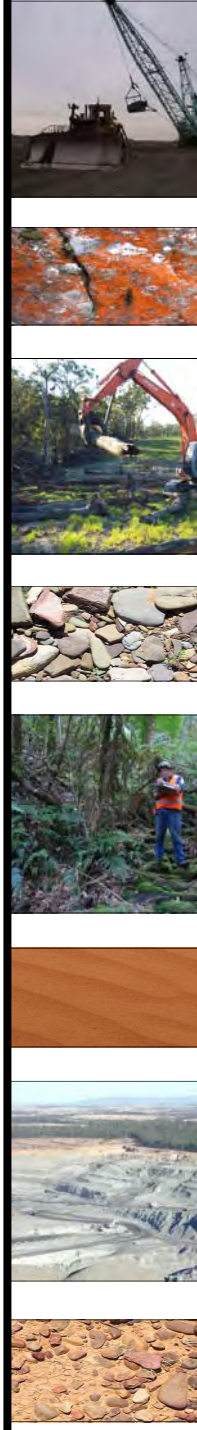
Cultural Heritage Survey and Assessment (RPS 2010b)



APPENDIX O

Cultural Heritage Survey and Assessment

Rocglen Mine Extension Project

Prepared by:

RPS
PO Box 428
Hamilton NSW 2303

T: +61 02 4940 4200
F: +61 02 4961 6794
E: newcastle@rpsgroup.com.au
W: rpsgroup.com.au

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Prepared for:

Whitehaven Coal Limited

c/- GSS Environment

Level 1, 241 Denison Street
Broadmeadow NSW 2292

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Disclaimer

Executive Summary

RPS was engaged by Whitehaven Coal Limited (Whitehaven) to undertake a Cultural Heritage Survey and Assessment of both Indigenous and European archaeology to support an application for a new Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the proposed expansion of the Rocglen open cut coal mine (Rocglen Extension Project). The Project Site is located within the Gunnedah Local Government Area (LGA) and comprises Lot 1 in DP 787417 and Lot 1 and 4 in DP 1120601 and public roads and road reserves.

RPS has followed the schedule for Aboriginal community consultation and archaeological survey methodology outlined in the Aboriginal and Cultural Heritage Management Plan (ACHMP) that was prepared for Whitehaven Coal Mining Pty Ltd in 2008. Aboriginal Community consultation was initiated through the *Interim Community Consultation Requirements for Applicants* (2005) on the 12th January 2010.

Aboriginal stakeholder groups who registered their interest in the Rocglen Coal Mine Project were advised of the archaeological investigation methodology and field date. Red Chief Local Aboriginal Land Council (RCLALC), Bigundi Biame Gunnedarr Traditional People (BBGTP), Gunida Gunyah Aboriginal Corporation (GGAC) and Min Min Aboriginal Corporation (MMAC) participated in the field survey which took place on Tuesday 2nd March 2010.

The Vickery State Forest borders the Project Site to the west, and the Kelvin State Forest is located to the east. All other surrounding land is primarily utilised for traditional agricultural pursuits. The Project Site is situated in a level plain landscape with vegetation comprising dense native grasses, eucalypt trees and in areas shrubby understorey. Although much of the grass cover was thick, exposed soils were still available especially adjacent to fence lines and on dirt access tracks.

The management requirements included in this report (Section 11) provide advice on the necessary actions if disturbance to Aboriginal cultural heritage sites is proposed. Recommendations that address the management requirements of the Project Site are detailed below:

Recommendation 1 – Aboriginal Community Consultation

Liaison established with the registered Aboriginal stakeholders and other interested parties as per the NSW Department of Environment, Climate Change and Water's (DECCW) *Interim Community Consultation Requirements for Applicants* (2004) during this project should be maintained until all issues in relation to the management of Aboriginal cultural heritage have been resolved.

Recommendation 2 – Aboriginal Archaeological Management

Subject to the proposed works associated with the Expanded Northern Emplacement Area, if impact from the development to RPS Rocglen IF1, RPS Rocglen AS1 and RPS Rocglen AS2 is unavoidable, a surface salvage will be undertaken in accordance with Section 3 of the ACHMP (2008). Artefacts salvaged will be transferred to relevant Aboriginal groups under a Care and Control Permit under Section 85A of the *National Parks and Wildlife Act 1974* (NP&W Act).

Recommendation 3 – Aboriginal Archaeological Excavation

Aboriginal sites RPS Rocglen IF1, RPS Rocglen AS1 and RPS Rocglen AS2 were recommended for excavation by Bigundi Biame Traditional People (BBTP). RPS does not recommend excavation for sites RPS Rocglen AS1 and RPS Rocglen AS2 due to their highly disturbed nature (Section 10). In the case of RPS Rocglen IF1 the DECCW may request sub surface excavation in support of BBTP's position. If this is the case the proponent should liaise with the registered Aboriginal stakeholders identified in this report and a suitably qualified archaeologist.

