



Cultural Heritage Impact Assessment

Northern Coal Services

Northern Coal Logistics Project

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Aboriginal Statement of Significance

Statements of Aboriginal cultural significance have been prepared by the Registered Aboriginal Parties who expressed desire to have these included in the report. The cultural significance statements were provided on a volunteer basis and should not be interpreted as an indicator of participation or interest in the project. All Registered Aboriginal Parties have a strong cultural and spiritual connection to the Country, but their manner of expressing their involvement in the project varies. As a result, this report has sought to cater for the different ways in which the Registered Aboriginal Parties wished to participate and contribute to the understanding of Aboriginal culture, knowledge and spiritual connection to the land.

Although only some statements have been provided, the purpose is to acknowledge and recognise the cultural heritage, value and importance of the Lake Macquarie region to the Traditional Custodians, which includes the area of proposed underground mining works relevant to this assessment report. Centennial and RPS Australia East Pty Limited (RPS) recognise the primary role of the Aboriginal stakeholders registered for this project in confirming the Aboriginal cultural significance of the region and the Aboriginal cultural features and sites contained within the Project Application Area.

Awabakal Traditional Owners Aboriginal Corporation (ATOAC)

"The Awabakal iconic landmarks feature prominently within its surrounding landscape. This regions mythology, mystery and organic presence that are quite simply, uniquely Awabakal still to this day has an undeniable amount of fascination and attention regarding its cultural value and purpose. The Centennial Coal Mining Project areas are also included within the Awabakal landscape.

The Awabakal Traditional Owners have a personalised and ever-revitalised bond with our ancestors' culture, tradition & heritage. This inexplicable connection is reverberated within the surrounding landscape of the Awabakal region.

Additionally, we appreciate our unique role and responsibility for the care and protection of the integrity of this landscape, for and on behalf of its original First Peoples and their descendants.

We would like to take this opportunity to assert our focus on the critical flow of intergenerational equity and aim to ultimately safeguard the immeasurable life-changing impact to this and future generations. Intergenerational equity lays the foundation for 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

We believe that the principles of the Awabakal tradition and culture still exist today to keep intact the moral and spiritual fibre of this land. Equally, we also believe it is essential to nurture new visions that are inspired by the cultural integrity of our ancestral family and we are encouraged that so many people in the region are focused on gaining an ever growing respect and understanding for the Awabakal Peoples, this land and environment.

This land has had a wealth of knowledge walk over it, with each one of us deepening the footprints of our ancestral family, the Awabakal People"

(Quote from statements by Awabakal Traditional Owners Aboriginal Corporation and speeches by Nola Hawken, Awabakaleen Elder. Copyright, 2010).

Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC)

“This area, as part of what is the Traditional Awabakal Country, is considered by our People to be of great importance within our Cultural Heritage. There are a variety of reasons our People have benefited from using this location over thousands of years.

One of the earliest documented accounts of the importance of the areas around Lake Macquarie for the Awabakal is attributed to the Rev. L.E. Threlkeld. For us, this area has not just a physical presence within the Cultural Heritage of our People but it is part of our oral history and incorporates places of spiritual significance. The landforms and resources of this locale fulfilled not just the basic needs that underpinned our Peoples subsistence but also satisfied the many other aspects that made up what can only be described here as being part of the very cultural foundations of our People.

Needless to say, our People have had a long history within this area which is unsurpassed. Our apical Ancestor, Mahrahkah, an Awabakal woman and her two daughters were recorded by the Reverend L.E. Threlkeld and Jonathan Warner as living in and around these areas which all formed part of their Traditional Country. This apart from everything else makes it a very important location for our family, knowing that Mahrahkah walked these areas before any white man was ever seen in the Newcastle and Lake Macquarie region. She was intrinsically acquainted with her Land and she has left a legacy for us to carry on in this day and age and to pass onto our Descendants.

This area is of very high significance to the Awabakal and therefore it would be expected that after many generations of our People that have walked the pathways of their Ancestors it should be obvious there would be many areas that contain evidence of this connection resulting from thousands of years of occupation on varying levels by our People. Traditionally these areas were the supply of rich resources of which our People have depended on over millennia. There are physical reminders left by our Ancestors, some in the form of middens, scarred trees or stone tools (artefacts) and grinding grooves which provide us as Descendants of the Awabakal People an opportunity to make a connection through time with our Ancestors. This connection is manifest in a variety of ways; one is through the physical senses such as knowing we are seeing where they lived or touching what they used. By holding or touching something our Ancestors handled, something they made, possibly many thousands of years previously, gives rise to a sense of perception, appreciation, familiarity and recognition of who we are and reinforces where we belong and our birthright as Awabakal Descendants.”

(Shane Frost, Managing Director – Awabakal Descent Traditional Owner Aboriginal Corporation March 2012)

Westlakes Aboriginal Community (WLAC)

“The area in which the Aboriginal Heritage Assessment is to be conducted is located in the Tribal Country of our people. The area is significant because our people have been the custodians of this Country for thousands of years, our people have hunted the land and fished the waters in traditional way that has been passed down through the centuries. The area is in close proximity to significant sites that was used by our people. There are many sites located within the surrounding area which proves our spiritual connection to Country”.

(Margaret Harvey CEO Awabakal Local Aboriginal Land Council 2012)

Executive Summary

RPS Australia East Pty Ltd (RPS) has been engaged by Centennial's Northern Coal Services Pty Limited (Northern Coal Services) to undertake a Cultural Heritage Impact Assessment (CHIA) as part of an Environmental Impact Statement (EIS) for the proposed Northern Coal Logistics Project (the Project). Northern Coal Services is seeking approval for the Project under Part 4 Division 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The Project comprises both a continuation of existing operations and an upgrade to the surface coal handling and processing infrastructure at the Newstan Colliery Surface Site and the Mandalong Mine - Cooranbong Entry Site (Cooranbong Entry Site), along with the existing private haul roads and rail loading infrastructure. These facilities are integral to the on-going handling, processing and transport of coal from the underground workings of Newstan Colliery and Mandalong Mine (including the proposed Newstan Colliery Extension of Mining Project and Mandalong Southern Extension Project) into domestic and export markets.

The Project will allow for improved and flexible coal handling arrangements across Newstan Colliery and Mandalong Mine to deliver the range of coal products required to meet domestic and export markets demands.

This CHIA has considered the cultural heritage constraints, both historical and Aboriginal within the Project Application Area to ensure that the appropriate management strategies and recommendations are provided to Northern Coal Services. The Project Application Area encompasses two proposed disturbance areas which have been assessed in detail as part of this CHIA, they are:

- Disturbance Assessment Area: Newstan Colliery Surface Site – an area of approximately 7.5 hectares within the Newstan Colliery Surface Site is proposed to be disturbed for the re-development and upgrade of the coal handling and processing infrastructure; and
- Disturbance Assessment Area: Hawkmount Quarry - an area of approximately 13.9 hectares within the Hawkmount Quarry site is proposed to be disturbed for the purposes of reject emplacement (including associated water management and rehabilitation).

Based on the assessment results, a single Aboriginal site (RPS COAL LOG 1 – AHIMS 45-7-0324) is within the development footprint of the Hawkmount Quarry reject emplacement area (REA). This site is to be avoided by surface works.

There are three historic heritage items in, or partially within, the Project Application Area. These items listed in the Lake Macquarie Local Environmental Plan 2004 (Schedule 4) are: a section of the Great Northern Railway; Eraring Power Station; and Bat Alley (part of the Newstan Colliery potential archaeological site). The Great Northern Railway is also listed in the RailCorp Section 170 Heritage and Conservation Register. All three items are of local heritage significance and are not on the State Heritage Register.

These historic heritage items, while in the Project Application Area, are outside the disturbance areas and will not be impacted by the Project.

The following recommendations with regard to Aboriginal and historic heritage are made:

Recommendation 1

Aboriginal site RPS COAL LOG 1 (AHIMS 45-7-0324) is to be avoided by proposed surface works as part of this Project and, if any surface works are to occur within 100m of this site, Centennial must ensure that this area is cordoned off to avoid unintentional impact.

Recommendation 2

If any surface disturbance is required within the Project Application Area beyond those surveyed as part of this CHIA, a cultural heritage survey should be undertaken in accordance with Centennial's Northern Holdings Aboriginal Cultural Heritage Management Plan. Any new sites identified by these surveys should be recorded and managed in accordance with Centennial's Northern Holdings Aboriginal Cultural Heritage Management Plan.

Recommendation 3

If further Aboriginal site(s) are identified in the Project Application Area, any surface works in the vicinity should cease and a suitably qualified archaeologist and representatives from the registered Aboriginal Parties contacted, so that it can be adequately assessed and managed.

Recommendation 4

In the event that any European historic cultural heritage material is identified or uncovered during development works, any surface works in the area should cease in the area and a heritage consultant must be contacted to assess the condition of the item. Northern Coal Services must adopt the appropriate mitigation measures, as provided by the heritage consultant, before work may recommence.

Recommendation 5

All relevant Centennial employees and contractors should be made aware of their statutory obligations for heritage under NSW *NPW Act (1974)* and the NSW *Heritage Act (1977)*, which can be implemented as a heritage induction.

Recommendation 6

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. NSW Police are to be contacted immediately. No further action is to be taken until the Police provide written advice to the proponent on how to progress. If the remains are determined to be Aboriginal, the proponent must contact the Enviroline (on 131 555), a suitably qualified archaeologist and representatives of the local Aboriginal community stakeholders to determine an action plan for the management of the skeletal remains, to formulate management recommendations and to ascertain when work can recommence.

Acronyms and Units

ACHCR	Aboriginal Cultural Heritage Consultation Requirements
ACHMP	Aboriginal Cultural Heritage Management Plan
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Management Information System
ADTOAC	Awabakal Descendants Traditional Owners Aboriginal Corporation
APIA	Australian Petroleum Industry Association
ATOAC	Awabakal Traditional Owners Aboriginal Corporation
BP	Before Present
Cal.	Calibrated
CHIA	Cultural Heritage Impact Assessment
DA	Development Application
EA	Environmental Application
EIS	Environmental Impact Statement
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999
EP& A Act 1979	Environment Planning and Assessment Act 1979
GPS	Global Positioning System
ha	Hectares
ICOMOS	International Council on Monuments and Sites
ILUA	Indigenous Land Use Agreement
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
LW	Longwalls
Mtpa	Million tonnes per annum
NPW Act 1974	National Parks and Wildlife Act 1974
NTA 1993	Native Title Act 1993
OEH	Office of Environment and Heritage
REA	Reject Emplacement Area
ROM	Run-of-mine
SHR	State Heritage Register
SMP	Subsidence Management Plan
SU	Survey Unit
tpa	Tonnes Per Annum
Ud.	Undated
VAM-RAB	Ventilation Air Methane Abatement Demonstration Project
WLAC	Westlakes Aboriginal Community
WNAC	Wonnarua Nation Aboriginal Corporation

1.0 Introduction

RPS has been commissioned by Centennial Coal's Northern Coal Services Pty Limited (Northern Coal Services) to provide a Cultural Heritage Impact Assessment (CHIA) for the Northern Coal Logistics Project (the Project). Northern Coal Services is seeking approval for the Project under Part 4 Division 4.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The Director-General's Requirements (DGRs) and the environmental assessment requirements of other government agencies consulted for the Project, together with the relevant section of this report in which they are addressed, are outlined in **Table 1**.

1.1 Project Application Area

The Project Application Area is approximately 25 km south-east from Newcastle and is in the Lake Macquarie Local Government Area (LGA) (**Figure 1**). The surface infrastructure within the Project Application Area includes the Newstan Colliery Surface Site, the Mandalong Mine - Cooranbong Entry Site (Cooranbong Entry Site) and Hawkmount Quarry, along with the Cooranbong Private Haul Road, Newstan-Eraring Private Haul Road and Awaba Private Haul Road.

The Project Application Area encompasses two proposed disturbance areas (**Figure 2**) which have been assessed in detail as Part of this CHIA. The two disturbance assessment areas discussed in this CHIA include:

- Disturbance Assessment Area: Newstan Colliery Surface Site – an area of approximately 7.5 hectares within the Newstan Colliery Surface Site is proposed to be disturbed for the re-development and upgrade of the coal handling and processing infrastructure; and
- Disturbance Assessment Area: Hawkmount Quarry - an area of approximately 13.9 hectares within the Hawkmount Quarry site is proposed to be disturbed for the purposes of reject emplacement (including associated water management and rehabilitation).

The Newstan Colliery Surface Site Disturbance Assessment Area is located to the north of the existing Newstan Colliery Surface Site coal handling facilities. The Hawkmount Quarry Disturbance Assessment Area is located adjacent to the Cooranbong Private Haul Road and the Main Northern Rail Line. These are the only areas to be disturbed by the Project. The residue of the Project Application Area is already disturbed and/or developed and, as such, a detailed survey and assessment of the residue has not been undertaken as part of the CHIA.

1.2 Background

The Project, in conjunction with Centennial's Newstan Extension of Mining Project and Mandalong Southern Extension Project, stems from the long-term strategy Centennial has developed for its future operations in the Newcastle Coalfield to provide the infrastructure and flexibility required to meet future opportunities in both the domestic and export coal markets.

The Project comprises both a continuation of existing operations and an upgrade to the surface coal handling and processing infrastructure at the Newstan Colliery Surface Site and Cooranbong Entry Site, along with the existing private haul roads and rail loading infrastructure. These facilities are integral to the on-going handling, processing and transport of coal from the underground workings of Newstan Colliery and Mandalong Mine (including the proposed Newstan Colliery Extension of Mining Project and Mandalong Southern Extension Project) into domestic and export markets.

The Project will allow for improved and flexible coal handling arrangements across Newstan Colliery and Mandalong Mine to deliver the range of coal products required to meet domestic and export market demands. In summary, the Project proposes to:

demands. In summary, the Project proposes to:

- Re-develop and upgrade the existing coal preparation and handling infrastructure at the Newstan Colliery Surface Site to enable continued utilisation for the receipt, handling and processing of up to eight Mtpa of ROM coal from the Newstan Colliery (up to 4.5 Mtpa), Awaba Colliery (up to 0.88 Mtpa) and Mandalong Mine (up to six Mtpa);
- Continue to utilise the existing coal handling infrastructure at the Cooranbong Entry Site to enable the receipt, handling and processing of up to six Mtpa of ROM coal from Mandalong Mine;
- Increase the volume of coal transported from the Cooranbong Entry Site to Newstan Colliery Surface Site, via truck using existing private haul roads, from four Mtpa to up to six Mtpa;
- Increase the volume of coal transported from the Cooranbong Entry Site to Eraring Power Station, using an existing dedicated overland conveyor, from four Mtpa to up to six Mtpa;
- Increase the volume of coal transported from the Newstan Colliery Surface Site to Eraring Power Station, via truck using existing private haul roads, from two Mtpa to up to 4.5 Mtpa;
- Increase the volume of coal transported from the Newstan Colliery Surface Site rail loading facilities by train to the Port of Newcastle and/or Port Kembla (for export) and/or Vales Point Power Station from three Mtpa to up to eight Mtpa;
- Continue to transport up to 0.5 Mtpa of middlings by truck via private haul roads from Newstan Colliery Surface Site to Cooranbong Entry Site for subsequent supply to the Eraring Power Station via a dedicated overland conveyor;
- Continue to transport up to 0.88 Mtpa of material (including coal and stone from construction activities undertaken as part of the Newstan Colliery Extension of Mining Project) by truck via private haul roads from the Awaba Colliery Surface Site to the reject emplacement areas at the Newstan Colliery Surface Site;
- Transport reject material from the Newstan Colliery Surface Site to the Newstan Colliery Northern Reject Emplacement Area (NREA), the Newstan Colliery Southern Reject Emplacement Area (SREA) and/or Hawkmount Quarry via existing private haul roads;
- Increase the volume of water discharged via licensed discharge points at the Newstan Colliery Surface Site and Cooranbong Entry Site;
- Provide employment for up to 120 full-time personnel;
- Provide a life of operation of 30 years from the granting of development consent; and
- Operate 24 hours per day, seven days per week.

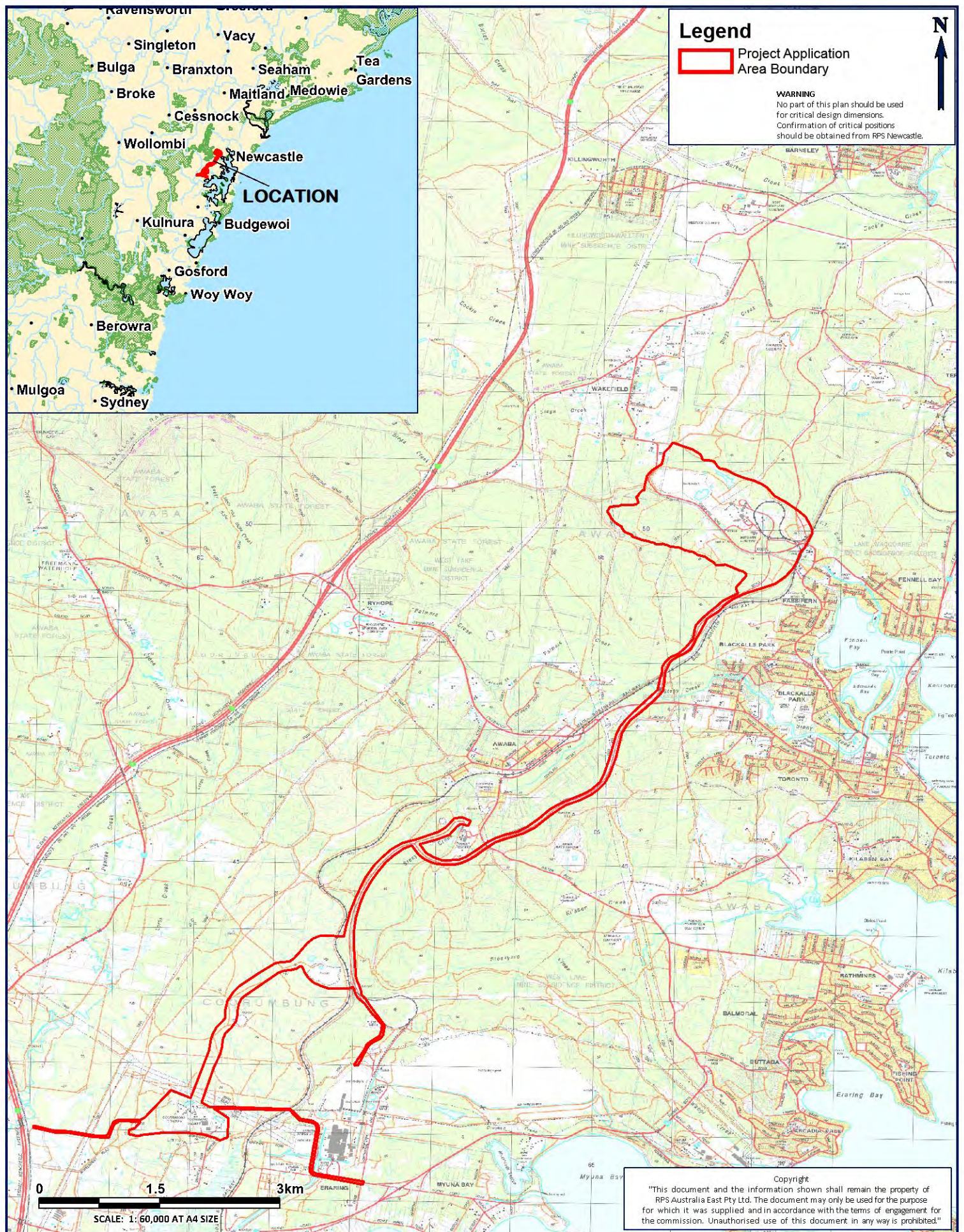
The DGRs for the project were originally issued by the Department of Planning and Infrastructure (DP&I) on 20 March 2012, with revised DGRs issued on 7 August 2013. The DGRs and input received from the consulted agencies are listed in **Table 1**.

Table 1 Coal Logistics Project – Director General Requirements

Agency	Requirements	Addressed in this Report
Director-General	Heritage - including an assessment of impacts on Aboriginal cultural heritage and Historic heritage, including: Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must: Demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, and developing and selecting mitigation options and measures;	Section 2.0
	Outline any proposed impact mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures);	Section 8.1
	Historic heritage assessment (including archaeology) which must: Include a statement of heritage impact (including significance assessment) for any state significant or locally significant historic heritage items; and	Section 4.0
	Outline any proposed mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures).	Section 8.2
Environment Protection Authority	Aboriginal Cultural Heritage The EPA notes the existence of numerous registered Aboriginal sites in the regional locality. It is recommended that the proponent consider any potential impacts of the proposal on these known sites, the sensitivity and significance of these sites to the traditional Aboriginal knowledge holders and any relationship that may exist between these sites and any Aboriginal cultural heritage values of the project area. Impacts of the project on Aboriginal cultural heritage values Standard requirements:	
	The EIS must address and document the information requirements set out in the draft 'Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' (Department of Environment and Conservation, 2005);	Section 2
	The EIS must include surveys by suitably qualified archaeological consultants in consultation with all of the local Aboriginal knowledge holders;	Section 6
	The EIS should identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area and clearly articulate strategies proposed to avoid/minimise these impacts. If impacts are proposed as part of the final development, clear justification for such impacts should be provided;	Section 8.1
	The EIS must assess and document the archaeological and Aboriginal significance of the site's Aboriginal cultural heritage values;	Section 7.0

Agency	Requirements	Addressed in this Report
	Describe the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal cultural heritage values. This must include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented. Any proposed methodology for Aboriginal cultural heritage investigation should reflect best practice standards recommended by the EPA in the 'Code of Practice for Archaeological Investigations of Objects in New South Wales (2010)';	Section 6.0 Section 8.1
	The EIS must provide documentary evidence to demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing protection and mitigation options and making final recommendations. The EPA supports broad-based Aboriginal community consultation and as a guide the EPA's 'Aboriginal cultural heritage consultation requirements for proponents 2010' provides a useful model to follow;	Section 2 Appendix 3
	If impacts on Aboriginal cultural heritage values are proposed as part of the final development, an assessment of the proposed impacts in the context of 'inter generational equity' and cumulative impact must be undertaken. This assessment must examine both cultural and archaeological perspectives equally at both the local and regional levels, with consideration given to the site level and broader landscape level. <i>Note: If the EIS is relying on past surveys, it is critical to confirm that the surveys are consistent with the requirements of the above State Significant development guidelines. Further, whilst there may be no requirement for obtaining an Aboriginal Heritage Impact Permit (AHIP) under Part 6 of the National Parks and Wildlife Act 1974 (NPVV Act) for projects approved under the State Significant Development requirements of the Environmental Planning and Assessment Act 1979, there are other sections of the NPW Act which remain valid. This includes the requirement to obtain a Care Agreement for salvaged objects (Section 85) and reporting to the EPA on the status of new or impacted Aboriginal sites (Section 89A).</i>	Section 8.1
	Notes: An Aboriginal Site Impact Recording Form must be completed and submitted to the AHIMS Registrar, for each AHIMS site that is harmed through archaeological investigations required or permitted through these environmental assessment requirements. Under section 89A of the National Parks and Wildlife Act 1974, it is an offence for a person not to notify the EPA of the location of any Aboriginal object the person becomes aware of, not already recorded on the Aboriginal Heritage Information Management System (AHIMS). An AHIMS Site Recording Form should be completed and submitted to the AHIMS Registrar for each Aboriginal site found during investigations.	
Forests NSW	No heritage requirements	-
Heritage Council of NSW	The heritage significance of the site and any impacts the development may have upon this significance should be assessed. This assessment should include natural areas and places of Aboriginal, historic or archaeological significance. It should also include a consideration of wider heritage impacts in the area surrounding the site;	Section 8
	The Heritage Council maintains the State Heritage Inventory which lists some items protected under the Heritage Act, 1977 (e.g. listed on the NSW State Heritage Register) and other statutory instruments. This register can be accessed through the Heritage Office home page;	Section 4.3
	It should be noted that the legal standing of items listed on the State Heritage Register can also be provided by applying for a section 167 Certificate through the Heritage Branch home page;	-

