeholders with Timetable for the Survey, 1/3/2010

(No. of pages including blank pages = 8)

This page has intentionally been left blank

Archaeological

Surveys
&

Reports
Pty Ltd

John Appleton

A.C.I.S., A.C.I.M., B.A. (Hons)

16 Curtis Street, Armidale, NSW 2350

Tel. 02 6772 6512 Fax 02 6772 4567 Mob. 0428 651 789

Email japples@northnet.com.au

ABN 67 075 625 722

1ST March 2011

TERALBA QUARRY
PROPOSED EXTENSIONS TO EXISTING QUARRY
ARCHAEOLOGICAL SURVEY
THE TIME-TABLE FOR THE SURVEY

Previously you were sent a copy of the proposed survey strategy for the archaeological investigation of the site of proposed extensions to Teralba Quarry. I have included part of that strategy to remind you of the conditions under which the survey will take place.

1. Background to the investigation

The proponent, Metromix Pty Limited, is proposing to lodge an application for Part 3A "Major Projects" approval for extensions to the existing quarry adjacent to Rhonnda Road, Teralba. As you will be aware, approval for the project as a Part 3A Major Project involves a process where all issues relating to salvage and protection of archaeological sites are covered in the one process. Therefore, there will be no further applications from the proponent for a Section 87 Permit to investigate further, or Section 90 Consent to Destroy. The issues that relate to these matters will all be covered in the one Part 3A process.

The southern part of the extension area was surveyed in February 2004 with the assistance of Mr Kenneth J. McBride, Sites Officer, Koombahtoo LALC, but no sites were found. Since

Archaeological Surveys & Reports Pty Ltd

1

then, the proposed extension area has been increased and so it has become necessary to re-survey those areas previously surveyed as well as the additional areas.

The Topographic map attached shows the location of the quarry, and the aerial photograph shows the area to be surveyed – the yellow line. Please bring both with you as you will want to follow where the survey is being done, and also, if a site or sites are found you will need to be able to plot them onto the aerial photograph for your reports.

2. Objectives of the investigation

This Strategy relates to the proposed Teralba Quarry extensions. At this stage of consultation, the objective is to identify where sites occur, the nature and content of each site, and recommend how the sites should be salvaged. No artefacts are to be removed until a Part 3A Project Approval has been received by Metromix.

It is proposed that the archaeologist and the Aboriginal stakeholders' representatives conduct an investigation of the Project Site on foot. Much of the Project Site is unlikely to contain visible archaeological remains, however the environments in which sites are most likely to occur if they are present, are the creek banks, and along the ridges. Some vehicle tracks follow the ridges and creek lines also providing good archaeological visibility. The slopes however, as well as having the least archaeological visibility are also those places where sites are least likely to occur.

3. The archaeological record

No Aboriginal sites have previously been recorded in the Project Site and so the only basis on which the Management Plan can be developed is a Predictive Model for Site Location. Based on the archaeological evidence from over 500 archaeological investigations undertaken by Archaeological Surveys & Reports Pty Ltd, the most likely places where Aboriginal sites might be located is within approximately 30m of any watercourse, or on saddles, or the summits of spurs, or where there is remnant old growth vegetation. The investigation will therefore concentrate on these particular environments, but the investigation will also include those places where sites are least likely to occur to test the effectiveness and accuracy of the Predictive Model.

4. Survey requirements and reporting

4.1 Equipment

All stakeholder representatives are required to wear steel toe-capped boots, a long sleeved shirt, long trousers, and must have current Public Risk insurance cover. Metromix will supply stakeholder representatives with a fluorescent vest, safety glasses and a hard hat. All representatives are responsible for supplying their own food and water.

4.2 Procedure

The archaeologist and the Aboriginal stakeholders representatives will arrive at the Site Office, Teralba Quarry at a time to be arranged once it is known how many representatives will take part in the survey.

We will have to be inducted in accordance with the quarry's OH&S requirements. The Company has a two stage induction process.

Stage 1: At least 3 days before the site visit, each visitor needs to complete an on-line induction - each visitor should contact Robert McCabe (4950 6640) to arrange a password to log in for the on-line induction.

Stage 2: A site induction – so it is important that you arrive on time.

Anyone who is not on time and misses the induction will not be allowed on the Project Site. Everyone must be suitably dressed to meet the quarry's OH&S standards. Again, anyone who has not got the required equipment/clothing will not be allowed on the Project Site.

The route the surveyors will follow will be discussed when they arrive on site. The Quarry Manager will brief all surveyors on safety issues such as what to do if they get lost, or hurt. The intention will be for each surveyor to be in sight of another surveyor at all times – but sometimes plans come unstuck and so there needs to be an awareness of what to do if someone should lose touch with the others.

The surveyors will walk abreast approximately 10m apart along a route they have agreed to and marked on their map and aerial photograph.

The survey will be completed within one day.

4.3 Site recording

Any sites found will be recorded: firstly by GPS, and secondly by approximation, and the location marked on the aerial photograph.

The artefacts or site features will be recorded in detail by the archaeologist and photographs taken of the site to aid in the relocation of the site when it becomes necessary to salvage the site contents. The site will also be marked by fluorescent ribbon to assist in its relocation.

No artefacts are to be removed. Until such time as Part 3A Approval is given, the National Parks and Wildlife Act is in force and to remove an artefact is to break the law.

4.4 What the Aboriginal representatives will be required to produce

Within seven days of the survey, each stakeholder will be required to provide the archaeologist with a letter under their organisation's letterhead, stating that the survey was carried out in the manner described in this Strategy, and with it, submit their invoice for payment. Each letter from the participating stakeholder organisations will be attached within the appendices of the survey report.

No surveyor will be paid until a letter from their organisation has been received by the archaeologist. Details for information required on invoices will be distributed on the day of the survey.

This is not because any one organisation is likely to default on producing the letter but because every organisation is then bound to the same conditions and no one can feel that any one organisation was treated differently to another.

5. The draft report

Once the fieldwork has been completed, the archaeologist will produce a draft report of the survey, detailing the methodology, who took part, what was found and where, and proposing an interpretation of the results. Finally, the draft report will propose the salvage methodology, if and when Part 3A Approval has been received by Metromix.

A copy of the draft report will be sent to each of the participating stakeholder organisations. Each organisation will be invited to comment on the investigation and the content of the draft report. Responses to the content of the report will be required within 21 days of the report

being distributed to the stakeholder organisations. The archaeologist will address those comments when finalising the report.

6. The final report

A copy of the final report will be sent to each of the participating organisations.

- and afterwards!

Once the proponent, Metromix Pty Limited, has received Part 3A Project Approval, the archaeologist will consult with the Aboriginal stakeholder organisations as to when the artefactual material (if any is found) is to be salvaged, the methodology, who will take part and what will happen to the salvaged material.

Following the distribution of the Strategic Plan comments were received from Cacatua Culture Consultants, Awabakal Traditional Owners Aboriginal Corporation, and Awabakal Descendants Traditional Owners Aboriginal Corporation. Those comments have been taken on board and will be included in the report of the investigation.

