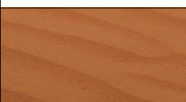


CULTURAL HERITAGE IMPACT ASSESSMENT



APPENDIX 7



Cultural Heritage Impact Assessment

For Awaba Colliery

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Executive Summary

This Cultural Heritage Impact Assessment (CHIA) has been prepared for Centennial for proposed mining in the Awaba Colliery. This document has been prepared to assess the cultural heritage impacts associated with the *Awaba Colliery Continuation of Mining Project* (the Project). This report will also support an Environmental Assessment for the Project to be submitted to the Department of Planning under Part 3A of the Environmental Planning and Assessment Act (1979).

The application area for the Project has been divided into four study areas. Study Area 1 includes the pit top facilities and ancillary infrastructure, Study Area 2 comprises the Revised Stage 3 Area and the remaining coal to be mined from the existing Main South Stage 2 approved SMP area, Study Area 3 comprises the East B Area, while the existing internal private coal haul road is Study Area 4.

This report is based on a number of heritage assessments which have been undertaken in the project application area. This report has provided an outline of heritage within the four study areas which make up the project application area and has considered the environmental and archaeological context of these areas. The proposed impacts to Aboriginal and non-Indigenous heritage has been assessed in relation to intended activities within the project application area. It has been prepared in accordance with DECC Standards and Guidelines Kit (NSW National Parks and Wildlife Service 1997).

Recommendations for each study area have been formulated with respect to Aboriginal and non-Indigenous heritage, followed by more general recommendations which relate to the overall project area.

The following is a summary of the recommendations proposed for the Project:

- There are no Aboriginal heritage constraints for the proposed activities in Study Areas 1 or 4;
- There are no non-Indigenous heritage constraints for Study Areas 1, 2, 3 or 4. This is provided based on there being no modifications to the pit top area, other than the widening of the pollution control dam;
- Areas of moderate and high archaeological sensitivity in Study Area 2, and moderate archaeological sensitivity in Study Area 3, should be monitored for cracking, soil exposure or plug failure, if any of these occur, then a suitably qualified archaeologist and the Aboriginal community should be contacted to inspect the area;
- All relevant Centennial staff should be made aware of their statutory obligations for heritage under NSW NP&W Act (1974) and the NSW Heritage Act (1977), which may be implemented as a heritage induction;
- All areas of moderate and high archaeological sensitivity should be included in Centennial's environmental management framework for Awaba Colliery, so that staff are aware that these areas will require management, in certain instances;
- The cultural heritage management plan should be updated as part of the ongoing management of heritage within Awaba Colliery;

-
- In the unlikely event of subsidence above the expected 200mm (such as plug failure), then all areas affected should be inspected by a suitably qualified archaeologist, in consultation with the Aboriginal community;
 - If an Aboriginal site is identified in the project area, then all works in the area should cease, the area cordoned off and contact made with DECCW Enviroline 131 555, a suitably qualified archaeologist and the relevant Aboriginal stakeholders, so that it can be adequately assessed and managed; and
 - If subsidence, or any other impacts, extend beyond the project application area, then further archaeological assessment and management will be required.

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APPENDIX 1

Aboriginal Consultation

I Introduction

RPS has been commissioned by GSS Environmental (GSSE) on behalf of Centennial Coal Company Limited (Centennial) to provide a Cultural Heritage Impact Assessment (CHIA) which addresses mining activities within the Awaba Colliery lease area, which have been separated into four study areas. The main portion of the project application area is located approximately 1.5 km south of the township of Awaba in the Lake Macquarie LGA, but also includes a haul road extending to Eraring Power Station in the southwest and the Newstan Colliery in the northeast. Its land tenure is Crown land which is under lease to Centennial. This CHIA has been compiled using information from previous archaeological investigations and impact assessed in accordance with the four study areas.

1.1 Background

Awaba Colliery is a small underground coal mine operated by Centennial Newstan Pty Ltd (Newstan), a wholly owned subsidiary of Centennial Coal Company Ltd (Centennial). The mine entry and primary surface facilities are located approximately one kilometre south of the Awaba village and 5.5 kilometres (km) south west of Toronto on the western side of Lake Macquarie, near Newcastle NSW.

Awaba Colliery has been producing coal by bord and pillar method since 1947. The site is situated on crown land under lease to Centennial for the purpose of mining under Consolidated Coal Lease CCL746, and is adjacent to the Newstan-Eraring haul road owned by Eraring Energy. The locality of the mine is illustrated on Figure 1-1.

Awaba Colliery is a small operation with approximately 100 employees and contractors, historically producing around 800,000 tonnes of thermal coal annually. Since commencing mining operations in 1947, over 30 million tonnes of coal has been won from the Great Northern Seam using a combination of first workings development, pillar extraction, pillar quartering, and pillar stripping.

A form of pillar extraction of narrow panels is used to recover coal in pillars developed previously by bord and pillar methods. Development of bords (roadways) and pillars is ongoing but in some areas were developed many years ago. This mining method currently utilises continuous miners. Mine planning ensures panels are not extracted where depth of cover or surface constraints preclude total extraction. This mining method has been developed in consultation with the Department of Primary Industries – Mineral Resources (now known as Industry and Investment, NSW (I&I)) and has been used successfully to date, and is proposed to be continued for the Project.

Mining operations commenced at the Awaba Colliery in 1947, prior to the commencement of any planning controls, and have continued without abandonment since that time. Consequently, the Awaba Colliery presently operates pursuant to section 109(1) of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) and clause 6B(1) of

the State Environmental Planning Policy (Major Development) 2005. An application for a Part 3A Project Approval has been lodged by Centennial for the **Awaba Colliery Mining Project (the “Project”)**, which seeks approval from the Minister of Planning to allow an extension of underground mining and the ongoing use of associated surface operations. A detailed description of the Project and the **Project Application Area (the “Application Area”)** (including focus study areas) is detailed further in Sections 1.2 and 1.3 below.

Minimal changes are proposed to existing surface operations, with one proposed additional surface disturbance relating to increased pollution control dam capacity located in a previously disturbed area. No significant changes to coal handling are proposed. Underground mining areas requiring approval to allow continued mine operations and production are outlined in Sections 1.2 and 1.3 below.

At present, it is anticipated that the Project will recover approximately 2.0 million tonnes of coal which will be extracted from those areas depicted in Study Area 2 and Study Area 3 (refer Section 1.2.1) over a period of approximately five years or more, depending on actual mining conditions and relevant market drivers. The application for the proposed Project is supported by an Environmental Assessment (“EA”).

1.2 The Project Application Area

The **Project Application Area** (the “Application Area”) is illustrated on Figure 1-2. The Application Area has been identified as the footprint of the proposed Project including proposed mining areas and related surface operations that are considered relevant to the continuation of Awaba Collieries operations, as well as, the existing workings areas that will continue to be relied upon for ventilation and other mining related purposes, access to proposed mining areas or for any required emergency evacuation.

The Application Area has been broken into a number of Study Areas based on the types of activities to be undertaken for the Project. These Study Areas are outlined below in Section 1.2.1. The extent of the existing workings has not been included as a Study Area as it is considered inappropriate to obtain retrospective approval for historical operations. Additionally, there are no activities proposed in these areas for the Project and ongoing management of these areas is covered by the existing Awaba Colliery Mining Lease conditions.

1.2.1 Study Areas

The Study Areas that have been assessed as part of this EA are shown on Figure 1-3 and Figure 1-4 and include the following:

- **Study Area 1 – Surface Facilities and Ancillary Infrastructure** – This area includes the colliery pit top facilities (including office and amenities buildings, existing coal crushing plant, workshop and storage areas) ventilation shafts, an existing quarry and mine dewatering bore (10 South Bore).
- **Study Area 2 – Continued Mining within Existing Main South Area staged SMP**

Approval Areas (including the Remaining Coal to be Mined within Stage 2 and the Revised Stage 3) – The impacts associated with mining in these areas have previously been assessed in Subsidence Management Plan (SMP) Applications. The Stage 2 Area application was approved by Industry and Investment in September 2008, with the SMP Application for the Revised Stage 3 Area submitted to I&I in December 2009 awaiting approval. These areas are defined by a 26.5 degree angle of draw (as per DPI-MR SMP Guidelines, 2003). The outcomes from the SMP assessment will be summarised along with any impacts that are not considered to have been adequately addressed for this EA. It is important to note that, in relation to Stage 2 Area, only the coal remaining from the 1st of August will require approval for this Project (this boundary has been indicated on Figure Figure 1-4); and

- **Study Area 3 – Proposed Project Mining Areas** - Consideration of the proposed Mining Area (East B Area) defined as the proposed workings plus 26.5 degree angle of draw (i.e. as per DPI-MR SMP Guidelines, 2003);
- **Study Area 4 – Existing Internal Private Haul Road** – This haul road will be utilised for transporting coal from the Awaba Colliery operations to Newstan Collieries existing Run of Mine Stockpile or Rail Loop and subsequently transported to the Port of Newcastle or Port Kembla for shipping to export markets (to be undertaken in accordance with the Newstan Colliery development consent) and also to the Eraring Power Station. It is noted that a modification to the Newstan Colliery development consent (DA 73-11-98) will be applied for under Section 96(1A) of the EP&A Act to allow for the preparation of coal sourced from the Awaba Colliery using the existing Newstan Colliery infrastructure.

In general, potential environmental impacts associated with mine access, ventilation and other services provided through the existing workings areas to the active and proposed mining areas will also be addressed in the EA.

1.3 Project Description

Awaba Colliery is seeking an approval from the Minister of Planning under the provisions of Part 3A of the EP&A Act to:

- Continue bord and pillar development and pillar extraction by continuous miners within the “Main South Area” (being the remaining sections of Stage 2 and Revised Stage 3, refer Study Area 2);
- Extend bord and pillar development and pillar extraction by continuous miners into the “East B” Area (refer Study Area 3);
- Produce, handle and distribute up to 880,000 tonnes of Run of Mine coal per annum (financial year) using existing surface facilities;
- Continue to utilise existing ancillary surface facilities (all Study Areas);
- Expand the existing final Pollution Control Dam (refer Study Area 1);
- Continue the delivery of coal to the Newstan Colliery and/or Eraring Power Station using the existing private haul road/transport facilities (refer Study Area 4).

The proposed East B Area contains a proportion of coal that extends beyond the existing footprint of mining at Awaba Colliery and includes areas of both existing workings and areas requiring new workings to be developed. Subsequently, areas of new workings are lateral extensions to the mine footprint which will require new development approval (being sought under the current Part 3A application). The East B area is located to the east of the Main South Stage 2 Area. The overlying surface in the East B Area is predominantly bush land on crown land leased to Centennial Newstan and contains no significant surface infrastructure. This area forms **Study Area 3** for the Project, as illustrated on Figure 1-2.

Mining will also be continued at Awaba Colliery in two (2) separate areas, these have been outlined below and illustrated as **Study Area 2** on Figure 1-2:

- Remaining sections of Stage 2 of the Main South Area (currently being mined) – this area was approved by I&I in September 2008 following an SMP application (as modified) under the NSW Mining Act, 1992.
- Revised Stage 3 Area (of Main South Area) – this area has recently undergone a number of specialist surveys relating to a SMP application submitted in December 2009 (approval currently awaited from I&I prior to December 2010).

At present, it is anticipated that the Project will recover approximately 2.0 million tonnes of coal which will be extracted from those areas depicted in Study Area 2 and Study Area 3 (see Figure 1-4) over a period of approximately five years or more, depending on actual mining conditions and relevant market drivers.

All existing ancillary surface facilities, supporting infrastructure, workings and their associated uses will continue to be relied upon by the Awaba Colliery (no significant change) as outlined further below. These aspects of the Project will continue to be used until such time as the Awaba Colliery is placed on care and maintenance, and thereafter throughout that phase also. When the Awaba Colliery is placed on care and maintenance, this will be done in accordance with the Life of Mine Plan approved by I&I NSW in 2009, until such time that a final Detailed Life of Mine Strategy has been developed.

Annual production, handling and distribution of approximately 880,000 tonnes per financial year is required.

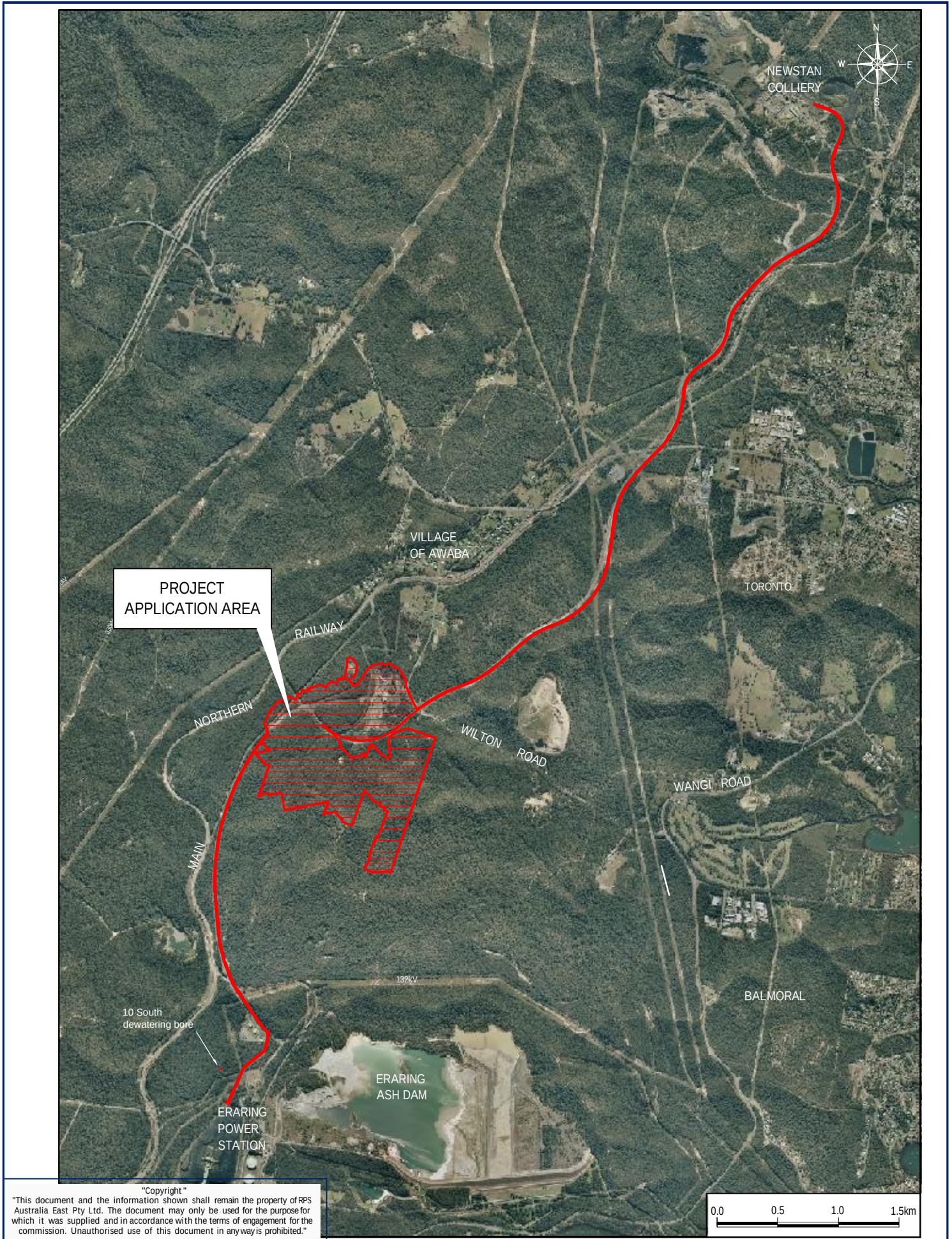
Awaba Colliery requires approval to deliver coal via the private haul road to the Newstan Colliery ROM coal stockpile (in addition to the Rail Loop stockpile). This is assessed within **Study Area 4**. Newstan Colliery has submitted an application to modify its development consent in order to process coal received from the Awaba Colliery

Existing mining areas, will continue to be utilised for ongoing mining operations including (but not limited to) mine access, emergency management and underground services and infrastructure.

Continuing Mine Operations:

For the purposes of environmental assessment, further to the information above regarding continued mining areas, it is noted that the following aspects of mine operations are proposed to continue and remain unchanged. Existing mining operations are presented in detail in Section 3 of the *Environmental Assessment (EA)* and, where relevant, components are discussed further in this specialist report.

- **Coal Handling, preparation and stockpiles** – No changes are proposed to the current coal handling, preparation or stockpile procedures to the existing operations;
- **Mine support facilities and site access** – No changes are proposed to the current infrastructure and facilities, with the only exclusion being the expansion of the Pollution Control Dam (PCD) mentioned earlier above, with related water management considerations. Mine access from Wilton Road will continue to be utilised and no significant change is anticipated from current use;
- **Plant and equipment** – No changes are proposed to the typical plant and equipment used at the Awaba Colliery;
- **Transportation procedures** – No changes are proposed to the current transport procedures. The Project will continue to use the Newstan-Eraring private haul road to transport coal from the operations to Newstan and Eraring;
- **Mining methodology** – There will be no significant changes to current mining methods for the Project. This includes predicted subsidence levels and operational structure. Production rates may be slightly increased from approximately 800,000 to 880,000 tonnes per annum (financial year), depending on mining efficiency and market demands;
- **Operational water management** – the domestic wastewater generation rate from the Pit Top facilities will be similar to that which currently exists as there is no plan for an increase or significant change in staff numbers. Disposal of the domestic wastewater will remain as currently exists at site;
- **Mine dewatering procedures** – the 10 South Bore will continue to be used for groundwater management and dewatering during both continued operation and care and maintenance conditions.