Agency	Requirements	Addressed in this Report
	You should consult lists maintained by the Office of Environment & Heritage, the National Trust of Australia (NSW), the Australian Government under the Environment Protection and Biodiversity Conservation Act 1999 and the local council in order to identify any identified items of heritage significance in the area affected by the proposal. Please be aware, however, that these lists are constantly evolving and that items with potential heritage significance may not yet be listed;	Section 4.3
	Non-Aboriginal heritage items within the area affected by the proposal should be identified by field survey. This should include any buildings, works, relics (including relics underwater), gardens, landscapes, views, trees or places of non-Aboriginal heritage significance. A statement of significance and an assessment of the impact of the proposal on the heritage significance of these items should be undertaken. Any policies/measures to conserve their heritage significance should be identified. This assessment should be undertaken in accordance with the guidelines in the NSW Heritage Manual. The field survey and assessment should be undertaken by a qualified practitioner/consultant with historic sites experience;	Section 6
	The proposal should have regard to any impacts on places, items or relics of significance to Aboriginal people. Where it is likely that the project will impact on Aboriginal heritage, adequate community consultation should take place regarding the assessment of significance, likely impacts and management/mitigation measures;	Section 2
	Where possible refer to archaeological zoning plans or archaeological management plans held by Local Councils.	Section 4.3.4
Lake Macquarie City Council	Heritage (SSD 5142, SSD 5144) Assessment of all listed European heritage items and potential and provisional heritage items;	Section 8.2
	Identification and assessment of all Aboriginal significant sites;	Section 5; Section 6; Section 7
	The Statement of Heritage Impact should include management recommendations for potential impacts of subsidence and extraction and other new work for items of European and Aboriginal heritage significance;	-
	Management and mitigation measures are to be prepared in accordance with the relevant policies, consultation requirements, assessment standards and methodologies;	-
Mine Subsidence Board	No heritage requirements	-
Department of Primary Industry	No heritage requirements	-
Division of Resources & Energy	No heritage requirements	-
Road and Maritime Services	No heritage requirements	-
Wyang Shire Council	The potential impact on Aboriginal and non-Aboriginal heritage should be considered and appropriate consultation undertaken.	Section 2 Section 8



TITLE: FIGURE 1: LOCALITY OF PROJECT APPLICATION AREA

LOCATION: NEWSTAN

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 9/09/2013
PURPOSE: HERITAGE

LAYOUT REF: J:\0085\Centennial\All Jobs\113119 Coal
VERSION (PLAN BY) D A4 (CYL-NW)

CLIENT: CENTENNIAL COAL
JOB REF: 113119-2

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RPS

1.3 Legislative Context

Aboriginal heritage (places, sites and objects) in NSW are protected by the National Parks and Wildlife Act (1974, as amended) [NPW 1974]. In some cases, Aboriginal heritage may also be protected under the Heritage Act (1977), The Environmental Planning and Assessment Act (1979) [EP&A Act 1979], along with other environmental planning instruments, triggers the requirement for the investigation and assessment of Aboriginal heritage as part of the development approval process. For Crown Land, provisions under the Aboriginal Land Rights Act (1983) [ALRA 1983] and the Native Title Act (1993) [NTA 1993] may also apply.

1.3.1 Aboriginal Land Rights Act (1983)

The purpose of this legislation is to provide land rights for Aboriginal people within New South Wales and to establish Local Aboriginal Land Councils. The land able to be claimed by Aboriginal Land Councils on behalf of Aboriginal people is certain Crown land that (s36):

- Is able to be lawfully sold, leased, reserved or dedicated;
- Is not lawfully used or occupied;
- Does not comprise lands which, in the opinion of the Crown Lands Minister, are needed or are likely to be needed for residential purposes;
- Are not needed, nor likely to be needed for an essential public purpose;
- Does not comprise land under determination by a claim for native title; and
- Is not the subject of an approved determination under Native Title.

Claims for land are by application to the Office of the Registrar, Aboriginal Land Rights Act (1983).

1.3.2 Native Title Act (1993)

The Commonwealth Government enacted the Native Title Act (1993) to formally recognise and protect native title rights in Australia following the decision of the High Court of Australia in *Mabo & Ors v Queensland* (No. 2) (1992) 175 CLR 1 ("Mabo").

Although there is a presumption of native title in any area where an Aboriginal community or group can establish a traditional or customary connection with that area, there are a number of ways that native title can be extinguished. For example, land that was designated as having freehold title prior to 1 January 1994 extinguishes native title, as does any commercial, agricultural, pastoral or residential lease. Land that has been utilised for the construction or establishment of public works also extinguishes any native title rights and interests for as long as they are used for that purpose. Other land tenure, such as mining leases, may be subject to native title depending on when the lease was granted.

1.3.2.1 Indigenous Land Use Agreement (ILUA)

An Indigenous Land Use Agreement (ILUA) is an agreement between a Native Title group and other parties who use or manage the land and waters in the area of concern. The ILUA process allows for negotiation between resources as well as providing a means for coming to a formal agreement. The Northern Coal Logistics Project Application Area is subjected 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, now acquired by Centennial Coal Company (Centennial).

1.3.3 National Parks and Wildlife Act (1974, as amended)

The NSW Government is working toward standalone legislation to protect Aboriginal cultural heritage - a significant reform for NSW. The first stage of this work has been completed and includes significant changes in relation to this commission. The primary state legislation relating to Aboriginal cultural heritage in NSW is the *National Parks and Wildlife Act* (NPW Act) (1974, as amended). The legislation is overseen by the Office of Environment and Heritage (OEH) (formerly the Department of Environment, Climate Change and Water) and specifically the Director-General of the OEH.

Changes to the NPW Act made effective on 1 October, 2010 include:

- Increased penalties for Aboriginal heritage offences, in some cases from \$22,000 up to \$1.1 million in the case of companies who do not comply with the legislation;
- Ensuring companies or individuals cannot claim 'no knowledge' in cases of serious harm to Aboriginal heritage places and objects by creating new strict liability offences under the Act;
- Introducing remediation provisions to ensure people who illegally harm significant Aboriginal sites are forced to repair the damage, without need for a court order; and
- Unites Aboriginal heritage permits into a single, more flexible permit and strengthens offences around breaches of Aboriginal heritage permit conditions.

1.3.4 National Parks and Wildlife Regulation 2009

The National Parks and Wildlife Regulation 2009 ("NPW Regulation") provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The NPW Regulation 2009 outlines the recognised due diligence codes of practice which are relevant to this report, but it also outlines procedures for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

1.3.5 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 an active Interim Heritage Order. Certain types of historic Aboriginal sites may be listed on the SHR or be 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 Branch.

1.3.6 Environmental Planning & Assessment Act 1979

This Act regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the *Environmental Planning & Assessment* (EP&A) Act, Parts 3, 4 and 5 relate to Aboriginal heritage.

Part 3 regulates the preparation of planning policies and plans. Part 4 governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part 5 regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part 5 authority under the EP&A Act.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the EP&A Act ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

1.4 Guidelines

1.4.1 Burra Charter

The Burra Charter defines the basic principles and procedures to be followed in the conservation of cultural heritage in Australia. Article 2 declares “‘The aim of conservation is to retain the cultural significance of a place’ and must include provision for its security, its maintenance and its future.” The principles that are set out in the Burra Charter guide and inform the assessment of significance of a place. As noted above, cultural significance means aesthetic, historic, scientific, or social value for past, present or future generations. Significance assessments are a helpful tool in the management of cultural heritage resources through allowing managers to make informed decisions especially in land use issues. Definitions of these concepts of significance are:

- Aesthetic value;
- Historic value;
- Scientific value or research potential; and
- Social value.

1.4.2 Ask First: A guide to respecting Indigenous heritage places and values

Ask First (2002) was commissioned by the Australian Heritage Commission to help Australians protect different aspects of their natural and cultural heritage places, and is intended to be complementary to the Australia ICOMOS Burra Charter and the Australian Natural Heritage Charter. Ask First is a practical guide for land developers, land users and managers, cultural heritage professionals and others who may have an impact on Indigenous heritage. The main focus of the guidelines is to emphasise that consultation and negotiation with Indigenous stakeholders is the best means of addressing Indigenous heritage issues. The guidelines also emphasise the need to comply with relevant Territory and Commonwealth Indigenous cultural heritage legislation and statutory authorities.

Ask First states that in recognising the rights and interests of Indigenous peoples in their heritage, all parties concerned with identifying, conserving and managing this heritage should acknowledge, accept and act on the principles that Indigenous people:

- Are the primary source of information on the value of their heritage and how it is best conserved;
- Must have an active role in any Indigenous heritage planning process;
- Must have input into primary decision-making in relation to Indigenous heritage so that they can continue to fulfil their obligations towards this heritage; and
- Must control intellectual property and other information relating specifically to their heritage, as this may be an integral aspect of its heritage value.

1.5 Authorship and Acknowledgement

This report was prepared by Jeremy Hill (Graduate Archaeologist) and Cheng Yen Loo (Archaeologist) and reviewed by Tessa Boer-Mah (Archaeology Manager). This project team wishes to acknowledge the assistance of the following individuals in preparing this report and assisting in the fruition of this document (**Table 2**).

Table 2 Aboriginal Stakeholder Acknowledgement

Organisation	Name
Awabakal Descendants Traditional Owners Aboriginal Corporation	Shane Frost
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer
West Lakes Aboriginal Community	Cheryl Kitchener
Cacatua Culture Consultants	Donna and George Sampson
Wonnarua Nation Aboriginal Corporation	Laurie Perry

2.0 Aboriginal Consultation

The purpose of Aboriginal community consultation is to provide an opportunity for the relevant Aboriginal parties to have input into the heritage management process. The NSW Office of Environment and Heritage (OEH) encourages consultation with Aboriginal people for matters relating to Aboriginal heritage. Guidelines for Aboriginal community consultation have been developed to be implemented in accordance with the relevant sections of the EP&A Act (1979), where applicable, and the NPW Act (1974).

2.1 Stage 1 - Notification of project proposal and registration of interest

Northern Coal Services have been undertaking comprehensive consultation with the registered Aboriginal parties on the status and progress of mining projects (including the Northern Coal Logistics Project) in the Lake Macquarie region since 2010. With particular reference to this Project, in 2010 Northern Coal Services implemented the OEH's Aboriginal Cultural Heritage Consultation Requirements (ACHCR) for Proponents (2010) which resulted in five Aboriginal groups registering an interest in the consultation process for mining operations and projects associated with the Newstan Colliery.

It should be noted that Koombahtoo Local Aboriginal Land Council, representing the Aboriginal community of western Lake Macquarie, was formally dissolved by the Minister for Aboriginal Affairs in March 2010. Following this the community was represented by West Lakes Aboriginal Community administered in the first instance by the NSW Aboriginal Land Council and later by the Awabakal Local Aboriginal Land Council. In 2013, after the consultation process for this Heritage Impact Assessment was finalised, the new Biraban Local Aboriginal Land Council was appointed.

Table 3 identifies those Aboriginal parties contacted and those who registered an interest in participating in this process. The full consultation log and associated documents can be found at **Appendix 3**.

Table 3 Aboriginal parties contacted and who registered an interest

Organisation	Contact	Registration of Interest
Awabakal LALC on behalf of the West Lakes Aboriginal Community	Cheryl Kitchener	Yes
Awabakal Descendants Traditional Owners Aboriginal Corporation	Shane Frost	Yes
Awabakal Newcastle Aboriginal Co-operative	Kevin McKenney	No
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	Yes
Arwarbukal Cultural Resource Association	Daren McKenney	No
Cacatua Culture Consultants	Donna and George Sampson	Yes
Wonnarua Nation Aboriginal Corporation	Laurie Perry	Yes
Yamuloong Group Initiative Limited	Sean Gordon	No

2.2 Stage 2 - Presentation of information about the project

A number of Project meetings have been held with all Registered Aboriginal Parties invited to attend. These meetings have been held throughout the Project to provide updates on the status and progress of the Project. These meetings and the attending Registered Aboriginal Parties are detailed in **Table 4** below.

Table 4 Project meetings and Registered Aboriginal Party participation

Meeting Date	Meeting Objectives	Representation
15 October 2010	Project Introduction	Awabakal Traditional Owners Aboriginal Corporation Awabakal Descendants Traditional Owners Aboriginal Corporation Wonnarua Nation Aboriginal Corporation Cacatua Culture Consultants
28 June 2011	Project update	Awabakal Traditional Owners Aboriginal Corporation Awabakal Descendants Traditional Owners Aboriginal Corporation
22 February 2012	Project update	Awabakal Traditional Owners Aboriginal Corporation Awabakal Descendants Traditional Owners Aboriginal Corporation

2.3 Stage 3 - Gathering information about cultural significance

The Project Application Area has been surveyed with participation from the Registered Aboriginal Parties. Specifically, the areas proposed to be disturbed as part of the Project were surveyed in May 2012. The field survey included discussions with the participants about cultural significance of the area. All Registered Aboriginal Parties were invited to make a statement on the cultural significance of the area for inclusion in this report. All statements received can be found under *Aboriginal Statement of Significance*, prior to the *Executive Summary* of this report. The Registered Aboriginal Parties who participated in the surveys of the disturbance assessment areas are detailed in **Table 5** below.

Table 5 Registered Aboriginal Parties who participated in the field surveys 2012

Organisation	Name of Representatives
Awabakal Descendants Traditional Owners Aboriginal Corporation	Shane Frost
Awabakal Traditional Owners Aboriginal Corporation	Jodie Wilson

2.4 Stage 4 - Review of draft Northern Coal Logistics Cultural Heritage Impact Assessment report

The draft Northern Coal Logistics Cultural Heritage Impact Assessment was forwarded to all Registered Aboriginal Parties for comment. The responses to that draft can be found at **Appendix 4**. Centennial responded to the comments provided (**Appendix 4**) and amended the draft report where possible.

Linked to the draft Northern Coal Logistics Cultural Heritage Impact Assessment is Centennial's Northern Holdings Aboriginal Cultural Heritage Management Plan (ACHMP) developed in 2012 in consultation with the Registered Aboriginal Parties and the relevant government agencies. The ACHMP is designed to provide a consistent approach to how Centennial consults with the Aboriginal community regarding Aboriginal heritage matters across its northern region and a consistent approach to monitoring and management of Aboriginal heritage sites. The ACHMP was finalised in November 2012 and submitted to the DP&I, with approval granted on 26 November 2012.

3.0 Environmental Context

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as for their interpretation. The local environment provided natural resources for Aboriginal people, such as stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls and 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 as part of the cultural heritage assessment process.

3.1 Geology and Soils

Aboriginal people often made stone tools using siliceous, metamorphic or igneous 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 (a secondary source) (Doelman, Torrence et al. 2008).

The geological formation of the Project Application Area comprises the Narrabeen Group and the Newcastle Coal measures, predominantly the Clifton subgroup and the Moon Island Beach Subgroup (Hawley, Glen et al. 1994). These subgroups include conglomerate, sandstone, siltstone, claystone, tuff and coal. Some areas of the Project Application Area are located on Quaternary Sands, which include sand, silt, gravel and clay. The presence of tuff and sandstone in the Project Application Area is important for Aboriginal occupation of the area as some types of silicified tuff have been used by Aboriginal people for the manufacture of flaked stone tools. Sandstone was used for grinding grooves, for shelter (if rockshelters present), and engravings, amongst other uses.

The soil landscapes identified within the proposed disturbance areas at the Newstan Colliery Surface Site and Hawkmount Quarry are the Gateshead and Doyalson soil landscape units, respectively (SLR 2014). These units are described by SLR (2014) as follows:

Gateshead

The Gateshead soil landscape unit consists of undulating to rolling rises on Permian conglomerate, shale and sandstone in the Awaba Hills. Slope gradients from 5-15 per cent with local relief to 100 m and elevation to 130 m. The land is predominately cleared woodland and open-forest. The soils are dominated by moderately deep, moderately well to imperfectly drained Yellow Podzolic Soils (Kurosols, Chromosols) and Yellow Soloths (Sodosols) on conglomerate crests and sideslopes, with some shallow, rapidly drained Tenosols. Moderately deep to deep, well to imperfectly drained Red Podzolic Soils (Kurosols, Chromosols), Red and Yellow Soloths (Sodosols) are found on shale parent material.

The representative soil type within the proposed disturbance area at Newstan Colliery Surface Site is a Dystrophic Brown Kurosol. Kurosols are soils that have strong texture contrast between the A (topsoil) and B (main subsoil) horizons and have strongly acidic subsoil. This soil is characterised by a dominant colour class of brown and is strongly acidic. The soil consists of a very dark greyish-brown loam to dark greyish-brown silty loam topsoil overlying a subsoil of light yellowish-brown heavy clay. The topsoil texture is dominated by coarse sand, with an abrupt increase in clay at 30 cm. The profile is rapidly drained in the top 100 mm and then poorly drained thereafter.

Doyalson

The Doyalson soil landscape unit consists of gently undulating rises on Munmorah Conglomerate. Slope gradients are less than 10 percent and local relief is to 30 metres. The landscape is characterised by broad crests and ridges and long gently inclined slopes. The land is partially cleared eucalypt open-forest. The soils are dominated by moderately deep Yellow Earths (Kandosols), Yellow Podzolic Soils (Kurosols, Chromosols) and Soloths (Sodosols) on sandstones and conglomerates. Moderately deep Yellow Podzolic Soils (Kurosols, Chromosols) and Soloths (Sodosols) occur on fine grained siltstones and claystone.

The Doyalson soil landscape unit occurs throughout the proposed disturbance area at Hawkmount Quarry, however, this land has previously been disturbed by quarrying and there is minimal naturally occurring soil remaining. Therefore no soil type is associated with this area and it is considered "Disturbed Terrain".

3.2 Topography and Hydrology

The Project Application Area is located within a valley which is surrounded by diverse landforms, including the Watagan Mountain range to the west and Lake Macquarie to the east. The topography within and around the Project Application Area generally consists of rolling low hills with short side slopes and numerous closely spaced drainage lines. Slope gradients are generally 10 to 25 percent and local relief is between 20 metres and 110 metres Australian Height Datum (AHD).

The Project Application Area is drained by the upper tributaries of Palmers Creek, which itself is a tributary of Stony Creek. Stony Creek flows into Lake Macquarie (Department of Lands 2006). The Project traverses several creeks and catchments, including LT Creek, Dora Creek, Jigadee Creek, Palmers Creek, Stony Creek, Lords Creek, Stockyard Creek and various unnamed creeks and tributaries.

3.3 Climate

Approximately 18,000 years ago, climatic conditions began to alter which affected the movement and behaviour of past populations within their environs. During this time, notably at the start of the Holocene (more than 11,000 years ago), the melting of the ice sheets in the Northern Hemisphere and Antarctica caused the sea levels to rise, with a corresponding increase in rainfall and temperature. The change in climatic conditions reached its peak about 6,000 years ago (Short 2000:19-21). Up until 1,500 years ago, temperatures decreased slightly and then stabilised about 1,000 years ago, at a point similar to the temperatures currently experienced. Consequently, the climate of the Project Application Area for the past 1,000 years would probably have been much the same as present day, providing a year round habitable environment.

The Project Application Area is west of Lake Macquarie on the NSW Central Coast. The area has a temperate climate influenced by its proximity to the coast. Summer and autumn are the wettest seasons with an average of rainfall of approximately 840 millimetres. The temperature can range between 6 degrees and 30 degrees Celsius (Bureau of Meteorology 2010). The temperate climate would be suitable for occupation for the majority of the year providing suitable shelter could be obtained during wet periods.

3.4 Flora and Fauna

The purpose of this section is to provide an indication of the types of flora and fauna resources which were likely to have been available to Aboriginal people in the past. It is based on broad scale vegetation mapping for NSW (Keith 2006) and does not replace more detailed studies undertaken for the Project Application Area.

Before European occupation, the area was likely vegetated by Sydney Coast Dry Sclerophyll forest. The open eucalypt canopy varies in height from approximately 10 to 25 metres, in correlation with the quality of the soil drainage. Typical tree species which populate this vegetation community include: Sydney Red Gum, Red Bloodwood, Sydney Peppermint, Brown Stringybark, Broad-leaved and Narrow-leaved Scribbly Gum, Silvertop Ash, Old Man Banksia and Christmas Bush. The sclerophyll shrub understorey is diverse and includes several species of Wattle, Banksia, Heath, flowering shrubs and Ti-tree (Keith 2006:146-147).

This vegetation community provides habitat for a variety of animals and would have also provided potential food and raw material sources for Aboriginal people. Typical animals which may have been used by Aboriginal people include kangaroos, wallabies, sugar gliders, possums, lizards and snakes, birds, as well as rats and mice. The bones of such animals have been recovered from Aboriginal sites in the Sydney region, suggesting that they were sources of food (Attenbrow 2003:70-76). The hides, bones and teeth of some of the larger mammals may have been used for Aboriginal clothing, ornamentation, or other implements. It is likely that such natural resources would have been used by Aboriginal people in the Lake Macquarie area.

4.0 Historical Heritage Context

The historical heritage context is important for understanding the context of non-Indigenous (European) heritage items and is a key resource for assessing significance of such items. The historic heritage context provides information on the likelihood of historic heritage being present in the Project Application Area and provides information in order to assess heritage items against the NSW Heritage themes.

Historical information has been gathered from documentary and physical sources. RPS sourced documents from the Mitchell Library in Sydney as well as online sources.

4.1 Regional History

In 1797, a whaleboat party led by Lieutenant Shortland searching for runaway convicts first observed the mouth of the Hunter River (Newcastle Council 2010). Lieutenant Shortland became the first European to explore the area and upon returning to Sydney he brought sketches of the river and reports of coal. In the following years, several boats visited the area and gathered enough coal for an export shipment to be sent to Bengal. Before long a small penal settlement had been established, however due to the difficulty faced in administering a convict group at such a distance from Sydney, the settlement was abandoned in 1802 (Zierer 1941).

Two years later, the site was re-established as a penal colony to be populated by those convicts considered too dangerous and unruly to remain in the Sydney penal settlements. These convicts were saddled with the task of working a drift mine beneath Beacon Head. This work allowed for continued trade with Calcutta - Newcastle coal in exchange for Bengal rum. In addition to coal, cedar logging became a major activity in the area, particularly in Maitland. It is believed that around 700 convicts were stationed in the area in 1818. However, with such industries being successfully established, free settlers were not far behind and began arriving in growing numbers. By 1822 Newcastle was released from martial law and ceased to operate as a convict centre. The remaining convicts were sent to the penal colony of Port Macquarie (Zierer 1941).