PROPOSED TIME-TABLE FOR THE FIELDWORK

The field survey will take place on the 10th and 11th of March **DEPENDING UPON HOW MANY ABORIGINAL STAKEHOLDERS PARTICIPATE**, the more Sites Officers there are the less time the survey will take.

The procedure

The archaeologist and the Aboriginal stake-holders representatives will arrive at the Site Office, Teralba Quarry at 9.00am on the 10th March.

We will have to be inducted in accordance with the quarry's OH&S requirements. The Company has a two stage induction process.

Stage 1: At least 3 days before the site visit, each visitor needs to complete an on-line induction - each visitor should contact Robert McCabe (4950 6640) to arrange a password to log in for the on-line induction.

Stage 2: A site induction – so it is important that you arrive on time.

Anyone who is not on time and misses either of the inductions will not be allowed on the Project Site. Everyone must be suitably dressed to meet the quarry's OH&S standards. Anyone who has not got the required equipment/clothing will not be allowed on the Project Site.

Please advise me by phone, fax or email by 5pm on Tuesday 8th March whether or not you will be sending a Sites Officer and provide me with the details such as their name and title.

This letter has been distributed to:

Cacatua Culture Consultants

Awabakal Traditional Owners Aboriginal Corporation

Arwarbukarl Culture Resource Association

Awabakal Descendants Traditional Owners Aboriginal Corporation

Koompahtoo LALC, C/o Awabakal LALC

Awabakal Newcastle Aboriginal Co-op

Awabakaba-Ngariliko Mens Group

Westlake Elders Group

Regards.


John Appleton

Appendix viii

Reports from the Stakeholders following the 2011 Survey

(No. of pages including blank pages = 6)

This page has intentionally been left blank



Cacatua Culture Consultants

Entity of Carcatuhua Pty Ltd ABN: 87 145 082 480 ACN: 145 082 480

18 March 2011

Your Ref:

John Appleton
16 Curtis Street
ARMIDALE NSW 2350

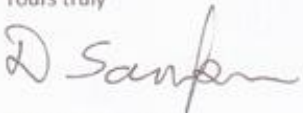
RE: TERALBA QUARRY- Archaeological survey for proposed extensions to existing Quarry

John,

We have read, discussed the report and a representative did attend the day and half site visit with regards to the above proposed extensions to the Quarry. Cacatua is aware of the impact that will take place with the survey area once a Part 3A is granted so we had great concerns that an intense survey be undertaken on a cultural point.

The above organisation believes the survey was carried out in the manner described in your strategy and support that the report Objectives was met. As per your report we understand that there were no Aboriginal sites recorded in the area prior to the survey. We feel that all attempts were undertaken to try and locate Aboriginal significant items within the boundaries. We support that there were no Aboriginal significant items located within the proposed extensions area.

Yours truly



Donna Sampson
Administration

Email: cacatua@resetdsl.net.au

UNIT 1b, 11 Glenwood Drive THORNTON NSW 2322	Ph: 02 4028 6942	Fax: 02 4028 6943
65 Jaeger Avenue, GUNNDAH NSW 2380	Mob: 0403 765 019	Fax: 02 6742 1491
22 Ibis Parade WOODBERRY NSW 2322	Ph: 02 4964 4685	Fax: 02 4964 4635

24-MAR-2011 14:00 From:TORONTO PO

00249749143

To:00267724567

Page:1/8



ABN : 54625095406

To John Appleton,

This is Paul McBride from the Westlakes Aboriginal Elders report on the survey for Aboriginal Artefacts or Midden sites, on the land at the Metro-Mix site at Teralba on Thursday the 10th of March. A group of us consisted of John Appleton (Archaeologist), Mr Bill Sanderson, Ian Mace from Metro-Mix, Xander Beale, Robert Donovan from the Awabakaba Ngariliko men's group, Charmaine Talbot, and myself from the Westlakes Elders.

We walked around covering the perimeter around the proposed Northern Extension and the Approved Mid Pit Extension area.

The country was full of mainly sedimentary rock with conglomerates; the area had a lot of vegetation re-growth as well as re-growth on most of the gums. It looks like they have major bushfires in the last 30 years.

We then gathered at the site on Friday the 11th of March. The same group then set off scouring the Proposed Southern Extension of the quarry. Everything from the vegetation, trees, rocks etc; looks the same as the land we surveyed the day before.

It is recommended through our consultation, that we have agreed that the Mining of the quarry should go ahead.

Signed: *Paul McBride*

Gerry Edwards
Coordinator
Westlakes Aboriginal Elders Inc

12/22 SHELLY, ST
TORONTO NSW 2283

24-MAR-2011 14:01 From: TORONTO PO

0249749143

To: 00267724567

Page: 3/8



To John Appleton,

This is Charmaine Talbot from the Westlakes Aboriginal Elders report on the survey for Aboriginal Artefacts or Midden sites, on the land at the Metro-Mix site at Teralba on Thursday the 10th of March. A group of us consisted of John Appleton (Archaeologist), Mr Bill Sanderson, Ian Mace from Metro-Mix, Xander Beale, Robert Donovan from the Awabakaba Ngariliko men's group, Paul McBride, and myself from the Westlakes Elders.

We walked around covering the perimeter around the proposed Northern Extension and the Approved Mid Pit Extension area.

The country was full of mainly sedimentary rock with conglomerates; the area had a lot of vegetation re-growth as well as re-growth on most of the gums. It looks like they have major bushfires in the last 30 years.

We then gathered at the site on Friday the 11th of March. The same group then set off scouring the Proposed Southern Extension of the quarry. Everything from the vegetation, trees, rocks etc; looks the same as the land we surveyed the day before.

It is recommended through our consultation, that we have agreed that the Mining of the quarry should go ahead.

Signed: C. Talbot.

Gerry Edwards
Secretary
Westlakes Elders

12/22 SHELLEY ST
TORONTO NSW 2283

24-MAR-2011 14:01 From: TORONTO PO

0249749143

To: 00267724567

Page: 5/8



Awabakaba Ngariliko
Aboriginal & Torres Strait Men's
Corporation
ABN: 95640135643

"Men of Awaba Making a change"

To John Appleton,

This is Xander Beale from the Awabakaba Ngariliko men's groups report on the survey for Aboriginal Artefacts or Midden sites, on the land at the Metro-Mix site at Teralba on Thursday the 10th of March. A group of us consisted of John Appleton (Archaeologist), Mr Bill Sanderson, Ian Mace from Metro-Mix, Robert Donovan from the Awabakaba Ngariliko men's group, myself, Charmaine Talbot, Paul McBride from the Westlakes Elders.

We walked around covering the perimeter over the proposed Northern Extension and the Approved Mid Pit Extension area.

The country was full of mainly Sedimentary Rock with Conglomerates; the area had a lot of Vegetation re-growth as well as re-growth on most of the gums.