TITLE: Fig 1-2 Project Application Area

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

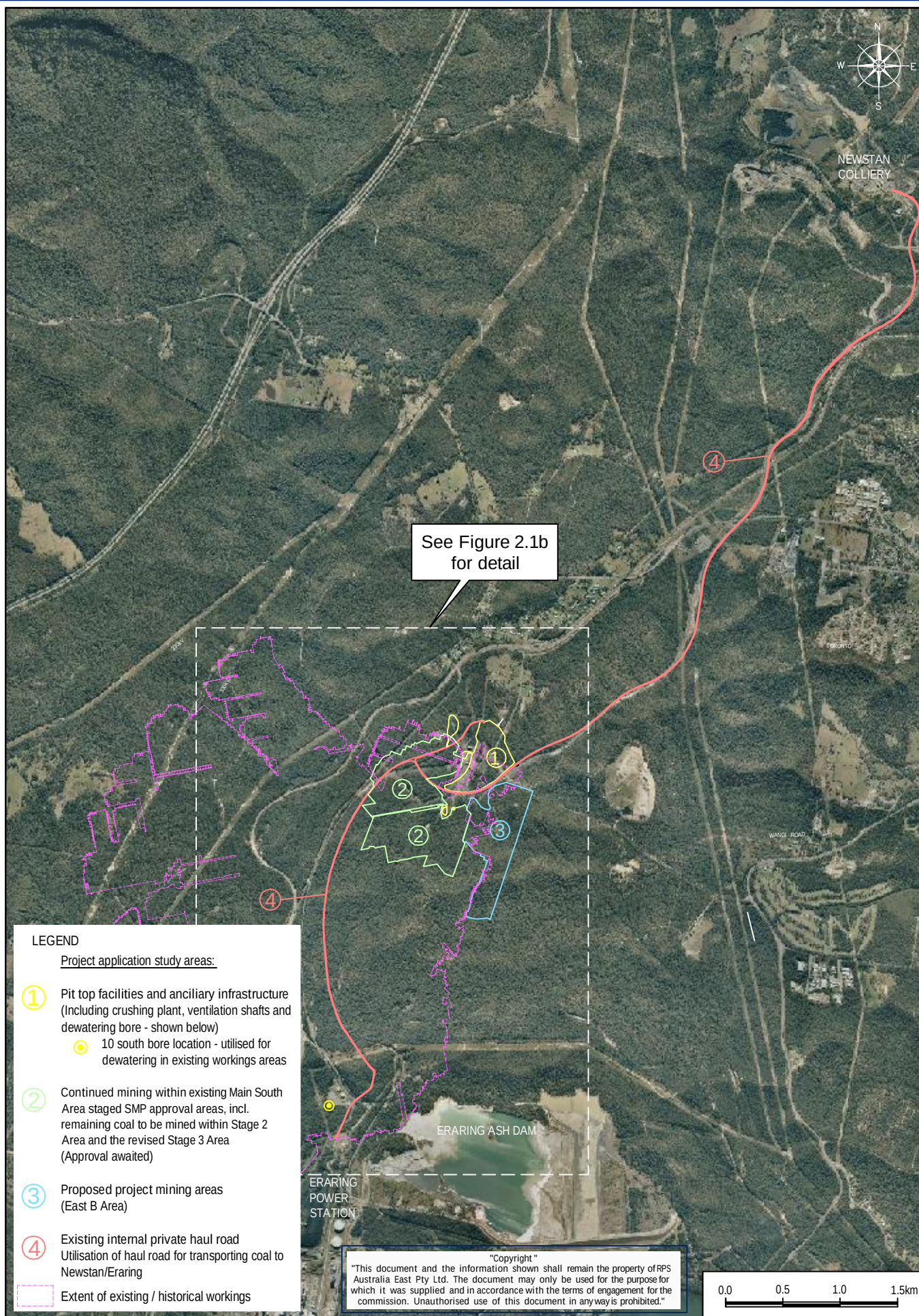
DATE: 3/09/2010
PURPOSE: HERITAGE ASSESSMENT

CAD REF: Fg1.2 Project App Areas100830
VERSION (PLAN BY): A A4 NW (TBM)

CLIENT: CENTENNIAL
JOB REF: 26171

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TITLE: FIGURE 1-3 Project
Application Study Area

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

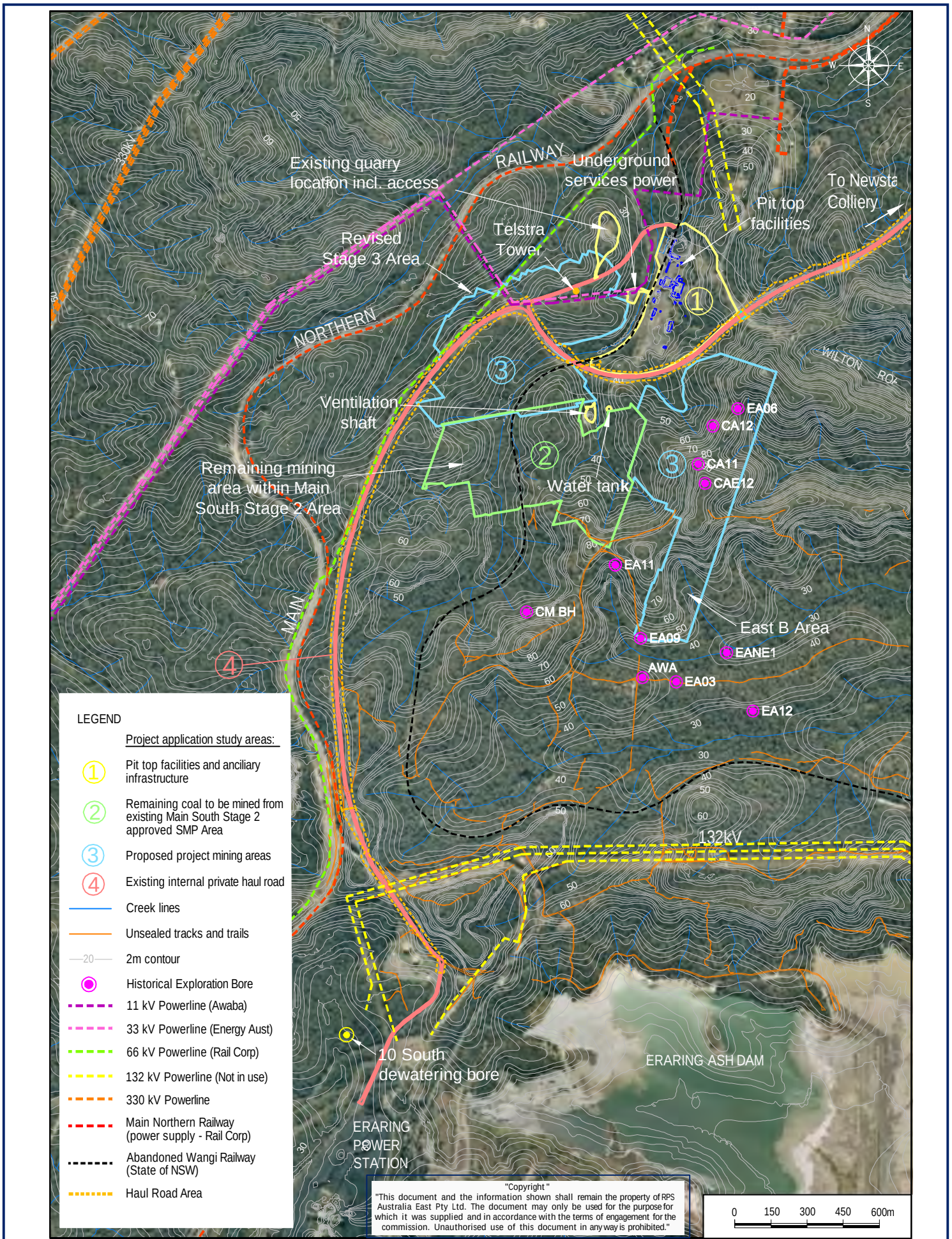
DATE: 3/09/2010
PURPOSE: HERITAGE ASSESSMENT

CAD REF: Fg2-1a Project App Study Areas 100810
VERSION (PLAN BY): A A4 NW (TBM)

CLIENT: CENTENNIAL
JOB REF: 26171

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TITLE: Fig 1-4 Project Application Study Area Detailed

LOCATION: AWABA

DATUM: DATUM

PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 3/09/2010

PURPOSE: HERITAGE ASSESSMENT

CAD REF: Fg2-1b Project App Study Areas det 100810

VERSION (PLAN BY): A A4 NW (TBM)

CLIENT: CENTENNIAL
JOB REF: 26171

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1.4 Legislative Context

Aboriginal heritage (places, sites and objects) within NSW are protected by *National Parks and Wildlife Act (1974, as amended)*. In some cases, Aboriginal heritage may also be protected under the *Heritage Act (1977)*. The *Environmental Planning and Assessment Act (1979)*, along with other environmental planning instruments, trigger the requirement for the investigation and assessment of Aboriginal heritage as part of the development approval process. For crown land, provisions under the Native Title Act (1993) may also apply.

1.4.1 National Parks and Wildlife Act (1974)

In NSW, National Parks and Wildlife (NPW) Act (1974) protect Aboriginal cultural heritage. It is overseen by the Department of Environment, Climate Change and Water (DECCW), and specifically the Director-General of DECCW.

Protection for Aboriginal sites is provided under Part 6 of the NPW Act (1974). It is an offence for a person or company to:

- knowingly destroy, deface, damage, cause or allow the destruction/defacement to an Aboriginal object or Aboriginal place (Section 90);
- disturb, move, excavate for the purposes of finding Aboriginal objects, or take possession of Aboriginal objects (Section 86) unless a valid Permit under Section 87 of the Act has been issued by the Director General of the DECCW; and
- be aware of the location of an Aboriginal object and fail to report it to the DECCW (Director-General) within a reasonable timeframe (Section 91).

The Aboriginal Heritage Management System (AHIMS) is part of the regulatory framework for the implementation of the NPW Act (1974) and is maintained by DECCW. AHIMS comprises a database which identifies the spatial location of Aboriginal sites, as well as indexing information about the site in the form of a site card. For the assessment of development proposals, heritage consultants are required to search AHIMS as part of heritage best practice and in accordance with the *NPWS Aboriginal Heritage Guidelines* (DEC 1997).

In the assessment of Aboriginal heritage, DECCW encourages consultation with relevant Aboriginal stakeholders. If an Aboriginal Heritage Impact Permit (AHIP) is required for an Aboriginal site, then specific DECCW guidelines are triggered for Aboriginal consultation. The *Interim Community Consultation Requirements for Applicants* (ICCR) were released by DEC in 2004 to guide Aboriginal consultation and have been in force until April 2010. These guidelines have now been replaced by the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (ACH guidelines, DECCW 2010) effective of 12th of April 2010. In the release of the of the ACH guidelines specific transitional arrangements have been stipulated in a supporting document, *Questions and Answers 2: Transitional Arrangements*. Section 1 (Q1) of this document indicates that if Aboriginal

consultation was commenced prior to the 12th of April 2010 (including advertising and notification of stakeholders) then consultation is to be continued under the previous ICCR guidelines. Aboriginal consultation for this Project was commenced as stipulated in Section 1 of the transitional guidelines and therefore consultation for this assessment has been undertaken in accordance with the ICCRs.

1.4.2 The Heritage Act (1977)

Historical archaeological relics, buildings, structures, archaeological deposits and features are protected under the Heritage Act 1977 (as amended 1999) and may be identified on the State Heritage Register (SHR) or by and active Interim Heritage Order. Certain types of historic Aboriginal sites may be listed on the SHR or subject to an active Interim Heritage Order; in such cases they would be protected under the Heritage Act 1977 and may require approvals or excavation permits from the NSW Heritage Council.

There are no Aboriginal sites in the study area which are listed on the SHR or are subject to an Interim Heritage Order.

1.4.1 Environmental Planning & Assessment Act 1979 (EP&A ACT)

This Act regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage.

Part 3A of the EP&A ACT relates to major projects, and if applicable, precludes the need to conform to other specific legislation. In particular, s75U of the EP&A Act explicitly removes the need to apply for s87 or s90 permits under the NPW Act. Although artefact collected during archaeological investigations, under Part 3A must be transferred to an appropriate authority or Aboriginal organisation under s85 of the NPW Act 1974. In considering approvals for development applications under Part 3A the Director-General of Planning is still obliged to consult with other government agencies, including DECCW and National Parks & Wildlife regarding Aboriginal heritage issues, such consultations generally trigger the requirement for the investigation of Aboriginal sites, prior to development.

1.4.2 Native Title Act (1993)

The *Native Title Act (1993)* recognises that some Aboriginal people have rights and interests to land which derives from their traditional laws and customs. Native title rights can include rights to: live on the land, access the land for traditional purposes, protect important places and sites, collect food and medicinal resources from native plants, hunt and fish, teach traditional law and customs, and to have input into land use practices and development planning. Native title can be negotiated in three ways, through a native title claim (applications and determinations), through an Indigenous land use agreement (ILUA) or future act agreements.

An ILUA is an agreement between a native title group and other parties who use or manage the land and waters. The ILUA process allows for negotiation between

indigenous groups and other parties over the use and management of land and water resources, as well as providing a means for coming to a formal agreement. ILUA are binding once they have been registered on the Native Title Tribunal's Register of Indigenous Land Use Agreements.

Lands within the study area are subject to an ILUA which was entered into on the 28th of May 1999 by the Wonnarua People (Wonnarua Nation Aboriginal Corporation) and Powercoal Pty Ltd which has since been acquired by Centennial, as such, Centennial is bound by the terms of the ILUA which are set out in the Master Deed. Section 7 of the Master Deed outlines Centennial's obligations, provisions for Aboriginal heritage are outlined in Section 7.2. Schedule 5 provides further detail regarding cultural heritage protocols. In particular, Schedule 5 requires that an Aboriginal Cultural Heritage survey needs to be undertaken where there is potential for mining operations to impact land which has not previously been mined or areas which have not previously been subject to heritage investigations. At least 30 days notice needs to be given to the Wonnarua People if land is to be disturbed by mining and a survey needs to be undertaken by a representative of the Wonnarua People and may also include; an archaeologist, surveyor, or representative of Centennial.

1.5 Aboriginal Community Consultation

The purpose of Aboriginal community consultation is to provide an opportunity for the relevant Aboriginal stakeholders to have input into the heritage management process. Guidelines for Aboriginal community consultation have been developed, to be implemented in accordance with the relevant sections of the EP&A Act (1979) and the NPW Act (1974). The guidelines relating to Part 3A assessment, the '*Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation*' (2007), are not yet available. As such, this document has been prepared in accordance with the guiding principles of the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005), as well as the *Interim Community Consultation Requirements* (Dec 2004).

Consultation regarding this project commenced with the Aboriginal community stakeholders under the *Interim Community Consultation Requirements* (2004) (ICCRs). Although new consultation guidelines *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) were released in April 2010; DECCW has advised that consultation commenced for projects prior to the 12th of April 2010 can continue under the ICCR process. In these circumstances the proponent is not required to recommence consultation under the new 2010 guidelines. Aboriginal consultation has also been undertaken in accordance with the ILUA.

1.6 Authorship and Acknowledgements

This report was written by Tessa Boer-Mah and reviewed by Darrell Rigby.

1.7 Terms and Definitions

Abbreviation	Definition
ADTOAC	Awabakal Descendants Traditional Owners Aboriginal Corporation
AHIMS	Aboriginal Heritage Information Management System
BP	Before present (as in years before present)
cal. years BP	Calibrated years before present, indicates a radiocarbon date has been calibrated using the dendochronology curves, making the date more accurate than an uncalibrated date
DECCW	Department of Environment, Climate Change and Water
GIS	Geographical Information System
KLALC	Koompahtoo Local Aboriginal Land Council
LEP	Local Environment Plan
PAD	Potential Archaeological Deposit
PCD	Pollution Control Dam
REP	Regional Environment Plan
REF	Review of Environmental Factors
SMP	Subsidence Management Plan
WNAC	Wonnarua Nation Aboriginal Corporation

2 Aboriginal Consultation

The purpose of Aboriginal community consultation is to provide an opportunity for the relevant Aboriginal stakeholders to have input into the heritage management process. Guidelines for Aboriginal community consultation have been developed, to be implemented in accordance with the relevant sections of the EP&A Act (1979) and the NPW Act (1974). The guidelines relating to Part 3A assessment, the '*Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation*' (2007), are not yet available. As such, this document has been prepared in accordance with the guiding principles of the 'Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' (DEC 2005). In addition to these guidelines, the study area is within an Indigenous Land Use Agreement (ILUA).

Centennial (and formerly Powercoal) has undertaken extensive consultation with the Aboriginal community over a number of years for lands within the Project Application area. Aboriginal consultation in the 1990s culminated in the formulation of the ILUA (Master Deed 1999). The ILUA has ensured ongoing consultation with the Wonnarua People (Wonnarua Nation Aboriginal Corporation - WNAC), over the last decade for lands within and adjacent to the Project Application area.

From 2005, Centennial has also undertaken a number of heritage assessments which have involved consultation with the Aboriginal community for various portions of land within the Project Application Area (ERM 2005; Indigenous Outcomes Pty Ltd 2007a; RPS 2010; RPS HSO 2009a). These heritage assessments were undertaken for different consent authorities, including the Mine Subsidence Board and Department of Planning (DoP). Aboriginal consultation has been undertaken in accordance with the specifications of the relevant consent authority. ERM (2005) surveyed the Outbye Pillar area, also known as the Main South Area (southern portion of Study Area 2, Figure 2-1) as part of a Subsidence Management Plan (SMP) with participation of WNAC (12th and 13th of September, 2005) and undertook subsequent consultation, see Aboriginal consultation log in Appendix 1.

In 2007, Indigenous Outcomes produced a heritage assessment for the quarry area (Study Area 1) and also undertook community consultation. The quarry area was surveyed with participation from Koombahtoo Local Aboriginal Land Council (Raymond Smith, David Ahoy, Joseph Williams, Ashley Hudson, Nathan Griffin, Allan Williams) as well as ADTOAC (Shane Frost) (Indigenous Outcomes Pty Ltd 2007b).

Other portions of the Project Application area have been surveyed by RPS in 2009 and 2010 with Aboriginal community participation (Figure 2-1). This includes, the northern portion of Study Area 2 that was surveyed (7th and 13th October, 2009) as part of the Revised Stage 3 SMP application with participation from Arthur Fletcher (WNAC) and Ashley Hudson (KLALC), as well as, the northern portion of Study Area 3 which was surveyed by RPS (7th and 13th October, 2009) with participation from Arthur Fletcher (WNAC) and Ashley Hudson (KLALC).

Once the decision was made by Centennial to apply for a Part 3A consent, Aboriginal consultation was undertaken in accordance with the principles of the Interim Community Consultation Requirements for Proponents (ICCR) to meet the Part 3A assessment requirements. Consultation under the ICCR guidelines was commenced in March 2010.