The first recorded evidence of Europeans visiting the Lake Macquarie was in 1800. Captain William Reid, master of the vessel *Martha*, mistakenly entered the mouth of the lake's channel, assuming it to be the mouth of the Hunter River (Clouten 1967:10). The earliest European occupants around Lake Macquarie were most likely timber getters targeting the cedar of the Watagan Mountains to the west and the stands of timber around the lake foreshore. There is record of a land selection by Thomas Walker in 1830 over the present day Wyee Point area, though there is no evidence that the land was developed (Clouten 1967:53). From the 1830s onward the south-western boundary of Lake Macquarie was known as a haunt of cattle thieves. Nearby Wyee was an important crossroads and a stopping point on Aboriginal and European tracks, at this junction the track diverged either to the east of Lake Macquarie or to the west toward Maitland (Bennett 1969:16)

In 1826, the Reverend Lancelot Threlkeld had established an Aboriginal mission on 10000 acres at Bahtahbah, the present site of Belmont on the north-eastern shore of the lake (Clack 1977:23). Threlkeld with government assistance was granted 1280 acres of peninsula on the western shore of Lake Macquarie, which he called "Ebenezer". The peninsula is now known as Coal Point. The site of Threlkeld's home farm is now the township of Toronto. Threlkeld operated his mission at Belmont until 1840, when Government support was withdrawn (Clack 1977:23).

Lake Macquarie as a settlement essentially developed in three phases, all of which were influenced by technological changes in transportation (Suters Architects Snell 1993). The first phase of development (c1800-1887) focused on farming, mining and timber. In response to rapid population growth, there was increased demand for timber with several timber companies exploiting the hardwood forests of the Dora

Creek Catchments. In the Lake Macquarie district, the first steam sawmill appeared in 1872 at Cardiff Point, near Belmont where Cummings and Lane developed a timber and ship building business in association with the owner of the Awaba Park Estate, William Bell Quigley (Suters Architects Snell 1993:22).

Living conditions during this period remained difficult as farming and agricultural pursuits were somewhat unsuccessful due to the dense woodland vegetation of the region. In 1838, Percy Simpson was granted land at Dora Creek in addition to 12 other individuals (Suters Architects Snell 1993:20). Nevertheless, these early settlements remained very isolated due to low population density. According to the 1841 census results for Lake Macquarie, only a few houses had been built at Dora Creek with a total population of 15 individuals.

The second phase of development arose with the introduction of railways and tramways. Changes in transportation triggered the onset of coal production at Coal Point (Suters Architects Snell 1993:23). In 1841, Threlkeld opened a coal mine to compete with the Australian Agricultural company's Newcastle mine (Suters Architects Snell 1993:21). Coal mining became the lake's key industry during the second phase of development. The effects of mining induced further growth and employment in the region. In 1881, the NSW government decided to realign its two separate railway networks based in Sydney and Newcastle by constructing a line between the two cities which enabled the northern coal district to expand south in the 1880s. The growth of the coal industry was further boosted by the stock market boom of that decade. It is evident that the history of Lake Macquarie was influenced by the railway construction which began in 1883. The third phase of development, led by the introduction of cars, trucks and road systems, has sustained and induced further growth in the Lake Macquarie LGA.

Although forestry and coal mining were the main industries in Lake Macquarie, commercial fishing was also undertaken, given its location by the lake and ocean. Chinese fishermen were active in the Swansea area by the early 1850s and within ten years, the population of Chinese fishermen living on the Pelican Flats north of Galgabba had risen up to 30 - 40 individuals. This area was known as the "Chinamen's" (Suters Architects Snell 1993:24). Europeans also engaged in commercial fishing, although they focused their efforts in Belmont as reflected by the huts built near the Pelican Islands (Suters Architects Snell 1993:24).

The roads of the area were poor with water transport servicing the area. By 1876 a wharf had been built at the junction of Brush Creek and Cackle Creek to service Lake Macquarie. Goods and passengers from Newcastle were shipped via rail to Wallsend and then transported by horse drawn wagons to Millers Wharf where they were on-shipped around the Lake. The Lake supplied fish and timber in a return process. In 1889 the completion of the Sydney-Newcastle rail line led to the collapse of the local transport industry (Sokoloff 1991:16).

4.1.1 Brief History of Coal Mining in the Lake Macquarie District

Coal mining has been a part of the local industry since the earliest times of European settlement. The construction of the Sydney to Newcastle railway opened upon the coal bearing land west of Lake Macquarie to private investors and speculators, with the Parish of Awaba attracting a substantial share. In the 1880s, Northumberland Coal and Land Co was formed in Britain to mine the site which would become Newstan Colliery. In 1885 it purchased 2,560 acres in the Parish of Awaba (Kass 1997:3). In 1887 The Newstan Colliery was established by Northumberland Coal and Land Company (Clack 1977:48). Since its establishment, the area has been mined by various operators including the Fassifern Coal Company, Fassifern Colliery Pty Ltd, Newstan Colliery Pty Limited and Powercoal (Clack 1977:53). The Newstan Colliery was one of the first mines to be lit by electric light in New South Wales.

The coal industry by the mid 1880s was well established in the area with the Newcastle Wallsend Coal Company; the Minmi Coal Company; West Wallsend Coal Company and the Monkwearmouth Estate operational. The Young Wallsend Coal Company to the west of the village of Young Wallsend (now known

as Edgeworth) was established in 1886 with the company railway line completed by 1889 and the colliery opened in 1890 (Sokoloff 1991:17).

In 1883, a drilling program in the vicinity of Awaba found a substantial coal seam and an artesian water supply. Although coal mining was common in Newcastle and the Hunter, the only mines at Awaba were small “rat holes”, worked by 3-4 men the mines bore names such as “The Blowfly”, “The Marsh Fly”, “Milroy” and “Awaba” (Saxon 1988:49). Further north, in 1887 the Northumberland Coal and Land Co had commenced operations near Fassifern, now Newstan Colliery (Kass 1997:6).

4.2 Local History

The nearest major population settlements adjacent to the Project Application Area are Fassifern, Fennell Bay and Blackalls Park to the north near the Newstan Colliery Surface Site, Awaba located near Awaba Colliery (ceased operating as a producing mine in March 2012) adjacent to the Newstan -Eraring Private Haul Road, and Dora Creek to the south near the Cooranbong Entry Site.

Awaba was established in the late 1800s around a timber mill and railway construction depot, both of which had been established in 1885. The earliest settlers in the town were therefore timber getters and railway contractors. A railway station was constructed on the down line in 1887, followed by a post office in 1889 and a school in 1891. The first street plan was surveyed in 1891 (Lake Macquarie City Council undated).

At the beginning of its settlement the dwellings at Awaba village were chiefly made up of temporary bark slab huts, making living conditions uncomfortable. The school was the only substantial brick building in the village, however one of the early school teachers, Ms Emily Peake, references the rough living conditions of the residents of Awaba, stating that it had directly affected her health and was the primary reason for seeking a transfer in 1892, only a year after the school had opened. She reported that was forced to survive on “bush fare” and that the teacher’s accommodation was:

“... a bark hut which is very damp in wet weather and excessively hot and close during the summer months” (Saxon, 1988:26).

Fassifern had been settled as a result of a 2560 acre grant to the Northumberland Land & Coal Co and a 49 acre grant to J.R and E.A Donaldson in 1879. Northumberland Land & Coal Co. built the Fassifern Railway Station (originally named the Wyee Railway Station) in 1887 as a junction for their coal operations. In 1891, Excelsior Land, Investment, Building and Bank Company Limited had built a tramway from the Fassifern station to the Toronto wharf (Lake Macquarie City Council, undated).

4.3 Analysis of Physical and documentary research

A number of searches were undertaken of both State and Federal heritage databases to determine whether any known heritage items might be affected by the proposed Project. The results of those searches follow.

4.3.1 World Heritage List

A search of the World Heritage List was undertaken on 16 July 2012 and an updated search on 7 March 2014 to ascertain whether any world heritage items resided in, or in close proximity to, the Project Application Area.

No items on the World Heritage List were identified in the Project Application Area.

4.3.2 Australian Heritage Database

A search for Australian heritage sites was conducted within the Australian Heritage Database on 16 July 2012 and an updated search on 7 March 2014. This database contains information of more than 20,000 natural, historical and Aboriginal places. This broad sweeping database includes information from the World Heritage List, National Heritage List, the Commonwealth Heritage List and the now-defunct Register of National Estate. There were a number of items that were included under the Register of National Estate, however this scheme no longer has any statutory power and therefore the items are not statutorily protect

The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. This list comprises Indigenous, natural and historic places that are of outstanding national heritage significance to Australia. Listed places are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

No items on the National Heritage List were identified in the Project Application Area.

4.3.3 NSW Heritage Inventory

This register includes the State Heritage List and the State Heritage Inventory.

State Heritage List

The State Heritage List includes places which have state significance. The Heritage Branch is directly responsible for the State Heritage Register which maintains a list of items and places which are of particular importance to the state of NSW.

No items on the State Heritage List were identified in the Project Application Area.

State Heritage Inventory

The State Heritage Inventory contains heritage items on statutory lists in NSW based on information from local councils and state government agencies (including s170 heritage registers). The State Heritage Inventory includes items listed on the basis of local significance. A search of the State Heritage Inventory was undertaken on the 16 of July 2012 and an updated search on 7 March 2014 and two heritage items of local significance were identified (**Table 6**); one of these items, the Great Northern Railway RT-03/Garden Suburb to Wyee Railway Line, is listed by two statutory authorities, first in the Lake Macquarie Local Environmental Plan (LEP) 2004 and second in the RailCorp Section 170 Heritage and Conservation Register. The other item, Eraring Power Station is listed on the Lake Macquarie LEP only.

4.3.4 Lake Macquarie Local Environmental Plan 2004

The Lake Macquarie LEP identifies items of local significance, as well as items of State significance within the LGA boundary. The LEP identifies two items of local heritage significance, being the Great Northern Railway and Eraring Power Station (**Table 6**). One potential archaeological item is also listed in the LEP – Newstan Colliery which was identified by Higginbotham (1997) (**Table 7**). The Higginbotham (1997) report identifies three items within the Newstan Colliery which have local significance: Tucker's House (Inventory Number 1), Bat Alley Tunnel (Inventory Number 2) and the Arsenic Works (Inventory Number 3). It should be noted that Tucker's House and the Arsenic Works are located outside the Project Application Area.

Table 6 Registered Non-Indigenous (Historic) Heritage Items in the Project Application Area

Name of Item	Address	Suburb/s	Listing in the Lake Macquarie LEP	Listing on the Railcorp Section 170 Heritage and Conservation Register
Great Northern Railway/ Garden Suburb to Wyee Railway Line	Extent of the rail corridor between Garden Suburb and Wyee	Garden Suburb to Wyee	RT-03 Great Northern Railway (NSW Heritage Database number 1910139)	State Heritage Inventory (SHI)# 4805752 Garden Suburb to Wyee, Railway Line (NSW Heritage Database number 4805752)
Eraring Power Station	Lots 10 & 11 DP 1050120, Lot 20 DP840668, Lot 211 DP840668, Lot 211 DP 840670, Lots 50 and 51 DP 840671	Morisset	ER-01 Eraring Power Station	N/A

Table 7 Potential Non-Indigenous (Historic) Heritage Items listed in the Project Application Area

Name of Item	Address	Suburb/s	Listing in the Lake Macquarie LEP
Newstan Colliery Environs (Bat Alley, Tuckers Cottage, Arsenic Smelting Works) NOTE: of this listing <u>only Bat Alley</u> is inside the Project Application Area.	Fassifern Rd, Fassifern, Lot 441, DP583057 Lot 64, DP7755207 Lot 1, DP121470 Lot 14, DP1031778	Fassifern	Item Number 3 (A6)

4.3.5 Bat Alley

Bat Alley, a coal mine originally known as Northumberland No. 1, is a well preserved mine tunnel from the late 19th century located on the northern fringe of the Newstan Colliery Surface Site. Bat Alley has been disused for a number of years and is inaccessible to vehicles.

In 1997, a heritage impact assessment was undertaken to determine the historical value of this item (Higginbotham 1997). Bat Alley was assessed as a particularly rare historical item of local cultural significance not only to the Lake Macquarie region, but also to the broader history of coal mining because it is considered one of the earliest coal extraction sites in the region from the late 19th Century (Higginbotham 1997).

According to Higginbotham's (1997) assessment, Bat Alley is historically significant because it is associated with one of the largest coal companies of the 1880s, the Northumberland Coal and Land Company. This mine shaft was one of the first to be lit by electric light in NSW. Based on the historical assessment undertaken in 1997, Higginbotham recommended that Bat Alley be conserved.

Bat Alley is part of the Newstan Colliery listing in the Lake Macquarie LEP and is within the Project Application Area.

4.4 Discussion & Conclusion

There are three historic heritage items in, or partially in, the Project Application Area: the Great Northern Railway; Eraring Power Station; and Bat Alley (part of the Newstan Colliery listing). These items are listed in the Lake Macquarie LEP (Schedule 4) while the Great Northern Railway is also listed in the RailCorp Section 170 Heritage and Conservation Register. The proposed Project will not impact on these heritage items with further details are available in Section 8.0.

5.0 Aboriginal Heritage Context

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 to develop a predictive model of Aboriginal sites in the Project Application Area. Historical data provides additional information for the interpretation of archaeological sites. A glossary of Aboriginal site types is provided in **Appendix 1**.

5.1 Regional Archaeological Heritage Context

The Project Application Area is located in the Lake Macquarie area of the NSW Central Coast. Archaeological evidence suggests that Aboriginal occupation of the Hunter Valley region began at least 35,000 years ago (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 the region by Aboriginal people.

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 6,000 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).

5.2 Local Archaeological Heritage Context

Gunson (1974:30) argues that the Awabakal were the largest clan in the Lake Macquarie region, but because of Threlkeld's (an early missionary) well-known studies in the area, 'Awabakal' became the generic name applied to a number of different groups in the area. Early government documents indicate this large group was composed of a number of clans - the Awabakal (Lake Macquarie and Newcastle region), the Five Islands clan, the Ash Island clan, the Kurungbong clan (Cooranbong) and the Pambalong clan (Swamps district and near Newcastle). Tindale (1974) presents the Awabakal as one independent group in 'Aboriginal Tribes of Australia'. While the details of the clan boundaries are unclear, the broad geographical and cultural boundaries are relatively consistent between sources.

The Awabakal appear to have been people of the coast, estuaries, lakes and wetlands, with an attachment to the rugged sandstone country through the Sugarloaf and Watagan Ranges. The traditional country of the Awabakal people was bound to the north by the Worimi, to the west by the Wonnarua, to the southwest by the Darkinjung and to the south along the coast by the Kuring-gai people.

It appears the various Aboriginal groups of the region displayed some level of interaction. Threlkeld (Turner 1997) noted that the 'natives here are connected in kind of a circle extending to the Hawkesbury and Port Stephens'.

5.2.1 Implements for Gathering Food and Weapons

Threlkeld (in Gunson 1974) observed the use of stone hatchets ('baibai', 'pukko'). Dawson (1830) observed grooved heads with a handle fastened by adhesive gum. He stated that gum obtained from wattle (*Acacia* spp.) and grass trees was used in the manufacture of much equipment. The stone was mainly basalt or diorite which was ground on sandstone to form a bevelled cutting edge. There is evidence that shell scrapers

were used to sharpen spears, but with the introduction of glass, that material quickly became preferred (Dawson 1830).

Threlkeld (in Gunson 1974) recorded many important aspects of the material culture of Aboriginal people:

“Their canoes were made of the bark of a tree about 12 or 14 feet long, and from 3 to 4 feet in width. They procure the limb of a tree and set it up against the standing trunk, as a ladder, on which they ascend and cut around the whole circumference of the tree in the same manner as done at the bottom. They then chop down a perpendicular line, when they insert their throwing-stick, which is of a wedgelike make at one end, betwixt the bark and the tree, and choosing the season when the sap is either ascending or descending...they proceed to separate the sheet of bark from the tree whilst it is most carefully allowed to slide down and then is laid flat on the ground, the rough outside of the bark being upward. A fire is then made upon the bark and being heated, the steam of the sap softens it so that they can crumble up each end like a folded fan, then which they tie securely with vines from the bush...” (Threlkeld in Gunson 1974).”

He also described the manufacture of fishing, hunting, and fighting spears that were made from the flowering stem of the grass tree with one or more pieces of hardwood attached to the end, within which was set a barb of bone or quartz (or glass in post-contact times) (Gunson 1974:66). The resin from the grass tree or Acacia was used as the fixative. The spears were thrown using a throwing stick, the woomera. Woomeras were generally about four feet long, half an inch thick and tapered to a point at one end where a barb was affixed (Threlkeld in Gunson 1974:67). Threlkeld observed that spears were traded with groups inland for possum skin cloaks and ‘hanks of line, spun by hand from the fur of animals of the opossum tribe’ (Threlkeld in Gunson 1974:61).

5.2.2 Food and Useful Plants

The Red Ironbark was used as a resource plant and Smooth Barked Apple was used as a medicinal and resource plant. The Black Wattle had gum that was used for food. The leaves were crushed and soaked to waterproof nets and its wood used for boomerangs, clubs and digging sticks. The False Sarsaparilla was both a medicinal and a resource plant.

Brayshaw (1986) notes that shells were shaped for fish hooks and also used to sharpen or shape wooden implements. Kangaroo bones were made into awls to sew kangaroo and possum skin cloaks, belts and headbands.

5.2.3 Clothing

Summer weather and the milder days of autumn and spring required little in the way of protective clothing; winter however, saw the use of animal skins for both clothing and as blankets. Tench (1996 (1789):52) described Aboriginal people using ‘opossum’ skin cloaks with a “girdle of spun opossum hair next to the skin” with their principal ornament a nautilus shell suspended around the neck on a string.

5.2.4 Campsites and Shelters

Campsites and shelters were described by Tench (Tench 1996 (1798)) as consisting:

"only of pieces of bark laid together in the form of an oven, open at one end, and very low, though long enough for a man to lie at full length in...they depend less on them for shelter, than on the caverns with which the rocks abound" (Tench 1996 (1789) :80)."

Collins observed that the huts were 'often large enough to hold six to eight people' (Collins 1802:555). These shelters were often grouped together.

5.2.5 Aboriginal Heritage Information Management Systems (AHIMS)

On the 1 September 2011, a search was undertaken of the Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management Systems (AHIMS) which identified 64 sites in the general locality (Eastings 358447-368447, Northings 6339060-6349060) (**Appendix 2**). In addition to those results, three sites with an AWF prefix were identified prior to their being assigned an AHIMS registration number. From that search the sites within a 1 km radius of the Project Application Area, and inside the Project Application Area itself were identified (**Figure 3**).

The AHIMS search results revealed no sites within the Project Application Area, however 22 Aboriginal sites were located in the 1 km radius around the Project Application Area (**Table 8**). The most common site types were artefact scatters and isolated finds which belong to the category of stone artefacts and scarred trees. Shell middens, rockshelters and grinding grooves were the least common site types in the vicinity of the Project Application Area. One of these sites was RPS Coal Log1 (AHIMS# 45-7-0324) which was recorded in the Project Application Area as part of this study, but is outside the impact zone.

An updated AHIMS search was undertaken on 10 March 2014. This search identified an additional 15 sites in the general locality (total of 79 for the same search co-ordinates). None of these sites were in the Project Application Area and only one site was within one kilometre of the Project Application Area. This site has been identified as an Aboriginal Ceremony and Dreaming site (AHIMS# 38-4-1511) (**Figure 3**). The other 14 newly recorded sites are over one kilometre from the Project Application Area.

Table 8 AHIMS results within a 1 km radius around the Project Application Area including 10 March results

Category	Site Type	Frequency	Percentage of Total
Stone Artefacts	Artefact Scatter	5	21.74
	Isolated Find	6	26.09
Structurally Sensitive Sites	Grinding Grooves	2	8.70
	Rockshelters	2	8.70
Perishable Sites	Scarred Tree	6	26.09
	Shell Middens	1	4.35
Aboriginal Ceremony & Dreaming	Aboriginal Ceremony & Dreaming	1	4.35
Total		23	100

5.3 Literature Review

A number of previous investigations have included lands within the Project Application Area and include Indigenous Outcomes (2007), Umwelt (1997) Umwelt (1998), Pam Dean-Jones (1989) and RPS HSO (2009). An overview of these studies is provided below, and the investigations summarised have been selected on the basis of relevance to the Project Application Area. The purpose of the literature review is to gain a greater understanding of the nature of the landscape, the types of landform features and distribution of previously recorded site types.

5.3.1 RPS HSO (2009) Due Diligence Inspection for the Proposed Cooranbong Haul Road

RPS HSO was engaged by Centennial Coal Pty Ltd to prepare a due diligence inspection report for the proposed Cooranbong Private Haul Road. The proposed private haul road was constructed to transport coal mined from the Mandalong Mine to the Newstan Colliery Surface Site, via the Cooranbong Entry Site, for processing. The study area was approximately 3.4 kilometres long and approximately 600 metres wide. During the pedestrian survey, all exposed areas of the ground were inspected for evidence of Aboriginal occupation. The survey also targeted landforms such as crests, slopes and drainage lines. The survey was conducted in seven transects and no Aboriginal sites were identified in the survey area. The report concluded that the construction of the Cooranbong Private Haul Road would not affect any known archaeological sites as no sites were identified in the area.

5.3.2 Umwelt (1997) Cooranbong Colliery Life Extension Project

Umwelt was commissioned by Powercoal Pty Ltd (Powercoal) to prepare an Environmental Impact Assessment for the Cooranbong Colliery Life Extension Project (underground). The study area was approximately 45 square kilometres and was located in the Lake Macquarie LGA. The project was developed to enable the continuity of at least 65 million tonnes of thermal coal supplies and to upgrade the existing infrastructure.

The archaeological assessment included a desktop study and a pedestrian field survey for both Aboriginal and historic heritage. The Aboriginal heritage survey included areas in which infrastructure development would occur. The survey also investigated areas where subsidence would impact on the ground surface. Several landforms, including stream channels and banks, ridge and hill crests and sandstone outcrops on any landform, were identified as being potentially sensitive. It was concluded that there was low potential for impact on the ground surface. The desktop study identified a broad range of site types in the study area. No Aboriginal sites were identified in the study area. Due to the high frequency of disturbance in the area, it was concluded that there would low potential for identifying sites.

A desktop study of the historic heritage in the area identified a number of heritage items. The Great Northern Railway, the General Cemetery in Little Valley Road and the Early Wagon Road were within in this area. It was concluded that these sites were unlikely to be affected by the Life Extension Project.

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

The archaeological survey for the Newstan Colliery Life Extension Project partially overlaps the northern boundary of the Northern Coal Logistics Project Application Area including the site of the Newstan Colliery Southern Reject Emplacement Area. Due to dense vegetation cover, the survey focussed on exposures, scarred trees and sandstone outcrops (GSS Environmental 2010). Three isolated finds, one grinding groove site and nine potential rockshelters (with archaeological deposit or potential archaeological deposit) were identified during the survey. The sites identified by Umwelt (1998) were not registered with AHIMS, as such a

due diligence survey was commissioned in order to confirm the existence of these sites (RPS HSO 2009). The three isolated finds identified were not located and are therefore no longer considered sites and thus have not been registered. LEA1-8 did not meet the criteria as rockshelter sites and thus were not registered with AHIMS. LEA9 was confirmed as a rockshelter site and has been registered with AHIMS (AHIMS#45-7-0259) and LEA10 was confirmed as a grinding groove site and registered (AHIMS#45-7-260). None of these sites are located within the current Project Application Area.

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

This survey partially overlaps the western boundary of the current Project Application 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 was outside the Project Application Area.

5.4 Predictive Model for Archaeology in the Project Application Area

A predictive model is created to provide an indication of Aboriginal sites likely to occur within the Project Application Area. It draws on the review of the existing information from the regional and local archaeological context and from the environmental context. The predictive model is necessary for the formulation of appropriate field methodologies and to provide information for the assessment of archaeological significance.