The land looks like it has had bushfires in the past.

We then gathered at the site on Friday the 11th of March. The same group then set off scouring the proposed Southern Extension of the quarry. everything from the vegetation, trees, rocks etc; looks the same as the land we surveyed the day before.

It is recommended through our consultation, that we have agreed that the Mining of the quarry should go ahead.

Signed: 

24-MAR-2011 14:01 From: TORONTO PO

0249749143

To: 00267724567

Page: 7/8



Awabakaba Ngariliko
Aboriginal & Torres Strait Men's
Corporation
ABN: 95640135643

"Men of Awaba Making a change"

To John Appleton,

This is Robert Donovan from the Awabakaba Ngariliko men's groups report on the survey for Aboriginal Artefacts or Midden sites, on the land at the Metro-Mix site at Teralba on Thursday the 10th of March. A group of us consisted of John Appleton (Archaeologist), Mr Bill Sanderson, Ian Mace from Metro-Mix, Xander Beale from the Awabakaba Ngariliko men's group, myself, Charmaine Talbot, Paul McBride from the Westlakes Elders.

We walked around covering the perimeter over the proposed Northern Extension and the Approved Mid Pit Extension area.

The country was full of mainly Sedimentary Rock with Conglomerates; the area had a lot of Vegetation re-growth as well as re-growth on most of the gums.

The land looks like it has had bushfires in the past.

We then gathered at the site on Friday the 11th of March. The same group then set off scouring the proposed Southern Extension of the quarry, everything from the vegetation, trees, rocks etc; looks the same as the land we surveyed the day before.

It is recommended through our consultation, that we have agreed that the Mining of the quarry should go ahead.

Signed: *R. Donovan*

This page has intentionally been left blank

Appendix ix

Responses to the Draft Report from Stakeholders

(No. of pages including blank pages = 8)

Letter from Awabakal Descendants Traditional Owners Aboriginal Corporation

Letter from Awabakal Traditional Owners Aboriginal Corporation

This page has intentionally been left blank



PO BOX 86
CLARENCE TOWN
NSW 2321

Date: 22 May 2011

Attention: Attention: John Appleton
Archaeological Surveys & Reports Pty Ltd
16 Curtis Street
Armidale NSW 2350

Re: Draft Report -The Archaeological Investigation for Sites of Indigenous Cultural Significance in the Proposed Northern and Southern Extension Areas Teralba Quarry.

ALLA John,

This letter is in response to your correspondence requesting feedback/comments from the **Awabakal Descendants Traditional Owners Aboriginal Corporation** in regard to the **Draft Report- The Archaeological Investigation for Sites of Indigenous Cultural Significance in the Proposed Northern and Southern Extension Areas Teralba Quarry**. The content and construction of the draft report including the management recommendations are in most instances reasonable, addressing the majority of issues that can affect the integrity of our Cultural Heritage regarding the proposed development area and its footprint. Saying this, we would like to take advantage of the invitation afforded to us to add some comments that we believe could be implemented to provide what we as Awabakal People believe to be a greater degree of protection and preservation for our Cultural Heritage. The **The Archaeological Investigation for Sites of Indigenous Cultural Significance in the Proposed Northern and Southern Extension Areas Teralba Quarry** will be referred to in the following correspondence as the '**draft report**'.

Also there are several important points which we believe have been overlooked in this report and need to be addressed;

- a. Failure to include Ethno-History context of the area (regarding the Traditional area of the Awabakal People)
- b. Failure to include a comprehensive Aboriginal Stakeholder Consultation Log (with all correspondence/contact received)
- c. Failure to include a detailed map of sites recorded on AHIMS Database
- d. Failure to include within the draft report a recommendation for the proponent to develop in co-operation with the registered Aboriginal Stakeholders, an Aboriginal Cultural Heritage Plan of Management (PoM)
- e. Failure to address the question of Intergenerational Equity if Cultural Heritage sites are compromised.

Our comments for this **draft report** are as follows:

Recorded Aboriginal Occupation of the Lake Macquarie and Newcastle area

- There are many historical documents which report the fact that this area was inhabited by Awabakal People. The 'Return of the Black Natives belonging to Lake Macquarie and Newcastle 21st May 1828'¹ recorded by the Rev. L.E. Threlkeld at his mission station at Belmont (only several Kilometres to the south east of this area) is one of those sources. In it he records the names of our direct Ancestors as belonging to a group of Aboriginal People that inhabit this area; he described these People as 'old Jacky's Tribe'². The Nominal Returns from Jonathon Warner (Warners Bay area deriving its name from Jonathon Warner who was the Brisbane Water Police Magistrate and who lived on his estate at the northern end of Lake Macquarie from 1830's to 1840s') in 1833 being a list of names of the Aboriginal People from the Lake Macquarie and Newcastle district shows the names of many of our People.³ Again Threlkeld records the names of our People from this and other areas from the returns he made

¹ Page 360-361 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

² Page 241 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson

³ Page 362-364 of *Australian Reminiscences & Papers of L. E. Threlkeld, Missionary to the Aborigines, 1824-1859*, Neil Gunson



30 May 2011

John Appleton
Archaeological Surveys & Reports Pty Ltd
16 Curtis Street
Armidale NSW 2350

Dear John,

Re: Comments Regarding the Draft Report for the Teralba Quarry Archaeological Investigation

With regard to the Draft Report for the Teralba Quarry Archaeological Investigation, we recognise the evaluation by Archaeological Surveys & Reports Pty Ltd appears to be reasonably comprehensive.

Our comments to the contents of the Draft Report Archaeological Investigation are as follows:

We believe that the **Draft Report** does not provide and/or encompasses a broad and informative overview regarding the many aspects associated with the Aboriginal Culture Heritage concerning the proposed project area. We are concerned that there have been several essential details which have been disregarded within the **Draft Report** pertaining to the decision making process regarding Aboriginal Cultural Heritage, and in addition a comprehensive Aboriginal Stakeholder Consultation Log regarding all correspondence.

We also believe that the Ethno-History context of the region regarding the Cultural Heritage perspective of the Awabakal Peoples lifestyle within the region has been excluded, and a current and detailed map of sites recorded on AHIMS Database would have broadened the context of the surrounding landscape and believe these aspects need to be addressed and incorporated within the **Draft Report**.

Page 9-ii, With regard to the Executive Summary within the **Draft Report**, It is our understanding that Metromix is seeking an approval under a Part 3A "Major Project" application for approval for extensions to the existing quarry adjacent to Rhonda Road, Teralba.

We believe that the **Draft Report** has not taken into consideration for any possible Cultural Heritage material that may be concealed below the ground surface. The archaeological investigation and observation process of the Teralba Quarry project indicates that there is potential for additional Aboriginal cultural material to be concealed below the ground surface as a result of the general use of the area, as the region would have been inhabited by our people.

We believe that there is the possibility that the proposed project may impact on unknown sites and believe that any ground disturbance and/or sub-surface excavations will have the potential to impact on Aboriginal Cultural Heritage. We would prefer that any topsoil removal to remain on site, as there may be a possibility for cultural material to be concealed within the soil profile.