The notification of stakeholders (Stage 1 ICCR) was undertaken by contacting the relevant authorities regarding potential Aboriginal stakeholders for the study area (Local Aboriginal Land Council, Registrar of Aboriginal Owners, Native Title Services, Local Councils and DECCW) and an advertisement placed in a local print media. The advertisement was published in the Newcastle Herald (3 April 2010), inviting Aboriginal stakeholders to register an expression of interest (Appendix 1).

A list of Aboriginal stakeholders who have registered an expression of interest in the study area in 2010 is provided in Table 2-1. All registered stakeholders were sent a copy of the methodology for the assessment (Stage 2 ICCR), details provided in Appendix 1. The draft version of this report has been provided to the relevant Aboriginal Stakeholders (Stage 3 ICCR).

Table 2-1 List of Aboriginal stakeholders who have registered an expression of interest in the Project Application Area in 2010, under ICCR guidelines

Aboriginal Stakeholder	Date Expression of Interest Received (Eol)	Form of Eol
Awabakal Traditional Owners Aboriginal Corporation	30-Mar-2010	In writing (email)
Daniella Chedzey	31-Mar-2010	Verbal (phone)
Wonn1 Contracting	31-Mar-2010	Verbal (phone)
Awabakal Descendants Traditional Owners Aboriginal Corporation	1-Apr-2010	In writing (email)
Gidawaa Walang Cultural Heritage Consultancy	7-Apr-2010	In writing (email)
Wonnarua Nation Aboriginal Corporation	8-Apr-2010	In writing (fax)
NSW Aboriginal Land Council acting on behalf of Koombahtoo Local Aboriginal Land Council	14-Apr-2010	Verbal (Phone) and In writing (email)

The southern portion of Study Area 3 and Study Area 1 was surveyed on the 16th of April, 2010 with participation from Arthur Fletcher (WNAC), Shane and James Frost (ADTOAC).

All registered Aboriginal stakeholders have been consulted in the preparation of this CHIA and details are provided in Appendix 1. The draft version of this report has been provided to the relevant Aboriginal Stakeholders, the responses indicate that there is in principle agreement with the report and that an Aboriginal Cultural Heritage Management Plan (ACHMP) should be prepared as part of the ongoing management of the area. The ACHMP should be prepared in consultation with the relevant Aboriginal stakeholders to ensure that Aboriginal cultural values are adequately addressed.

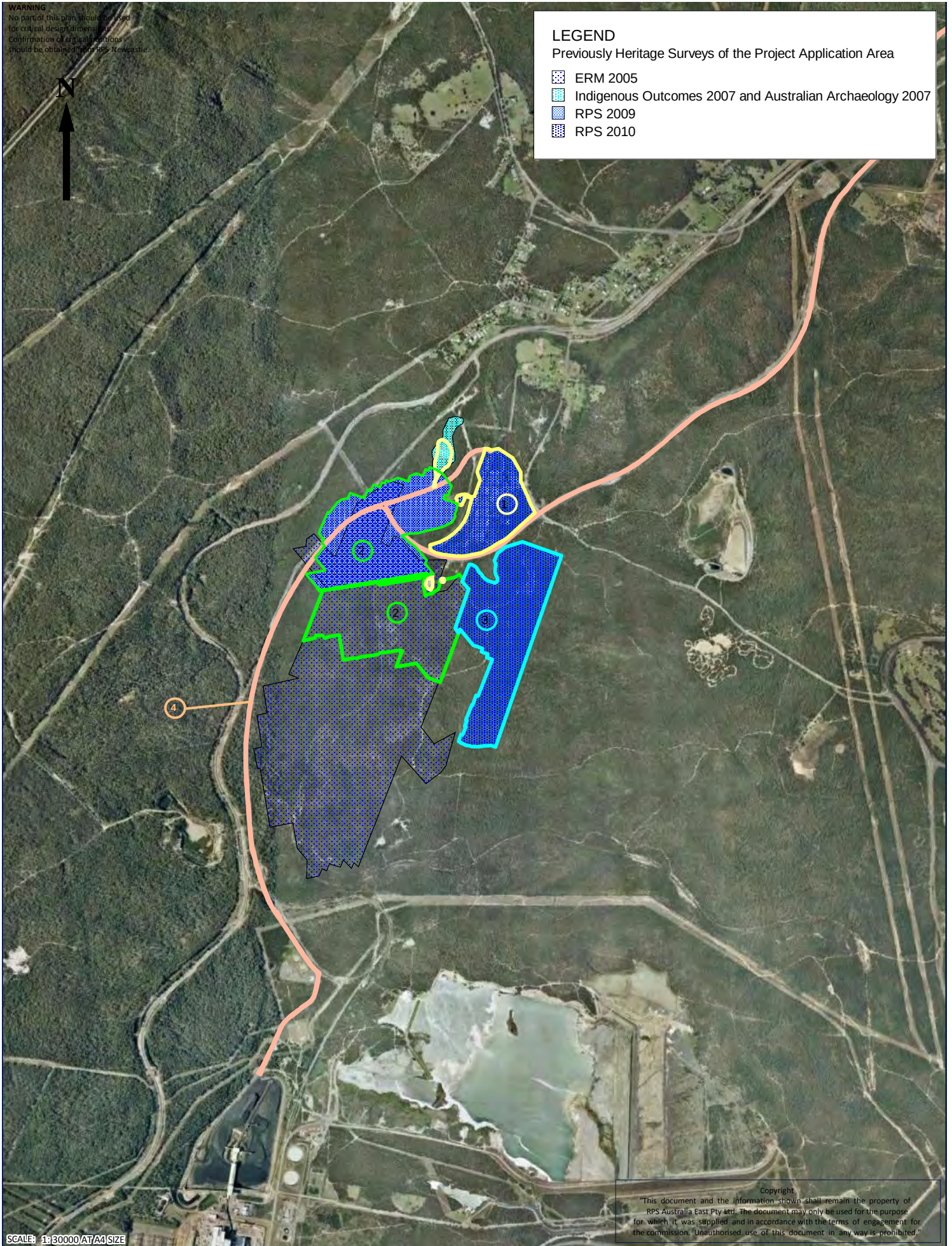
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LEGEND

Previously Heritage Surveys of the Project Application Area

-  ERM 2005
-  Indigenous Outcomes 2007 and Australian Archaeology 2007
-  RPS 2009
-  RPS 2010



TITLE: FIG 2-1 HERITAGE SURVEYS

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 27/5/2010
PURPOSE: PURPOSE

LAYOUT REF:
VERSION (PLAN BY): NW

CLIENT: CENTENNIAL
JOB REF: 26171

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3 Environmental Context

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as, for their interpretation. It provided natural resources for local Aboriginal people, such as, stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls, shelters, amongst others), as well as areas for camping and other activities. The nature of Aboriginal occupation and resource procurement is related to the local environment and it therefore needs to be considered in cultural heritage assessment. The NPW Standards and Guidelines kit (1997) also requires the reporting of environmental context as part of the heritage assessment process.

3.1 Geology and Soils

Aboriginal people often made stone tools using silicious rocks and therefore understanding the local geology can provide important information regarding resources in a study area. The nature of stone exploitation by Aboriginal people depends on the characteristics of the source, for example whether it outcrops on the surface (a primary) source, or whether it occurs as gravels (secondary source).

The majority of the study area is underlain by the Moon Island Beach Subgroup of the Newcastle coal measures. It comprises Permian rock including tuff, siltstone and coal (Geoscience Australia). Tuff was often used for stone tools by Aboriginal people and tuff artefacts have been identified in the region.

The study area encompasses the Awaba soil landscape which comprises:

- Gravelly brown loam A1 horizon. Brownish black to brownish grey or greyish yellow brown loamy sand to silty clay loam with rounded conglomerate inclusions; overlaying;
- Gravelly hard-setting sandy loam to sandy clay loam A2 horizon. Dull yellowish brown to light grey in colour with numerous rounded conglomerate inclusions; overlaying;
- Bright yellowish brown sandy clay loam B horizon. Colours range from dull yellow, yellowish brown to bright yellowish brown with grey, yellow or orange mottling occasionally present. The clay content of the B horizon varies depending on the parent material, a sandier B horizon occurs where the parent material has little clay content; overlaying; and
- Grey gravelly clay B2 horizon. The B2 horizon has a light to medium massive structure and porous fabric. Colours range from grey to bleached dull yellow orange with red or yellow mottling. Rounded conglomerate inclusions are frequent. (Murphy 1993:47)

3.2 Topography and Hydrology

The central portion of the study area ranges in elevation from 30m to 100m AHD (Swansea Topographic Mapsheet 92314N 2006). The eastern part of the study area encompasses a first order watercourse which drains into Kilaben Creek. First and second order streams are present in the western part of the study area and drain into Stony Creek. Small pools of water may have been retained within these drainage systems during rainy periods, but would have been a less reliable source of water in drier periods.

The topography and hydrology suggests that Aboriginal occupation in this area would not have been frequent or long term on the basis of limited water availability; however, the study area may have also been used for activities other than campsites and such activities may not have been as greatly influenced by the availability of water.

3.3 Flora and Fauna

Vegetation communities within the Study Area comprise mainly of open forest species. Predominant species include: brown Stringybark (*Eucalyptus capitellata*), scribbly gum (*E. haemastoma*), grey gum (*E. punctata*), smooth barked apple (*Angophora costata*) and black she-oak (*Allocasuarina littoralis*) (Murphy 1993).

This large array of plant species available indicates that the broader area could have also supported a rich variety of fauna species. Fauna species identified in and around the region of the Study Area include mammal species such as Kangaroo, wallaby, glider and possum species as well as numerous bird species.

The floral and fauna characteristics of the study area suggest that it would have provided food and medicinal resources for Aboriginal people, as well as other natural resources for manufacturing implements.

3.4 Condition of the Study Area

Apart from installed surface infrastructure, many of the original landforms appear intact and are vegetated. Trees in the study area are predominantly re-growth; although there may be some older trees present. Informal dirt tracks are also present across the central portion of the study area.

4 Aboriginal Heritage Context

The Aboriginal heritage assessment process requires that the significance of Aboriginal sites within a study area is assessed. It is important that Aboriginal sites are contextualised within the local and regional landscape, in order to inform the assessment of significance. The Aboriginal heritage context is also needed in order to develop a predictive model of Aboriginal sites in the study area.

4.1 Regional Archaeological Context

The study area is located in the lower Hunter Valley/Lake Macquarie region. Archaeological evidence suggests that Aboriginal occupation of the Hunter valley region began by at least 35,000 years (Koettig 1987). Additional chronological evidence was recovered from the Hunter Valley's northeast mountains for which the following dates were assigned 34,580±650 (Beta-17009), >20,000 (Beta-20056) and 13,020±360 years BP (Beta-17271) (Koettig 1987, as cited in Attenbrow 2006). These dates show that the region was occupied during the Pleistocene (>10,000 years ago), such sites are generally rare and therefore contain significant archaeological/scientific information, as well as, demonstrating the long occupation of Aboriginal people in the region.

The majority of Aboriginal sites in the region; however, are dated to the more recent Holocene (<10,000 years ago). This may reflect Aboriginal occupation patterns, but may also be influenced by the inaccessibility of potential coastal Pleistocene sites which were inundated when sea levels rose and reached present levels approximately 6000 years ago (Mulvaney and Kamminga 1999:223). Evidence for Holocene Aboriginal occupation has been recovered from Bobadeen (7,760 cal. years BP), as well as Milbrodale (1,420 cal. years BP) and Sandy Hollow (1,310 cal. years BP) (Moore 1970:58).

4.2 Local Archaeological Context

A number of archaeological investigations have been undertaken in the local landscape and the AHIMS results indicate that 30 sites have been recorded within 5 kilometres of the study area (Figure 4-1). The most common site types were middens followed by rockshelters and artefact scatters (Table 4-1). No registered AHIMS sites are located within the study area.

LEGEND



Project Application Area

AHIMS Search Results - by type

● Axe Grinding Groove

▼ Axe Grinding Groove, Shelter with Deposit

■ Axe Grinding Groove, Water Hole/Well

▼ Isolated Find

■ Rockshelter with PAD

● Midden

■ Natural Mythological (Ritual)

● Open Camp Site

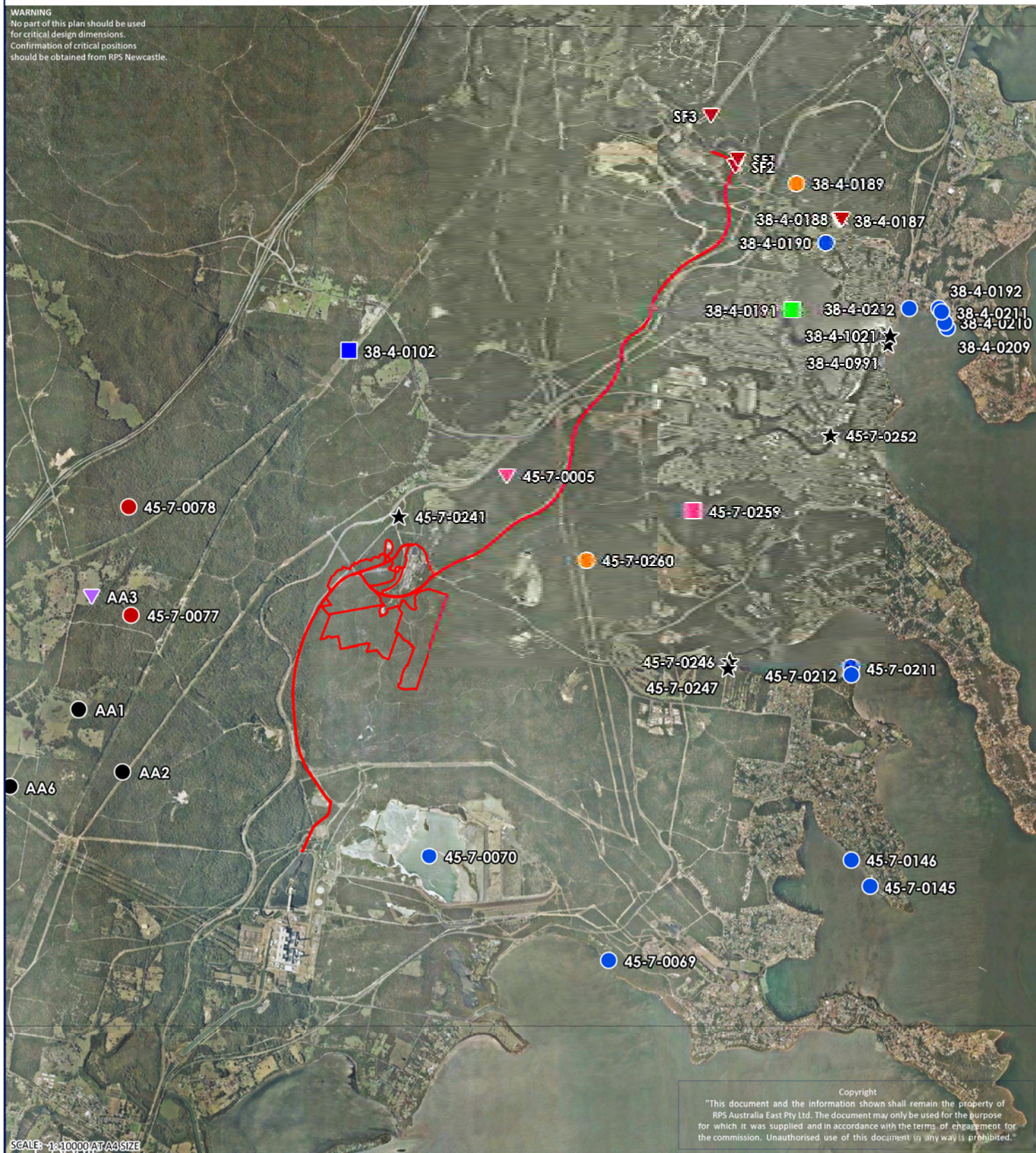
▼ Possible Scarred Tree

▼ Rock Engraving

★ Nil

● Unknown

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TITLE: FIGURE 4-1 AHIMS DATA

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 20/4/2010
PURPOSE: HERITAGE ASSESSMENT

LAYOUT REF:
\\26171\Awaba\10- Drafting\MapInfo\Archaeology
Workspaces\Awaba Colliery Part 3A project
VERSION (PLAN BY): A (TBM)

CLIENT: CENTENNIAL
JOB REF: 26171

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Table 4-1 Aboriginal Sites registered with AHIMS in the local area

Site Type	Frequency in AHIMS	Sites issued with permits	Total sites remaining in search area	Registered sites within the Study Area
Axe grinding groove	3	0	3	0
Rock Engraving	1	0	1	0
Isolated Find	1	0	1	0
Midden	13	1 (#2759)	12	0
Natural Mythological Site	1	0	1	0
Shelter	5	2 (#2768)	3	0
Shelter and Axe Grinding Groove	1	0	1	0
Artefact Scatter	4	0	4	0
Axe grinding groove with water hole	1	0	1	0
Total	30	3	27	0

The archaeological investigations of the local landscape have primarily been surveys. Due to the extensive vegetation cover in the areas adjacent to the study area, many of these surveys have been limited by low ground surface exposure and low visibility; although informal dirt tracks have provided good visibility and exposure in some areas.

Brayshaw (1982) Archaeological survey for expansion of Awaba State Mine

Both pedestrian and vehicle survey methods were used to cover an area for surface facilities at Awaba State Mine (Brayshaw 1982). Dense vegetation cover inhibited ground surface visibility and exposure. No Aboriginal sites were identified.

Dean-Jones (1989) Archaeological survey of proposed gravel quarry, Awaba State Mine

This survey was conducted to the north of the study area and encompassed approximately one square kilometre in the vicinity of Stony Creek (Dean - Jones 1989). It was noted during the survey that the extensive vegetation coverage inhibited visibility and ground surface exposure. One isolated find (mudstone flake) was recorded on a disturbed creek terrace adjacent to Stony Creek, but is outside the Project Area (Figure 2-1).

Resource Planning Pty Ltd (1991) Archaeological survey at Awaba

This survey was conducted for a 32 hectare area associated with a proposed clay target shooting facility (Resource Planning Pty Ltd 1991). The area was covered by extensive vegetation; limiting surface visibility and exposure, which was estimated to be less than 10

percent. The survey focussed on tracks, exposures, drainage lines, as well as ridges. No Aboriginal sites were identified.