There are a number of factors which influence Aboriginal occupation of an area. These include essential subsistence resources such as food (flora and fauna) and fresh water. However, other resources such as raw stone materials, wood and bark, animal skins and reeds for basket weaving, string, clothing and similar, were also used. Landscape features such as ridges, flat elevated areas, rockshelters and similar, may have also influenced Aboriginal occupation of an area. In addition, cultural activities may have also taken place at certain locations in the landscape for example: corroborees, mythological places and initiation sites.

5.4.1 Site Predictions

Based on the outcome of the AHIMS search results, an assessment of the geomorphology of the landscape and literature review, a predictive model can be formulated for the likely site distribution within the landscape and the movement of hunter-gatherer groups in the distant past. According to the AHIMS results, most of the sites previously recorded were identified and recorded near a water source - such as a drainage line or the coastal margins. Movement of hunter-gatherers near water sources was not uncommon given that this was where people could obtain drinking water and a place that attracted animals to the same locality. Shell middens were largely restricted to the lake and swamp land. The site patterning of shell middens near riparian zones was expected given that shell fish were harvested from the coast and consumed in close proximity to the place of procurement. Rockshelters are natural formations that occur along sandstone escarpments in areas of high elevation. Rockshelters were exploited as temporary places for shelter. Grinding grooves were previously recorded in the region, but were largely restricted to drainage lines with a permanent or semi-permanent source of water, as the water was required as an agent to enable the sharpening of stone tools on the abrasive sandstone pavements. Sandstone pavements were usually selected for fashioning stone tools if they were of a suitable roughness, size and proximity to water. Isolated finds were identified throughout the landscape with no particular association to any particular landform feature. This type of site was generally difficult to contextualise because there was little supportive evidence to indicate that habitation took place in the area. Artefact scatters occurred in a range of sizes, with the small low density ones representing a satellite habitation ground (single event site) and large sites with a broad range of artefact types and raw material as repetitive core habitation areas.

6.0 Archaeological Survey

Previous surveys have been undertaken across the Project Application Area where existing and approved infrastructure has been or will be constructed. As such, these areas were not resurveyed as part of this Project. Surveys undertaken for this Project were undertaken on 28 May 2012 by RPS Archaeologist Cheng Yen Loo accompanied by Registered Aboriginal Parties: Jodie Wilson (Awabakal Traditional Owners Aboriginal Corporation); and Shane Frost (Awabakal Descendants Traditional Owners Aboriginal Corporation) (**Table 4**).

6.1 Survey Methodology

The proposed disturbance assessment areas for the Project were surveyed in accordance with best practice guidelines for survey reporting and included the following components:

- Documentation of survey coverage;
- Documentation of results;
- Documentation of significance of sites/areas to the Aboriginal community; and
- The survey methodology aimed to provide adequate coverage of the disturbance assessment areas, sample coverage of all landforms, areas of exposure, as well as, vegetated areas.

All surveys were conducted on foot (pedestrian). Survey observations were recorded using digital photography, GPS recording (differential), and field notes.

In accordance with OEH 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.

Field notes incorporated details including the size, location, contents and condition of Aboriginal heritage in the area, as well as survey units. Size was recorded either by GPS or tape measure. Location was recorded using differential GPS. The condition of Aboriginal sites/areas of sensitivity was recorded and included a description of the levels and cause of disturbances such as, erosion, land clearance and similar factors.

The Aboriginal stakeholder(s) participating in the survey 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 (see Consultation Log **Appendix 3**).

6.2 Survey Units

The two disturbance assessment areas (**Figure 2**) surveyed on 28 May 2012 are outlined in the below sub-sections.

6.2.1 Disturbance Assessment Area: Newstan Colliery Surface Site

The Newstan Colliery Surface Site disturbance assessment area comprises a ground surface area of approximately 7.5 hectares. The survey was conducted by targeting exposed clearings and access tracks to inspect for stone artefacts and the open woodland vegetation for scarred/carved trees (Plate 3, Plate 4, and Plate 5). The area consists of gently undulating slopes along the south-western boundary ($\leq 10^\circ$) which graduates to moderately steep slopes towards the north-eastern extent ($\leq 25\text{--}30^\circ$) (Plate 6). Estimated ground surface visibility ranges from 60 - 80% in the exposed clearings and access tracks, down to

approximately 5% in the dense woodland vegetation. Surface exposure is estimated to be approximately 45%.

The exposed clearings consist of a variety of river-worn cobbles and pebbles, some of which are made from quartz with iron oxide banding, greenstone, yellow chert and silcrete, some of which are large enough for artefact manufacture, although no artefacts were identified. The river-worn pebbles are surrounded by unconsolidated sand and eroded sandstone sheets. The woodland vegetation consists of Eucalyptus trees, Ironbark and a range of unidentified species which are surrounded by an understorey of low-lying bushes and a ground cover of grass. The trees are all relatively juvenile and are not deemed to be suitable candidates for scarring/carving. Less than ten trees within this area are old enough for potential cultural usage. These trees were thoroughly inspected for evidence of bark removal and/or modification. No scarred/carved trees were identified and no sandstone escarpments were identified in this survey unit.

A disused mine entrance called “Bat Alley” is located in close proximity to in this survey unit. For additional information about Bat Alley, see Section 4.3.5 of this report.

6.2.2 Disturbance Assessment Area: Hawkmount Quarry

The proposed Hawkmount Quarry disturbance assessment area is bound to the Cooranbong Private Haul Road, the Newstan-Eraring Private Haul Road to the north, and to the west by the Main Northern Railway line. The proposed surface disturbance area comprises a ground surface area of approximately 13.9 hectares. The landscape gently dips gently in the centre, which is largely the result of human modification. In the north-western portion of the area is an artificial dam measuring approximately 75 m x 60 m. The central portion of the area has been heavily modified and consists of cleared land with sand, conglomerate material and small quartz pebbles. The cleared patches were inspected for stone artefacts, but none were identified (Plate 7). Open woodland forest surrounds the clearings and comprise juvenile to moderately aged trees (Plate 8, Plate 9, Plate 10). A dense understorey of low lying shrubs and bushes populated the wooded areas along with a ground cover of seasonal grasses. Estimated ground surface visibility was from 80% - 90% in the clearings down to approximately 5% - 10% in the dense vegetation. Due to intense modification and disturbance in the survey unit, surface exposure is relatively high (approximately 65%). A single scarred tree (RPS COAL LOG 1 - AHIMS 45-7-0324) was identified near the periphery of the cleared landscape. A detailed description of the Aboriginal scarred tree is provided in Section 6.3 of the report.

Table 9 Ground Surface Visibility Rating

GSV Rating	Overall Rating	Description
0 – 9%	Low	Heavy vegetation with scrub foliage, debris cover and/or dense tree cover. Ground surface not clearly visible.
10 – 29%	Low	Moderate level of vegetation, scrub or tree cover. Small patches of soil surface visible resulting from animal tracks, erosion or blowouts. Patches of ground surface visible.
30 – 49%	Moderate	Moderate levels of vegetation, scrub and/or tree cover. Moderate sized patches of soil surface visible possibly associated with animal tracks, walking tracks and erosion surfaces. Moderate to small patches across a larger section of the study area.
50 – 59%	Moderate	Moderate to low level of vegetation, tree and/or scrub. Greater amounts of areas of ground surface visible in the form of erosion scalds, recent ploughing, grading or clearing.
60 – 79%	High	Low levels of vegetation and scrub cover. High incidence of ground surface visible due to recent or past land-use practices such as ploughing, grading and mining. Moderate level of ground surface visibility due to sheet wash erosion, erosion scalds and erosion scours.
80 – 100%	High	Very low to nonexistent levels of vegetation and scrub cover. High incidence of ground surface visible due to past or recent land use practices, such as ploughing, grading and mining. Extensive erosion such as rill erosion, gilgai, sheet wash, erosion scours and scalds.

Table 10 Summary of Survey Coverage Data

Survey Unit	Landform	Survey Unit Area (Square metres)	Exposure (%)	Visibility (%)	Effective Coverage Area (square metres)	Effective Coverage (percent)
1	Disturbance Area: Newstan Colliery Surface Site	74,916	45%	5% up to 80%	601145	80%
2	Disturbance Area: Hawkmount Quarry	138,796	65%	5% up to 80%	118920	80%

6.2.3 Non- Indigenous Heritage

In April 2012, Bat Alley was visited by RPS archaeologists. It was revealed that a number of structural features within the tunnel entrance had been well preserved indicating methods employed during construction of the first operating mine tunnel at the Newstan Colliery. Common to both side walls are a number of rectilinear grooves carved from the rock that run from floor to roof (Plate 1). These indentations indicate the use of timber braces to shore up the walls when the tunnel was first constructed.

Evidence of early mining practices at the tunnel was noted in the form of semi-spherical and horizontal rectilinear cuttings initially used for the placement of oil lamps, and for later electrical lamps. Before the mine tunnel became fully electrified in the mid 20th century, miners often worked in dark conditions, illuminated only partially by the light of a single flame.

Photographs from the early to mid 20th century reveal that a wagon rail line was used in the tunnel to assist in the hauling of coal out of the mine. An inspection of the tunnel floor revealed no evidence of the iron rails and it is assumed that these were either sold off or moved to another part of the colliery. A bushfire in the 1920s and again in the 1930s destroyed the gantries leading into the tunnel and soon Bat Alley and its tunnel were closed. An inspection of the ground above the tunnel revealed the presence of a shaft measuring 1.8 meters in diameter. The shaft was the location of the furnace ventilation, which eventually cut the surface by 24 meters (Plate 2).

Legend

 Project Application Area Boundary

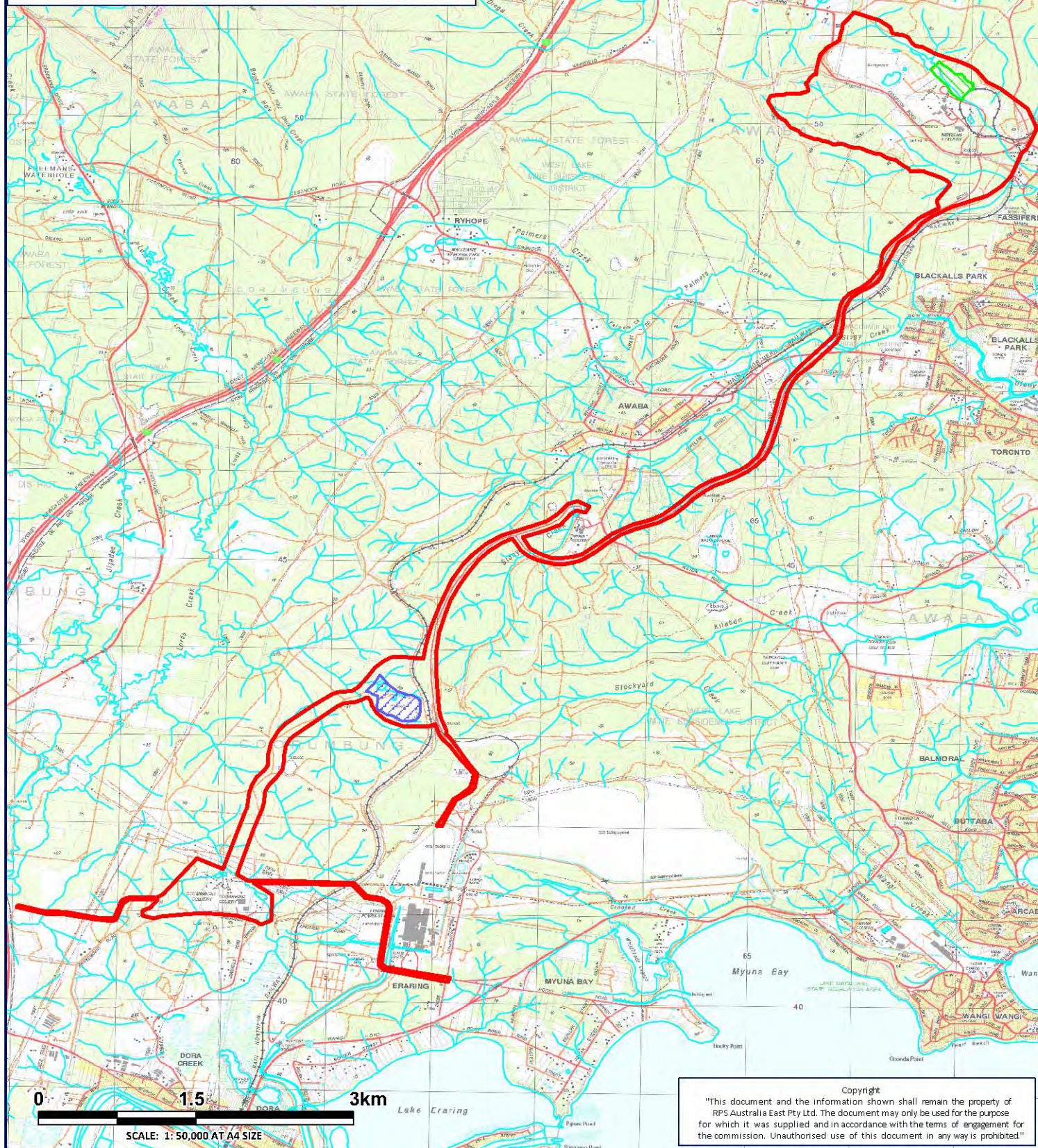
Disturbance Assessment Area

 Hawkmount Quarry

 Newstan Colliery - Coal Handling Infrastructure



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



TITLE: FIGURE 2: ARES SURVEYED
IN STUDY AREA

LOCATION: NEWSTAN

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 09/09/2013
PURPOSE: HERITAGE

LAYOUT REF: J:\008\Centennial\All Jobs\113119 Coal
VERSION (PLAN BY) F: A4 (CYL-NW)

CLIENT: CENTENNIAL COAL
JOB REF: 113119-2

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4940 4200 F: 02 4961 6794 www.rpsgroup.com.au

RPS

6.3 Survey Results

Only one Aboriginal cultural heritage item was identified in the Project Application Area during the field survey and AHIMS search: a single scarred tree (RPS COAL LOG 1 - AHIMS 45-7-0324). The Site Card can be found at **Appendix 5**. The scarred tree was identified near the south-eastern extent of the Hawkmount Quarry disturbance assessment area. The scarred tree was identified on an undulating plain on a mid-slope ridge overlooking a clearing (covered in gravel). Vegetation in the region comprised moderately aged trees with an understorey of small shrubs and long grass. The scarred component of the tree was situated relatively low, approximately 49 cm off the ground. The scar was very symmetrical and oval shaped measuring 66 cm (length) by 15 cm (wide) and 6 cm (depth). Although the scarred tree had not been assessed as being particularly old, it was old enough for bark extraction (Plate 11 & Plate 12). The site was in relatively good condition, given that no visible damage was identified and the tree appeared to be firmly affixed to the ground surface. No evidence of disease was noted. The scarred tree was recorded as RPS COAL LOG 1 with details in **Table 11** however the co-ordinates are not included to protect the exact location.

Table 11 Aboriginal Cultural Heritage Site Recorded

No.	AHIMS #	Site Name	Site Type
1	45-7-0324	RPS COAL LOG 1	Scarred Tree

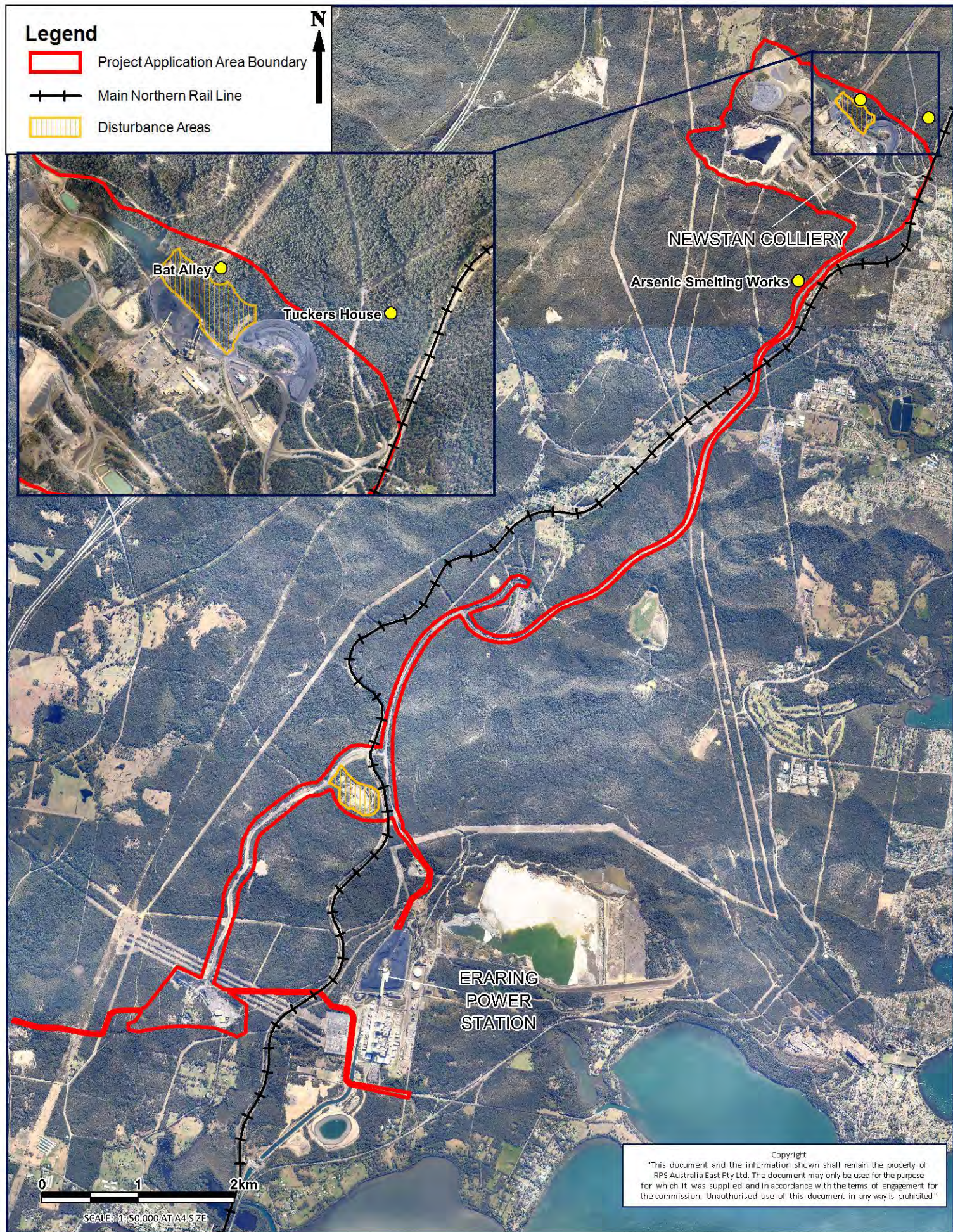
Three historic heritage items are in or partially in, the Project Application Area: the Great Northern Railway, Eraring Power Station and Bat Alley (part of the Newstan Colliery listing). Bat Alley was inspected as part of the survey while Eraring Power Station and the Great Northern Railway are part of existing operating State infrastructure.

6.4 Discussion of Survey Results & Heritage

Based on the survey results and AHIMS search, a single Aboriginal site was identified in the Project Application Area, a scarred tree (RPS COAL LOG 1 - AHIMS 45-7-0324) (**Figure 2**). Although only one site was identified it is evident that past human occupation occurred with a number of Aboriginal sites surrounding the Project Application Area. The lack of sites within the Project Application Area is most likely a result of previous disturbances that included Newstan Colliery Surface Site, Cooranbong Entry Site, private haul roads and the Hawkmount Quarry.

Three historic items were identified with one, Bat Alley, being inspected. The location of those items is shown in **Figure 4**.

RPS



TITLE: FIGURE 4: HISTORICAL SITES AND ITEMS OF HERITAGE SIGNIFICANCE

LOCATION: NEWSTAN

DATUM: (GDA 94)
PROJECTION: MGA ZONE 56

DATE: 09/09/2013
PURPOSE: REPORT FIGURE

LAYOUT REF: I:\085\Centennial\All Jobs\113119 Coal Logistics\10 - Drafting\Workspaces
VERSION (PLAN BY): F A4 (JS-CYL-NW)

CLIENT: CENTENNIAL
JOB REF: 113119-2

RPS AUSTRALIA EAST PTY LTD (ABN 44 140 292 762)
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RPS

7.0 Significance Assessment

In order to develop appropriate heritage management outcomes, it is necessary for the significance of Aboriginal sites and areas of archaeological sensitivity to be assessed. Aboriginal heritage can be significant for cultural and/or scientific reasons. Aboriginal people are the best placed to assess cultural significance and are therefore consulted in the Aboriginal heritage management process. Scientific significance is assessed according to scientific criteria outlined in OEH heritage guidelines.

7.1 Cultural Significance

An assessment of cultural significance incorporates a range of values which may vary for different individual Aboriginal groups and may relate to both the natural and cultural characteristics of places or sites. The Cultural significance and Aboriginal cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system.

The Registered Aboriginal Parties participating in the survey that recorded RPS COAL LOG 1 (AHIMS 45-7-0324) considered that the tree had not been modified by Aboriginal people (**Appendix 4**). RPS acknowledges this response and subsequently considers the site has little or no cultural significance.

7.2 Archaeological/Scientific Significance Assessment

Archaeological significance, also referred to as scientific significance, is determined by assessing an Aboriginal heritage site or area according to archaeological criteria. Scientific significance encompasses a multi-dimensional analysis of cultural object/s in the landscape. The evaluation is always connected to research questions and the greater understanding of the archaeological record (Donald and Barbara 2009:69). According to the NSW NPWS Guidelines (2011: 9), scientific significance refers to the importance of landscape, area, place or object because of its rarity, representativeness, and the extent to which it may contribute to further understanding and information (ICOMOS Burra Charter 1988). The assessment of archaeological significance is used to develop appropriate heritage management and impact mitigation strategies. The following archaeological significance criteria have been used: rarity, representativeness, integrity, connectedness, complexity and research potential and are defined below in **Table 12**.

Table 12 Scientific Significance Criteria

Criteria	Description
Rarity	This criterion examines the frequency of the identified site types with others previously recorded in the local or regional landscape.
Representativeness	All sites are representative of a site type, however, some sites may be in better condition, or demonstrate more clearly a particular site type. Representativeness is based on the understanding of extant sites in the local or regional landscape and the purpose of these criteria is to ensure a representative sample of sites area conserved for future generations.
Integrity	This refers to site intactness. A site with contextual integrity can provide information relating to chronology, social systems, tool technology, site formation processes, habitation, frequency of use as well as other occupation indicators. Moderate to high levels of disturbance will generally result in low integrity.
Connectedness	Relates to inter-site relationships, that is, whether a site can be linked to an archaeological complex, or where sequence of activities can be discerned. For example, a quarry (stone extractions site), may be linked to an adjacent heat treatment pit and knapping floor, these site thus could be linked as part of a stone tool production sequence.

Criteria	Description
Complexity	Refers to the contents of the site, such as, the variety and nature of features and/or of artefacts present. For example, rock-art sites with many motifs may be ranked highly in terms of complexity, or artefact scatters with a wide variety of raw materials and/or tool types may be more complex than surrounding sites.
Research Potential	This criteria is used to identify whether a site has the potential to contribute new information which to the interpretation of Aboriginal occupation in the area.

The archaeological significance criteria are usually assessed on two scales: local and regional; in exceptional circumstances, however, State significance may also be identified. Archaeological significance criteria is assessed in three levels to which scores are assigned; low (score=1), moderate (score=2) and high (score=3).

A combination of these scores then provides an overall significance ranking of the site to be determined.