We highly recommend that an Aboriginal Heritage Plan of Management (PoM) be implemented to include a subsurface investigation prior to the commencement of any groundwork, to establish and ensure that the Teralba Quarry study area will realise the diversity and integrity of the site in appropriately determining the future protection of any unknown Aboriginal Sites within the proposed project area.

Therefore, we would highly advocate that the PoM be developed and agreed upon within a reasonable timeframe before any site works commence, so that the decision making process is not rushed, as past experiences demonstrates that PoM development pertaining to Aboriginal Cultural Heritage is left mainly to the final stages.

If we are to achieve due diligence within a comprehensive process through a greater understanding of Aboriginal Cultural Heritage, both archaeologists and proponents need to take into consideration what these investigations mean to Awabakal People as part of the healing and self-determination process.

We seek DECCW's serious consideration of the legacy of cumulative and continued proposed damage to our Cultural Heritage Values and examine intergeneration equity standards in determining approvals or non-approvals. Any approval and conditions must use best practice standards and intergenerational equity weighting in consideration in determining the future protection of our cultural landscape.

Page 9-8, 1.3, With regard to the comments within this section of the **Draft Repot**, we would like to bring to the attention of Appleton Archaeological Surveys & Reports that we had been assured that we would be given the opportunity after the proposed survey that was held on 10 March 2011, to observe and record any sites that might be present which was outlined within an email sent to us dated Wednesday 16 March 2011. Although we were afforded an opportunity to take part in a site inspection at a later date, we considered that the laps in time would have been unreasonable for the proponent, as we would not wish to delay the process.

Page 9-8, 2, With regard to the 2009 investigation we are perplexed as to why we were not contacted as part of the consultation process other than the 2008 advertisement, as we are registered with the Department of Environment, Climate Change and Water (DECCW) and we are a registered Aboriginal Corporation under the Federal Governments Aboriginal Corporations Act.

Representatives of the Awabakal Traditional Owners Aboriginal Corporation involvement is crucial during any consultation process and subsequent assessment, given that our People continue to have a primary connection with this area as our ancestors had for thousands of years, and our continued caring for country encompasses Cultural Knowledge held by us relating to our Cultural Heritage and Traditional Country.

Page 9-11, We would like to bring to your attention that we also had received a copy of the proposed survey strategy and had responded by email on Monday 7 March 2011, which outlined the reason why we were not available for the dates regarding the proposed timetable for the fieldwork due to other commitments.

At this juncture we would like to reiterate are concerns that Stakeholder correspondence is not being reflected correctly within the **Draft Report** and therefore needs to be corrected.

Page 9-12, 3, With regard to the Environmental Context we consider that the writings of the Reverend Lancelot Threlkeld are an informative overview of the Awabakal People which would have broadened the context of the local area within the **Draft Report**.

We consider that the "Cultural Heritage perspective" pertaining to the Aboriginal Cultural Heritage aspects of the study area has been excluded from the **Draft Report**, and believe that the writings of the Reverend Lancelot Threlkeld are an informative adjunct to the Awabakal Peoples lifestyle that would indeed expand the perspective of the region.

Page 9-16 – 9-17, We are concerned that these sections within the **Draft Report** may present a foregone conclusion that Aboriginal Cultural Heritage and Values do not exist within the study area and therefore would give the impression that these aspects pertaining to Aboriginal Cultural Heritage Values are extinct, and suggest that these references will need further clarity.

We agree/believe that the AHIMS Database may not necessarily have "up-to-date" or current information due to many unreported or unfinished site assessments pertaining to projects within close proximity to the Teralba Quarry project area. However, we believe that the statements within this section of the **Draft Report** may be taken out of context and may have the potential to be misleading.

Page 9-18, 5.2, With regard to this section within the **Draft Report**, we again need to reiterate our concerns that the **Draft Report** has not taken into consideration the impact on unknown sites due to the observation and information gathering process, as the **Draft Report** affirmed that the field survey presented minimal visible evidence due to the heavily vegetated ground surface. Therefore, it should not be assumed that Aboriginal artifacts do not exist within the proposed Teralba Quarry study area.

With regard to the site types we believe that the **Draft Report** should reflect current recorded documented evidence regarding Aboriginal Cultural Heritage, as the details within this section of the **Draft Report** are being based on the AHIMS search 2003, which is outlined within **Appendix x**. Although empirical evidence demonstrates that the area has a history of poor cultural heritage recording and reporting, there have been a large amount of recorded Aboriginal sites surrounding the Teralba Quarry project area.

Page 9-12, Figure 5, We understand that 100% survey is not always needed or used, but to understand whether survey sampling is appropriate (and how much of a sample is appropriate) many Aboriginal Cultural Heritage survey site recordings suffer due to minimal ground visibility.

We express a high level of alarm and distress that the Information Reporting Process within Figure 5 of the **Draft Report** will have an adverse affect on the decision making process regarding the structure and context of the landscape, as we believe that the survey coverage outlined within Figure 5 is pivotal for information reporting and determining decision making processes.

Page 9-35, 9.1, With regard to the reference to 'Aboriginal Community' in relation to the Aboriginal or cultural significance of a particular Aboriginal site or relics, we propose that there may be a need for a definition regarding the difference between 'Aboriginal Community' and the 'Traditional Descendants' of the area to bring more clarification concerning the difference between attachment and association.

For example: Aboriginal Traditional Owner - the term 'Traditional Owner' are those people who, through an Apical Ancestor, have a responsibility for caring for their particular Traditional Country (Ask First: A guide to respecting Indigenous heritage places and values, Australian Heritage Commission, 2002).

It is our interpretation that Aboriginal communities consist of Aboriginal people many of whom have relocated into other Aboriginal Nations traditional lands and should therefore respect the culture and heritage of the region and the rights of the traditional descendants of the area. The Lake Macquarie regions consist of many Aboriginal community members who have no cultural association with this land; nonetheless they feel a sense of belonging.

With regard to this section within the **Draft Report** we believe that there are certain perspectives pertaining to the cultural significance of the area that have been ignored. For instance, there are aspects that enhance the significance of the cultural landscape, for example the documented cultural material surrounding the study area would indicate that our people utilised the landscape.

These trails and/or pathways would lead to certain areas for a number of reasons such as hunting, gathering, ceremony, and also places and landmarks that are culturally significant to the Awabakal People, as many generations utilised and cared for the land which deepened the cultural footprint and connections to sacred sites throughout the region.

Page 9-36, 10, With regard to the proposed Recommendations the Awabakal Traditional Owners are rejecting the Recommendations of this **Draft Report** because we believe that it is not based on empirical evidence nor mitigation ranking and mitigation, and we therefore have no confidence that our Cultural and Heritage values, landscape and features will be protected or conserved within such an unknown assessment paradigm. We urge the DECCW and DoP to seriously consider the assessment intentions of cultural associations and practice in the conclusions of approval or non-approval against the act in this context.