Umwelt (1998) Archaeological Survey for Newstan Colliery Life Extension Project

This archaeological survey was conducted to the north of the current study area. Due to dense vegetation cover, the survey focussed on exposures, scarred trees and sandstone outcrops (Umwelt 1998). Three isolated finds, one grinding groove site and nine potential rockshelters (with archaeological deposit or potential archaeological deposit) were identified during the survey.

Umwelt (2004) Archaeological survey for Centennial Newstan Longwalls 22 and 23

This survey focussed on the tributaries of Lords and Stony Creeks, as well as a sample of other landforms (Umwelt 2004). The landscape was considered to be heavily disturbed and no new sites were identified.

ERM (2005) Archaeological Survey for Awaba Colliery Outbye Pillar Extraction

This survey was conducted immediately to the west of the study area. Survey transects for this survey aimed to provide a sample of the 206 hectare impact area (ERM 2005). Vegetation coverage was extensive, with visibility and exposure generally 5 percent, although in confined areas such as vehicle tracks visibility and exposure were as high as 100 percent. No Aboriginal sites were identified during the survey.

Indigenous Outcomes (2007) Archaeological Survey Newstan Colliery Area

This survey included the quarry area to the west of the pit top area (within the current Project Application area), as well as, lands to the west of the Project Application area. No Aboriginal sites within the Project Application area were identified. One Aboriginal site (AA4 isolated find) had been previously recorded (outside the Project Application area), but was not identified during the survey. One potential scarred tree was identified (AA3), but is also outside the Project Application Area (Indigenous Outcomes Pty Ltd 2007b).

RPS HSO (2008a). Awaba East Exploratory Drilling Program

This study involved a desktop analysis of AHIMs results and other relevant archaeological reports to create a predictive model and sensitivity mapping for the Awaba East Exploratory Drilling study area. Based on available information, areas of high archaeological sensitivity were identified where they met the following criteria:

- Along the ridges and upper slopes of the subject area;
- Within 200 metre radius of any known Aboriginal site;
- Within 200 metres of drainage lines;
- Areas heavily treed with old vegetation; or in
- Areas with a 5 degree slope or less.

On the basis of these criteria archaeological sensitivity was mapped within the Awaba East Exploratory Drilling area in order to develop heritage management protocols (RPS HSO 2008a).

RPS HSO (2008b). SMP Archaeological Assessment 3 North Area

An archaeological survey was conducted for the 3 north area (immediately east of Study area 3). No Aboriginal sites were identified, the area was thus assessed to have moderate-low archaeological sensitivity (RPS HSO 2008b).

RPS HSO (2009). Archaeological Assessment Awaba East Exploration Area Stage 2 Drilling Area

This study involved a desktop assessment for the for Awaba East Exploration Area Stage 2 Drilling area, located within 2km east of the current study area. It identified the locations which had been previously surveyed, areas which had previously been mined, as well as, areas which had neither been mined or subject to archaeological survey. This allowed heritage management zones for the exploration area to be defined, for which a set of heritage management protocols were devised (RPS HSO 2009b).

4.3 Predictive Model for Aboriginal sites within the Study Area

On the basis of previous archaeological investigations, including several archaeological assessments prepared by RPS for Centennial Coal with regard to the Awaba area (RPS HSO 2008a; RPS HSO 2008b; RPS HSO 2009b), a predictive model of archaeological sites can be developed. Site predictions for the study area are:

- Scarred / modified trees have been predicted in areas where sufficient old growth vegetation remains;
- Rockshelters suitable for habitation could be present in areas where suitable outcropping occurs, if close to a reliable water source;
- Grinding grooves may be present where rock outcropping with a suitable smooth surface occurs in conjunction with a reliable water source which could either be a permanent drainage line or ponds / pools of water;
- The artefact scatters occur on ridge lines and in greater density along the valley bottoms with major creek lines featuring reliable water sources;
- Isolated finds may be found across all landforms;
- Slope has a large impact on site location. Most sites are located on gentle slopes with a gradient of less than 2 degrees. Sites may be located on slopes with a gradient higher than 10 degrees if an alternative access route is present in addition to the slope itself (ie: along a ridge / crest)

The predictive model provides a basis for contextualising survey results, assisting interpretation of archaeological landscapes, as well as informing the assessment of significance.

5 Methodology

All heritage assessments which have been undertaken in the Project Application area have been undertaken in accordance with DECC guidelines for survey reporting (NSW National Parks and Wildlife Service 1997) and included the following components:

- Documentation of survey coverage
- Documentation of results; and
- Documentation of significance of sites/areas to the Aboriginal community.

5.1 Survey Coverage

The survey methodologies aimed to provide adequate coverage of the study area, sample coverage of all landforms, areas of exposure, as well as, vegetated areas. Survey coverage included:

- Survey Unit description;
- Survey method (pedestrian/vehicle)
- Number of people involved

Survey units were described for each survey area, in particular, exposure and ground surface visibility were reported to ensure comparability of survey results between different areas of the local landscape, as well as, to contextualise survey results. Areas with high visibility and exposure generally have a lot of land surface disturbance, which can expose high quantities of archaeological material (particularly stone artefacts). Conversely, areas with low visibility and exposure particularly due to native vegetation coverage, are generally more intact (undisturbed) landscapes, while the identification of sites (particularly artefact scatters) in such areas are generally low, there is potential for intact archaeological deposits, which have been protected by vegetation coverage.

The survey execution, by vehicle or pedestrian methods, was described, as well as the number of people involved.

5.2 Documentation of Results

The documentation of Aboriginal sites and areas of archaeological sensitivity was undertaken using the following methods:

- Digital Photography;
- GPS recording (differential); and
- field notes

In accordance with DECCW guidelines photographic recording was undertaken of landforms, survey units, Aboriginal cultural material, areas of archaeological or cultural

sensitivity, levels of disturbance, as well as, other areas/items of interest. Photographs were scaled, as appropriate.

Differential GPS units were used to record the location of Aboriginal heritage sites/areas of sensitivity. GPS tracklogs were also used for recording the location of survey units.

Field notes incorporated details including the size, location, contents and condition of Aboriginal heritage in the area. Size was recorded, either by GPS or tape measure. Location was recorded using differential GPS. Contents of sites included listing artefact types, raw materials as well as other site features. The condition of Aboriginal sites/areas of sensitivity were recorded including providing a description of the levels and cause of disturbances such as, erosion, land clearing and similar factors.

5.3 Documentation of Aboriginal significance

Aboriginal stakeholders participating in the surveys were asked about the cultural significance of the survey area and where applicable and/or appropriate, about the significance of Aboriginal sites and/or areas of archaeological sensitivity. An opportunity to comment on cultural significance was also provided in the survey preparation documentation and post survey reporting.

6 Heritage within the Project Application Area

The project application comprises four study areas, Aboriginal and non-Indigenous heritage sites/places have been outlined by study area. Centennial has engaged a number of consultants to survey areas within the Awaba Colliery, over several years. All lands within the Project Application have been previously surveyed as shown in Figure 2-1.

6.1 Study Area I Heritage

6.1.1 Study Area I Aboriginal Heritage

The pit top area was disturbed during the 1950s installation of infrastructure and land surfaces around the quarry were disturbed during the initial quarry activities. The PCD was installed in a highly disturbed area, mainly comprising fill. It is proposed that this dam will be expanded (Plate 6-1).

The PCD area was inspected on the 16th of April, 2010 by RPS archaeologist Tessa Boer-Mah, as well as, members of the Aboriginal community, Shane Frost and James Frost of Awabakal Descendents Traditional Owners Aboriginal Corporation (ADTOAC) and Arthur Fletcher of Wonnarua Nation Aboriginal Corporation (WNAC) (ILUA agreement). The PCD inspection revealed that the area was already highly disturbed and no Aboriginal material was identified.

Plate 6-1 Pollution Control Dam (PCD), as inspected by RPS, ADTOAC and WNAC on 16th of April, 2010



6.1.2 Study Area I Non-Indigenous Heritage

The buildings in the pit top area associated with Awaba State Mine (AW-07) have been identified in a previous heritage study as having very high local heritage significance in terms of representing extractive industries in the area (Suters Architects Snell 1993a; Suters Architects Snell 1993b). It was assessed as having high significance on a regional level and moderate in terms of state significance. AW-07 area appears in the Draft City of Lake Macquarie heritage map. The quarry area within Study Area 1 has been previously surveyed and no non-Indigenous heritage items were identified (Archaeology Australia 2007).

Awaba State Coal Mine was opened on the 14th of July 1948 by J.M. Baddeley (MLA) to supply coal for the Lake Macquarie (now Wangi) Power Station (Suters Architects Snell 1993b). Coal was originally supplied via a branch rail-line until the c1970 and then by truck.

The colliery buildings date from c1950 and comprise offices, bathhouse, lamp room, boiler house, coal loader/screen, workshops and drift portals (Figure 6-2). The majority of buildings were constructed with orange-red brick and low pitched gable roofs (Plate 6-2). The boiler house and coal loader/screens tower over the lower administration buildings. The workshops and drift portals are situated on a lower level northwest of the administration buildings (Plate 6-3). The drift portals bear the name of the mine, as opened in 1948.

Plate 6-2 Awaba administration buildings, built c1950



Plate 6-3 Drift portal with State Coal Mine Awaba inscription (foreground), station workshops (background).



The statement of significance identifies that Wangi Power Station was the first coalfields sited power station in NSW (Suters Architects Snell 1993b). Thus the pit top buildings at Awaba Colliery share their significance with Wangi Power Station. It was also identified that the rural setting of the pit top area, surrounded by forest clad ridges had an aesthetic value which is unmatched in the Lake Macquarie area (Suters Architects Snell 1993b).

6.2 Study Area 2 Heritage

Study Area 2 comprises lands located to the west and south west of the pit top area. Both these areas have been previously surveyed and assessed; western portion by RPS HSO (RPS HSO 2009a), and the south western portion by (ERM 2005).

6.2.1 Study Area 2 Aboriginal Heritage

The western portion of Study Area 2 was surveyed on the 7th and 13th of October 2009 by RPS archaeologist Lisa Campbell, with Aboriginal stakeholders Arthur Fletcher (WNAC) and Ashley Hudson (KLALC). No Aboriginal sites requiring AHIMS registration were identified (RPS HSO 2009a). However, an area of high archaeological sensitivity was identified along Stony creek and a small area of moderate archaeological sensitivity along the northern boundary, adjacent to a tributary of Stony Creek.

The south western portion of Study Area 2 was surveyed on the 12th and 13th of September, 2005 by ERM in consultation with local Aboriginal stakeholder group WNAC (represented by Scott Franks). No Aboriginal sites, or areas of archaeological sensitivity were identified (ERM 2005).

6.2.2 Study Area 2 Non-Indigenous Heritage

Non-Indigenous heritage within Study Area 2 includes the abandoned Awaba-Wangi rail line (Lake Macquarie Inventory RT03 – Suters Architects Snell 1993a,b). It comprises a single track rail line on wooden sleepers and two power poles associated with this rail line were identified within Study Area 2, (Figure 6-2). The rail line shares its significance with the Wangi power station (WG-01) and the Awaba Colliery pit top area (AW-07) as an example of extractive industries within the Lake Macquarie LGA (Suters Architects Snell 1993a; Suters Architects Snell 1993b).

6.3 Study Area 3 Heritage

This area is located southeast of the pit top area (East B) and contains portions of land that have not been previously mined. It comprises bush traversed by dirt tracks. This study area was surveyed in two portions (East B north and East B south).

6.3.1 Study Area 3 Aboriginal Heritage

The northern portion of East B was surveyed on the 7th and 13th of October 2009 by RPS archaeologist Lisa Campbell, with Aboriginal stakeholders Arthur Fletcher (WNAC) and Ashley Hudson (KLALC). No Aboriginal sites requiring AHIMS registration were identified, nor were areas of high or moderate sensitivity identified (RPS 2010).

The southern portion of Study Area 3 was surveyed on the 16th of April, 2010 by RPS Senior Archaeologist Tessa Boer-Mah with Aboriginal stakeholders Arthur Fletcher (WNAC) and Shane and James Frost (ADTOAC). No Aboriginal sites requiring AHIMS registration were identified, but one area of moderate archaeological sensitivity was identified (RPS 2010).

6.3.2 Study Area 3 Non-Indigenous Heritage

No non-Indigenous Heritage items are listed on the Australian Heritage Database, the NSW Heritage Inventory or the Lake Macquarie City Council Local Environment Plan. The surveys of the area did not identify any non-Indigenous heritage items (RPS 2010).

6.4 Study Area 4 Heritage

Study area 4 comprises the existing private coal haul road and does not extend beyond the existing road infrastructure.

6.4.1 Study Area 4 Aboriginal heritage

No Aboriginal sites or areas of archaeological sensitivity have been identified within the haul road of Study Area 4.

6.4.2 Study Area 4 non-Indigenous heritage

No non-Indigenous Heritage items are listed on the Australian Heritage Database, the NSW Heritage Inventory or the Lake Macquarie City Council Local Environment Plan. No non-Indigenous heritage items or places have been identified within the haul road of Study Area 4.

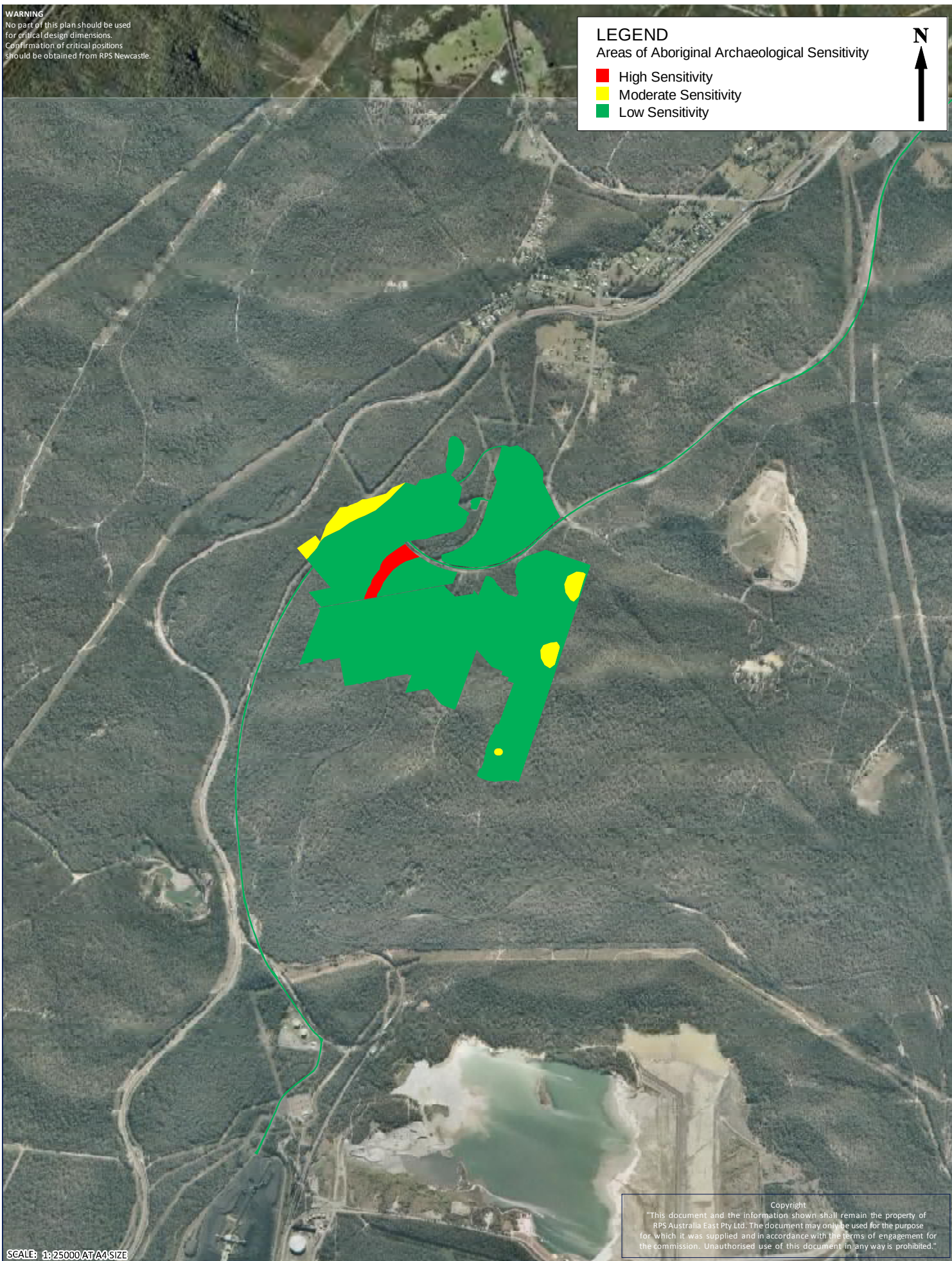
6.5 Summary of Heritage

Areas of archaeological sensitivity for Aboriginal heritage have been identified within the project application area and are presented in Figure 6-1. Non-Indigenous heritage items are presented in Figure 6-2.

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LEGEND
Areas of Aboriginal Archaeological Sensitivity

- High Sensitivity
- Moderate Sensitivity
- Low Sensitivity



SCALE: 1:25000 AT A4 SIZE

TITLE: FIGURE 6-1 ABORIGINAL
ARCHAEOLOGICAL SENSITIVITY

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 14/5/2010
PURPOSE: HERITAGE ASSESSMENT

LAYOUT REF: areas of arch sensitivity A A4
VERSION (PLAN BY): TBM (DR)

CLIENT: CENTENNIAL
JOB REF: 26171

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LEGEND
Non-Indigenous Heritage
▲ Powerpoles
- - - Abandoned Wangi Rail Line
Pit Top Area (AW07)

SCALE: 1:30000 AT A4 SIZE

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▲ Powerpoles
 --- Abandoned Wangi Rail Line
 Pit Top Area (AW07)

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7 Impact Assessment and Mitigation

Four study areas have been defined within the proposed project area. Heritage sites and areas of archaeological sensitivity have been outlined. The impact assessment considers the impacts of the proposed development on heritage within the project area. Aboriginal archaeological sensitivity mapping with reference to the mine plan layout has been provided in Figure 7-1.