- Low significance 6-10
- Moderate significance 11-14
- High significance 15-18

7.2.2 Assessment of Aboriginal Archaeological Significance

The archaeological significance of the identified area of archaeological sensitivity has been assessed and is summarised in **Table 13**.

Table 13 Assessed Levels of Archaeological Significance for Areas of Sensitivity (Local & Regional Scale)

Survey Unit	Site Name	Significance scale	Rarity	Representativeness	Integrity	Connectedness	Complexity	Research Potential	Overall Significance
Disturbance Area: Hawkmount Quarry	RPS COAL LOG 1 (AHIMS 45-7-0324)	Local	2	3	1	1	1	1	Low Significance (9)
		Regional	1	2	2	2	1	2	Low Significance (10)

7.2.3 Discussion of Significance Assessment Results

On a local scale and regional scale, RPS COAL LOG 1 (AHIMS 45-7-0324) was deemed to be of low significance. Scarred trees are not uncommon in the region, with seven registered scarred trees in the vicinity of the Project Application Area. The tree is not an outstanding representative type and its integrity is diminished by the lack of support by the Aboriginal parties for its validity (**Appendix 4**). Overall, the site is not connected to other sites and neither is it considered complex as it was not associated with other types of sites. The tree has limited research potential.

8.0 Impact Assessment and Mitigation

8.1 Impact Assessment and Mitigation for Aboriginal Cultural Heritage

One Aboriginal site recorded as RPS COAL LOG 1 and subsequently registered on AHIMS as 45-7-0324 has been identified within the Project Application Area. This section provides an impact assessment and identifies mitigation measures to be implemented for this heritage site.

Based on the overall state of RPS COAL LOG 1 (45-7-0324) the site is in relatively good condition, given that the tree is in reasonable health, is on stable surface and does not appear to be suffering from disease.

The activity within the Project Application Area is confined to surface works, where the likelihood of harm (if any) would largely result from ground surface clearing, construction and the movement of trucks and light vehicles. Centennial's Northern Coal Services has committed to undertake all appropriate measures to protect this Aboriginal site from the development works associated with the Project, and as such, the proposed activities do not pose a risk of harm to RPS COAL LOG 1 (45-7-0324). However, this site should be clearly identified and a suitable buffer zone established prior to the commencement of any surface disturbance activities in this area to avoid any unintentional harm to the site.

8.2 Impact Assessment and Mitigation for Historic Cultural Heritage

There are three historic heritage items which are in or partially in, the Project Application Area: the Great Northern Railway, Eraring Power Station and Bat Alley (part of the Newstan Colliery listing). These items are listed in the Lake Macquarie LEP (Schedule 4) and the Great Northern Railway is also listed in the RailCorp Section 170 Heritage and Conservation Register. All three items are of local heritage significance and are not listed on the State Heritage Register.

All three historic heritage items are within the Project Application Area; but are outside the proposed disturbance areas (**Figure 4**). These items therefore will not be impacted by the Project.

8.3 Principles of Ecologically Sustainable Development

The principles of ecologically sustainable development need to be considered under section 2A of the *NPW Act (1974)*. 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 sites of State significance will be impacted by the Project and there is no identified risk of harm to Aboriginal or registered historic sites arising from this Project.

9.0 Conclusion and Recommendations

This Cultural Heritage Impact Assessment for the Northern Coal Logistics Project Environmental Impact Statement (EIS) has considered the available cultural, archaeological and environmental information available. The report provides a literature review of previously identified historical and Aboriginal sites in the Project Application Area in addition to a summary of previous archaeological surveys undertaken. As part of the consultation process with the registered Aboriginal Stakeholders, all recorded Aboriginal sites were assessed.

One Aboriginal site, RPS COAL LOG 1 (AHIMS 45-7-0324), a scarred tree, is within the Hawkmount Quarry disturbance assessment area but will not be affected by the Project.

Three historic heritage items were identified in the Project Application Area. These are located outside of the proposed disturbance areas and therefore will not be impacted by the Project.

On the basis of this assessment, there is no identified risk of harm to Aboriginal sites or European historic items and the following recommendations with regard to Aboriginal and European historic heritage are made. These recommendations are based on previous experience from other development sites. It is considered that these recommendations are effective and reliable in minimising and mitigating potential impacts to Aboriginal heritage sites as a result of the Project. These recommendations have been developed in consultation with the Registered Aboriginal Parties.

Recommendation 1

Aboriginal site RPS COAL LOG 1 (AHIMS 45-7-0324) is to be avoided by proposed surface works as part of this Project and, if any surface works are to occur within 100m of this site, Centennial must ensure that this area is cordoned off to avoid unintentional impact.

Recommendation 2

If any surface disturbance is required within the Project Application Area beyond those surveyed as part of this CHIA, a cultural heritage survey should be undertaken in accordance with Centennial's Northern Holdings Aboriginal Cultural Heritage Management Plan. Any new sites identified by these surveys should be recorded and managed in accordance with Centennial's Northern Holdings Aboriginal Cultural Heritage Management Plan.

Recommendation 3

If further Aboriginal site(s) are identified in the Project Application Area, any surface works in the vicinity should cease and a suitably qualified archaeologist and representatives from the registered Aboriginal Parties contacted, so that it can be adequately assessed and managed.

Recommendation 4

In the event that any European historic cultural heritage material is identified or uncovered during development works, any surface works in the area should cease in the area and a heritage consultant must be contacted to assess the condition of the item. Northern Coal Services must adopt the appropriate mitigation measures, as provided by the heritage consultant, before work may recommence.

Recommendation 5

All relevant Centennial employees and contractors should be made aware of their statutory obligations for heritage under NSW NPW Act (1974) and the NSW Heritage Act (1977), which can be implemented as a heritage induction.

Recommendation 6

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. NSW Police are to be contacted immediately. No further action is to be taken until the Police provide written advice to the proponent on how to progress. If the remains are determined to be Aboriginal, the proponent must contact the Enviroline (on 131 555), a suitably qualified archaeologist and representatives of the local Aboriginal community stakeholders to determine an action plan for the management of the skeletal remains, to formulate management recommendations and to ascertain when work can recommence.

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11.0 Plates

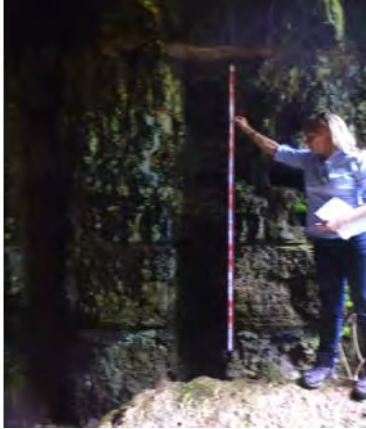


Plate 1 View of cut groove and ventilation shaft (Bat Alley)



Plate 2 View of cut groove and ventilation shaft (Bat Alley)



Plate 3 View of formed track in the Coal Handling Infrastructure Area. Ground surface visibility was limited to these kinds of tracks.



Plate 4 Typical vegetation in the Coal Handling Infrastructure Area.



Plate 5 Formed track in the Coal Handling Infrastructure Area. Ground surface visibility was limited to these types of tracks.



Plate 6 Leaf litter on a steep slope in the Coal Handling Infrastructure Area providing poor surface visibility.



Plate 7 View of formed track in the Hawkmount Quarry Area. Ground surface visibility was limited to tracks like this.



Plate 8 View of a crest with heavy leaf litter in the Hawkmount Quarry Area. Leaf litter hindered ground surface visibility.



Plate 9 View of steep slopes in the Hawkmount Quarry Area.



Plate 10 View of flat flood plain in the Hawkmount Quarry Area



Plate 11 View of Aboriginal site RPS COAL LOG 1 - AHIMS 45-7-0324 from Hawkmount Quarry



Plate 12 View of Aboriginal site RPS COAL LOG 1 - AHIMS 45-7-0324 from Hawkmount Quarry

Appendix I

Glossary of Site Types

Aboriginal Site Types

The following is a brief description of most Aboriginal site types.

Artefact Scatters

Artefact scatters are defined by the presence of two or more stone artefacts in close association (i.e. within fifty metres of each other). An artefact scatter may consist solely of surface material exposed by erosion, or may contain sub-surface deposit of varying depth. Associated features may include hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent:

- Camp sites: involving short or long-term habitation, manufacture and maintenance of stone or wooden tools, raw material management, tool storage and food preparation and consumption;
- Hunting or gathering activities;
- Activities spatially separated from camp sites (e.g. tool manufacture or maintenance); or
- Transient movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility, including vegetation cover, ground disturbance and recent sediment deposition. Factors such as poor light, vegetation and leaf litter may obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They usually comprise two circular depressions in the earth, and may be edged with stone. Bora grounds generally occur on soft sediments in river valleys, although they may also be located on high, rocky ground in association with stone arrangements.

Burials

Human remains were often placed in hollow trees, caves or sand deposits and may have been marked by carved or scarred trees. Burials have been identified eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low.

Culturally Modified Trees

Culturally modified trees include scarred and carved trees. Scarred trees are caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Notches were also carved in trees to permit easier climbing. Scarred trees are only likely to be present on mature trees remaining from original vegetation. Carved trees, the easiest to identify, are caused by the removal of bark to create a working surface on which engravings are incised. Carved trees were used as markers for ceremonial and symbolic purposes, including burials. Although, carved trees were relatively common in NSW in the early 20th century, vegetation removal has rendered this site type extremely rare. Modified trees, where bark was removed for often domestic use are less easily identified. Criteria for identifying modified trees include: the age of the tree; type of tree (the bark of many trees is not suitable, also introduced species would be unlikely subjects); axe marks (with the need to determine the type of axe - stone or steel – though Aborigines after settlement did use steel); shape of the scar (natural or humanly scarred); height of the scar above the ground (reasonable working height with consideration given to subsequent growth).

Fish Traps

Fish traps comprise arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of aquatic animals.

Grinding Grooves

Grinding grooves are elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses, that are created by the shaping and sharpening of ground-edge implements. To produce a sharp edge, the axe blank (or re-worked axe) was honed on a natural stone surface near a source of water. The water was required for lubricating the grinding process. Axe grinding grooves can be identified by features such as a narrow short groove, with greatest depth near the groove centre. The grooves also display a patina developed through friction between stone surfaces. Generally a series of grooves are found as a result of the repetitive process.

Isolated Finds

An Isolated find describes a site where only one artefact is visible. These finds are not found in apparent association with other evidence for prehistoric activity or occupation. Isolated finds occur anywhere and may represent loss, deliberate discard or abandonment of an artefact, or may be the remains of a dispersed artefact scatter. Numerous isolated finds have been recorded within the Project Area. An isolated find may flag the occurrence of other less visible artefacts in the vicinity or may indicate disturbance or relocation after the original discard.

Middens

Shell middens comprise deposits of shell remaining from consumption and are common in coastal regions and along watercourses. Middens vary in size, preservation and content, although they often contain artefacts made from stone, bone or shell, charcoal, and the remains of terrestrial or aquatic fauna that formed an additional component of Aboriginal diet. Middens can provide significant information on land-use patterns, diet, chronology of occupation and environmental conditions.

Mounds

Aboriginal mounds are places where people lived and reflect a record of that living space. Mounds may be places where Aboriginal people lived over long periods of time. Mounds often contain charcoal, burnt clay or stone heat retainers from cooking ovens, animal bones, shells, stone tools and occasionally Aboriginal burials.

Mythological / Traditional Sites

Mythological and traditional sites of significance to Aboriginal people may occur in any location, although they are often associated with natural landscape features. They include sites associated with dreaming stories, massacre sites, traditional camp sites and contact sites. Consultation with the local Aboriginal community is essential for identifying these sites.

Ochre quarries

Ochre, iron oxide may in colours through brown, yellow to red. Ochre may have been used dry for colouring hair or skin or ground to a fine powder and mixed with mediums such as water, blood, fat, etc as a fixative. Ochre was used for decorating the body, artefacts and rock shelters. Quality deposits provided a valuable resource with evidence of widespread trade of the substance.

Rock Shelters may contain Art and / or Occupation Deposit

Rock shelters occur where geological formations suitable for habitation or use are present, such as rock overhangs, shelters or caves. Rock shelter sites generally contain artefacts, food remains and/or rock art and may include sites with areas of potential archaeological deposit, where evidence of rock-art or human occupation is expected but not visible. The geological composition of a Project Area will indicate the likelihood for rock shelters to occur.

Stone Arrangements

Stone arrangements include lines, circles, mounds, or other patterns of stone arranged by Aboriginal people. These may be associated with Bora grounds, ceremonial sites, mythological or sacred sites. Stone arrangements are more likely to occur on hill tops and ridge crests that contain stone outcrops or surface stone. Preservation of those sites is dependent on minimal impact from recent land use practices.

Stone Quarries

A stone quarry is a place at which stone resource exploitation has occurred. Quarry sites are only located where the exposed stone material is suitable for use either for ceremonial purposes (e.g. ochre) or for artefact manufacture.

Appendix 2

AHIMS Search

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR108269

Client Service ID : 50469

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
45-7-0206	Rocky Point;	AGD	56	364500	6339500	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Bonhomme Craib & Associates					<u>Permits</u>		
45-7-0139	Boatshed Midden;	AGD	56	368520	6340090	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	2194
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kate Sullivan					<u>Permits</u>		
45-7-0141	Pump Station 7;	AGD	56	366550	6339650	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	2194
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kate Sullivan					<u>Permits</u>		
45-7-0143	Dobell Drive;	AGD	56	368400	6339620	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	2194
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kate Sullivan					<u>Permits</u>	305	
45-7-0077	Sandy Creek;	AGD	56	359925	6344618	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
45-7-0004	Eraring Power Stn;Lake View;	AGD	56	364220	6339945	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Richard Wright					<u>Permits</u>		
45-3-0914	Old Maitland Road;Jigadee Creek;Becks Road;	AGD	56	358246	6346324	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
45-7-0241	Awaba 1	AGD	56	363091	6345787	Open site	Valid	Artefact : 3		
	<u>Contact</u> S Scanlon	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
45-7-0247	Stockyard Creek - Locus A	AGD	56	366990	6343980	Open site	Valid	Shell : -, Artefact : -		
	<u>Contact</u> T Russell	<u>Recorders</u>	Mr.Edward Clarke					<u>Permits</u>		
45-3-3374	AA3	AGD	56	359463	6344845	Open site	Valid	Artefact : 2		
	<u>Contact</u>	<u>Recorders</u>	Indigenous Outcomes - Cheryl Kitchener					<u>Permits</u>		
45-7-0259	LEA 9 (Swansea)	GDA	56	366685	6346040	Closed site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0260	LEA 10 (Swansea)	GDA	56	365425	6345450	Open site	Valid	Grinding Groove : 5		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0298	RPS NEWST 5	GDA	56	365524	6344433	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0300	RPS NEWST 7	GDA	56	362080	6343607	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0302	RPS NEWST 9	GDA	56	362839	6343963	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		

Report generated by AHIMS Web Service on 01/09/2011 for Deborah Farina for the following area at Datum :AGD, Zone : 56, Eastings : 358447 - 368447, Northings : 6339060 - 6349060 with a Buffer of 200 meters.Additional Info : As part of an archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 64

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR108269

Client Service ID : 50469

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0304	RPS NEWST 11	GDA	56	365537	6343813	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0294	RPS NEWST 1	GDA	56	366193	6342431	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0295	RPS NEWST 2	GDA	56	365245	6345771	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0005	Awaba Railway Stn;Toronto;	AGD	56	364374	6346257	Closed site	Valid	Artefact : -, Grinding Groove : -	Axe Grinding Groove,Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>		Australian Museum				<u>Permits</u>		
38-4-0190	Fennell Bay;	AGD	56	368150	6349020	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	1333,98458,98459
	<u>Contact</u>	<u>Recorders</u>		Warren Bluff				<u>Permits</u>		
45-7-0286	RPS MB 1	GDA	56	365025	6341071	Open site	Valid	Shell : -		
	<u>Contact</u> Awabakal LALC	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton				<u>Permits</u>		
45-3-3307	AA7	AGD	56	358156	6342811	Open site	Valid	Artefact : 4		
	<u>Contact</u> Searle	<u>Recorders</u>		Ms.Tracey Skene				<u>Permits</u>		
45-7-0296	RPS NEWST 3	GDA	56	365499	6344513	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0305	RPS NEWST 12	GDA	56	365658	6343764	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0306	RPS NEWST 13	GDA	56	364478	6343664	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton				<u>Permits</u>		
45-7-0310	RPS NEWST 17	GDA	56	364953	6345699	Open site	Valid	Habitation Structure : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0212	Styles Point 1;	AGD	56	368450	6343900	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>		L.M Nelson				<u>Permits</u>		
45-7-0070	Eraring;Crooked Creek;	AGD	56	363454	6341759	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>		Len Dyll				<u>Permits</u>		
45-7-0078	Sandy Creek;	AGD	56	359900	6345898	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Len Dyll				<u>Permits</u>		

Report generated by AHIMS Web Service on 01/09/2011 for Deborah Farina for the following area at Datum :AGD, Zone : 56, Eastings : 358447 - 368447, Northings : 6339060 - 6349060 with a Buffer of 200 meters.Additional Info : As part of an archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 64

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR108269

Client Service ID : 50469

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0246	Stockyard Creek - Locus B	AGD	56	367010	6344060	Open site	Valid	Shell : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Edward Clarke				<u>Permits</u>		
45-3-0905	Sandy Creek;Sunday Creek;	AGD	56	358413	6342395	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Len Dyall				<u>Permits</u>		
45-3-0908	Old Maitland Road;Jigadee Creek;	AGD	56	358919	6344599	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Len Dyall				<u>Permits</u>		
45-3-0909	Jigadee Ck;Becks Road;Old Maitland Road;	AGD	56	358246	6346324	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Len Dyall				<u>Permits</u>		
38-4-1007	Palmers Creek 1	GDA	56	362804	6349157	Open site	Valid	Grinding Groove : -		
	<u>Contact</u> Searle	<u>Recorders</u>		Umwelt (Australia) Pty Limited				<u>Permits</u>		
45-3-3373	AA2	AGD	56	359722	6342564	Open site	Valid	Artefact : 2		
	<u>Contact</u>	<u>Recorders</u>		Indigenous Outcomes - Cheryl Kitchener				<u>Permits</u>		
45-7-0297	RPS NEWST 4	GDA	56	365501	6344486	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton				<u>Permits</u>		
45-7-0299	RPS NEWST 6	GDA	56	365445	6344870	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0307	RPS NEWST 14	GDA	56	365155	6343126	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0309	RPS NEWST 16	GDA	56	364857	6345409	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson				<u>Permits</u>		
45-7-0147	Eraring;	AGD	56	362300	6339460	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2630
	<u>Contact</u>	<u>Recorders</u>		Susan (Now McIntyre-Tamwoy) McIntyre				<u>Permits</u>		
38-4-0191	Fennell Bay;	AGD	56	367750	6348230	Open site	Valid	Aboriginal Ceremony and Dreaming : -	Natural Mythological (Ritual)	1333
	<u>Contact</u>	<u>Recorders</u>		Warren Bluff				<u>Permits</u>		
45-3-3232	Dora Ck Pad	AGD	56	358640	6339200	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100145
	<u>Contact</u> Searle	<u>Recorders</u>		Mrs.Angela Besant				<u>Permits</u>	2346	
45-7-0252	TFB1mainRdSpeersPt	AGD	56	368200	6346740	Open site	Valid	Shell : -, Earth Mound : -		
	<u>Contact</u> T Russell	<u>Recorders</u>		Mr.Alan Williams				<u>Permits</u>	2759	

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR108269

Client Service ID : 50469

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0312	RPS NEWST 19	GDA	56	361062	6341692	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0313	RPS NEWST 20	GDA	56	363978	6346050	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0314	RPS NEWST 21	GDA	56	361985	6346530	Open site	Valid	Habitation Structure : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0311	RPS NEWST 18	GDA	56	360611	6341266	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0318	RPS ST01	GDA	56	362999	6344235	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0319	RPS ST02	GDA	56	363423	6343924	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0140	The Promenade;	AGD	56	366560	6339280	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	2194
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kate Sullivan					<u>Permits</u>		
38-4-0102	Palmers Creek PC1	AGD	56	362500	6347750	Open site	Valid	Grinding Groove : -, Water Hole : -	Axe Grinding Groove,Water Hole/Well	
	<u>Contact</u>	<u>Recorders</u>	Klim Gollan					<u>Permits</u>		
45-7-0288	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	<u>Contact</u> Awabakal LALC	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0261	Stockyard Creek AS with PAD (Swansea)	GDA	56	365653	6343871	Open site	Valid	Potential Archaeological Deposit (PAD) : 0, Artefact : 41		
	<u>Contact</u>	<u>Recorders</u>	Mr.Alan Williams					<u>Permits</u>	3095,3199	
45-7-0301	RPS NEWST 8	GDA	56	362700	6344225	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0315	RPS NEWST 22	GDA	56	361364	6346170	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-7-0205	Rocky point;	AGD	56	364500	6339500	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Bonhomme Craib & Associates					<u>Permits</u>		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR108269

Client Service ID : 50469

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
45-7-0211	Styles Point 2;	AGD	56	368450	6343990	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	L.M Nelson					<u>Permits</u>		
45-7-0146	Fishing Point 2;Fishing Point, Lake Macquarie;	AGD	56	368450	6341710	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kerry Navin					<u>Permits</u>		
45-6-2516	Pipers Point Rocky Point;	AGD	56	363450	6339000	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Bonhomme Craib & Associates					<u>Permits</u>		
45-7-0303	RPS NEWST 10	GDA	56	365471	6344111	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Mrs.laraine Nelson					<u>Permits</u>		
45-3-3443	RPS NEWST23	GDA	56	359392	6344043	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0213	Wangi Wangi Point;	AGD	56	368450	6338750	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	L.M Nelson					<u>Permits</u>		
45-7-0142	RSL Midden;	AGD	56	368200	6340090	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	2194
	<u>Contact</u>	<u>Recorders</u>	Mary Dallas Consulting Archaeologists,Kate Sullivan					<u>Permits</u>	303	
45-7-0069	Lake View Pantaloon Bay	AGD	56	365580	6340520	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR119113 Coal Log Tessa

Client Service ID : 127663

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0139	Boatshed Midden;	AGD	56	368520	6340090	Open site	Valid	Shell : -, Artefact : -	Midden	2194
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kate Sullivan					Permits		
45-7-0140	The Promenade;	AGD	56	366560	6339280	Open site	Valid	Shell : -, Artefact : -	Midden	2194
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kate Sullivan					Permits		
45-7-0141	Pump Station 7;	AGD	56	366550	6339650	Open site	Valid	Shell : -, Artefact : -	Midden	2194
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kate Sullivan					Permits		
45-7-0142	RSL Midden;	AGD	56	368200	6340090	Open site	Valid	Shell : -, Artefact : -	Midden	2194
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kate Sullivan					Permits	303	
45-7-0143	Dobell Drive;	AGD	56	368400	6339620	Open site	Valid	Shell : -, Artefact : -	Midden	2194
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kate Sullivan					Permits	305	
45-7-0146	Fishing Point 2;Fishing Point, Lake Macquarie;	AGD	56	368450	6341710	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	Mary Dallas Consulting Archaeologists,Kerry Navin					Permits		
45-7-0147	Eraring;	AGD	56	362300	6339460	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2630,102219
	Contact	Recorders	Susan (Now McIntyre-Tamwoy) McIntyre					Permits		
45-7-0205	Rocky point;	AGD	56	364500	6339500	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	Bonhomme Craib & Associates					Permits		
45-7-0206	Rocky Point;	AGD	56	364500	6339500	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	Bonhomme Craib & Associates					Permits		
45-7-0211	Styles Point 2;	AGD	56	368450	6343990	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	L.M Nelson					Permits		
45-7-0212	Styles Point 1;	AGD	56	368450	6343900	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	L.M Nelson					Permits		
45-7-0213	Wangi Wangi Point;	AGD	56	368450	6338750	Open site	Valid	Shell : -, Artefact : -	Midden	
	Contact	Recorders	L.M Nelson					Permits		
45-7-0247	Stockyard Creek - Locus A	AGD	56	366990	6343980	Open site	Valid	Shell : -, Artefact : -		
	Contact T Russell	Recorders	Mr.Edward Clarke					Permits		
38-4-1007	Palmer's Creek 1	GDA	56	362804	6349157	Open site	Valid	Grinding Groove : -		
	Contact Searle	Recorders	Umwelt (Australia) Pty Limited					Permits		
45-7-0252	TFB1mainRdSpeersPt	AGD	56	368200	6346740	Open site	Valid	Shell : -		
	Contact T Russell	Recorders	Mr.Alan Williams					Permits	2759	
45-7-0288	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	Contact Awabakal LALC	Recorders	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					Permits		