We believe that the consultation process pertaining to this particular project may be inconsistent with the DECCW Requirements. Our concerns regarding the proposed project methodology were not considered and our request for a copy of the finalised survey strategy be provided prior to the field survey that demonstrates how Archaeological Surveys & Reports Pty Ltd have addressed *all* the Aboriginal stakeholder comments was not forthcoming.

We would like to point out that both Awabakal Traditional Owner and Awabakal Descendant Corporations had also tried several times to contact the cultural heritage archaeologist by phone and email to discuss alternate possible predetermined dates, but did not receive any response to our requests or concerns.

We are concerned that the recommendations within the **Draft Report** do not contain how the contractors are to achieve the knowledge to recognise Aboriginal cultural objects if uncovered during earthworks. Therefore we highly recommend that consideration be given to undertake the development of a Cultural Heritage Awareness Training either through an Oral and/or PowerPoint presentation for all staff and contractors involved in the project.

The Awabakal Traditional Owners (ATOAC & ADTOAC) have both previously been involved with Cultural Heritage Awareness Training presentations and therefore would consider that this type of approach would resolve any difficulties for the Staff and Contractors involved, to be aware of and to also recognise Cultural Heritage Material for this and future projects.

With regard to number three (3) within the Recommendations, we believe that the reference made to 'Aboriginal community' within this section of the **Draft Report** should be changed to 'Aboriginal Stakeholders', as the meaning of 'community' has a wider group connotation, whereas the meaning of 'Stakeholders' refers to independent parties and is more accurate and specific. Therefore, we would like the **Report** to consistently refer to the 'Registered Aboriginal Stakeholders' instead of a generic 'Aboriginal community'.

In summary with regard to the Comments within the Draft Report we Recommend that:

- all necessary steps should be taken to locate, protect and preserve our Awabakal Cultural Heritage
- there should be NO IMPACT whatsoever to any Aboriginal Cultural Heritage sites
- an Aboriginal Heritage Plan of Management (PoM) should be developed and agreed upon between Metromix and the Aboriginal Stakeholders before the commencement of earthworks
- there are a number of statements within the **Draft Report** that may need further clarification
- the majority of the field inspections concerning the decision making process regarding Aboriginal Cultural Material within the **Draft Report** we believe have been based on an insignificant survey sample
- it should not be assumed that additional Aboriginal artefacts do not exist within the proposed project area given that for thousands of years our people have occupied this area prior to colonisation
- there are areas within the project area that may contain Cultural Heritage material that might be concealed within the soil profile
- we recommend that inspections during earthworks is critical to collect any Cultural Heritage material
- the contents relating to the Predictive Aboriginal Heritage context within this **Draft Report** is insufficient, based on the lack of current additional recorded information surrounding project area
- aspects pertaining to the Ethno-History context of the region regarding the Cultural Heritage perspective of the Awabakal Peoples lifestyle would have indeed broaden the Aboriginal context within the **Draft Report**
- further field survey should be considered to cover the areas previously missed outside the shaded green area shown on Figure 5 Aerial Map
- a current and detailed map of sites recorded on AHIMS Database
- a comprehensive Aboriginal Stakeholder Consultation Log regarding all correspondence
- a Cultural Heritage Awareness Training be implemented either through an Oral and/or PowerPoint presentation for staff and contractors involved in the project

We would like to take this opportunity to reiterate our family connection to the Awabakal People, as being direct descendants of the Traditional Awabakal People (the Lake Macquarie and its surrounding region). We as Awabakal descendants are connected with the Awabakal Culture and Heritage through our ancestral families.

As Awabakal Descendants our primary association with our cultural area (Awabakal region) is derived through the history of our apical ancestors Margaret and Ned of the Awabakal People, the original inhabitants of the land.

Margaret and Ned are a well documented Aboriginal couple of whom numerous newspaper articles and several books have recorded their lives within the Awabakal Nation. Margaret and Ned are remembered and celebrated in Lake Macquarie and have two Bays at Swansea respectfully named in their honour, Black Neds Bay and Margarets Bay. Margarets Bay was officially named by her descendants, and is adjacent to Parbury Park which in 1880 was part of a reserve set aside for the use of Margaret and her children.

The principal vision and aim of the Awabakal people is to protect the cultural heritage of our ancestors. The Teralba region is regarded as culturally significant to the Awabakal people, and in our view believe that the district is part of the land that echoes the ethos of our cultural heritage. Therefore, any artefacts and/or residual evidence of our people are held in high regard and are considered a cultural reminder that unites us with our land and sea country, our past and spirituality and provides us with a visual generational legacy.

We reserve the right and reluctance to share our cultural heritage with others with respect to aspects of the cultural significance enabling us to protect our cultural knowledge and values. It is believed by our people that those who shouldn't be privy to this cultural knowledge have no rights or entitlements to it.

We would like to thank Archaeological Surveys & Reports Pty Ltd for the opportunity to comment and request a copy of the Final Report demonstrating how you have addressed *all* the Aboriginal Stakeholder comments be forwarded to the Awabakal Traditional Owners Aboriginal Corporation at your earliest convenience, and If you require any further information please do not hesitate in contacting me.

Yours sincerely,



Kerrie Brauer
Director | Administration

Awabakal Traditional Owners Aboriginal Corporation
ABN: 90 203 408 390 | ICN: 4411

PO Box 253 Jesmond NSW 2299 Australia
T: 61 2 49 58 81 70 | E: info@awabakal.com.au | www.awabakal.com.au


This page has intentionally been left blank

Appendix x

AHIMS Search 2003

(No. of pages including blank pages = 14)

This page has intentionally been left blank



List of Sites (List - Short)
ahims8385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6358000 Feature Search Type = AHIMS Features


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0005	Cockle Bay: Teralba;	AMG	56	368941	6351575	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									
38-4-0006	Boolaroo: Cockle Creek;	AMG	56	370652	6352686	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									
38-4-0007	Speers Point Park;	AMG	56	370671	6351680	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									
38-4-0008	Cockle Bay: Marmong Point;	AMG	56	370683	6350492	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									
38-4-0009	Speers Point Manse;	AMG	56	371594	6351241	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									
38-4-0010	The Knob;	AMG	56	372560	6348516	ETM, SHL, AFT,	Midden	ASRSYS, (01-JAN-00)	98458,
Status Valid									
Primary Contact									

Number of Sites : 72

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 1 of 12

29/09/2003 08:41:57



AHIMS
Aboriginal Heritage Information Management System

List of Sites (List - Short)

ahims8385 Newcastle

Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6358000 Feature Search Type = AHIMS Features