7.1 Study Area I Impact Assessment and Mitigation

7.1.1 Study Area I Aboriginal Heritage Impact Assessment

Inspection of this area revealed that the pit top area was disturbed during the original installation of infrastructure and land surfaces around the quarry were disturbed during the initial quarry activities. The PCD was installed in a highly disturbed area, mainly comprising fill, the expansion of this dam will involve excavation within this fill area.

No Aboriginal sites or material was identified in this area. Consultation with ADTOAC and WNAC revealed that both stakeholder groups were satisfied that no further archaeological works, or mitigation measures, are required prior to the dam expansion in this area.

7.1.2 Study Area I Non-Indigenous Heritage Impact Assessment

There are no proposed changes to historic pit top buildings or infrastructure in this area and therefore there is no risk of impact to non-Indigenous heritage associated with the project area application.

WARNING
No part of this plan should be used
for critical design dimensions.
Confirmation of critical positions
should be obtained from RPS Newcastle.

LEGEND

Mine Plan

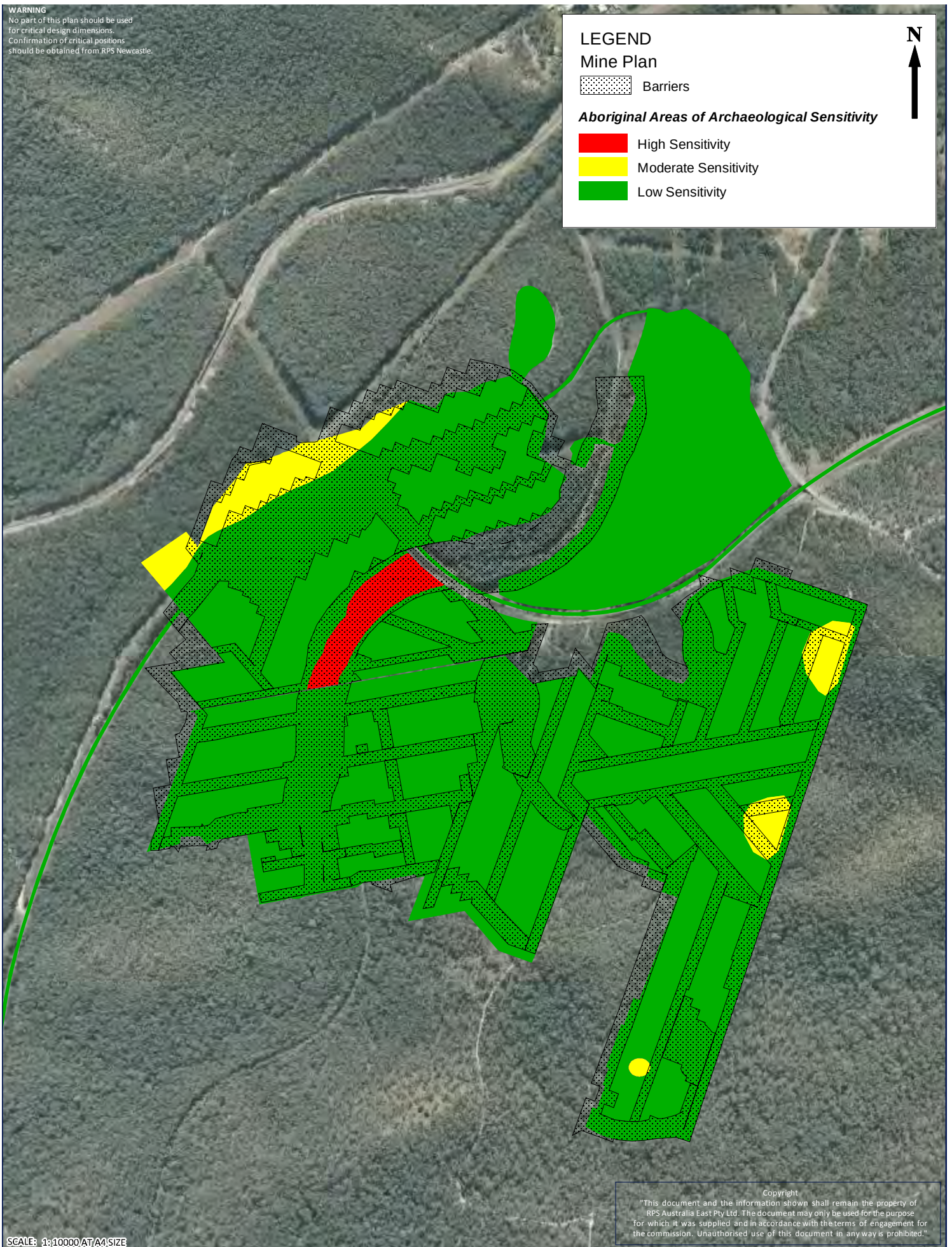
 Barriers

Aboriginal Areas of Archaeological Sensitivity

 High Sensitivity

 Moderate Sensitivity

 Low Sensitivity



SCALE: 1:10000 AT A4 SIZE

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TITLE: FIGURE 7-1 MINE PLAN AND
ABORIGINAL ARCHAEOLOGICAL
SENSITIVITY

LOCATION: AWABA

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 14/5/2010
PURPOSE: HERITAGE

LAYOUT REF: 26171 Figure 7-1 Mine plan Aborigi
VERSION (PLAN BY): TBM (DR)

CLIENT: CENTENNIAL
JOB REF: 26171

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241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
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RPS

7.2 Study Area 2 Impact Assessment and Mitigation

Western portion subsidence predictions

Predictions for subsidence within the western portion of Study Area 2, was assessed by Seedsman Geotechnics Pty Ltd (2009). It is predicted that sag between pillars will be less than 10mm and that subsidence above pillars less than 100mm. Vertical subsidence was predicted to develop over an area of approximately 200 metres which includes two panels and one pillar row. Vertical subsidence across such an area is predicted to be in the range of 1mm per metre. While considered there is low potential for plug failure, if this occurs subsidence could be up to 2.5m (Seedsman Geotechnics Pty Ltd 2009).

South western portion subsidence predictions

Predictions for subsidence in the southwestern portion of Study Area 2 have been assessed to be less than 120mm (ERM 2005:32).

7.2.2 Study Area 2 Aboriginal Heritage Impact Assessment and Mitigation

Western

No Aboriginal sites requiring AHIMS registration were identified in the western portion of Study Area 2 (RPS HSO 2009a). However, an area of high archaeological sensitivity was identified along Stony Creek and a small area of moderate archaeological sensitivity adjacent to a tributary of Stony Creek.

South western

No Aboriginal sites, or areas of archaeological sensitivity were identified in Study Area 3 (ERM 2005). Subsidence, therefore, will have no impact on known Aboriginal sites.

There are no identified Aboriginal sites in Study Area 2 and therefore subsidence will not impact on known Aboriginal sites. The vertical movement of soil during subsidence will not necessarily impact areas of archaeological sensitivity; however, if there is cracking or other processes which exposes soil profiles, including plug failure, there is potential for archaeological material to be identified in areas of moderate and high sensitivity. Should cracking, soil erosion, or plug failure occur; areas of moderate and high sensitivity then the following mitigation strategy should be adopted: the area should be inspected by a suitably qualified archaeologists, as well as, the relevant Aboriginal stakeholders.

7.2.3 Study Area 2 Non-Indigenous Heritage Impact Assessment and Mitigation

Non-Indigenous heritage within the study area includes the abandoned Awaba-Wangi rail line (Lake Macquarie Inventory RT-03 – Suters Architects Snell 1993a,b). It comprises a single track rail line on wooden sleepers, which spans both the western and south western portions of the study area. Two power poles associated with this rail line were also identified. The rail line shares its significance with the Wangi Power Station (WG-01) and the Awaba State Mine (AW-07) as an example of extractive industries within the Lake Macquarie LGA (Suters Architects Snell 1993a; Suters Architects Snell 1993b).

Subsidence may cause some deformation of the rail line and possibly affect the two power poles identified. The rail line (RT-03) is significant for its representation of extractive industries in the Lake Macquarie LGA. If deformation of the rail line occurs as a result of mining, this would not detract from the significance of the item, but form part of the life-history of the rail easement and could possibly add to the interpretative value of the area. Impacts posed by the development are not considered detrimental to proposed heritage item (RT-03).

7.3 Study Area 3 Heritage Impact Assessment and Mitigation

Seedsman Geotechnics Pty Ltd (2010) has modelled the subsidence predictions of Study Area 3 (East B area). Depth of cover in this area ranges from 15m to 80m and the thickness of the coal seam to be mined is between 2 and 3 metres thick. Modelling of the geology is based primarily on four bore holes (2 additional bore holes did not reach adequate depths in the conglomerate to provide useful data). The bore hole data reveals that the conglomerate is between 8 and 18m thick.

Subsidence in the study area will be a function of the sag of the conglomerate and compression of the pillar system. If the conglomerate cannot span the panel a 'plug' collapse will occur.

Sag of the conglomerate has been associated with vertical subsidence of 10-100mm, while compression of the pillar system is in the order of 50-100mm (maximum of 200mm). A plug collapse would result in vertical subsidence of approximately 2m. Thus far, maximum subsidence within the Awaba Colliery lease has been 125mm (Seedsman Geotechnics Pty Ltd 2010).

7.3.1 Study Area 3 Aboriginal Heritage Impact Assessment

No Aboriginal sites requiring AHIMS registration were identified within Study Area 3 (East B area). One area of moderate archaeological sensitivity was identified.

There are no identified Aboriginal sites in Study Area 3 and therefore subsidence will not impact on known Aboriginal sites. The vertical movement of soil during subsidence will not necessarily impact areas of archaeological sensitivity; however, if there is cracking or other processes which exposes soil profiles, including plug failure, there is potential for archaeological material to be identified in areas of moderate and high sensitivity. Should cracking, soil erosion, or plug failure occur; areas of moderate and high sensitivity, the following mitigation measure adopted: the area should be inspected by a suitably qualified archaeologists, as well as, the relevant Aboriginal stakeholders.

7.3.2 Study Area 3 Non-Indigenous Heritage Impact Assessment

No non-Indigenous Heritage items are listed on the Australian Heritage Database, the NSW Heritage Inventory or the Lake Macquarie City Council Local Environment Plan and surveys of the area have not identified non-Indigenous heritage items (RPS 2010). Subsidence will not impact non-Indigenous heritage in Study Area 3.

7.4 Study Area 4 Heritage Impact Assessment and Mitigation

7.4.1 Study Area 4 Aboriginal heritage

No Aboriginal sites or areas of archaeological sensitivity have been identified within the haul road of Study Area 4 and thus no mitigation measures have been proposed.

7.4.2 Study Area 4 non-Indigenous heritage

No non-Indigenous heritage items or places have been identified within the haul road of Study Area 4. Activities in Study Area 4 of the project application will not impact on non-Indigenous heritage.

7.5 Principles of Ecologically Sustainable Development

The principles of ecologically sustainable development need to be considered under 2A of the NPW Act. Inter-generational equity is part of these principles, which allows future generations to access the cultural and environmental diversity of the present generation.

Inter-generational equity has been considered as part of the assessment of significance. State significant Aboriginal sites should be considered for blanket protection for future generations, as these sites have been assessed as having highest significance within NSW. No Aboriginal sites of state significance were identified in the project application area.

8 Conclusions and Recommendations

This report is based on a number of heritage assessments which have been undertaken in the project application area. It has provided an outline of heritage within the four study areas which make up the project application area and has considered the environmental and archaeological context of these areas. The proposed impacts to Aboriginal and non-Indigenous heritage has been assessed in relation to intended activities within the project application area.

Recommendations for each study area have been formulated in respect to Aboriginal and non-Indigenous heritage, followed by more general recommendations which relate to the overall project area.

8.1 Recommendations for Study Area 1

Study Area 1 comprises the pit top area and ancillary infrastructure. The only proposed impact in this area comprises the widening and expansion of the pollution control dam, there will be no other changes to infrastructure. No Aboriginal sites or areas of archaeological sensitivity were identified. Non-Indigenous heritage was identified in Study Area 1, but activities proposed for the Project will not impact these items.

Recommendation 1

There are no known Aboriginal heritage sites within Study Area 1 and thus no identified constraints for the proposed activities.

Recommendation 2

There are no non-Indigenous heritage constraints for Study Area 1 on the basis that there are no modifications to the pit top area, other than the widening of the pollution control dam.

8.2 Recommendations for Study Area 2

Study Area 2 comprises primarily of bush which will be impacted by subsidence due to underground mining. No Aboriginal sites requiring AHIMS registration were observed in this area; however, areas of moderate and high archaeological sensitivity were identified.

Study Area 2 contains the abandoned Awaba-Wangi rail line (RT-03), a proposed heritage item. Although RT-03 may be affected by subsidence, it is not anticipated that associated deformation will affect the significance of this proposed heritage item and therefore no mitigation measures are required.

Recommendation 3

Areas of moderate and high archaeological sensitivity in Study Area 2 should be monitored for cracking, soil exposure or plug failure, if any of these occur, then a suitably

qualified archaeologist and the Aboriginal community should be contacted to inspect the area.

Recommendation 4

No mitigation measures are required for non-Indigenous heritage in Study Area 2.

8.3 Recommendations for Study Area 3

Study Area 3 is located southeast of the pit top area (East B) and has not been previously mined. It comprises bush traversed by dirt tracks. No Aboriginal sites requiring AHIMS registration were observed in this area; however, an area of moderate archaeological sensitivity was identified. Study Area 3 does not contain any listed non-Indigenous heritage items, nor have any items been identified during recent surveys.

Recommendation 5

The area of moderate archaeological sensitivity in Study Area 3 should be monitored for cracking, soil exposure or plug failure, if any of these occur, then a suitably qualified archaeologist and the Aboriginal community should be contacted to inspect the area.

Recommendation 6

There are no non-Indigenous heritage constraints for Study Area 3.

8.4 Recommendations for Study Area 4

Study Area 4 comprises the existing private haul road. There are no proposed changes or upgrades associated with the project application and therefore activities will not impact Aboriginal or non-Indigenous heritage.

Recommendation 7

There are no known Aboriginal heritage sites within Study Area 4 and thus no identified constraints for the proposed activities.

Recommendation 8

There are no non-Indigenous heritage constraints for Study Area 4.

8.5 Recommendations for Management of the Project Application Area

The following recommendations apply to all lands within the project application area, as well as, relevant onsite personnel and Centennial staff.

Recommendation 9

All relevant Centennial staff should be made aware of their statutory obligations for heritage under NSW NP&W Act (1974) and the NSW Heritage Act (1977), which may be implemented as a heritage induction.

Recommendation 10

All areas of moderate and high archaeological sensitivity should be included in Centennial's environmental management framework for Awaba Colliery, so that staff are aware that these areas will require management, in certain instances.

Recommendation 11

The Aboriginal cultural heritage management plan should be incorporated as part of the ongoing management of heritage within Awaba Colliery.

The ACHMP would include strategies which specifically address identified heritage within the Awaba project area, as well as, contingency strategies for any additional heritage issues which may arise. The ACHMP would comprise:

- Roles and Responsibilities (Centennial, Aboriginal stakeholders, heritage consultant)
- Heritage management strategies and step by step protocols for:
 - » Identified Aboriginal heritage
 - » Subsidence greater than the potential maximum subsidence prediction of 200mm (such as, plug failure)
 - » Management of additional sites, if identified

Recommendation 12

In the unlikely event of subsidence above the expected 200mm (such as plug failure), then all areas affected should be inspected by a suitably qualified archaeologist, in consultation with the Aboriginal community.

Recommendation 13

If an Aboriginal site is identified in the Project area, then all works in the area should cease, the area cordoned off and contact made with DECCW Enviroline 131 555, a suitably qualified archaeologist and the relevant Aboriginal stakeholders, so that it can be adequately assessed and managed.

Recommendation 14

If subsidence, or any other impacts, extend beyond the project application area, then further archaeological assessment and management will be required.