Report generated by AHIMS Web Service on 10/03/2014 for Cultural Heritage Team Administrator for the following area at Datum :GDA, Zone : 56, Eastings : 358447 - 368447, Northings : 6339060 - 6349060 with a Buffer of 200 meters. Additional Info : assessment. Number of Aboriginal sites and Aboriginal objects found is 79

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0286	RPS MB 1	GDA	56	365025	6341071	Open site	Valid	Shell : -		
	Contact Awabakal LALC	Recorders				RPS Australia East Pty Ltd -Hamilton		Permits		
45-7-0312	RPS NEWST 19	GDA	56	361062	6341692	Open site	Valid	Artefact : -		
	Contact	Recorders				Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton		Permits		
45-7-0313	RPS NEWST 20	GDA	56	363978	6346050	Open site	Valid	Artefact : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0314	RPS NEWST 21	GDA	56	361985	6346530	Open site	Valid	Habitation Structure : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0315	RPS NEWST 22	GDA	56	361364	6346170	Open site	Valid	Artefact : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-3-3443	RPS NEWST23	GDA	56	359392	6344043	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders				Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton		Permits		
45-7-0304	RPS NEWST 11	GDA	56	365537	6343813	Open site	Valid	Artefact : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0305	RPS NEWST 12	GDA	56	365658	6343764	Open site	Valid	Artefact : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0306	RPS NEWST 13	GDA	56	364478	6343664	Open site	Valid	Artefact : -		
	Contact	Recorders				Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton		Permits		
45-7-0307	RPS NEWST 14	GDA	56	365155	6343126	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0309	RPS NEWST 16	GDA	56	364857	6345409	Open site	Valid	Artefact : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0310	RPS NEWST 17, same as 45-7-0005	GDA	56	364953	6345699	Open site	Valid	Habitation Structure : -		
	Contact	Recorders				RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson		Permits		
45-7-0311	RPS NEWST 18	GDA	56	360611	6341266	Open site	Valid	Artefact : -		
	Contact	Recorders				Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton		Permits		
45-7-0318	RPS ST01	GDA	56	362999	6344235	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	Recorders				Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton		Permits		

Report generated by AHIMS Web Service on 10/03/2014 for Cultural Heritage Team Administrator for the following area at Datum :GDA, Zone : 56, Eastings : 358447 - 368447, Northings : 6339060 - 6349060 with a Buffer of 200 meters. Additional Info : assessment. Number of Aboriginal sites and Aboriginal objects found is 79

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR119113 Coal Log Tessa

Client Service ID : 127663

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0319	RPS ST02	GDA	56	363423	6343924	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Tessa Boer-Mah,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0294	RPS NEWST 1	GDA	56	366193	6342431	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0295	RPS NEWST 2	GDA	56	365245	6345771	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0296	RPS NEWST 3	GDA	56	365499	6344513	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0297	RPS NEWST 4	GDA	56	365501	6344486	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0298	RPS NEWST 5	GDA	56	365524	6344433	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Roger Mehr,RPS Australia East Pty Ltd -Hamilton					<u>Permits</u>		
45-7-0299	RPS NEWST 6	GDA	56	365445	6344870	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0300	RPS NEWST 7	GDA	56	362080	6343607	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0301	RPS NEWST 8	GDA	56	362700	6344225	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0302	RPS NEWST 9	GDA	56	362839	6343963	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-7-0303	RPS NEWST 10	GDA	56	365471	6344111	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					<u>Permits</u>		
45-6-2516	Pipers Point Rocky Point;	AGD	56	363450	6339000	Open site	Valid	Shell : -, Artefact : -	Midden	102219
	<u>Contact</u>	<u>Recorders</u>	Bonhomme Craib & Associates					<u>Permits</u>		
45-7-0069	Lake View Pantaloon Bay	AGD	56	365580	6340520	Open site	Valid	Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>		
45-7-0070	Eraring;Crooked Creek;	AGD	56	363454	6341759	Open site	Valid	Shell : -, Artefact : -	Midden	
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>		
45-7-0077	Sandy Creek;	AGD	56	359925	6344618	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>		
45-7-0078	Sandy Creek;	AGD	56	359900	6345898	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyll					<u>Permits</u>		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR119113 Coal Log Tessa

Client Service ID : 127663

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0004	Eraring Power Stn;Lake View; <u>Contact</u>	AGD	56	364220	6339945	Open site	Valid	Shell : -, Artefact : -	Midden	
45-7-0005	Awaba Railway Stn;Toronto; same as 45-7-0310 <u>Contact</u>	GDA	56	364953	6345699	Closed site	Valid	Artefact : -, Grinding Groove : -	Axe Grinding Groove,Shelter with Deposit	102458
45-7-0241	Awaba 1 <u>Contact</u> S Scanlon	AGD	56	363091	6345787	Open site	Valid	Artefact : 3		
45-3-3373	AA2 <u>Contact</u>	AGD	56	359722	6342564	Open site	Valid	Artefact : 2		
45-3-3374	AA3 <u>Contact</u>	AGD	56	359463	6344845	Open site	Valid	Artefact : 2		
45-7-0259	LEA 9 (Swansea) <u>Contact</u>	GDA	56	366685	6346040	Closed site	Valid	Artefact : -		102458
45-7-0260	LEA 10 (Swansea) <u>Contact</u>	GDA	56	365425	6345450	Open site	Valid	Grinding Groove : 5		102458
45-7-0261	Stockyard Creek AS with PAD (Swansea) <u>Contact</u>	GDA	56	365653	6343871	Open site	Valid	Potential Archaeological Deposit (PAD) : 0, Artefact : 41		102458
45-7-0335	AWMF PIPELINE PAD2 <u>Contact</u>	GDA	56	365839	6344029	Open site	Valid	Potential Archaeological Deposit (PAD) : 1	3095,3199	
45-7-0336	AWMF PIPELINE PAD 1 <u>Contact</u>	GDA	56	365304	6344358	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
45-7-0324	RPS COALLOG1 <u>Contact</u>	GDA	56	361815	6343309	Open site	Valid	Modified Tree (Carved or Scarred) : 1		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR119113 Coal Log Tessa

Client Service ID : 127663

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-7-0327	AWTF_ST1, TP7	GDA	56	364468	6345051	Open site	Deleted	Modified Tree (Carved or Scarred) : -, Potential Archaeological Deposit (PAD) : -, Artefact : -		
	<u>Contact</u> Mr.Shane Frost	<u>Recorders</u>	Ms.Elizabeth Wyatt							
45-7-0330	AWABA AWT IF1	GDA	56	364997	6344822	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Niche Environment and Heritage							
45-7-0331	AWTF ST1 TP7	GDA	56	364468	6345051	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1, Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd							
45-7-0332	AWTF ST2	GDA	56	364449	6345264	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd							
45-7-0333	AWTF ST3	GDA	56	364546	6345488	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd							
45-7-0328	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	<u>Contact</u>	<u>Recorders</u>	RPS							
45-7-0329	RPS NEWST 24A	GDA	56	365657	6343846	Open site	Valid	Water Hole : 1		
	<u>Contact</u>	<u>Recorders</u>	RPS							
45-7-0322	AWMF Pipeline Isolated Find1	GDA	56	366291	6343775	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Niche Environment and Heritage,Ms.Clare Anderson							
45-7-0323	AWMF Pipeline Midden 1	GDA	56	364901	6344577	Open site	Valid	Shell : 50		
	<u>Contact</u>	<u>Recorders</u>	Niche Environment and Heritage,Ms.Clare Anderson							
38-4-1511	Kurran Kurran - Blackalls Park Lake Macquarie	AGD	56	367700	6348350	Open site	Valid	Aboriginal Ceremony and Dreaming : -		
	<u>Contact</u>	<u>Recorders</u>	Brad Welsh							
45-7-0325	AWTF_ST2	GDA	56	364449	6345264	Open site	Valid	Modified Tree (Carved or Scarred) : -		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR119113 Coal Log Tessa

Client Service ID : 127663

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth Wyatt					<u>Permits</u>		
45-7-0326	AWTF_ST3	GDA	56	364546	6345488	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Elizabeth Wyatt					<u>Permits</u>		
45-3-0905	Sandy Creek;Sunday Creek;	AGD	56	358413	6342395	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
45-3-0908	Old Maitland Road;Jigadee Creek;	AGD	56	358919	6344599	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
45-3-0909	Jigadee Ck;Becks Road;Old Maitland Road;	AGD	56	358246	6346324	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
45-3-0914	Old Maitland Road;Jigadee Creek;Becks Road;	AGD	56	358246	6346324	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Len Dyall					<u>Permits</u>		
38-4-0190	Fennell Bay;	AGD	56	368150	6349020	Open site	Valid	Shell : -, Artefact : -	Midden	1333,98458,98 459
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff					<u>Permits</u>		
38-4-0191	Fennell Bay;	AGD	56	367750	6348230	Open site	Valid	Aboriginal Ceremony and Dreaming : -	Natural Mythological (Ritual)	1333
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff					<u>Permits</u>		
38-4-0102	Palmers Creek PC1	AGD	56	362500	6347750	Open site	Valid	Grinding Groove : -, Water Hole : -	Axe Grinding Groove,Water Hole/Well	102458
	<u>Contact</u>	<u>Recorders</u>	Klim Gollan					<u>Permits</u>		
45-3-3232	Dora Ck Pad	AGD	56	358640	6339200	Open site	Valid	Potential Archaeological Deposit (PAD) : -		100145,10221 9
	<u>Contact</u> Searle	<u>Recorders</u>	Mrs.Angela Besant					<u>Permits</u>	2346	
45-7-0246	Stockyard Creek - Locus B	AGD	56	367010	6344060	Open site	Valid	Shell : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Edward Clarke					<u>Permits</u>		
45-3-3307	AA7	AGD	56	358156	6342811	Open site	Valid	Artefact : 4		
	<u>Contact</u> Searle	<u>Recorders</u>	Ms.Tracey Skene					<u>Permits</u>		

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Appendix 3

Consultation Log

Aboriginal Consultation

Date	Stakeholder	Method of Contact	Purpose
29/06/2010	Registrar of Aboriginal Owners	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	Native Title Services Corporation Limited	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	National Native Title Tribunal	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	Heritage Officer, Lake Macquarie City Council	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	Awabakal Local Aboriginal Land Council (LALC) on behalf of the West Lakes Aboriginal Community (Koompahtoo LALC)	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	Hunter Central River Catchment Management Authority	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
29/06/2010	Department of Environment, Climate Change and Water	Mail	Requested the identification of interested Aboriginal groups for land in the East Lake Macquarie region
7/07/2010	Registrar of Aboriginal Owners	Mail	Search result response - No Aboriginal people identified
8/07/2010	Lakes Mail	Newspaper	Advertisement published in the Lakes Mail
15/07/2010	Department of Environment, Climate Change and Water	Mail	DECCW sent their search results and 7 groups were identified: Awabakal Newcastle Aboriginal Co -op (ANAC), Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC), Awabakal Traditional Owners Aboriginal Corporation (ATOAC), Awabakal Local Aboriginal Land Council (ALALC), Yamuloong Group Initiatives Ltd (YGIL), Arwarbukarl Cultural Resources Assoc (ACRA), Cacatua Culture Consultants (CCC)
16/07/2010	Awabakal Newcastle Aboriginal Co- Kevin McKenny	Mail	Invitation to participate in consultation process
16/07/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation - Shane Frost	Mail	Invitation to participate in consultation process
16/07/2010	Awabakal Traditional Owners Aboriginal Corporation - Kerrie Brauer	Mail	Invitation to participate in consultation process
16/07/2010	Yamuloong Group Initiative Ltd - Sean Gordon	Mail	Invitation to participate in consultation process
16/07/2010	Arwarbukarl Cultural Resource Association - Darren McKenny	Mail	Invitation to participate in consultation process
16/07/2010	Cacatua Culture Consultants - Donna and George Sampson	Mail	Invitation to participate in consultation process

Date	Stakeholder	Method of Contact	Purpose
16/07/2010	Wonnarua Nation Aboriginal Corporation (WNAC) - Laurie Perry	Mail	Invitation to participate in consultation process
16/07/2010	Wonnarua Nation Aboriginal Corporation (WNAC)	Email	Registration of interest
16/07/2010	West Lakes Aboriginal Community (Koompahtoo LALC)	Phone	Registration of interest
16/07/2010	Culturally Aware	Email	Registration of interest
20/07/2010	Culturally Aware	Email	Informed RPS that the area was outside of their interest and withdrew registration
20/07/2010	Awabakal Traditional Owners Aboriginal Corporation - Kerrie Brauer	Email	Registration of interest
24/07/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation - Shane Frost	Email	Registration of interest
29/07/2010	Cacatua Culture Consultants	Phone	Registration of interest
30/07/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation - Shane Frost	Mail	Methodology letter
30/07/2010	Awabakal Traditional Owners Aboriginal Corporation - Kerrie Brauer	Mail	Methodology letter
30/07/2010	West Lakes Aboriginal Community (Koompahtoo LALC)	Mail	Methodology letter
30/07/2010	Cacatua Culture Consultants- Donna and George Sampson	Mail	Methodology letter
30/07/2010	Wonnarua Nation Aboriginal Corporation - Laurie Perry	Mail	Methodology letter
27/08/2010	Awabakal Traditional Owners Aboriginal Corporation	Email	Methodology Feedback/Reply
28/08/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation	Email	Methodology Feedback/Reply
31/08/2010	Wonnarua Nation Aboriginal Corporation	Email	Reponses to Aboriginal stakeholders regarding the methodology – additional information provided
31/08/2010	West Lakes Aboriginal Community (Koompahtoo LALC)	Email	Reponses to Aboriginal stakeholders regarding the methodology – additional information provided
31/08/2010	Awabakal Traditional Owners Aboriginal Corporation	Email	Reponses to Aboriginal stakeholders regarding the methodology – additional information provided
31/08/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation	Email	Reponses to Aboriginal stakeholders regarding the methodology – additional information provided
30/9/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation	Mail	Invitation to Project Meeting
30/9/2010	Awabakal Traditional Owners Aboriginal Corporation	Mail	Invitation to Project Meeting

Date	Stakeholder	Method of Contact	Purpose
30/9/2010	Cacatua Culture Consultants	Mail	Invitation to Project Meeting
30/9/2010	West Lakes Aboriginal Community	Mail	Invitation to Project Meeting
30/9/2010	Wonnarua Nation Aboriginal Corporation	Mail	Invitation to Project Meeting
15/10/2010	Awabakal Descendants Traditional Owners Aboriginal Corporation – Shane Frost	Meeting	Project Meeting attended
15/10/2010	Awabakal Traditional Owners Aboriginal Corporation – Kerrie Brauer	Meeting	Project Meeting attended
15/10/2010	Cacatua Culture Consultants – Donna and George Sampson	Meeting	Project Meeting attended
14/6/2011	Awabakal Descendants Traditional Owners Aboriginal Corporation – Shane Frost	Mail	Invitation to Project Meeting
14/6/2011	Awabakal Traditional Owners Aboriginal Corporation – Kerrie Brauer	Mail	Invitation to Project Meeting
14/6/2011	Westlakes Aboriginal Community – Cheryl Kitchener	Mail	Invitation to Project Meeting
14/6/2011	Cacatua Culture Consultants – Donna and George Sampson	Mail	Invitation to Project Meeting
14/6/2011	Wonnarua Nation Aboriginal Corporation – Laurie Perry	Mail	Invitation to Project Meeting
28/6/2011	Awabakal Descendants Traditional Owners Aboriginal Corporation – Shane Frost	Meeting	Project Meeting attended
28/6/2011	Awabakal Traditional Owners Aboriginal Corporation – Kerrie Bauer	Meeting	Project Meeting attended
12/07/2011	Awabakal Descendants Traditional Owners Aboriginal Corporation – Shane Frost	Mail	Provision of presentation slides and information requested at meeting
12/07/2011	Awabakal Traditional Owners Aboriginal Corporation – Kerrie Bauer	Mail	Provision of presentation slides and information requested at meeting
12/01/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation	Mail	Invitation to Project Meeting
12/01/2012	Awabakal Traditional Owners Aboriginal Corporation	Mail	Invitation to Project Meeting
12/01/2012	Cacatua Culture Consultants	Mail	Invitation to Project Meeting
12/01/2012	West Lakes Aboriginal Community	Mail	Invitation to Project Meeting
12/01/2012	Wonnarua Nation Aboriginal Corporation	Mail	Invitation to Project Meeting
22/02/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation;;	Meeting	Project Meeting Attended
01/03/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation	Email	Provision of presentation slides
01/03/2012	Awabakal Traditional Owners Aboriginal Corporation	Email	Provision of presentation slides

Date	Stakeholder	Method of Contact	Purpose
01/03/2012	Cacatua Culture Consultants	Email	Provision of presentation slides
08/03/2012	Cacatua Culture Consultants - Donna and George Sampson	Email	Invitation to provide a statement of significance for report
08/03/2012	West Lakes Aboriginal Community (Koompahtoo LALC)	Email	Invitation to provide a statement of significance for report
08/03/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation-Shane Frost	Email	Invitation to provide a statement of significance for report
08/03/2012	Awabakal Traditional Owners Aboriginal Corporation - Kerrie Brauer	Email	Invitation to provide a statement of significance for report
08/03/2012	Wonnarua Nation Aboriginal Corporation - Laurie Perry	Email	Invitation to provide a statement of significance for report
09/03/2012	West Lakes Aboriginal Community (Koompahtoo LALC)	Email	Margaret Harvey provided a statement of cultural significance
12/03/2012	Cacatua Culture Consultants-Donna and George Sampson	Phone	Invitation to provide a statement of significance for report
23/03/2012	Awabakal Traditional Owners Aboriginal Corporation - Kerrie Brauer	Email	Kerrie Brauer provided a cultural significance statement for the report on behalf of ATOAC
28/03/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation - Shane Frost	Email	Shane Frost provided a cultural significance statement for the report on behalf of ADTOAC
28/05/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation - Shane Frost	Survey	Survey of Disturbance Assessment Areas
28/05/2012	Awabakal Traditional Owners Aboriginal Corporation - Jodie Wilson	Survey	Survey of Disturbance Assessment Areas
18/12/2012	Cacatua Culture Consultants	Letter	Provision of draft Cultural Heritage Impact Assessment for review and comment
18/12/2012	Biriban LALC (Koompahtoo LALC)	Email	Provision of draft Cultural Heritage Impact Assessment for review and comment
18/12/2012	Awabakal Traditional Owners Aboriginal Corporation	Letter	Provision of draft Cultural Heritage Impact Assessment for review and comment
18/12/2012	Awabakal Descendants Traditional Owners Aboriginal Corporation	Letter	Provision of draft Cultural Heritage Impact Assessment for review and comment
18/12/2012	Wonnarua Nation Aboriginal Corporation	Letter	Provision of draft Cultural Heritage Impact Assessment for review and comment
30/01/2013	Awabakal Traditional Owners Aboriginal Corporation	Letter	Comments on draft Cultural Heritage Impact Assessment
22/01/2013	Awabakal Descendants Traditional Owners Aboriginal Corporation	Letter	Comments on draft Cultural Heritage Impact Assessment
16/8/2013	Centennial responded to the Awabakal Descendants Traditional Owners Aboriginal Corporation submission and where appropriate updates were made to this report were incorporated.	Letter	Centennial responded to comments on draft report

Date	Stakeholder	Method of Contact	Purpose
16/8/2013	Centennial responded to the Awabakal Traditional Owners Aboriginal Corporation submission and where appropriate updates were made to this report were incorporated.	Letter	Centennial responded to comments on draft report

Appendix 4

Centennial and Registered Aboriginal Party Correspondence regarding the Draft Report



PO BOX 86
CLARENCE TOWN
NSW 2321

Date: 22 January 2013

Attention: James Wearne
Centennial Coal Company
PO Box 1000
Toronto NSW 2283

Re: Review and Response-Coal Logistics Project-Draft Heritage Impact Assessment.

ALLA James,

We have reviewed the draft document supplied to us by Centennial Coal Company regarding the above proposed development and herein provide our response regarding any concerns we have with the draft report document.

We would also like to see our comments addressed and added to the final report so that they can be considered in regard to their implementation to provide as much protection as possible to any Cultural Heritage sites that may be put at risk of impact within the proposed development area.

The **Coal Logistics Project-Draft Heritage Impact Assessment** will be hereafter referred to as the 'draft report'. Please find below the issues that we believe need to be addressed within the draft report and these are brought to your attention in the following dot points.

RPS COAL LOG 1-AHIMS 45-7-0324.

- For those people who know us, they will undoubtedly be familiar with the passionate attitude and protective nature we display at times regarding our Culture and Heritage. They will also understand that one of our main concerns is a desire to see all of our Cultural Heritage recorded and subsequently protected. Therefore, this next statement may seem unusual for us to make, but it is not made flippantly, it is made because it would be wrong for us to agree with something we do not believe or to pretend that something is when in our opinion, it is not.

It is our belief that this 'Aboriginal Site' or 'Scarred Tree' (RPS COAL LOG 1-AHIMS 45-7-0324) has been incorrectly recorded as such. It is stated in the draft report on page 35 section **6.3 Survey Results** in relation to the tree itself that;

'...the scarred tree had not been assessed as being particularly old,...'

- a. This particular tree was identified and recorded by the archaeologist and the decision that the tree was a scarred tree of Aboriginal origin was solely that of the recorder not the Aboriginal Stakeholders present. It was our belief that the scar on the tree was not a Cultural scar as the immature age of the tree was a limiting factor in any possible determination of the tree exhibiting an Aboriginal scar.
 - b. As can be seen by the photos which we have supplied in **ATTACHMENT (A)** at the end of this review, and to those who are familiar with historical and Aboriginal scarred trees, the photos show that the tree is of insufficient age to bear a scar that is typically historical or of Aboriginal origin. Added to this is the highly modified area in which the tree is located.
 - c. Also it can be seen that the tree is located within the cutting of what has been a track or a roadway (see in back of photos **ATTACHMENT (A)**). Also the surrounding vegetation was re-growth and the entire area displayed all the signs of major disturbance in the preceding years, probably (in our opinion), due to the old quarry site (as can be seen in **Figure 3: Study Area with AHIMS**).
- Also we would like to bring to the attention of the reader that in the draft report in the section headed **Appendix 2 AHIMS Search and Site Cards**, page headed **NPWS Feature Recording Table-Modified Tree**, the last column headed **Axe Marks**,
 - a. How did the recorder of the scar determine that the axe marks were that of a 'Stone' axe?
 - b. How could they have come to this conclusion when there is no sign of axe markings within the visible scar to verify this?