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0078	Teralba;1;	AMG	56	368630	6353310	GDG	Axe Grinding Groove		312, 1456, 98458,
Status Valid									
Primary Contact									
38-4-0079	Teralba;2;	AMG	56	368890	6353230	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	312, 1456, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0080	Teralba;4;	AMG	56	369850	6353260	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	312, 1456, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0089	Killingworth;M-W-6;	AMG	56	366230	6354900	AFT,	Open Camp Site		543,
Status Valid									
Primary Contact									
38-4-0090	Killingworth;	AMG	56	366450	6354950	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	351,
Status Valid									
Primary Contact									
38-4-0091	Floggy Creek;M-W-8;	AMG	56	367890	6355750	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	
Status Valid									
Primary Contact									

Number of Sites : 72

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 2 of 12


29/09/2003 08:41:57



List of Sites (List - Short)
ahims8385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to =
6358000 Feature Search Type = AHIMS Features

Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0092	Floggy Creek M-W-9	AMG	56	367900	6356670	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	
Status Valid									
Primary Contact									
38-4-0093	Floggy Creek M-W-10	AMG	56	368787	6354571	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0094	Burkes Creek M-W-11	AMG	56	368200	6354780	AFT	Open Camp Site	ASRSYS, (01-JAN-00)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0095	Burkes Creek M-W-12	AMG	56	368050	6354800	AFT	Open Camp Site	ASRSYS, (01-JAN-00)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0096	Burkes Creek M-W-13	AMG	56	367900	6354750	AFT	Open Camp Site	ASRSYS, (01-JAN-00)	
Status Valid									
Primary Contact									
Number of Sites :72									29/09/2003 08:41:57

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



ahims3385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to =
6358000 Feature Search Type = AHIMS Features

List of Sites (List - Short)


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0097	Diega Creek; M-W-14;	AMG	56	363150	6351550	AFT,	Open Camp Site	ASRSYS, (01-JAN-00)	
Status Valid									
Primary Contact									
38-4-0099	Marmong Point; Marmong;	AMG	56	370460	6349140	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0101	Slatey Creek; SC1;	AMG	56	367900	6355750	GDG	Axe Grinding Groove	ASRSYS, (01-JAN-00)	
Status Valid									
Primary Contact									
38-4-0108	Booraguli;	AMG	56	370317	6355880	GDG	Axe Grinding Groove	Sullivan, K (01-DEC-82)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0115	1 Cocked Hat Creek; Wallsend;	AMG	56	369890	6357800	GDG	Axe Grinding Groove		607, 1022, 1221, 2067, 2551, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0116	Site 2	AMG	56	371400	6354600	AFT,	Open Camp Site		1022, 1221, 2067, 98459,
Status Valid									
Primary Contact									

Number of Sites :72

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 4 of 12

29/09/2003 08:41:57



AHIMS
Aboriginal Heritage Information Management System

List of Sites (List - Short)


ahims8385 Newcastle

Grid Reference Type = AMG Zone = 56 Easting From = 363000 Easting To = 373000 Northing From = 6348000 Northing To = 6358000 Feature Search Type = AHIMS Features

Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0118	Cockle Creek 1:C.C.1:WallSEND	AMG	56	363750	6354080	GDG	Axe Grinding Groove	Haslem, P (10-AUG-82)	
Status Valid									
Primary Contact									
38-4-0173	Winding Ck Glendale Site 8	AMG	56	373000	6355400	AFT	Open Camp Site		1672, 98458, 98459
Status Valid									
Primary Contact									
38-4-0186	Kooroora Bay	AMG	56	369680	6348140	ETM, SHL, AFT	Midden		1333, 98458, 98459
Status Valid									
Primary Contact									
38-4-0187	Fennell Bay	AMG	56	368310	6349290	ART	Rock Engraving		1333, 98458, 98459
Status Valid									
Primary Contact									
38-4-0188	Fennell Bay	AMG	56	368340	6349300	AFT	Isolated Find		1333, 98458, 98459
Status Valid									
Primary Contact									
38-4-0189	Fennell Bay	AMG	56	367800	6349720	GDG	Axe Grinding Groove		1333
Status Valid									
Primary Contact									
38-4-0190	Fennell Bay	AMG	56	368150	6349020	ETM, SHL, AFT	Midden		1333, 98458, 98459
Status Valid									
Primary Contact									
Number of Sites :72									29/09/2003 08:41:57

Page 5 of 12

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

 <p>List of Sites (List - Short)</p> <p>ahims8385 Newcastle</p> <p>Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6358000 Feature Search Type = AHIMS Features</p>									
Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0191	Fennell Bay	AMG	56	367750	6348230	ACD,	Natural Mythological (Ritual)		1333,
		Status Valid							
		Primary Contact							
38-4-0192	Koorooro Bay	AMG	56	369500	6348250	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0195	Marrong Marina	AMG	56	370700	6350050	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0196	Marrong Marina	AMG	56	370740	6349990	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0197	Marrong Point	AMG	56	371050	6350220	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0198	Marrong Point	AMG	56	371050	6350200	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0199	Marrong Point	AMG	56	370900	6349800	AFT, SHL, ETM,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
38-4-0200	Marrong Point	AMG	56	370810	6349510	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
		Status Valid							
		Primary Contact							
Number of Sites : 72									29/09/2003 08:41:57
Page 6 of 12									
This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.									

List of Sites (List - Short)

ahims8385 Newcastle

Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to =

6358000 Feature Search Type = AHIMS Features

Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0201	Lake Macquarie:	AMG	56	370550	6348860	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0202	Lake Macquarie:	AMG	56	370550	6348810	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0203	Lake Macquarie:	AMG	56	370540	6348660	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0204	Lake Macquarie:	AMG	56	370550	6348550	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0205	Lake Macquarie:	AMG	56	370550	6348540	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0206	Lake Macquarie:	AMG	56	370550	6348450	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0208	Koorroora Bay:	AMG	56	369660	6348060	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								
38-4-0209	Koorroora Bay:	AMG	56	369600	6348020	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
	Status Valid								
	Primary Contact								


Number of Sites :72

Page 7 of 12

29/09/2003 08:41:57

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and it employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

 <p>ahims8385 Newcastle Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6358000 Feature Search Type = AHIMS Features</p>									
List of Sites (List - Short)									
Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0210	Koorroora Bay	AMG	56	369570	6348080	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0211	Koorroora Bay	AMG	56	369530	6348210	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0212	Koorroora Bay	AMG	56	369150	6348250	ETM, SHL, AFT,	Midden		1333, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0295	Georne Booth 1;	AMG	56	369900	6356300	AFT,	Isolated Find	Lloyd A (01-JUL-91)	607, 2067, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0296	Georne Booth 2;	AMG	56	369900	6356300	AFT,	Isolated Find	Lloyd A (01-JUL-91)	607, 2067, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0326	Slatey Creek;	AMG	56	367900	6355770	GDG	Axe Grinding Groove		1333,
Status Valid									
Primary Contact									
38-4-0327	Cherry's Bridge;	AMG	56	368240	6355180	GDG	Axe Grinding Groove	Bluff W (22-JUN-92)	1333, 98458, 98459,
Status Valid									
Primary Contact									
Number of Sites :72									
Page 8 of 12									
This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.									
29/09/2003 08:41:57									