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Appendix I

Aboriginal Consultation

Log of Aboriginal Consultation

Date	Description	Contact Method	Outcome
15/07/2010	TBM of RPS spoke to Kerrie Brauer regarding the report	Phone	In principle agreement with the recommendations of the report and would like to have awareness raised in general for Aboriginal cultural heritage in the ACHMP, comments acknowledged
7/07/2010	AN spoke to Arthur Fletcher from Won1 in regards to comments for final report.	Phone	Arthur Fletcher was satisfied with the report and recommendation and agreed to have his verbal comments noted in the consultation log.
7/07/2010	AN spoke to Laurie Perry of WNAC in regards to comments for final report	Phone	Was satisfied with the report and agreed for comments to be included in the consultation log via verbal communication
5/07/2010	Received comments from ATOAC for report	Email	In principle agreement with the recommendations of the report and comments acknowledged
5/07/2010	AN rang ATOAC, W1, WNAC in regards to comments for final report	Phone	All groups agreed to send their comments as soon as they can
18/06/2010	ADTOAC sent comments with regards to the report	Email	Agreed in principle with the recommendations of the report, additional comments acknowledged
16/06/2010	Gidawaa Walang Cultural Heritage Consultancy agree with the recommendations of the report	Mail	Agreed with the recommendations of the report
31/05/2010	TBM spoke Arthur Fletcher (WNAC) re: receipt of draft report	Phone	AF indicated that he had received it
28/05/2010	Draft report for Part 3A and East B area sent on CD to Wonnarua Nation Aboriginal Corporation, Koombahtoo LALC, Guringai Tribal Link Aboriginal Corporation, Wonnaruah1, Minmaga Wajaar Pty Ltd, Daniella Chedzey, Awabakal Traditional Owners Aboriginal Corporation, Mur-Roo-Ma, Darkinjung CDEP, Nur-Run-Gee Pty.Ltd, Awabakal Descendents Traditional Owners Aboriginal Corporation	Mail	N/A
4/6/2010	Gidawaa Walang responded to draft report, in agreement with recommendations Draft report sent to Aboriginal stakeholders	Mail	Satisfied with the recommendations
16/04/2010	ADTOAC Shane and James Frost participated in the survey of the study area	In person	ADTOAC indicated they were satisfied with the survey coverage and results
16/04/2010	Wonnarua Nation, Arthur Fletcher participated in the survey of the study area	In person	Wonnarua Nation indicated they were satisfied with the survey coverage and results
14/04/2010	NSW Aboriginal Land Council acting on behalf of Koombahtoo Local Aboriginal Land Council EoI, but advised they	Verbal (Phone) and In writing	Verbal (Phone) and In writing (email)

Date	Description	Contact Method	Outcome
	may not have any sites officers who could attend the survey	(email)	
13/04/2010	Cactua Culture Consultants letter sent inviting Eol	In writing (letter)	N/A
13/04/2010	Arwarbukarl Cultural Consultants letter sent inviting Eol	In writing (letter)	N/A
13/04/2010	Awabakal Newcastle Aboriginal Co-op letter sent inviting Eol	In writing (letter)	N/A
8/04/2010	Wonnarua Nation Aboriginal Corporation Eol	In writing (fax)	Registration of interest noted.
7/04/2010	Gidawaa Walang Cultural Heritage Consultancy Eol received	In writing (letter)	Registration of interest noted.
6/04/2010	Leanne Anderson from Nur-Run-Gee Pty.Ltd rang to inform us that their organisation's area of interest is outside the Awaba Colliery boundaries and therefore do not need to be consulted.	Phone	Nur-Run-Gee Pty. Ltd do not need to be consulted.
1/04/2010	Registration of interest received from Awabakal Descendents Traditional Owners Aboriginal Corporation (ADTOAC)	Email	Registration of interest noted.
31/03/2010	Registration of interest received from Daniella Chedzey	Phone	Registration of interest noted.
31/03/2010	Registration of interest received from Arthur Fletcher Wonn1 contracting	Phone	Registration of interest noted.
30/03/2010	Registration of interest received from Awabakal Traditional Owners Aboriginal Corporation (ATOAC)	Email	Registration of interest noted.
26/03/2010	Wonnarua Nation Aboriginal Corporation letter sent inviting Expression of Interest	In writing (letter)	N/A
26/03/2010	Koompahtoo LALC letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Guringai Tribal Link Aboriginal Corporation letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Wonnaruah1 letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Minmaga Wajaar Pty Ltd letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Daniella Chedzey letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Awabakal Traditional Owners Aboriginal Corporation letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Mur-Roo-Ma letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Darkinjung CDEP letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Nur-Run-Gee Pty.Ltd letter sent inviting Eol	In writing (letter)	N/A
26/03/2010	Awabakal Descendents Traditional Owners Aboriginal Corporation letter sent inviting Eol	In writing (letter)	N/A
13/10/2009	Ashley Hudson (Koompahtoo Local Aboriginal Land Council -KLALC) participated in survey of East B north	In person	Ashley Hudson indicated she was satisfied with the level of survey coverage and assessment

Date	Description	Contact Method	Outcome
	area		
7/10/2009	Arthur Fletcher (Wonnarua Nation Aboriginal Corporation -WNAC) participated in survey of East B north area	In Person	Arthur Fletcher indicated he was satisfied with the level of survey coverage and assessment
23 February	Quarry area surveyed (Study Area 1) with participation from Koombahtoo Local Aboriginal Land Council (Raymond Smith, David Ahoy, Joseph Williams, Ashley Hudson, Nathan Griffin, Allan Williams) as well as ADTOAC (Shane Frost)	In Person	All members agreed with the survey results and heritage outcomes
10/11/2005	WNAC (Robert Lester and Scott Franks) met with Andrew Hutton (GSSE) to discuss survey results	In Person	Resolution was reached
6/10/2005	Andrew Hutton discussed survey results with Rober Lester (WNAC Chairperson)	Phone	Meeting proposed to further discuss survey results
13/09/2005	WNAC (Scott Franks) participated in the survey of the Outbye Pillar area with ERM	In Person	WNAC overall were satisfied with the survey results, pending the resolution of a couple of issues
12/09/2005	WNAC (Scott Franks) participated in the survey of the Outbye Pillar area with ERM	In Person	WNAC overall were satisfied with the survey results, pending the resolution of a couple of issues

Aboriginal Consultation Documents



30 March 2010

RPS – Harpers Somers O’Sullivan
Attn: Tessa Boer-Mah
PO Box 428
HAMILTON NSW 2303

Dear Tessa,

Re: Awaba Colliery Continuation of Mining Project

The Awabakal Traditional Owners would like to register our interest regarding the anticipated archaeological survey for the proposed Awaba Colliery Continuation of Mining Project Study area.

We wish to comment on the Aboriginal Cultural Heritage being undertaken as participants in the assessment and consultation process archaeological investigation of the proposed project.

The Awabakal People have a Primary Cultural Connection with this area as the Newcastle region is well within our Cultural Boundary. The Awabakal Traditional Owners Aboriginal Corporation are descendants of the Awabakal people, our connection to our ancestral country is both physical and spiritual.

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

Your reference :
Our reference : DOC10/14038-02; Fil10/482
Contact : Sarah Paddington, (02) 4908 6837
Date : 29 March 2010

01 APR 2010

Ms Tess Boer-Mah
RPS Harper Somers O'Sullivan Pty Ltd
PO Box 428
HAMILTON NSW 2303

Dear Ms Boer-Mah,

**RE: REGISTERED ABORIGINAL STAKEHOLDER LIST FOR PROPOSED FOR
THE LAKE MACQUARIE LGA**

I refer to your correspondence dated 29 March 2010, to the Department of Environment, Climate Change and Water (DECCW), regarding the above project located in the Lake Macquarie LGA in NSW.

Please find attached a list of known Aboriginal parties that DECCW considers is likely to have an interest in your development. I note this is not necessarily an exhaustive list of all interested Aboriginal parties. Receipt of this list does not remove the requirement for a proponent/consultant to advertise the proposal in the local print media and contact other bodies and community groups seeking interested Aboriginal parties, in accordance with DECCW's *Interim Community Consultation Requirements for Applicants (2004)*.

If you encounter any changes to the contact details of interested Aboriginal parties, or become aware of additional parties, we encourage you to forward this information to the Department so we can update our records.

If you have any further question regarding this matter, please contact Sarah Paddington, Archaeologist on (02) 4908 6837.

Yours sincerely

D. Crosdale 30/3/10

DIANE CROSDALE
A/Manager Planning and Aboriginal Heritage Section
Environment Protection & Regulation Group

Encl: Attachment 1

Department of **Environment and Climate Change** NSW

ATTACHMENT 1 : LIST OF ABORIGINAL STAKEHOLDER GROUPS

PLEASE ENSURE YOU ALSO CONTACT THE LOCAL ABORIGINAL LAND COUNCIL(S) & ALL OTHER ABORIGINAL STAKEHOLDER GROUPS YOU HAVE PRIOR OR NEW KNOWLEDGE OF FOR THIS AREA

Cacatua Culture Consultants,
Donna & George Sampson
22 Ibis Parade
Woodberry NSW 2322
(02) 4964 4685

cacatua@resetdsl.net.au

Awabakal Traditional Owners Aboriginal
Corporation,
Kerrie Brauer
PO Box 253
Jesmond NSW 2299
(02) 4915 6947
0412 866 357

Arwabukarl Cultural Resource
Association,
Darren McKenny
PO Box 240
Broadmeadow NSW 2292
(02) 4961 0515

info@yarnteen.com.au

Awabakal Descendants Traditional Owners
Aboriginal Corporation,
Shane Frost
PO Box 384
Wallabadah NSW 2343

Koompahtoo Local Aboriginal Land
Council,
Lois Towney
PO Box 1112
TORONTO NSW 2283
(02) 4950 5577

lois.koompahtoo@bigpond.com.au

Awabakal Newcastle Aboriginal Co-op,
Kevin McKenney
64 Hannell Street
Wickham NSW 2203
(02) 4969 4711

Awabakal Local Aboriginal Land Council,
Cheryl Kitchener
PO Box 437
Hamilton NSW 2303
(02) 4965 4532

cheryl.awabaka@bigpond.com.au
awabakal@bigpond.com.au

Bahtabah Local Aboriginal Land Council,
Michael Green
PO Box 3018
Blacksmith NSW 2281
(02) 4971 4800

bahtabah@nixon.com.au



PO BOX 86
CLARENCE TOWN
NSW 2321

Date: 1 April 2010

Attention: Tessa Boer-Mah (Senior Archaeologist)
PO Box 428
Hamilton NSW 2303

Re: Aboriginal Heritage Assessment Proposed for Awaba Mine

ALLA (Hello in Awabakal) Tessa,

We are writing to you in regard to the Aboriginal Heritage Assessment that is proposed for **Awaba Mine, commissioned by Centennial Coal**. We would like to notify you of the **Awabakal Descendants Traditional Owners Aboriginal Corporations** registration of interest for the proposed Assessment and that it is our desire to be consulted in regard to any Aboriginal archaeological management or consultation that is to take place for this area. We have also read the proposed methodology and agree that it is reasonably comprehensive and it covers most areas of concern as long as it takes into consideration the survey of all landform units within the assessment area being ridgelines, creeks and slopes.

We are a registered Aboriginal Corporation under the Federal Governments **Aboriginal Corporations Act** to carry out business within Australia in regard to the representation of our people through this corporation known as the **Awabakal Descendants Traditional Owners Aboriginal Corporation**.

Being the direct descendants of the Traditional Awabakal People of the Lake Macquarie/Newcastle area we take this opportunity in a few sentences to quickly formalise our position with you.

Our great great great Grandmother was one of the first Aboriginal People to be recorded in the Lake Macquarie and Newcastle area in 1828 when the Reverend L.E.Threlkeld made the first list of the Aboriginal People of the Newcastle and Lake Macquarie district from his mission station at Belmont. At Warner's Bay our great great great Grandmother and her daughter, our great great Grandmother were recorded by Jonathon Warner in 1833 and then again at Toronto in 1836 by L.E.Threlkeld at his mission there. Our people still live and maintain our cultural ties with our Traditional Country and are concerned and desire to be involved in all the affairs that may affect that Cultural Heritage which is vital to our people in maintaining connectedness in respect of our Traditional Country.

The area in which the Aboriginal Archaeological Survey/Assessment is to be conducted is located within the Traditional Tribal Country of our people, the Awabakal. This area is significant because our people have lived around Newcastle and Lake Macquarie for many thousands of years, these resource rich areas were utilised on many occasions to hunt, fish and carry on traditions that have been passed down for centuries. This area was frequented on many occasions by our people and there are some significant sites located within close proximity to the area in question. There are also many other sites located within the surrounding area which provide tangible evidence of the Cultural Heritage of our people.

This particular area is of great importance because it is an area that our family know very well. Our grandmother was born at the head of Stockyard Creek beside a waterhole there in 1894 which is located just a couple of kilometres to the east from the site of the assessment and she subsequently lived in this very location into the late 1890's along with other members of our family. They lived in a bark hut on the creek (Stockyard Creek) making use of the local resources so as to maintain traditional life as they knew it. We also lived and were brought up in the area.

As you can understand this area and every part of our Traditional Country is special to us, not just for the Physical aspect but also the Spiritual and Oral aspect which all combine to give us our complete culture. Our Cultural Heritage and Traditional Tribal Country are two of the reasons why we take every opportunity to make ourselves available for consultation in regard to the very important issues and decisions that need to be made in regard to protecting what is ours and what gives us the right through birth to be called Traditional Awabakal People.

Given the opportunity to take part in the assessment, I would make representation on behalf of our people bringing the necessary qualifications you require in regard to Cultural knowledge of the study area. Also I am physically capable to undertake the survey due to spending many hours walking our Awabakal Country carrying out survey work for Cultural and educational purposes.

As far as field identification or survey techniques are concerned, I was brought up in the bush around Lake Macquarie and the mountains and have many years of experience spending most of my life being told and shown much by my Father and Grandmother in regard to our places, stories, tools/weapons and foods and how to acquire/use them. I have also been actively involved with many Aboriginal archaeological heritage assessments conducted within our Awabakal Country, accompanying archaeologist from well known companies, (located from within and outside our area) in the field and have also taken part in many projects where monitoring for artefacts during excavation works were carried out and subsequently many artefacts were located. Some of those companies we have worked with on many occasions include, Umwelt, ERM, ENSR, Insite Heritage and many others on major projects located within our area. We are presently involved with many other ongoing long term projects, working with organisations to see favourable outcomes in relation to Awabakal Cultural Heritage issues.

We also have been involved with other Aboriginal Assessments of the area in the past for Centennial Coal that is within the Centennial Coal mining lease and operations. These were assessments for the proposed open cut coal mine and for a new haul road and also above ground facilities for Awaba Mine. It is imperative that we be present at this assessment because of our people's connection to this area for thousands of years and the subsequent knowledge held by us.

Also as far as communicating the results of the survey back to stakeholder community and returning advice on the response, as CEO of our corporation I have the ability and opportunity to contact our members for any comments and information that may be pertinent to this survey and also have the necessary experience in production and reporting of any information in written format in relation to a draft report.

We do hold the relevant insurances needed to participate and the representative of our corporation is covered by public liability and workers compensation insurance. The certificates of currency are supplied separately to this letter due to confidentiality.

The rate of payment for our representative to take part in any fieldwork which would be inclusive of all relevant and associated costs for us to participate in this survey are supplied separately to this letter for confidentiality reasons also.

I hope this addresses any queries you may have Tessa, if not and further information is required please don't hesitate to contact me ASAP. My contact details are as follows.

NGI NOA (Farewell in Awabakal)

Shane Frost
CEO: Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: shanefrost@bigpond.com Phone: 49964362 Fax: 49964325 Mobile: 0428320671

Tessa Boer-Mah

From: Mary Loder [mloder@lakemac.nsw.gov.au]

Sent: Tuesday, 6 April 2010 1:31 PM

To: Tessa Boer-Mah

Cc: Louise Sasse; Sharon Pope

Subject: RE: Attn: Heritage advisor

Hi Tessa,

I have attached a list of Aboriginal stakeholders in Lake Macquarie with whom you should consult. Please note that in this case, the Koombahtoo Land Council, plus the two Awabakal corporations are the appropriate stakeholders. However, since the Koombahtoo Land Council has folded, you will need to consult with the NSW Land Council. I do not have a name, but their phone number is 96894444. According to DECCW's guidelines for consultation with the Aboriginal community, you should also advertise in the newspapers for any other Aboriginal stakeholders to register an interest in being consulted about this project.

Should you require any further information or clarification, please email me at mloder@lakemac.nsw.gov.au or ring me on 49210422.

Regards Mary Loder

Name	Company	Address1	Phone No.	City	Dear
Mr Shane Frost	Descendents of Awabakal Aboriginal Corporation	P O Box 86	49964325	CLARENCETOWN NSW 2429	Shane
Ms Cheryl Kitchner	Awabakal Local Aboriginal Land Council	P O Box 437	49654532	HAMILTON NSW 2303	Cheryl
Mr Michael Green	Bahtabah Local Aboriginal Land Council	P O Box 3018	49714800	BLACKSMITHS NSW 2281	Michael
Ms Lois Towney	Koompahtoo Local Aboriginal Land Council	P O Box 112	49505577	TORONTO NSW 2283	Lois
Mr Dene Hawken	Awabakal Traditional Owners Aboriginal Corporation	87 Hunter Street	49522321	NEWCASTLE NSW 2300	Dene
Mr Wayne Hawken	Awabakal Traditional Owners Aboriginal Corporation	87 Hunter Street		NEWCASTLE NSW 2300	Wayne
Mrs Nola Hawken	Awabakal Traditional Owners Aboriginal Corporation	87 Hunter Street		NEWCASTLE NSW 2300	Nola
Ms Kerrie Brauer	Awabakal Traditional Owners Aboriginal Corporation	87 Hunter Street		NEWCASTLE NSW 2300	Kerrie

Gidawaa Walang

Wiradjuri Meaning - Goanna Turning the Stone
Cultural Heritage Consultancy

...To keep our Culture...

12 APR 2010

7th April 2010

Tessa Boer-Mah
RPS Australia East P/L
PO Box 428
Hamilton NSW 2303

Dear Tessa,

Re: Aboriginal Stakeholder Consultation Continued Operation of Awaba Colliery

Gidawaa Walang Cultural Heritage Consultancy would like to register our interest in the above project. Our interest comes from various members of our community including Elders.

Our organisation is made up of members, staff, management and community from various tribal boundaries including Awabakal, Wonaruah, Worimi, Gamilaroi, Wiradjuri, Darkinjung and Eora country.

I would also like to thank you for the opportunity to register our interest in the project.

Yours sincerely



Ann Hickey
Project Officer

76 Lang Street
Kurri Kurri
NSW 2327



Phone: 4937 1094
Fax: 4936 4449
Mob: 0411 196 991



Attachment 3

Response to: RPS Harper Somers O'Sullivan

Tessa Boer-Mah (Senior Archaeologist)
PO Box 428
Hamilton
NSW 2303
Tessa.Boer-Mah@rpsgroup.com.au

Response from: (insert your name and organisation contact details here)

LAURIE PERRY
WONNARUA NATION ABORIGINAL CORPORATION
WONNARUA@BIGPOND.COM
0412 593 020
ARTHUR FLETCHER 0402 146 193

Regarding : Proposed survey at Awaba Colliery East B area

Survey Methodology

I am satisfied that the proposed survey methodology is appropriate for East B study area at Awaba Colliery:

Yes



No



Comments (attach an additional page if necessary):

SEE ATTACHED LETTER



Additional Comments (attach an additional page if necessary):

Name and Organisation:

LAURIE PERRY Wonnarua Nation ABORIGINAL Corp

Signature:

A handwritten signature in black ink, appearing to read 'Laurie Perry', written over a horizontal line.

Date:

8-4-2010

RPS

Attachment 4

Survey Selection Form: Awaba East B area

Organisation Details

Name of Organisation	Wonnarua Nation ABORIGINAL CORPORATION
Street Address	PO BOX 3066 SINGLETON
Suburb/Postcode	, DELIVERY CENTRE 2330
Phone Number	(02) 6571 5419
Fax	(02) 6571 5419
Email	

Nominated Site Officer Details

Name of nominated Site Officer	ARTHUR FLETCHER
Home Phone (to be used for related field purposes if necessary)	()
Mobile Phone (to be used for related field purposes if necessary)	0402 146 193
Email (to provide documents if necessary)	

RPS

Emergency Contact Details

Please provide the details of two people that may be contacted in the event of an emergency involving the nominated Site Officer.

Name of emergency contact	LAURIE PERRY
Relation to site officer	COUSIN
Street Address	
Suburb/Postcode	/ SINGLETON
Phone Number	()
Mobile	0412 593 020

Name of emergency contact	
Relation to site officer	
Street Address	
Suburb/Postcode	/
Phone Number	()
Mobile	

Insurance Details

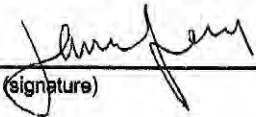
Please attach a copy of the certificate of currency for the organisation's Public Liability and Worker's Compensation cover.

will Follow THIS up



I LAURIE PERRY of (organisation) WONNARUA NATION

confirm that the above details are true and accurate.