- c. Having knowledge of the process of scarring on trees due to our family being involved with the timber industry for several generations, it is beyond us to see how anyone could be able to see the axe marks on a living tree that has tried to heal the area of scarring and subsequently grown over the area of the original outer edge of the scar. Anyone familiar with scarring would know that any axe marks are hidden under the healed areas of the scar especially when it is this outer edge area that has been cut to remove the bark from the tree in one piece originally!
 - d. It can be seen in the Figures 1, 2 and 3 in **ATTACHMENT (A)** that this tree is not of sufficient age to support the determination (as has been done) of having 'Stone' axe marks recorded.
- Also, important information that is not supplied is the circumference of the tree and the estimated height! This would go a long way to providing the reader with some type of gauge in regard to the age.
- **Having said this, we would like an independent expert who is proficient in determining historical an Aboriginal scars and the age of tree species (allowing for soil type and location) to review the information and assess the tree to ascertain the legitimacy of the site being recorded as an Aboriginal Scarred tree/site that appears on the OEH AHIMS Database.**

Cultural Significance

- On page 37 of the draft report section **7.1 Cultural Significance** it says in the first paragraph that;
- 'The Cultural significance and Aboriginal cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system.'*

- a. If this is the case, why was the decision made and by whom, not to allow us to assess the Cultural Significance of the 'site' known as *RPS COAL LOG 1-AHIMS 45-7-0324??*

As can be seen in the second paragraph it states that;

'As cultural significance is a criterion that only Aboriginal people can assess, a detailed appraisal of cultural significance for the single Aboriginal heritage site within the Project Application Area has not been included as part of this study'.

- b. Again, if this is fact, (*'As cultural significance is a criterion that only Aboriginal people can assess,...'*) then why were we not given the opportunity to provide our input regarding this 'site'?? It seems to go against everything that these assessments and OEH recommendations are trying to achieve and that is to see the respective input of Aboriginal People concerning **THEIR** Cultural Heritage.

It goes on further in the same paragraph to say that;

'RPS does acknowledge that the Traditional Owners who participated in this study (section 2) have a responsibility to their People to provide the utmost in protection for the Aboriginal culture and heritage of their country.'

- c. It looks like, as it is put, our 'responsibility' has been taken away from us and it left up to others to make our decisions for us!! How colonial!!

You don't get our perspective in regard to the significance of *RPS COAL LOG 1-AHIMS 45-7-0324* but you certainly get the archaeological perspective on the significance of the 'site' which is outlined on pages 37,38 and 39 of the draft report.

This brings us to the next point.

Sites Not Recorded During Assessment

- On the day of the assessment, we visited an area that was on the corner of Dorrington Road and Karoonda Close Rathmines in which there was discovered a shell deposit. This was brought to the attention of the archaeologist. We as Aboriginal Stakeholders thought this to be significant enough to make some record of these shells due to our involvement with a previous assessment in which we discovered, just several metres from this area, a Silcrete artefact Isolated Find (I/F) a couple of years ago. This area is also close to several other sites being shell middens and artefact scatters that we

were already aware of and of which was one of the reasons we requested that this shell deposit be recorded. This area was inspected by the archaeologist and we had thought it was recorded (after asking for it to be) but subsequently we have since been told that this shell deposit was not recorded as it was deemed by the archaeologist not to be a site.

- a. What if this had been deemed by us to be Culturally Significant?? Does this mean nothing in the big picture??

What has happened to what we have been told earlier within this draft report that;

'The Cultural significance and Aboriginal cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system.' and;

'...cultural significance is a criterion that only Aboriginal people can assess...' and;

'...that the Traditional Owners who participated in this study (section 2) have a responsibility to their People to provide the utmost in protection for the Aboriginal culture and heritage of their country.'

It leaves a lot to be desired and there needs to be some consistency and responsibility taken in what is being said and done here. Do you want an Aboriginal perspective or not?? Because it looks like our opinion regarding **OUR** Cultural Heritage is being overshadowed by consultant's views. This is reflected by what we were told after we asked why this shell deposit was not recorded which was; that if the archaeologist says it's a site then it is and if they say it's not then it's not!! It was then explained to us that it is because they have attained tertiary education and studied Cultural Heritage and therefore have the knowledge and ability to say what is and what isn't a site. What happened to our right to speak concerning Cultural Heritage Significance and our Traditional Country??

AHIMS Omissions and Lack of Information

- Due to the information on the AHIMS Database **Figure 3: Study Area** it shows that there are several sites located along the proposed route and development area. It also is an indication that due to the vegetation and ground cover in the area there is a lack of visible archaeology. Therefore it should not be assumed that there is no other archaeology within this area as;
- - a. The lack of information or recorded evidence of Cultural Heritage sites reported on the AHIMS Database does not in reality give a true indication of what is present.
 - b. The AHIMS register is only useful in determining the location of Cultural Heritage sites that have already been recorded. As is stated by the OEH themselves within their own document (see excerpt below), when an AHIMS Web Services (AWS) Search Result is produced it contains a statement that says in the following;

***'Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.'*¹**
 - c. Therefore, this should serve as a catalyst to ensure there is a recommendation within the management plan that during any initial ground disturbing works, the Aboriginal Stakeholders would monitor/observe and collect any artefacts that may be disturbed during the construction phase of the proposed development.

Ground Visibility, Surface Exposure and Subsequent Impacts to Aboriginal Cultural Heritage

- Again, due to the lack of visibility in the areas of assessment we would like to see monitoring/observance by the Aboriginal Stakeholders take place for any areas of proposed ground disturbance.
 - a. Any proposed clearing and excavation works around or within close proximity to any of these areas (creeks and areas that had poor visibility and could not be adequately surveyed due to the overgrown nature of the vegetation), should be monitored by the Aboriginal Stakeholders.

¹ OEH AHIMS Web Services (AWS) Search Results document.

Flora (Resource)

- This is another area that the draft report does not cover at all. Yet it is one of those topics that accentuates the importance of these resources to our People for the procurement of foods and other uses.
- This is unfortunate that these precious resources are once again overlooked, as is the case here in this draft report, when they make up such a large proportion of what is our Peoples Cultural Heritage.
 - a. This is another subject that needs to be incorporated into the draft report and addressed fully to gain an understanding of the importance of the area to our People.

Protection and Preservation of all Cultural Heritage Sites

- Therefore considering the implications that the above information presents, we believe that it is crucial that;
 - a. All necessary steps should be taken to Locate, Protect and Preserve our Awabakal Cultural Heritage. As Awabakal Descendants, Traditional Owners and Registered Native Title Claimants, the Preservation and Protection of our Cultural Heritage is paramount and this extends to all of our Cultural Heritage whether visible or not. The Cultural Heritage of our People and everything attached to it is just that, **OURS!** This is our responsibility, it is a legacy passed to us and those to come to take care of it.
 - b. We believe there should be **NO IMPACT** whatsoever to any Cultural Heritage sites whether they are known or unknown. It is an offence to disturb, impact or damage any Aboriginal Cultural Heritage site or object whether known or unknown without a permit or permission by the authorities to do so.

Statement of Significance of this area to Awabakal Traditional Descendants

This area is part of our Traditional Awabakal Country and is considered by our People to be of great importance within our Cultural Heritage. There are a variety of reasons our People have benefited from using this location over thousands of years. Early accounts of the importance of this area around Lake Macquarie are attributed to the Rev. L.E. Threlkeld.

Our Traditional Country has not just a physical presence within the Cultural Heritage of the Awabakal People but it is part of our oral history which highlight places of spiritual significance within it. The landforms and resources of this locale fulfilled not just the basic needs that underpinned our Peoples subsistence but also satisfied the many other aspects that made up what can be described here as being part of the very Cultural foundations of our People. Our people have had a long history within this area which is unsurpassed. Our apical Ancestor Mahrahkah, an Awabakal woman, and her two daughters, were recorded by Threlkeld and Warner as living in and around these areas which all formed part of their Traditional Country. This apart from everything else makes it a very important location for our family, knowing that Mahrahkah walked these areas before any white man was ever seen in the Newcastle and Lake Macquarie areas. She was intrinsically acquainted with her Land and she has left a legacy for us to carry on in this day and age and to pass onto our Descendants. As already stated, this area is of very high significance to our People and therefore it would be expected that after the many generations of our People that have walked the pathways of their Ancestors, it is obvious that there would be many areas that contain evidence of this connection, resulting from occupation on varying levels by our People. Traditionally these areas were the supply of rich resources especially around Lake Macquarie, of which our people have depended on for thousands of years. There are physical reminders left by our Ancestors which provide us as Descendants of the Awabakal People an opportunity to make a physical connection through time with our Ancestors. This connection is one of those avenues that produce in us the sense of perception, appreciation, familiarity and recognition of who we are and where we belong as Awabakal People.

We thank you for the opportunity to provide our comments for this draft report and would ask for these comments in the previous dot points and content to be added to the final report. **Please Note:** First we would like to discuss these above matters with Centennial representatives and the archaeological consultants before there is any advancement towards a final report. We look forward to your reply and if you need further clarification regarding the information we have provided please don't hesitate to contact us at your earliest convenience. Our contact details are as follows.

NGI NOA

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

Cultural Heritage Sites - Physical reminders of our Ancestors; once they are gone, they are gone forever and impossible to bring back!! THINK first and make WISE decisions last!!

ATTACHMENT (A)



Above: Figure1 'Scarred Tree'



Above: Figure2 'Scarred Tree'



Above: Figure3 'Scarred Tree' and roadway/track cutting in the background.



16 August 2013

Mr S. Frost
Awabakal Descendants Traditional Owners Aboriginal Corporation
PO BOX 86
Clarence Town NSW 2321

Dear Mr Frost

Re: Northern Coal Logistics Project – Cultural Heritage Impact Assessment

Thank you for your submission dated 22 January 2013 on the draft Cultural Heritage Impact Assessment for the Northern Coal Logistics Project. Where appropriate, the Cultural Heritage Impact Assessment has been updated to take into consideration the feedback received from the registered Aboriginal Parties and will be incorporated into the Environmental Impact Statement currently being finalised for submission to the NSW Department of Planning and Infrastructure. A response to the issues raised in your submission is provided below.

Summary of issue: Incorrect recording of 'scarred tree' (# 45-7-0324). The tree recoded as # 45-7-0324 is considered not a Cultural scar tree due to the immature age of the tree being a limiting factor in exhibiting an 'Aboriginal scar'.

Although # 45-7-0324 has not been assessed as a very old tree, the age of the tree was of substantial maturity for bark removal. It cannot be assumed that the antiquity of a scarred tree must be of extreme maturity before bark removal is undertaken given that the attributes of the scar indicate that bark was removed intentionally. The scarred portion of the tree is very symmetrical in shape and the exposed section of the scar exhibiting a dry face. The proximity of the site to a natural water course is an indication that the area would have been visited by past hunter-gatherer groups. The overgrowth around the scarred portion of the tree is of substantial thickness and age to indicate that the scarring occurred in the distance past. The amount of overgrowth is also distinctive from the surrounding bark which indicates that the tree attempted to seal the damaged after trauma was caused from bark removal. No issues were raised by the Registered Aboriginal Parties in attendance on the field survey regarding the recording of this tree as an Aboriginal heritage site.

Summary of issue: How was it concluded that axe marks, as is detailed in the features of the AHIMS site card, were that from a stone axe.

A close inspection of the scarred portion of the tree failed to identify clean and clear markings associated with using more contemporary tools such as metal axes for bark removal. Based on deductive knowledge, the only plausible instrument used in the process of bark removal would have been a stone implement.

Summary of issue: The cultural significance of the site has not been taken into consideration.

During the preparation of the Cultural Heritage Impact Assessment for the Northern Coal Logistics Project, all Registered Aboriginal Parties were invited to provide a statement on the cultural

significance of the area for inclusion in the report. All statements received can be found under the *Aboriginal Statement of Significance* section, prior to the *Executive Summary* of the report.

The Aboriginal stakeholder(s) participating in the survey were provided opportunities to provide information on the cultural significance of the survey area and about the significance of Aboriginal sites and/or areas of archaeological sensitivity. No feedback from the Registered Aboriginal Parties in attendance of the survey was provided prior to or during the survey regarding the cultural significance of the survey area or the cultural significance of the recorded scarred tree (# 45-7-0324).

It is acknowledged in Section 7.1 of the Cultural Heritage Impact Assessment that the cultural significance and Aboriginal cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system. Following feedback from the Registered Aboriginal Parties on the draft Cultural Heritage Impact Assessment that it was considered the tree had not been modified by Aboriginal people, Section 7.1 of the Cultural Heritage Impact Assessment has been updated to reflect the little to no cultural significance that this site has.

Summary of issue: Sites identified during field surveys at a proposed disturbance area adjacent to the Industrial area at Rathmines (Corner of Dorrington Road and Wangi Road) were not recorded.

The surveys of the proposed disturbance area adjacent to the Rathmines industrial estate is not associated with the Northern Coal Logistics Project however is part of the Newstan Extension of Mining Project which is the subject of a separate Development Application and associated Cultural Heritage Impact Assessment. It is noted that a number of *Anadara* spp. shells were identified on the side of a modified terrace in close proximity to this survey unit. The area was inspected thoroughly to determine if the shells were from a shell midden. Based on the analysis, it was determined that the shells were not associated with a shell midden due to the fact:

- The density of shells was very low and widely dispersed along the modified terrace;
- There was no indication that there was selectivity of shell size, which is a typical characteristic of a shell midden. Cultural shell middens tend to contain large shells because past hunter-gatherers would have only exploited the largest bivalves with maximum food content for consumption. In this instance, the shells ranged in size from small (~12 mm diameter) to large (~30 mm);
- There was no evidence of charcoal or charring residue on any of the shells to suggest that they may have been heat treated (cooked) for consumption;
- There was also an absence of other cultural remains such as stone artefacts or bone implements that may have been used as an aid for food processing activities; and
- The overall condition of the site was assessed to be in very poor condition with the majority of shells fragmented and exhibited signs of erosion and disturbance.

Given that the shells were located in the industrial zone, the landscape had been modified and exposed to everyday disturbances such as roadside littering and sediment movement, which made it difficult to scientifically classify the shells as a possible shell midden site.

Summary of issue: The assessment does not take into consideration the flora resources of the area

Sections 3.4 and 5.2 of the Cultural heritage Impact Assessment provides information on the types of flora, fauna and useful plants that would have likely been available to Aboriginal People in the past for their utilisation.

Summary of issue: Potential exists for undetected Aboriginal heritage sites to exist within the proposed disturbance areas due to lack of adequate visibility during field surveys.

The proposed disturbance assessment areas for the Project were surveyed in accordance with best practice guidelines for survey reporting. The survey methodology aimed to provide adequate coverage of the disturbance assessment areas, sample coverage of all landforms, areas of exposure, as well as, vegetated areas.

With regards to the disturbance area for the Newstan Colliery Coal Handling Infrastructure, due to previous disturbance activities occurring within this area, the trees were all relatively juvenile and were not deemed to be suitable candidates for scarring/carving. Less than ten trees within this area were old enough for potential cultural usage. These trees were thoroughly inspected for evidence of bark removal and/or modification. No scarred/carved trees were identified and no sandstone escarpments were identified in this survey unit. With regards to the disturbance area for the Hawkmount Quarry Reject Emplacement Area, exposure was relatively high as a result of previous intense modification and disturbance.

It is considered that suitable coverage during surveys of the proposed disturbance areas was achieved however it is recognised that potential exists for unidentified sites to still be present within the disturbance areas. As such, Centennial Newstan has committed to cease any surface works in the vicinity of any Aboriginal heritage sites that may uncovered during future surface disturbance works.

Conclusion

Representatives of the Project team would be happy to meet with you to discuss the matters raised in your submission in more detail. If you would like to participate in a meeting please contact me on 0407 207 530 to arrange a suitable time.

Yours sincerely

NORTHERN COAL SERVICES PTY LTD

A handwritten signature in black ink, appearing to read 'James Wearne', is written over the printed name.

James Wearne
Environment and Community Coordinator (Projects)



30 January 2013

James Wearne
Centennial Coal Company
PO Box 1000
Toronto NSW 2283

Dear James,

Re: Review and Response Regarding the Coal Logistics Project - Draft Heritage Impact Assessment

We have reviewed the Draft Heritage Impact Assessment Regarding the Coal Logistics Project document supplied to us by Centennial Coal Company, and recognise the evaluation by RPS appears to be reasonably comprehensive

Our comments Regarding the contents of the Draft Heritage Impact Assessment are as follows:

The Coal Logistics Project -Draft Heritage Impact Assessment will be henceforth be referred to as the '**Draft Report**'.

Important note: We believe that the reference regarding the subsequent finalised ACHMP on page 16 of the **Draft Report** is incorrect, as we are of the understanding that it would be a miracle for the Department of Planning and Infrastructure to approve an ACHMP that they had received within the same month of November 2012. Therefore we believe that this statement may need further clarification.

With regard to the RPS Coal Log1 - AHIMS 45-7-0324, we believe that the 'single Aboriginal site' or 'Scared Tree' has been incorrectly identified and recorded. We are concerned that within Section 6.3 on page 35 of the Draft Report it states that;

'...the scarred tree had not been assessed as being particularly old,...'

The analysis that the tree was a scarred tree being of Aboriginal origin was entirely identified and recorded by the RPS representative archaeologist, and that the Aboriginal Stakeholders present for the field survey were not in agreement with the recorded conclusion.

It was the belief of the Aboriginal Stakeholders present , that the tree was not of mature age, and in addition, that the scar was not of Aboriginal origin and/or Cultural in nature. This is evident by the photos shown on pages 47, 48 and within Appendix 2, which shows a tree that does not seem to be characteristically aged and/or of Aboriginal origin.

We are greatly concerned to notice that within 'Appendix 2 AHIMS Search and Site Card' on the page headed the 'NPWS Feature Recording Table - Modified Tree', that the last column describes Axe Marks as 'stone'. And therefore are greatly concerned and ask how was this conclusion determined, when there is no sign of axe markings within the observable scar to verify that the axe marks were indeed made by a 'Stone Axe'.

Therefore we believe that an independent expert is urgently required, who is skillful in distinguishing historical Aboriginal scars and the age of trees, for the purpose to review the information and evaluate the tree, to determine the validity of the site being recorded as an Aboriginal Scarred tree/site before it appears on the OEH AHIMS Database.

At this juncture we are concerned that Section 7.1 on page 37 of the **Draft Report** is not adhering to the statements which say that;

'The Aboriginal significance and cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system', and

'As cultural significance is a criterion that only Aboriginal people can assess, a detailed appraisal of cultural significance for the single Aboriginal heritage site within the Project Application Area has not been included as part of this study', and

'RPS does acknowledge that the Traditional Owners who participated in this study (section 2) have a responsibility to their People to provide the utmost in protection for the Aboriginal culture and heritage of their country.'

Therefore we believe that we have not been given the opportunity to allow us to evaluate the Cultural Significance of the site known as the 'RPS COAL LOG 1-AHIMS 45-7-0324'

We are also greatly concerned that a shell deposit was not recorded during the assessment, which the Traditional Owners who participated in this study had specifically asked to be recorded, as the shell deposit was in close proximity to other known sites that also contained a shell deposit and a Silcrete Artefact (isolated find).

From our perspective we have only been given the opportunity to provide feedback on what the archaeologists have determined to be and/or not to be Aboriginal sites, and the Cultural sites that we thought had been indeed recorded for the OEH AHIMS Database, have been omitted by the Archaeologist without consultation with the Registered Stakeholders.

Important note: On the basis that the purpose of an Aboriginal Assessment is for recording and determining Aboriginal sites by us as Registered Stakeholders and Cultural Knowledge holders within the Coal Logistics Project area, then why have Registered Stakeholders and

Cultural Knowledge holders attend an Aboriginal Assessment if '*at the end of the day*' archaeologists are determining what is and isn't Aboriginal sites.

We are also concerned that although the Study Area with AHIMS within Figure 3 on page 36 of the **Draft Report**, shows that there are numerous sites situated along the proposed route and development area, and although there was a lack of ground visibility in the areas of assessment, it should not be assumed that there would be no other sites within this area.

Therefore we believe that the **Draft Report** has not taken into consideration the potential of additional cultural material that may be present, and believe that this consideration needs to be added to the proposed Recommendations, that during any initial ground disturbing works, the Aboriginal Stakeholders would monitor/observe and collect any artefacts that may be disturbed during the construction phase and/or proposed clearing and excavation works of the proposed development.

We strongly assert that the process to date have not been adequate nor undertaken in a way in which we are able to fully contribute against the required assessment processes i.e. we have not been able to inform and consider various facets of Aboriginal cultural heritage including (but not limited to):

1. Our spiritual and social association with the area
2. Historical associations and information passed down through our families
3. Flora and Fauna and ecosystem considerations
4. Spatial ethnography and use of the land and ecosystems over time; and
5. Cultural interpretation of the scientific or archaeological evidence to inform the Aboriginal cultural heritage assessment

It instead provides a '*limited amount*' of historical referencing and interpretation of our people, our sacred places and stories and our cultural landscape features and of our societal lores that shape our contemporary identities. It focuses on a dominated and purely scientific, archaeological perspective based on individual impact assumptions and is devoid of the consideration of cumulative impact and landscape impacts from a cultural context.

We believe that the process regarding Aboriginal consultation needs vast improving to provide an informative outline in the early stages of a proposed project. This can be achieved by meeting with the Registered Aboriginal parties to inform and discuss any concerns regarding the proposed project to ensure compliance with the Burra Charter and OEH guidelines requirements concerning the project assessment and consultation process.

The objective of community consultation is to ensure that Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal object(s) and/or place(s)
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal object(s) and/or place(s) within the proposed project area

- Commenting on Draft assessment reports before they are submitted by the proponent to OEH

To date we cannot see how the Burra Charter nor the consultation guidelines are adequately demonstrated **against all the required criteria** nor how the report details how consultation has been used to assist in the assessment process. Integral to the development of any Aboriginal Cultural Heritage Assessment Report should be the principles of the Burra Charter (Australian ICOMOS 1999).

With regard to the Conclusion and Recommendations within Section 9.0 on page 42 of the **Draft Report**, we disagree with the proposed Recommendations.

Re: Comments Regarding the Conclusion and Recommendations are as follows:

We believe that the proposed Conclusion and Recommendations will need further information and clarification, as the consultation process did not include Aboriginal Sites that the Aboriginal Stakeholders thought had been indeed recorded for the OEH AHIMS Database, which have been omitted by the Archaeologist without consultation with the Registered Stakeholders.

Recommendation 1 - We believe that the 'single Aboriginal site' or 'Scared Tree' has been incorrectly identified and recorded. Therefore we believe that an independent expert is urgently required, who is skillful in distinguishing historical Aboriginal scars and the age of trees, for the purpose to review the information and evaluate the tree, to determine the validity of the site being recorded as an Aboriginal Scarred tree/site before it appears on the OEH AHIMS Database.

Recommendation 2 - We had encouraged and hoped that the Coal Logistics Project Heritage Impact Assessment and ACHMP would have been modeled on an existing Report and ACHMP (to be used to Centennials advantage), that has been incorporated by another Mining Group which is within close proximity and contains cultural related sites, hence as a result to-date, is regarded as unsurpassed.

Recommendation 3 - We believe that the reference to '*Historical material*' is unclear, as this recommendation does not specify if the Historical material is Aboriginal and/or non Aboriginal. Therefore the reference to Historical consultant may also need further clarification.