List of Sites (List - Short)
ahims8385 Newcastle

Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6350000 Feature Search Type = AHIMS Features


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0335	NSS 2: Newcastle Sub Station 2:	AMG	56	366000	6356000	AFT,	Open Camp Site	Oakley, B (01-JUN-93)	
Status Valid									
Primary Contact									
38-4-0336	NSS 1: Newcastle Sub Station 1:	AMG	56	365900	6355900	AFT,	Open Camp Site	Oakley, B (01-JUN-93)	
Status Valid									
Primary Contact									
38-4-0377	ISF 1: Cockle Creek:	AMG	56	369500	6355400	AFT,	Isolated Find	Effenberger, S (10-NOV-95)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0378	ISF 2: Cockle Creek:	AMG	56	369350	6355550	AFT,	Isolated Find	Effenberger, S (10-NOV-95)	98458, 98459,
Status Valid									
Primary Contact									
38-4-0387	ISF 1:	AMG	56	369500	6355400	AFT,	Isolated Find	Effenberger, S (10-NOV-95)	3464, 98458, 98459,
Status Valid									
Primary Contact									
38-4-0388	ISF 2:	AMG	56	369350	6355550	AFT,	Isolated Find	Effenberger, S (10-NOV-95)	3464, 98458, 98459,
Status Valid									
Primary Contact									

Number of Sites :72

Page 9 of 12

29/09/2003 08:41:57

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



List of Sites (List - Short)
ahims8385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 383000 Northing From = 6348000 Northing to =
6358000 Feature Search Type = AHIMS Features


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0442	Brush Creek;	AMG	56	372260	6356800	GDG	Axe Grinding Groove	Miller, R (03-MAY-97)	1333, 98458, 98459,
Status: Valid									
Primary Contact									
38-4-0453	Manilbang;	AMG	56	372880	6352880	STA	Stone Arrangement		1333, 98458, 98459,
Status: Valid									
Primary Contact									
38-4-0531	Five Islands 1	AMG	56	369750	6351200	AFT	Open Camp Site		98458, 98459,
Status: Valid									
Primary Contact									
38-4-0543	FC-OS-1	AMG	56	367790	6356330	AFT		Mills, R (23-AUG-00)	
Status: Valid									
Primary Contact									
38-4-0602	BRUSH CREEK 1	AMG	56	372930	6356260	GDG AFT		Brayshaw, H (19-JUN-00)	97766,
Status: Valid									
Primary Contact									
38-4-0803	BRUSH CREEK 2	AMG	56	372340	6356280	AFT		Brayshaw, H (19-JUN-00)	97766,
Status: Valid									
Primary Contact									

Number of Sites : 72

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 10 of 12

29/09/2003 08:41:57



ahims8385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 363000 Northing From = 6348000 Northing to = 6350000 Feature Search Type = AHIMS Features

List of Sites (List - Short)


Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-4-0612	EASTWOOD 2	AMG	56	365200	6357120	AFT.		BesanLA (01-AUG-01)	
Status Valid									
Primary Contact									
38-4-0630	IF1/Glendale	AMG	56	371180	6357400	AFT.		Brayshaw.H (20-JUN-00)	97766,
Status Valid									
Primary Contact									
38-4-0631	IF2/Glendale	AMG	56	371710	6357310	AFT.		Brayshaw.H (20-JUN-00)	97766,
Status Valid									
Primary Contact									
38-5-0180	NL-IF-3	AMG	56	369580	6357790	AFT.	Isolated Find		98458, 98459,
Status Valid									
Primary Contact									
38-5-0184	NL-IF-5	AMG	56	369950	6357920	AFT.	Isolated Find		98458, 98459,
Status Valid									
Primary Contact									

Number of Sites :72

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 11 of 12

29/09/2003 08:41:57



List of Sites (List - Short)
ahims8385 Newcastle
Grid Reference Type = AMG Zone = 56 Easting From = 363000 Easting to = 373000 Northing From = 6348000 Northing to =
6358000 Feature Search Type = AHIMS Features

Site ID	Site Name	Grid Ref Type	Zone	Easting	Northing	Site Features	Site Types (recorded prior to June 2001)	Recording (Primary)	Reports (Catalogue Number)
38-5-0188	NL-OS-3	AMG	56	369850	6357350	AFT,	Isolated Find		96458, 96459,
Status Valid									
Primary Contact									
38-5-0189	NL-IF-1	AMG	56	369860	6357940	AFT,	Isolated Find		96458, 96459,
Status Valid									
Primary Contact									

Number of Sites :72

Page 12 of 12

29/09/2003 08:41:57

This information is not guaranteed to be free from error omission. The NSW National Parks and Wildlife Service and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Appendix xi

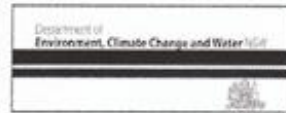
AHIMS Search 2010

(No. of pages including blank pages = 4)

This page has intentionally been left blank



Aboriginal Heritage Information Unit
43 Bridge Street Hurstville NSW
PO Box 1967, Hurstville NSW 2220
Tel: (02) 95856345 Fax: (02) 95856094
ABN 30 841 387 271
www.environment.nsw.gov.au



Your reference : Lot 2 Dp 224037
Our reference : AHIMS #29618

Archaeological Surveys and Reports
16 Curtis Street
Armidale NSW 2350

Thursday, 08 April 2010

Attention: John Appleton

Dear Sir or Madam:

Re: AHIMS Search for the following area at Lot 2 Dp 224037

I am writing in response to your recent inquiry in respect to Aboriginal objects and Aboriginal places registered with the NSW Department of Environment, Climate Change and Water (DECCW) at the above location.

A search of the DECCW Aboriginal Heritage Information Management System (AHIMS) has shown that 0 Aboriginal objects and Aboriginal places are recorded in or near the above location. Please refer to the attached report for details.

The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.

The following qualifications apply to an AHIMS search:

- AHIMS only includes information on Aboriginal objects and Aboriginal places that have been provided to DECCW;
- Large areas of New South Wales have not been the subject of systematic survey or recording of Aboriginal history. These areas may contain Aboriginal objects and other heritage values which are not recorded on AHIMS;
- Recordings are provided from a variety of sources and may be variable in their accuracy. When an AHIMS search identifies Aboriginal objects in or near the area it is recommended that the exact location of the Aboriginal object be determined by re-location on the ground; and
- The criteria used to search AHIMS are derived from the information provided by the client and DECCW assumes that this information is accurate.

All Aboriginal places and Aboriginal objects are protected under the *National Parks and Wildlife Act 1974* (NPW Act) and it is an offence to destroy, damage or deface them without the prior consent of the DECCW Director-General. An Aboriginal object is considered to be known if:

- It is registered on AHIMS;
- It is known to the Aboriginal community; or
- It is located during an investigation of the area conducted for a development application.

If you considering undertaking a development activity in the area subject to the AHIMS search, DECCW would recommend that an Aboriginal Heritage Assessment be undertaken. You should consult with the relevant consent authority to determine the necessary assessment to accompany your development application.