 9 - 4 2010
(signature) (Date signed)

I have enclosed the following:

Copies of Certificates of Currency (workers compensation & public liability)

A copy of your Site Officer's CV/statement of experience

Emergency contact details for the Site Officer

I agree that the nominated Site Officer has sufficient fitness level to conduct the survey work.

27 APR 2010



11-13 Mansfield Street
Glebe NSW 2037
PO Box 112, Glebe NSW 2037
P. 02 9562 6327 F. 02 9562 6350

Ms Tessa Boer-Mah
Senior Archaeologist
241 Denison Street
Broadmeadow NSW 2292

20 April 2010

Dear Ms Boer-Mah,

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter email dated 31 March 2010 regarding Aboriginal Heritage Assessment in the Lake Macquarie area in NSW.

I have searched the Register of Aboriginal Owners and the project area described does not appear to have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW).

I suggest you contact the NSW Aboriginal Land Council. They may also be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Courtney Field
Administrative Officer
Office of the Registrar, *Aboriginal Land Rights Act* (1983)



PO BOX 86
CLARENCE TOWN
NSW 2321

Date: 18 June 2010

Attention: Tessa Boer-Mah (Senior Archaeologist)
PRS Harpers Somers O'Sullivan Pty Ltd
PO Box 428
Hamilton NSW 2303

Re: Draft Cultural Heritage Impact Assessment Report for Awaba Colliery

ALLA Tessa,

This letter is in response to your request for feedback and any recommendations or comments from the **Awabakal Descendants Traditional Owners Aboriginal Corporation** in regard to the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery**.

We have reviewed the contents of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** and after careful consideration would like to inform you that the general concept of the draft is adequate. With that said we would now like to contribute some comments and recommendations which we believe to be necessary. We would like to see these comments and recommendations included into the draft by RPS so as to compliment the contents of the draft and see our recommendations adopted and subsequently implemented by Awaba Colliery. We would also request a copy of the revised and final draft to be forwarded to us at its completion.

Our objectives as the Traditional Descendants of the Awabakal, who always have been and still are the original and Traditional Aboriginal People of this area, is to see that all Awabakal Cultural Heritage values within the proposed continued underground mining area of the Awaba Colliery is afforded the appropriate **Recognition, Protection** and **Preservation** deserved.

Statement of significance of this area to Awabakal Traditional Descendants (Also content on last page)

- The significance of place to our people does not just rely on the presence of artefacts, grinding grooves, scarred trees or any visible evidence associated with the site or area. Although what does remain in the physical realm whether small or large, does connect us to our Ancestors and our Cultural Heritage being the physical reminder of what helped govern and guide the everyday lives of our people. We can touch the very stone (artefacts) or grinding grooves that they (our Ancestors) worked with to fashion into the tools and implements that are recorded today by some as sites. These places are not just sites they are the places that **OUR** Ancestors carried on their everyday life activities. These are some of those places that today fundamentally identify the unique connection we as Awabakal Descendants now have with our Ancestors and this **OUR** Traditional Land. Unfortunately, in this day and age it has become too easy due to ignorance, lack of connection and insufficient understanding of the entire picture, not to mention so called progress, to devalue and debase our people and our Cultural Heritage which has belonged and survived in this area for thousands of years. The fact that this area is a contributing part of what makes us who we are and where we come from cannot be defined just as something tangible. The feeling of the area and the extensive connection we have with it, the awareness of knowing this is a connection that is confined to just a handful of people living today because it was **OUR** Ancestors that walked upon it, is sufficient enough for us to be adamant in our understanding that we are part of the reason of what makes this place significant. Our people, the Awabakal, have for centuries looked after this area as part of our greater Traditional Tribal Country and we believe that in today's climate we as Awabakal Descendants need to continue to be involved in the protection, consultation and management issues that affect the Traditional Tribal Country of our Ancestors. We consider our involvement paramount and if neglected or overlooked in the process, we believe it is to the detriment of the community and the complete understanding of the Awabakal People and the wellbeing of the area in question. This land holds secrets which are significant to us, many stories from the past connect us to it and these stories will continue to live and be significant because they live in us and are what makes us by birthright, Awabakal People.

Low Ground Surface Visibility

- On page 24-25 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Section 4.2 *Local Archaeological Context* it states in no uncertain terms that during many other Cultural Heritage investigations/assessments the major concern was, as was for this latest assessment, the lack of visibility due to the dense ground cover. It gives several examples of this which state;
 - a. *'Due to the extensive vegetation cover in the areas adjacent to the study area, many of these surveys have been limited by low ground surface exposure and low visibility;'*
 - b. *'Dense vegetation cover inhibited ground surface visibility and exposure.'*
 - c. *'It was noted during the survey that the extensive vegetation coverage inhibited visibility and ground surface exposure.'*
 - d. *'The area was covered by extensive vegetation; limiting surface visibility and exposure, which was estimated to be less than 10 percent.'*
 - e. *'Due to dense vegetation cover..'*
 - f. *'Vegetation coverage was extensive, with visibility and exposure generally 5 percent..'*

As can be seen from these previous statements made during other surveys of the area, the poor visibility due to ground cover hampered efforts in establishing the presence of Cultural Heritage values within the areas assessed. This does not mean a conclusion can be derived at that there is no Awabakal Cultural Heritage present due to the absence of Cultural Heritage values because of the inability to see it within this particular landscape. There is more reason to believe that Awabakal Cultural Heritage values exist in this landscape because we have the data which indicates from the AHIMS Database record which reveals as stated on page 22 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Section 4.2 *Local Archaeological Context* that;

'...the AHIMS results indicate that 30 sites have been recorded within 5 kilometres of the study area (Figure 4-1).'

This is only those sites that have been recorded and is not necessarily an exact indication of all Awabakal Cultural Heritage sites that may be present. There are several other sites that have recently been found close by that have not yet been added to the AHIMS Database (or showing up) in which there was an excavation of an area beside a creek line which in turn produce Cultural Heritage materials (artefacts) and in coincidence with this excavation two (2) more additional artefact scatters were discovered close by. Yet these two (2) other artefact scatters had not previously been recorded. Also the presence of subsurface Cultural Heritage materials are revealed in areas not normally expected if excavations area realised. All of this indicates that there is Awabakal Cultural Heritage which remains hidden due to a number of factors in the environment and unless sought out in appropriate ways, go undetected.

An interesting statement and observation is provided in other documents which demonstrate the points previously mentioned saying that;

'Once discarded on the ground surface, artefacts are often readily incorporated into the topsoil horizons through the process of bioturbation. Most commonly, dense artefact deposits exist hidden beneath the upper surface, unobservable by the casual observer.'
(c.f. Wandsnider and Camilli 1992; Fanning and Holdaway 2001).¹

Surface Impacts due to Subsidence

- It is stated in the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Section 1.2 *The Proposal* page 10 that;
 - a. *'...there is potential for subsidence.'* and also on page 41 *'Study Area 2 comprises primarily of bush which will be impacted by subsidence due to underground mining.'*

and again in section 7.2 *Study Area 2 Impact Assessment* page 38 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** it states the subsidence predictions for the western portion and south western portions are;

¹ Page 3, Hunter Water Stage 2 Aboriginal Heritage Assessment Shortland Street, Newcastle 5.1.1 Archaeological Potential. (ERM2009)

'...that subsidence above pillars less than 100mm.... While considered there is low potential for plug failure, if this occurs subsidence could be up to 2.5m... Predictions for subsidence in the southwestern portion of Study Area 2 have been assessed to be less than 120mm...'

Also for section 7.3 Study Area 3 Heritage Impact Assessment page 39 of the draft it states that;

'Subsidence in the study area will be a function of the sag of the conglomerate and compression of the pillar system. If the conglomerate cannot span the panel a 'plug' collapse will occur... Sag of the conglomerate has been associated with vertical subsidence of 10-100mm, while compression of the pillar system is in the order of 50-100mm (maximum of 200mm). A plug collapse would result in vertical subsidence of approximately 2m... Thus far, maximum subsidence within the Awaba Colliery lease has been 125mm'

- b. Even though experts can give their learned advice to what the probability of surface impacts will be due to subsidence of the underground workings they cannot give a 100% assurance that impacts will not exceed those predicted. As it states on page 10 *'...there is potential for subsidence'* and again on page 41 *'Study Area 2 comprises primarily of bush which will be impacted by subsidence due to underground mining.'*

Provided here are two quotes regarding the effects of subsidence through underground mining;

1. *'What is Subsidence'?*

'Subsidence is an inevitable consequence of underground mining – it may be small and localised or extend over large areas, it may be immediate or delayed for many years. Underground [sic] mining, causes' impacts to hydrological features like lakes, streams, wetlands, and underground aquifers. Subsidence is a natural and man-made phenomenon associated with a variety of processes including compaction of natural sediments, ground water dewatering, wetting, and melting of permafrost, liquefaction and crustal deformation, withdrawal of petroleum and geothermal fluids, and mining of coal, limestone, salt, sulphur and metallic ores. Subsidence is a natural result of underground mining. When a void is created nature will eventually seek the most stable geological configuration, which is a collapse of the void and consolidation of overburden materials. Subsidence will occur and will result in impacts to the overlying strata...'

'The creation of a cavity as a result of mining result in subsidence...'

'To be fully analysed from an environmental as well as mining standpoint, all surface effects of subsidence associated with the mining must be recognized.'

'Subsidence by some has also been defined as ground movements that occur due to the collapse of overlying strata into mine voids which expresses itself in three major ways

- i. Cracks, fissures, or step fractures.
- ii. Pits and sinkholes.
- iii. Troughs or sags.'

'There are several misconceptions about subsidence. For example depth of mine (as measure by the thickness of the overlying strata) is often suggested as a prevention or mitigation measure. Similarly the extraction area is often correlated with the size of subsidence area. Experts opine [sic] that Mining at any depth can result in subsidence, and the affected surface area is generally larger than the extraction area.'

'Room –and Pillar - mining is usually applicable to flat lying deposits on a large scale. In this method some portion of the coal and others left behind in place to support the overlying strata. The portion of the remaining place is typically a function of the required support necessary to prevent the overlying strata from immediately caving or falling in a [sic] while mining is being performed. In many cases, the pillars are, removed or robbed at the end of mining when long term support is no longer necessary.'

'The two most common forms of surface subsidence from room and pillar mining are sink- hole collapse and a saucer shaped depression following pillar failure. In the case of room –and pillar mining surface subsidence can occur many years after mining is done.'

‘Control and Prevention:’

*‘Four types of measures may control subsidence damage: alteration in mining techniques, post –mining stabilization, architectural and structural design, and comprehensive planning. **None of these measures entirely prevents prevents [sic] subsidence and most of the measures address only impacts to manmade structures and facilities and not impacts to land use , including aquatic species, wildlife habitat and human recreation , or water quality and flow.**’²*

2. *‘Old room and pillar mining techniques — where coal is left in the seam to support the roof of the underground mine — often leads to unpredictable subsidence and damage to surface structures years or even decades after mining has ceased.’³*

- On pages 38 and 39 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Sections 7.2.2 *Study Area 2 Aboriginal Heritage Impact Assessment* and 7.3.1 *Study Area 3 Aboriginal Heritage Impact Assessment* there are several statements that we consider to be a misrepresentation of facts and could be misleading to the reader. They say that;

‘South western

No Aboriginal sites, or areas of archaeological sensitivity were identified in Study Area 3 (ERM 2005). Subsidence, therefore, will have no impact on known Aboriginal sites. There are no identified Aboriginal sites in Study Area 2 and therefore subsidence will not impact on known Aboriginal sites.’

‘There are no identified Aboriginal sites in Study Area 3 and therefore subsidence will not impact on known Aboriginal sites.’

- a. The main words here are **no identified** Aboriginal sites; therefore subsidence will not impact on **known** Aboriginal sites. Going back to the points we made earlier in **Low Ground Surface Visibility** there is no reason whatsoever to believe there will not be any Awabakal Cultural Heritage sites within these areas known as Study area 2 and 3. Considering our People have been using this area for many thousands of years and the proximity of these areas to other known Cultural Heritage sites close by. Given the examples we have provided regarding poor visibility and concerning Cultural Heritage sites that are potentially contained below the ground surface and also sites that are covered by vegetation and those sites that have for one reason or another never been recorded on the DECCW AHIMS Database, it should not then be assumed that Aboriginal sites will not be impacted, disturbed or damaged by potentially being exposed to subsidence from the proposed underground mining operations of Awaba Colliery.
- b. In a way it is right to say there will be no impacts from subsidence to known Aboriginal sites because at this time there are no known/identified Aboriginal sites within the Study areas of 2 and 3. It is not the ‘known/identified’ Aboriginal sites we are worried about, it is the ones we **don’t know about** that give us cause for the greatest concern. There is a possibility there will be damage and impacts to unknown Aboriginal Cultural Heritage sites from subsidence from this mine, by the time this happens and people are aware of it, it may be too late. We have lost a massive amount of our Cultural Heritage in the past from all types of industrial pursuits that have not taken into account what this means to our People and we don’t want to lose more.
- c. Under the NPWS Act it is an offence to disturb or damage any Aboriginal Cultural Heritage site/object without a permit; this means it is an offence to even move one Aboriginal artefact from its original location. If there is any potential that Aboriginal sites will now or in the future be disturbed or potential impacts caused, then it is in the best interest for Awaba Colliery to know where these Aboriginal sites are located so it can put strategies in place to diminish the probable disturbance/damage/impacts to any of these sites/objects.

² From: Energy Bangala Website ‘Coal Mining Challenges of Bangladesh (Part – 2)’ 2009

³ From Website: ‘Pennsylvania Department of Environmental Protection (DEP), ‘At a glance, Act 54 Report on Impacts of Underground Coal Mining’

- d. If there is subsidence, and anyone would be mad to say there won't be any, then we can expect it to be quite likely for some impacts to Awabakal Cultural Heritage within these areas making it an illegal action (without a permit) under the NPWS Act and subject to possible legal action.
- Due to these factors which have been highlighted in our previous statements, we believe that;
 - a. it would be in the best interests of Awaba Colliery, RPS and the Aboriginal Stakeholders to formulate a strategy to select certain areas within the Study areas of 2 and 3 to be identified and a series of excavation test pits opened up to assess/evaluate what Awabakal Cultural Heritage values could be situated within these areas. This would then give a better understanding of what is located subsurface that could be impacted due to possible subsidence from the proposed underground mining activities of Awaba Colliery.
 - b. it has further been suggested that on page 41 and 42 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Section 8.2 *Recommendations for Study Area 2* and Section 8.3 *Recommendations for Study Area 3* which says;

'Study Area 2 comprises primarily of bush which will be impacted by subsidence due to underground mining. No Aboriginal sites requiring AHIMS registration were observed in this area; however, areas of moderate and high archaeological sensitivity were identified.'

'Study Area 3 is located southeast of the pit top area (East B) and has not been previously mined. It comprises bush traversed by dirt tracks. No Aboriginal sites requiring AHIMS registration were observed in this area; however, an area of moderate archaeological sensitivity was identified.'
 - c. therefore these moderate to high archaeologically sensitive areas should be the subject of an investigative approach that will be implemented to allow these particular areas to be targeted for investigation to ascertain what these environs contain in regard to Awabakal Cultural Heritage. This in turn would help in the formulation of an Aboriginal Cultural Heritage Management Plan resulting in methods to assist in the mitigation and management of these important areas.

Aboriginal Cultural Heritage Management Plan

- Stated on page 48 of the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** Section *Recommendation 11* where recommendations are made that there is the necessity for the provision of a Cultural Heritage Management Plan which, as we understand is a requirement under part 3A consent.
 - a. Based on this fact the Aboriginal Cultural Heritage Management Plan would be without foundation if formulated without consultation and inclusion of the Aboriginal Stakeholders within the process.
 - b. Consequently this Aboriginal Cultural Heritage Management Plan would then, in consultation with and direct partnership with the Aboriginal Stakeholder groups, be devised to implement measures so as to set in place adequate management/mitigation plans which will protect and preserve the Awabakal Cultural Heritage likely to be impacted/compromised by the proposed underground mining activities of the Awaba Colliery and
 - c. Any other issues relevant to the proposal.
 - d. We also believe that there is a need for a representative of Centennial Coal/Awababa Colliery to meet with the Aboriginal Stakeholders (which to this point has not been realised) to discuss this matter further. We understand that this would involve a dialogue regarding possible implications of impacts to Awabakal Aboriginal Cultural Heritage and their management.

Intergenerational Equity

What is intergenerational Equity?? We see **Intergenerational Equity** as a provision for future generations to benefit from what has transpired in the past and to have been left as much as the previous generation.

- Below are provided three (3) examples we have included quoted from international organisations/standards from around the world which explain what **Intergenerational Equity** represents;
 - a. **Intergenerational equity:** *A core proposition is that future generations have a right to an inheritance (capital bequest) sufficient to allow them to generate a level of well-being no less than that of the current generation. Also refers to fairness in the treatment of different members of the same generation.*⁴
 - b. **Intergenerational equity:** *Meeting the needs of the present without compromising the ability of future generations to meet their own needs.*⁵
 - c. **Inter-generational equity:** *The principle of equity between people alive today and future generations. The implication is that unsustainable production and consumption by today's society will degrade the ecological, social, and economic basis for tomorrow's society, whereas sustainability involves ensuring that future generations will have the means to achieve a quality of life equal to or better than today's.*⁶
- Does Centennial Coal/Awaba Colliery truly and adequately address **Intergenerational Equity** if their continued underground mining activities cause, as we already have been advised it will in the **Draft Cultural Heritage Impact Assessment Report for Awaba Colliery** on page 10 that; *'...there is potential for subsidence.'* and again on page 41; *'Study Area 2 comprises primarily of bush which will be impacted by subsidence due to underground mining.'*??
Subsidence and the potential to impact Awabakal Cultural Heritage sites within the continued underground mining area of Awaba Colliery are clearly demonstrated by the earlier examples.
- We would now like to solicit a response from Centennial Coal/Awaba Colliery in regard to these important questions below.
 - A. **So what measures have been put in place within this Draft Cultural Heritage Impact Assessment Report for Awaba Colliery so as to address the issue of Intergenerational Equity in the event of possible damage or disturbance to Awabakal Aboriginal Cultural Heritage if potential surface impacts from subsidence eventuate?**
 - B. **How has and will Centennial Coal/Awaba Colliery address the question now of Intergenerational Equity for future generations of Awabakal People?**

This area is very significant; it is where our People have lived for generations. Our grandmother was born in the late 1800's beside a waterhole (which is still there to this day) in Stockyard Creek, not far from the Study areas in question. Living there with her mother (an Awabakal Woman) and family, trying to survive the best and only way they knew how. Was it possible that she was thinking that in the future, would her descendants still be fighting to protect the Cultural Heritage, the ways of our People living from the lake, sea and mountains and remembering those mysteries, the stories of how her ancestors fought for the place they came from and all that had been passed down to them for centuries!! This today is the legacy we have inherited. We still fight to protect and preserve the integrity and uniqueness of the Awabakal People. We think of the future, will those to come endure and continue this generational legacy?? Ancestors and Descendants are one in the same; they look in both directions, the past and the future. It just depends where you're standing at what time!!