Recommendation 4 - We believe that this recommendation does not specify what and how this recommendation will be implemented and/or achieved. Therefore we highly recommend that Centennial undertake the development of a culturally appropriate Cultural Heritage Awareness Training Package to be included in the induction process, either through an Oral and/or PowerPoint presentation for all relevant Centennial employers and contractors.

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

Recommendation 5 - We believe that this recommendation has been repeated and therefore should be removed.

Recommendation 6 - We believe that this section will need further clarification to the section that reads; *'suitable qualified archaeologist and representatives of the local Aboriginal community stakeholders'*, and highly recommend that it should read; *'in consultation between Centennial, a suitable qualified archaeologist and representatives of the Registered stakeholders'*.

We believe that the proposed Recommendations are an ad hoc approach which limits the intention of the implementation to protect and to provide best practice in the enactment of the Cultural Heritage aspects within the Coal Logistics Project area.

It is with great disappointment that we have no other cause of action than to respond in the strongest forms possible for the protection of our Cultural Heritage, which is the very essence of who we are as Awabakal Peoples.

At this juncture the Coal Logistics Project Draft Heritage Impact Assessment Report clearly shows that the proposed document needs further editing, clarification and information before a finalized Report is accepted, as we consider that the Draft Heritage Impact Assessment is unsatisfactory in its current form.

We will be confirming directly with OEHL in relation to this matter given the high levels of distress and concern that the Draft Heritage Impact Assessment Report is causing us and the long term intergenerational adverse impacts will have on our families and our culture.

In the spirit of a greater understanding of Aboriginal Culture and Heritage,

Yours sincerely,



Kerrie Brauer
Director | Administration



16 August 2013

Ms K. Brauer
Awabakal Traditional Owners Aboriginal Corporation
PO Box 253
Jesmond NSW 2299

Dear Ms Brauer

Re: Northern Coal Logistics Project – Cultural Heritage Impact Assessment

Thank you for your submission dated 30 January 2013 on the draft Cultural Heritage Impact Assessment for the Northern Coal Logistics Project. Where appropriate, the Cultural Heritage Impact Assessment has been updated to take into consideration the feedback received from the registered Aboriginal Parties and will be incorporated into the Environmental Impact Statement currently being finalised for submission to the NSW Department of Planning and Infrastructure. A response to the issues raised in your submission is provided below.

Summary of issue: Reference regarding the subsequent finalised Northern Holdings Aboriginal Cultural Heritage Management Plan on page 16 of the Draft Report is incorrect as it is understood that the Plan could not have been finalised in such timeframes.

The Northern Holdings Aboriginal Cultural Heritage Management Plan was submitted to the NSW Department of Planning and Infrastructure on 15 November 2012. A letter from the NSW Department of Planning and Infrastructure was subsequently received on 26 November 2012 approving the Northern Holdings Aboriginal Cultural Heritage Management Plan and acknowledging the Plan addresses all specific requirements of the relevant development consents or project approvals in relation to the management of Aboriginal cultural heritage at the Newstan, Awaba, Myuna, Mannering and Mandalong mines.

Summary of issue: Incorrect recording of 'scarred tree' (# 45-7-0324). The tree recoded as # 45-7-0324 is considered not a Cultural scar tree due to the immature age of the tree being a limiting factor in exhibiting an 'Aboriginal scar'.

Although # 45-7-0324 has not been assessed as a very old tree, the age of the tree was of substantial maturity for bark removal. It cannot be assumed that the antiquity of a scarred tree must be of extreme maturity before bark removal is undertaken given that the attributes of the scar indicate that bark was removed intentionally. The scarred portion of the tree is very symmetrical in shape and the exposed section of the scar exhibiting a dry face. The proximity of the site to a natural water course is an indication that the area would have been visited by past hunter-gatherer groups. The overgrowth around the scarred portion of the tree is of substantial thickness and age to indicate that the scarring occurred in the distance past. The amount of overgrowth is also distinctive from the surrounding bark which indicates that the tree attempted to seal the damaged after trauma was caused from bark removal. No issues were raised by the Registered Aboriginal Parties in attendance on the field survey regarding the recording of this tree as an Aboriginal heritage site.

Summary of issue: How was it concluded that axe marks, as is detailed in the features of the AHIMS site card, were that from a stone axe.

A close inspection of the scarred portion of the tree failed to identify clean and clear markings associated with using more contemporary tools such as metal axes for bark removal. Based on deductive knowledge, the only plausible instrument used in the process of bark removal would have been a stone implement.

Summary of issue: The cultural significance of the site has not been taken into consideration.

During the preparation of the Cultural Heritage Impact Assessment for the Northern Coal Logistics Project, all Registered Aboriginal Parties were invited to provide a statement on the cultural significance of the area for inclusion in the report. All statements received can be found under the *Aboriginal Statement of Significance* section, prior to the *Executive Summary* of the report.

The Aboriginal stakeholder(s) participating in the survey were provided opportunities to provide information on the cultural significance of the survey area and about the significance of Aboriginal sites and/or areas of archaeological sensitivity. No feedback from the Registered Aboriginal Parties in attendance of the survey was provided prior to or during the survey regarding the cultural significance of the survey area or the cultural significance of the recorded scarred tree (# 45-7-0324).

It is acknowledged in Section 7.1 of the Cultural Heritage Impact Assessment that the cultural significance and Aboriginal cultural views of sites can only be determined by the Aboriginal community using their own knowledge of the sites and their own value system. Following feedback from the Registered Aboriginal Parties on the draft Cultural Heritage Impact Assessment that it was considered the tree had not been modified by Aboriginal people, Section 7.1 of the Cultural Heritage Impact Assessment has been updated to reflect the little to no cultural significance that this site has.

Summary of issue: Sites identified during field surveys at a proposed disturbance area adjacent to the Industrial area at Rathmines (Corner of Dorrington Road and Wangi Road) were not recorded.

The surveys of the proposed disturbance area adjacent to the Rathmines industrial estate is not associated with the Northern Coal Logistics Project however is part of the Newstan Extension of Mining Project which is the subject of a separate Development Application and associated Cultural Heritage Impact Assessment. It is noted that a number of *Anadara* spp. shells were identified on the side of a modified terrace in close proximity to this survey unit. The area was inspected thoroughly to determine if the shells were from a shell midden. Based on the analysis, it was determined that the shells were not associated with a shell midden due to the fact:

- The density of shells was very low and widely dispersed along the modified terrace;
- There was no indication that there was selectivity of shell size, which is a typical characteristic of a shell midden. Cultural shell middens tend to contain large shells because past hunter-gatherers would have only exploited the largest bivalves with maximum food content for consumption. In this instance, the shells ranged in size from small (~12 mm diameter) to large (~30 mm);
- There was no evidence of charcoal or charring residue on any of the shells to suggest that they may have been heat treated (cooked) for consumption;
- There was also an absence of other cultural remains such as stone artefacts or bone implements that may have been used as an aid for food processing activities; and

- The overall condition of the site was assessed to be in very poor condition with the majority of shells fragmented and exhibited signs of erosion and disturbance.

Given that the shells were located in the industrial zone, the landscape had been modified and exposed to everyday disturbances such as roadside littering and sediment movement, which made it difficult to scientifically classify the shells as a possible shell midden site.

Summary of issue: Potential exists for undetected Aboriginal heritage sites to exist within the proposed disturbance areas due to lack of adequate visibility during field surveys.

The proposed disturbance assessment areas for the Project were surveyed in accordance with best practice guidelines for survey reporting. The survey methodology aimed to provide adequate coverage of the disturbance assessment areas, sample coverage of all landforms, areas of exposure, as well as, vegetated areas.

With regards to the disturbance area for the Newstan Colliery Coal Handling Infrastructure, due to previous disturbance activities occurring within this area, the trees were all relatively juvenile and were not deemed to be suitable candidates for scarring/carving. Less than ten trees within this area were old enough for potential cultural usage. These trees were thoroughly inspected for evidence of bark removal and/or modification. No scarred/carved trees were identified and no sandstone escarpments were identified in this survey unit. With regards to the disturbance area for the Hawkmount Quarry Reject Emplacement Area, exposure was relatively high as a result of previous intense modification and disturbance.

It is considered that suitable coverage during surveys of the proposed disturbance areas was achieved however it is recognised that potential exists for unidentified sites to still be present within the disturbance areas. As such, Centennial Newstan has committed to cease any surface works in the vicinity of any Aboriginal heritage sites that may be uncovered during future surface disturbance works.

Summary of issue: Inadequate consultation undertaken for the Project with the registered Aboriginal Parties.

Northern Coal Services has conducted consultation with the Aboriginal community for the Northern Coal Logistics Project since 2010. In June 2010, formal consultation processes were initiated in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). As a minimum, these guidelines have been followed throughout the Project.

Northern Coal Services also provided a number of opportunities for the registered Aboriginal Parties to be informed of the progress of the Project throughout the development of the Project through invitations to attend regular Project meetings. These meetings and the attending Registered Aboriginal Parties are detailed in Section 2 of the Cultural Heritage Impact Assessment.

In order to provide an opportunity to the registered Aboriginal Parties to have an input into the cultural significance of the area, registered Aboriginal Parties were invited to provide a Cultural Significance Statement which was incorporated into the Cultural Heritage Assessment and opportunities have been provided for the Registered Aboriginal Parties to provide comment on the draft Cultural heritage Impact Assessment.

The consultation offered for the Project with the registered Aboriginal Parties exceeds the minimum requirements of the Aboriginal Cultural Heritage Consultation Requirements for Proponents and meets the objectives of the Burra Charter.

Summary of issue: Reference to 'historical material' in recommendation 3 is unclear as this recommendation does not specify if the Historical material is Aboriginal and/or non Aboriginal.

The wording of this recommendation has been amended and now reads:

In the event that any European historic cultural heritage material is identified or uncovered during development works, any surface works in the area should cease in the area and a heritage consultant must be contacted to assess the condition of the item. Northern Coal Services must adopt the appropriate mitigation measures, as provided by the heritage consultant, before work may recommence.

Summary of issue: Clarification on how awareness through the induction process will be implemented and/or achieved.

Northern Coal Services has committed to ensure all relevant Centennial employees and contractors are made aware of their statutory obligations for heritage under NSW NPW Act (1974) and the NSW Heritage Act (1977), which can be implemented as a heritage induction.

Northern Coal Services has an existing induction programme with records kept of all staff and contractors who have been inducted. The current induction will be reviewed following approval of the Project to ensure adequate awareness is provided in the induction process of Aboriginal cultural heritage issues.

Conclusion

Representatives of the Project team would be happy to meet with you to discuss the matters raised in your submission in more detail. If you would like to participate in a meeting please contact me on 0407 207 530 to arrange a suitable time.

Yours sincerely
NORTHERN COAL SERVICES PTY LTD



James Wearne
Environment and Community Coordinator (Projects)

Appendix 5

Site Card RPS COAL LOG I (45-7-0324)



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office of
Environment
& Heritage

Office Use Only

Site Number 4 5 - 7 - 0 3 2 4

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title Surname First Name Initials

Organisation

Address

Phone number Fax

☐ Knowledge Holder

Title Surname First Name Initials

Organisation

Address

Phone number Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name R P S C O A L L O G 1

Easting 3 6 1 8 1 5 Northing 6 3 4 3 3 0 9 AGD/GDA GDA

Mapsheet

Zone 56 Location Method Non-Differential GPS

Other Registration

Primary Recorder

Title Surname First Name Initials

M s L o o C H E N G Y E N C Y

Organisation R P S

Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3

Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4

Date recorded 28/05/2012

Office Use
Only

Client on
system

☐

Client on
system

☐

Client on
system

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Open Site

Landform

- ### Landform Unit

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

10 degrees

Land use

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☒ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Water

Distance to permanent water source 20 metres

Distance to temporary water source	20	metres
------------------------------------	----	--------

Name of nearest permanent water source	Unknown
--	---------

Name of nearest temporary water	Unknown
---------------------------------	---------

Directions for Relocation

Current Land Tenure

- | | | |
|-------------------------------------|---------|--|
| ☐ | Public | National Park / other Government Dept. |
| ☒ | Private | |

Primary report

I.D. (I.D. Office Use only)

Site Location Map

A blank 10x10 grid map. The grid is composed of 10 columns and 10 rows of squares. The cardinal directions are labeled at the corners: 'NW' at the top-left, 'NE' at the top-right, 'SW' at the bottom-left, and 'SE' at the bottom-right. Additionally, 'N' is labeled at the top center, 'S' at the bottom center, 'E' on the right side, and 'W' on the left side. A north arrow is located on the right side of the grid, pointing upwards, with the letter 'N' above it.

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Open Site

Site Orientation

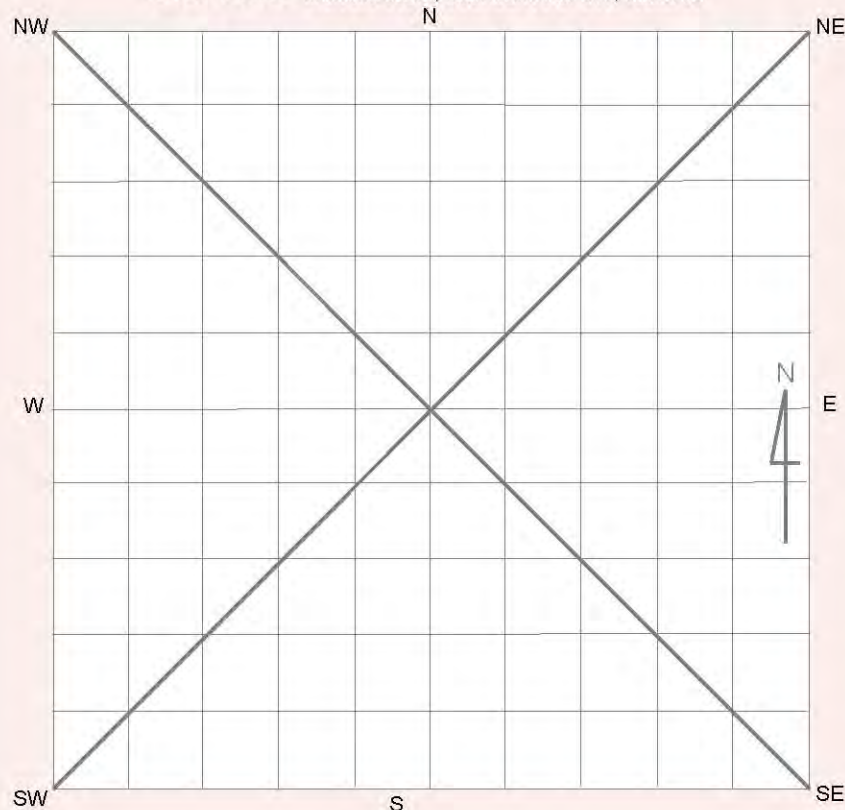
- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☐ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☒ 19. Modified Tree
☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- Total length of visible site
 Average width of visible site
 Estimated area of visible site
 Length of assessed site area

Preliminary Site Assessment

This scarred tree was located in Coal Logistic Area A surveyed on the 28th May 2012 by RPS Archaeologist and representatives of the ADTOAC and ATOAC. The scarred tree was located in an open woodland forest area surrounded by a sparse distribution of seasonal grass and leaf litter. The scarred portion of the tree is situated relatively low near the base 49 cm off the ground. The scar is very symmetrical and oval shaped. Although the scarred tree has not been assessed as being particularly old, the age of the scar would suggest a degree of maturity. The scarred tree is in a healthy condition and is firmly affixed to the ground. No evidence of disease was noted.

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Attachments (No.)

Circumstance	Percentage of respondents (%)
Self-defense	85
To protect others	75
To prevent a crime	65
To punish someone	55
To maintain order	45

A4 location map

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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B/W photographs

Colour photographs

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Slides



Aerial photographs

Year	Percentage of Respondents (%)
1997	65
1998	75
1999	70
2000	85
2001	90
2002	95
2003	100
2004	100

Site plans, drawings

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Recording tables

☒

Other

[illegible]Feature inserts-No.

Comments

See attached map and photos.

Site I.D. Site Name First recorded date Importance

Aboriginal Information

Recorded? No. of instances Recorded by

Feature description

No. of scars No. of carved panels

Feature Condition

☐ Very good☒ Good☐ Poor

Condition

☒ Weathered☐ Ringbarked☐ Fire damage☐ Vehicle damage☐ Insects/termites☐ Rot☐ Limb fall☐ Stock damageEasting Northing

Recommended Action

☐ Fencing☐ Closure to public☐ Continued inspection☐ Expert assessment☐ Fire hazard reduction☐ Insect removal☐ Meeting with land manager☐ Rubbish removal☐ Signage☐ Tree health assessment☐ Track closure/re-routing☐ Additional recording

Feature environment

(Complete when *feature* environment differs to *site* environment, use attributes from cover card, page 2)

Land form

Land form unit

Slope

Vegetation

Land use

Water

Distance to permanent water source

 metres

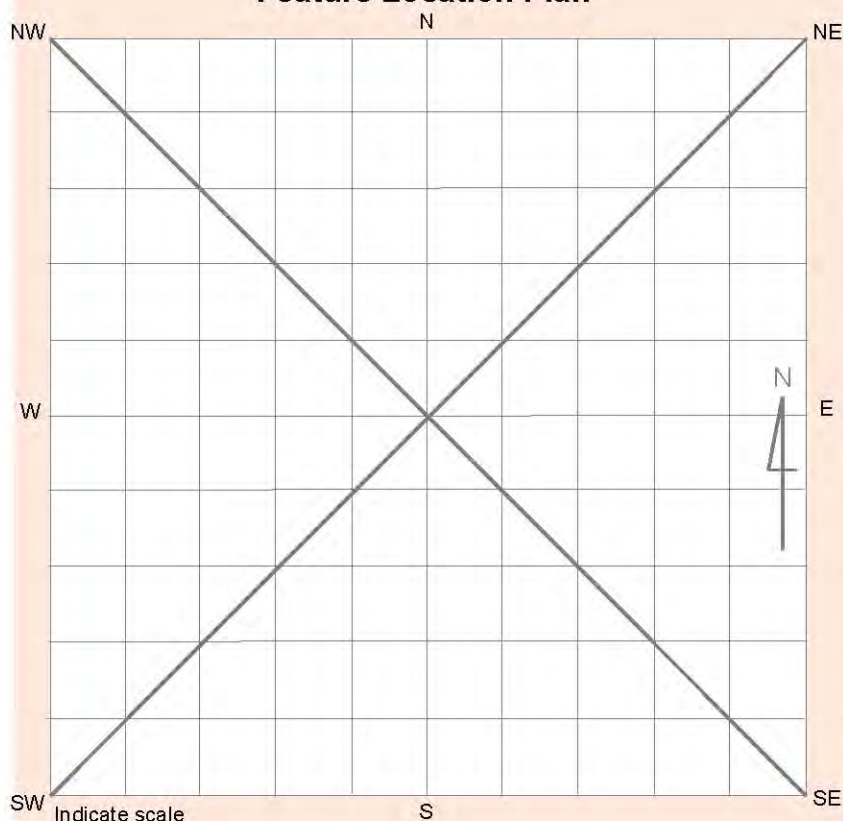
Distance to temporary water source

 metres

Name of nearest permanent water source

Name of nearest temporary water

Feature Location Plan



Scar/Carved Panel Drawing



page 2

Type of Tree	Tree Species	L iving Status	Tree Status	Regrowth	Scar Shape	Carving Type	Axe Marks	Orientation
Carved Tree	Eucalypt	Dead	Standing	Yes	Oval	Linear	Metal	North East
Scarred Tree	Red Gum	Alive	Lying down	No	Rectangular	Geometric	Stone	East
Carved/Scarred Tree	Angotha	Dying	Partially felled		Square	Pictorial	Indeterminate	South East
			Subject to salinity		Round			South
			Not <i>in situ</i>		Other			South West

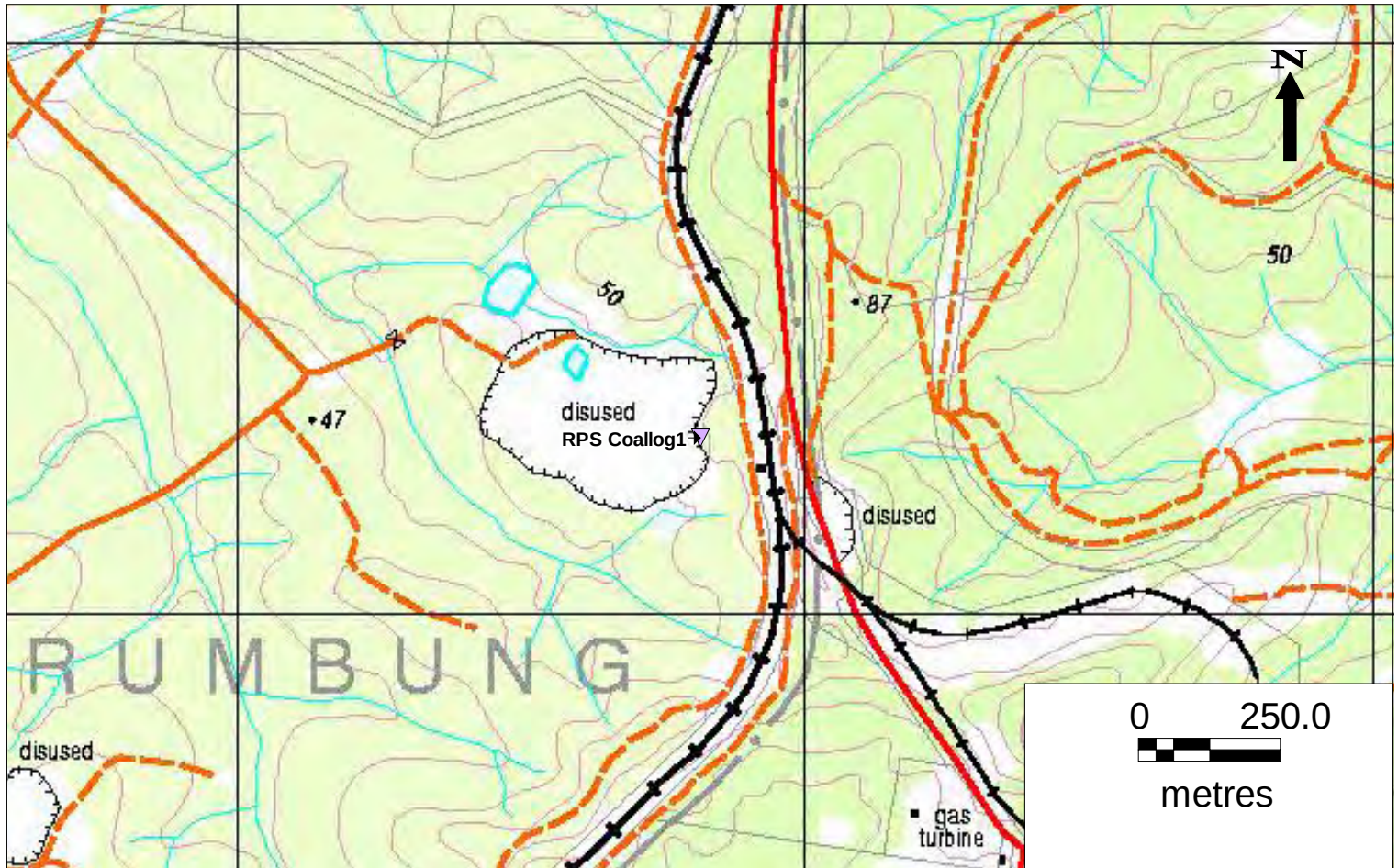


View of RPS COAL LOG 1



View of RPS COAL LOG 1

Site Location Map (Swansea 92314N, 1:25,000)



Site Plan