Yours Sincerely



Freeburn, Sharlene
Administrator
Aboriginal Heritage Information Unit
Information Systems and Assessment Section
Aboriginal Heritage Operation Branch
Culture and Heritage Division
Department and Environment, Climate Change and Water (DECCW)
Phone: (02) 9585 6471
Fax: (02) 9585 6094

Appendix xii

Site Types

(No. of pages including blank pages = 4)

This page has intentionally been left blank

Site types associated with Indigenous activities and culture

The definitions that follow are for terms used in this report, and do not necessarily apply to their use in different contexts.

Art sites are defined as places where any medium has been applied to a rock surface either as symbols, characters, drawings, paintings, or any other rendition, recognisable as not being a natural discolouration or feature. They also include markings to a rock surface, either by engraving, abrading, or pecking, and which cannot be identified as being a natural feature.

Bora rings are circles of 2-30 metres diameter of compressed earth (from repeated treading or dancing), or stone arrangements, at which men performed initiation ceremonies, and are the most frequently recorded ceremonial sites. Sometimes they occur as two rings joined by a central track in a barbel configuration. They usually occur on level or low-lying country, which is usually the first topographical unit to be cultivated, or utilised for highways and roads, but they may also occur as circular stone arrangements on elevated rock platforms and hilltops. If they are or were present then they are usually either already known and have been recorded, or they have long since been destroyed.

Carved trees are readily recognised by even the untrained observer. The carving is incised either into the outer bark, or more commonly, into the living wood after removal of a section of the bark. The designs frequently consist of 'diamond cross-cuts', but may also consist of stylised animal motifs. Previously unrecorded carved trees are still discovered in relatively remote or inaccessible areas. Carved trees frequently occur near burial sites and/or Bora rings, but in some regions they may have been tribal boundary markers.

Fish traps may occur either in rivers or on seashores. They are recognisable as unnaturally formed stone arrangements that were constructed to trap fish (or eels or turtles) carried into the enclosure in deep water, and which are left stranded within the enclosure as the water level drops. The fish were then caught by nets, hand, or by spear.

Grinding grooves are usually observed on the surfaces of large sedimentary boulders or exposed shelves and outcrops of sedimentary rock along creek banks and beds, or near water. They have been produced by Aborigines using the rock surface to shape and sharpen the edges of stone to produce ground-edged axes, or to sharpen wooden spears (the latter tend to be narrow and deep). Water was used to lubricate the surface of the rock. The grooves frequently occur as linear abraded depressions in the rock, and may each be between 10 and 50 centimetres long, up to 15 centimetres wide, and 2 to 5 centimetres deep. Some sedimentary rock surfaces may exhibit shallow ground depressions of roughly round or elliptical shape, and these are more likely to be associated with seed grinding, root crushing, or other food preparation.

Middens may be identified variously as beach, lagoon, lacustrine, or estuarine, and are most likely to be observed at or above the water line where erosion, topsoil removal, or mining has exposed the shell. The size of the midden can vary enormously, with the smallest comprising a 'one off', "dinner-time camp" (Meehan. 1982), with as few as two or three shells, or a shallow lens of only a few centimetres. The largest middens may extend for many kilometres and may comprise of a number of lenses and layers of shell and ash up to several metres deep. These large middens may be evidence of continuous exploitation of the resource over many thousands of years. Middens of fresh water mussel shell may be found in eroding creek banks or in eroding terraces, particularly near both existing and defunct water holes.

Isolated shell or fragments may occur on any surface and in any situation. A single shell may have been discarded by a bird, but the presence of use-wear would indicate Aboriginal use of the shell as a tool, which was discarded after use. Such occurrence is likely to be where there is no immediate source of stone material suitable for tool manufacture.

Natural Mythological sites are places of significance to Aborigines, either because they are described in mythological stories or songlines, or because they were used in religious ceremonies. They may occur anywhere and while some are more predictable than others – as for example, permanent water holes, waterfalls, rock promontories, etc., others may have no particularly remarkable features. Seldom is there any recognisable artefactual evidence or anything to distinguish it from similar features in the vicinity. These sites must of necessity be identified by Aboriginal people with an association with the place.

Open sites, campsites, knapping floors, scatters, and isolated artefacts, are most likely to occur on eroded and exposed creek banks, particularly where slope wash or stock trails has removed the humic layer, or on eroded ridges and spurs, particularly near the junctions in watercourses. Open sites are most likely to be present in greatest numbers near a source of either raw stone material, or potential food resources, or in a natural corridor between two differentially preferred environmental zones, or at the contact between two environmental zones containing different resources.

Artefacts in open scatters are likely to be manufactured from the dominant raw material available; i.e. Greywacke on greywacke-sourced soils, quartz on granite-sourced soils, silcrete and chert on relict sedimentary soils.

Artefact assemblages in open scatters are likely to consist predominantly of discard material, i.e., cores, flakes, flaked pieces, and debitage.

Artefacts exhibiting retouch scars and backing are most likely to occur in sites where secondary activity took place peripheral to the central camp site, although this is a generality and can only be observed where there is sufficient surface visibility to identify peripheral sites. Fragments of flakes with retouch or backing may occur on knapping floors indicating breakage occurring during manufacture, or maintenance areas in which damaged tools have been replaced and discarded.

Isolated artefacts are likely to be most frequently observed where the groundcover obscures all but the larger artefacts, such as cores, and large flakes, or where there is little contrast between the texture of artefactual material and the surface upon which it lies. Artefacts of materials contrasting with the matrix may be visible regardless of size; eg. quartz artefacts may be far more visible than much larger basalt artefacts against a background of dark humic terrace soils.

PADs or Potential Archaeological Deposits are deposits, usually in shelters (but they may also be identified where there are intact deposits in open areas), which although not containing any visible archaeological material, are considered likely to contain archaeological material below the surface. These 'sites' are not recorded as sites on the Aboriginal Site Register, but are identified as places that require subsurface testing to establish whether a site exists or not.

Rock shelters with art or occupation deposits, are most likely to occur where the character of the parent rock is sufficiently massive or consolidated for it to retain a structure that weathers differentially to form shelters and overhangs.

Scarred trees are perhaps the most difficult site type to determine as having been caused by deliberate removal of the bark by humans and not as a consequence of natural events; such as abrasion from falling trees or branches, natural branch attrition, fire damage, or contact from vehicles or stock. They may occur in places wherever there are tree species that produce bark suitable for tool and implement manufacture. While some scars are clearly the consequence of deliberate bark removal by Aborigines (either evidenced by stone axe marks, or identified by Knowledge Holders), some scars were made by settlers, and stockmen, and surveyors who frequently blazed trails and property boundaries by scarring the trees, and by timber men who removed a strip of bark to test the suitability of a tree for logging.

Other site types such as hearths, burials, etc., are less easily predicted, although burials are frequently associated with carved trees, and Bora rings, and hearths with campsites, shelters, and shell middens.