We thank you Tessa for the opportunity to contribute these comments/recommendations in regard to this project. We hope this addresses any queries you may have, if not and further information is required please don't hesitate to contact us ASAP. Our contact details are as follows.

NGI NOA

Shane Frost CEO: Awabakal Descendants Traditional Owners Aboriginal Corporation

Email: shanefrost@bigpond.com Phone: 49964362 Fax: 49964325 Mobile: 0428320671

⁴ From Website 'www.traditionalknowledge.info/glossary.php'

⁵ From Website 'www.konsult.leeds.ac.uk/public/level1/sec17/index.htm'

⁶ From Website 'www.ic.gc.ca/eic/site/ee-ee.nsf/eng/h_ef00016.html'



5 July 2010

RPS

Attn: Tessa Boer-Mah
Senior Archaeologist
PO Box 428
Hamilton NSW 2303

Dear Tessa,

Re: Comments for the Awaba Colliery Draft Report Cultural Heritage Impact Assessment.

With regard to the Cultural Heritage Impact Assessment for the Awaba Colliery, we recognise the evaluation by RPS appears to be reasonably comprehensive.

The primary objective of the preliminary Aboriginal Heritage Assessment was to ascertain the presence and evidence of any areas of cultural or archaeological significance within the study area. The project area is defined to consider that the Awaba Colliery is seeking a project approval from the Minister of Planning under the provisions of Part 3A of the Environmental Planning and Assessment Act to:

- Undertake board and pillar development and pillar extraction within narrow panels by continuous miners within the East B Area
- Produce approximately 880,000 tonnes of 'Run of Mine' coal per annum (financial year)
- Expand the final pollution control dam

In addition, the Awaba Colliery proposes to include its current mining and surface operations within the Part 3A approval, and the proposed development also includes an upgrade of infrastructure.

Our Comments to the contents of the Draft Aboriginal Assessment Report are as follows:

We are concerned that the Executive Summary within the **Report** does not provide for any Mitigation Management Strategies for the proposed project and/or any reference for the inclusion of any consultation involvement with the relevant Aboriginal Stakeholders for the proposed Cultural Heritage Management Plan for the Proposed Project area.

Page3, - Executive Summary Dot Point 3, We believe that the reference made to ‘community representatives’ in the **Report** should be changed to ‘Registered 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, and therefore we would like the **Report** to consistently refer to the ‘Registered Aboriginal Stakeholders’ instead of a generic ‘community representatives’.

It is our interpretation that Aboriginal communities consist of Aboriginal people, many of whom have relocated into other Aboriginal Nations / Traditional Lands and need to demonstrate their respect of the culture and heritage of the region and the rights of the traditional descendants of the area, given that the Hunter and Lake Macquarie regions consist of many Aboriginal community members who have no cultural association with this land or heritage.

Page 3, Dot Point 5, We believe that an Aboriginal Heritage assessment process involves both a cultural values assessment and an archaeological assessment. Therefore we suggest that all areas of moderate and high archaeological sensitivity should also include Cultural Heritage Sensitivities and Values, as this **Report** should reflect a *Cultural Heritage* perspective for the Assessment.

Therefore we suggest that the **Report** consider the value of ‘place’ within the Heritage and Cultural weighting, as this consideration is to insure the protection and conservation of Place & Objects which impact significantly on the spirituality, cultural, historic and general legacy needs of Aboriginal people to address inequalities in social and community well being.

Page 4, Dot Point 2, With regard to ‘ If an Aboriginal site is identified...’, we believe that this dot point may have the potential to be misleading, as it reads as if no Aboriginal sites exist within the proposed project area. Therefore we suggest that the sentence should specify... “If further Aboriginal sites are identified...”

We suggest and highly recommend that if approval is granted that an Aboriginal Cultural Heritage Awareness Package be prepared in preparation for an induction for personal and contractors involved in the construction activities on site. We recommend that RPS assist in facilitating the preparation of this package in collaboration with the Registered Aboriginal Stakeholders. In acknowledgement of the importance of the area to the Awabakal people that have a primary attachment to the region, we recommend only the Registered Awabakal Stakeholder groups and the Local Aboriginal Land Council prepare this package.

Page 4, Dot Point 3, We commend and agree with position taken with regard to monitoring for subsidence impacts that may extend beyond the project area. However, we are concerned that the **Report** *does not* include any Mitigation Strategy Measures for the monitoring or timeframes for this process.

Page 6, As the Draft **Report** states that there is potential for subsurface subsidence within the proposed project area, we believe that a Mitigation Management Strategy Plan should be included in the Cultural Heritage Management Plan including Due Diligence for the process of monitoring Aboriginal sites within the Mining Project Area.

Page 10, 1.3, With regard to the Scope within the **Report** we believe that the first dot point relating to “liaison and partnerships” with *all* the Relevant Aboriginal Stakeholders (Aboriginal community), in our view has not been achieved. We believe that this perspective, as Registered Stakeholders who have a primary attachment to the region, have received limited communication and involvement concerning the Awaba Colliery project.

If we are to achieve an inclusive process and a greater understanding of cultural attachment to place, both archaeologists and proponents need to take into consideration what inclusion means to Aboriginal people as part of their healing and self-determination process.

Page 10, 1.3, The aspects of Aboriginal Cultural Heritage sensitivity again seem to be omitted from the Scope within the **Report**. We believe that Cultural Heritage Impact Assessments needs to incorporate an inclusive understanding and explanation of Aboriginal Cultural Heritage for a more comprehensive perceptive.

Page 17, 2.0, With regards to the Aboriginal Consultation within the **Report**, we hold grave concerns that the reference made to ongoing consultation with the Aboriginal community does not include any consultation with the Awabakal Descendants who have a primary attachment to the region, being that we are direct descendants of the People of Awaba. We believe that RPS and Awaba Colliery may have overlooked our cultural and spiritual connections and inherent rights to country.

We believe that reference within the **Report** concerning the ILUA with the Wonnarua People can be seen as confusing and could potentially be misleading. It would seem unfortunate that the Aboriginal Cultural Assessment for the Awaba Colliery (which includes Aboriginal presence and the assessment of site significance) results in an ambiguous determination of the Cultural Tribal area.

Ultimately it is the belief of the descendants of the Awabakal Traditional Owners, and many Aboriginal Community members, as well as Glen Morris (NPWS Officer) that the Awaba Region lies within the Awabakal Traditional Cultural Boundary Area.

Furthermore, although Centennial (formerly Powercoal) does have an ILUA with the Wonnarua People (Wonnarua Nation Aboriginal Corporation) for lands within and adjacent to the Project Application area, that the references made within the Draft **Report** does not mean that the area that the ILUA covers is within the Wonnarua Boundary, and strongly suggest that these references within the **Report** needs additional clarity.

Page 18, Table 2-1, It would be remiss of us to ignore the fact that there are a number of Wonnarua stakeholders who are positioning themselves within the Awabakal Cultural Boundary. We believe that any information or comments provided by any inappropriate stakeholders would be inconsequential as the Awaba region is well within the Awabakal Cultural Boundary. We believe this needs critical attention and resolve when regarding further developments. Naturally we will make ourselves available for a meeting to discuss and clarify this matter further.

Page 21, 3.2, We disagree with the statement in paragraph 2 ... "that Aboriginal occupation in this area would not have been frequent or long term on the basis of limited water availability..." as this statement may be misinterpreted.

The occupation of Awabakal people within the region has been well documented and should not be incorporated in the aspects of Topography and Hydrology. These aspects should not be confused with the occupation of Awabakal people within the region, as the **Report** does not include or refer to other water resources that are in close proximity.

Page 21, 3.4, We have concerns that this section within the **Report** indicates that some areas of the Study Area were not assessed, and that assumptions of the study area are being made. We are referring to the statement...*'although there may be some older trees present'*... as this statement may indicate that the assessment and the condition of the study area may be incomplete.

Page 22, 4.1, 4.2, We consider that the “Cultural Heritage perspective” pertaining to the Aboriginal Cultural Heritage aspects of the study area within the **Report** is excluded from the Assessment. We believe that the *Human* element should also be represented within the Draft **Report** and therefore consider that the writings of the Reverend Lancelot Threlkeld are an informative adjunct to the Awabakal Peoples lifestyle that would have indeed broaden the local context of the **Report**.

We also strongly suggest that the final **Report** be referenced and supported by “Australian Reminiscences & Papers of L.E. Threlkeld” who was the missionary to the Aborigines of Lake Macquarie 1824-1859; in whose correspondence and detailed account of the Awabakal People of the Lake Macquarie and Hunter region are the earliest “colonial commentary” recorded.

Pages 24 - 26, We hold grave concerns that previous archaeological investigation comments within the **Report** may be misleading and have the potential to be confused with the Awaba Colliery Study area. We are concerned that the previous archaeological investigation comments may have the potential to detract from the findings of the Aboriginal assessment for the Cultural Heritage Impact Assessment for the Awaba Colliery.

Although anthropologists and/or archaeologists may have the ability to identify past physical use of a location, they do not have the capability to adjudicate on the spirituality of any particular location or site, this being the exclusive right of the Awabakal Traditional Owners who have a cultural and hereditary association with the land of their ancestors.

Page 32, 6.2, With regard to this section we again believe that the information or comments provided by any inappropriate stakeholders from previous assessments would be inconsequential as the Awaba region is well within the Awabakal Cultural Boundary. We believe this section needs critical attention and resolution.

Page 38, 39, 7.2, We believe that the reference in the **Report** stating that there are...”No identified Aboriginal sites or places have been identified within the study area ...” can be a misleading assumption unless further investigation proves otherwise, and furthermore we believe that the explanation of the purpose of the defined four (4) zones may potentially be taken out of context. We believe that there is potential for Aboriginal cultural material to be concealed below the vegetated ground surface as a result of the general use of the area by our people, the Awabakal.

We are concerned that these statements in the **Report** may present a foregone conclusion that Aboriginal Cultural Heritage and Values do not exist 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 also have concerns that the **Report** has not taken into consideration the impact on unknown sites due to the observation and information gathering process which presented minimal visible evidence due to the vegetated ground surface. Therefore, it should not be assumed that Aboriginal artifacts do not exist within the proposed Awaba Colliery project area.

We believe that although the DECCW AHIMS Database may not necessarily have “up-to-date” or current information due to any unreported or unfinished site assessments pertaining to projects within close proximity to the Awaba Colliery project area, we consider that all surrounding Awabakal Aboriginal sites are holistically and historically culturally connected.

Page 41, 42, 8, We disagree with the Conclusions and Recommendation regarding that there are ‘No Aboriginal heritage constraints’ as this comment may be taken out of context and

may have the potential to be misleading. We believe that the Conclusions and Recommendation may also need to include the NPWS and DECCW Acts in relation to the protection of Culture and Heritage in the event that Aboriginal sites are exposed during the suggested monitoring for Study Area 2 and 3, as recommendation for these areas.

We believe that the **Report** has not taken into consideration and/or addresses the issues pertaining to Intergenerational Equity for future generations of Awabakal people in the event of possible damage or disturbance to Awabakal Aboriginal Cultural Heritage if potential surface impacts eventuate from subsurface subsidence.

We also believe that the absence of any Mitigation Strategy and Measures within the **Report** for the Awaba Colliery project area may have been an oversight, if indeed the continued underground mining activity causes subsurface subsidence.

We express a high level of alarm and distress regarding the probability of risk to our cultural heritage values through the proposed activity seeking permit approvals. In the scenario of disturbance to our cultural heritage we state that we find this highly disturbing and that mining activity may be given greater weighting than conservation.

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 conservation of our cultural landscape.

Empirical evidence demonstrates that the area has a history of poor cultural heritage recording and reporting and cumulative impact assessment integrated into a weighting for intergenerational legacy is of a poor standard.

Recommendations

- That the **Report** clarify all the concerns and considerations raised.
- That if the project is approved that an Aboriginal Cultural Heritage Management Plan be prepared in consultation with all the Registered Aboriginal Stakeholders.
- That reference made to 'community representatives' in the **Report** should be changed to 'Registered Aboriginal Stakeholders'.
- That if the project is approved that an **Aboriginal Cultural Heritage Awareness Package** be prepared in preparation for an induction for all personal and contractors involved in the construction activities on site.
- That a Mitigation Strategy and Measures needs to be included within the **Report**.
- Given that the descendants of the Awabakal people have a cultural and hereditary association with the land of their ancestors, we recommend that there is attention needed for Aboriginal protocols enabling Awabakal descendants in having the exclusive right to adjudicate on the spirituality of any particular location or site.
- The protection of all artifacts is crucial to the descendants of the Awabakal and it is imperative for us to be in a position to protect what connects us with our culture both physically and spiritually. This would also indicate our right to have

the final decision regarding the relocation of any Aboriginal artifacts discovered that are associated with our people for the duration of the proposed project. We reserve the right to obtain a **Care and Protection Permit** for any artifacts retrieved.

- **Value of Place** - We recommend that RPS may need to consider the value of 'place' within the Heritage and Cultural weighting, as this consideration is to insure the protection and conservation of Place & Objects which impact significantly on the spirituality, cultural, historic and generational legacy needs of Aboriginal people to address inequalities in social and community well being.
- As there are several previously recorded sites within the vicinity of the proposed project we suggest caution is needed as a number of our sites have previously been destroyed.
- That Intergenerational Equity is taken into consideration in the event of possible damage or disturbance to Awabakal Aboriginal Cultural Heritage if potential surface impacts eventuate from subsurface subsidence.

The Awabakal Traditional Owners Aboriginal Corporation (ATOAC) makes the following assessment conservation recommendations based on the DECCW recommended approach consistent with the NPW Act—Conservation involves identifying, assessing, protecting and maintaining the important cultural and heritage values of landscapes, resources, places, objects, customs and traditions so that we, and generations to come, can enjoy, learn from them, and appropriately manage these values.

[Legislation](#) ensures that Aboriginal heritage must be considered as part of land management. DECCW protects Aboriginal heritage through:

- Management planning
- Public education and awareness
- Physical protection works

The following weighted assessment considers the above three areas of Aboriginal Heritage conservation.

The following statements and recommendations are made within the context that:

- The NPWS recognises that Aboriginal culture is living and unique and recognises the right of Aboriginal people to protect, preserve and promote their culture.
- The NPWS recognises that Aboriginal people are the rightful cultural owners of Aboriginal cultural heritage information and Aboriginal sites and objects ('relics' under the National Parks & Wildlife Act, 1974). In the area of Aboriginal cultural heritage, the NPWS is committed to a joint and equitable management partnership with its own Aboriginal heritage staff and with Aboriginal communities.
- The NPWS commits to an active partnership with Aboriginal communities in advocating constructive changes to legal and institutional arrangements governing the control of Aboriginal heritage.

Empirical learning demonstrates that the impact of subsidence can have devastating effects on our cultural heritage landscape and features and our cultural heritage is coming under increasing and continuing pressure and risk because of the volume and level of mining activity. We believe that there is potential for subsurface subsidence within the proposed project.

We are concerned that perspectives of Intergenerational equity are not taken into consideration considering that the **Report** does refer to the potential of subsidence which would impact on Awabakal Cultural Heritage sites within the continued underground mining area of Awaba Colliery. This consideration would clearly demonstrate a commitment to the protection of Aboriginal Cultural Heritage sites by Awaba Colliery if indeed Aboriginal sites are exposed during the life of the mining project.

We believe that the context of the landscape of the surrounding project areas relate to distinctive factors that are associated with Aboriginal inhabitants.

In closing, the principal vision and aim of the Awabakal Traditional Owners Aboriginal Corporation is to protect the cultural heritage of our ancestors. Continued multiple adverse impacts place increasing environmental and cultural heritage values stress on our landscape and specifically to our features and objects which provide a rich evidence of our social function which extended beyond pre-contact into and continuing through post contact, tool ingenuity, ceremony and Dreamtime and commerce and trade, as well as architecture and housing and food and remedial knowledge and practices.

The Awaba region is regarded as highly significant to the Awabakal people, and in our view the region is part of the land that echoes the ethos of our cultural heritage. Therefore, any artifacts 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.

We acknowledge RPS and the Awaba Colliery's commitment and support in addressing the many aspects related to the perspectives and diversity that is associated with Aboriginal Cultural Heritage.

We would like to thank RPS for the opportunity to comment and request a copy of the Final Report is forwarded to the Awabakal Traditional Owners Aboriginal Corporation at your earliest convenience.

If you require any further information please do not hesitate in contacting me.

Yours sincerely,



Kerrie Brauer
Director | Administration

Gidawaa Walang

Wiradjuri Meaning ~ Goanna Turning the Stone

Cultural Heritage Consultancy

...To keep our Culture...

Friday 4th June 2010

Tessa Boer-Mah
RPS
241 Denison Street
Broadmeadow
NSW 2292

16 JUN 2010

Dear Tessa,

Re: Cultural Heritage Impact Assessment for Awaba Colliery

Gidawaa Walang Cultural Heritage Consultancy agrees with the recommendations for Study Area 1 Recommendations 1 and 2, Study Area 2 Recommendations 3 and 4, Study Area 3 Recommendations 5 and 6, Study Area 4 Recommendations 7 and 8.

We also agree with the Recommendations 9 through to 14 for the Management of the Project Application Area.

Yours truly,



Ann Hickey
Project Officer

**76 Lang Street
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