Recommendation 4 – Aboriginal Archaeological Management of Wean Road Scar Trees

Protective measures designed to prevent damage to Btree 1 (NPWS# 20-4-0194) and Btree 2 (NPWS#20-4-0195) should be enacted upon as per recommendations in Appleton (2007:45) and the ACHMP (2008:9). Whitehaven has restricted the proposed mine extension in this area and has committed to ensuring that no disturbance to the scarred trees or immediate surrounds will occur as a result of the Rocglen Extension Project. In short, the trees are not to be disturbed in any way and fencing and signage should be undertaken in consultation with the Aboriginal Community and DECCW.

Recommendation 5 – Drainage line in far north of Project Site

In areas where surface excavation might occur in the future within 25m of the east-west oriented drainage line Whitehaven should follow protocols in Section 4.1 (iii) of the ACHMP (2008).

In general during the course of development works:

Recommendation 6

If it is suspected Aboriginal cultural heritage material has been encountered, work should cease immediately in that locale. The DECCW, along with RCLALC, BBGTP, GGAC and MMAC, should be notified. Works should only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.

Recommendation 7

In the event that skeletal remains are uncovered whilst operations are underway, work is to stop in the vicinity immediately and the NSW Coroner's Office and NSW Police contacted. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community and the DECCW are to be consulted.

European Heritage

No European cultural heritage sites were located during the survey of the Project Site. During the course of any construction work the following recommendation should be considered.

Recommendation 8

If, during the course of clearing works, significant European cultural heritage material is uncovered, work should cease in that area immediately. An archaeologist should be contacted to assess the significance of the remains and works are only to recommence when an appropriate and approved management strategy is instigated.

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1 Introduction

RPS was engaged by Whitehaven Coal Limited (Whitehaven) to undertake Aboriginal and European archaeological works for a new application to expand existing operations at the Rocglen Coal Mine (Rocglen Extension Project) under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Rocglen Coal Mine (formally known as Belmont Coal Project) was originally approved by the Minister on the 15 April 2008 under Project Approval (PA) 06_0198. It was classified as a Major Project in accordance with the *State Environmental Planning Policy (Major Projects) 2005* and, subsequently, was determined under Part 3A of the EP&A Act.

Coal production at Rocglen commenced in late 2008. Following further drilling and definition of the local geological features, as well as additional reviews of the mine plan, Whitehaven now propose to expand operations at Rocglen in order to maximise coal recovery and allow for improved mine progression. This includes, but is not limited to an expansion of the open cut pit and the provision of additional out-of-pit emplacement space and volume by expanding the Northern Emplacement Area.

1.1 The Project Site

The Project Site comprises approximately 460 ha in the Gunnedah Local Government Area (LGA) and encompasses Lot 1 in DP 787417 and Lot 1 and 4 in DP 1120601 and public roads and road reserves. The site is located approximately 25 km north of Gunnedah and 23 km south east of Boggabri in the Gunnedah Coalfields of NSW.

The Vickery State Forest borders the Project Site to the west, and the Kelvin State Forest is located to the east. All other surrounding land is primarily utilised for traditional agricultural pursuits.

The location of the Project Site can be found in Figure 1-1.

1.2 Background

Whitehaven will lodge a Part 3A application for the proposed mine expansion at Rocglen. The primary components of the Rocglen Extension Project include, but are not limited to, expansion of the open cut pit and provision of additional out-of-pit emplacement area and volume. It may also be necessary to relocate or demolish the existing “Glenroc” residence to cater for the expansion.

In 2008 an Aboriginal and Cultural Heritage Management Plan (ACHMP) was prepared for Whitehaven Coal Mining Pty Ltd. The ACHMP sets out methods for consultation with the Aboriginal community and methods for monitoring and recording sites. RPS Newcastle has adopted the schedule for Aboriginal community consultation and archaeological survey methodology outlined in the ACHMP, in association with DECCW Pt 3A Guidelines

of the EP&A Act (1979) in order to produce this Cultural Heritage Survey and Assessment for Rocglen Coal Mine. It should also be noted that an extensive archaeological survey was undertaken by John Appleton of Archaeological Surveys and Reports Pty Ltd and the Aboriginal community in 2007 over much of the same ground as the current Project Site occupies. As such the current RPS 2010 survey specifically targeted areas not covered in the 2007 work, however spot checks were made of sites identified during the 2007 survey including the scar trees identified as Btree 1 and Btree 2 on Wean Road.

TITLE: FIGURE 1-1 SITE LOCATION

LOCATION: ROCGLEN MINE

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

DATE: 7/4/2010
PURPOSE: ARCHAEOLOGICAL

26230\DRAFT\ARCH WORK\FIG 1-1SITE LAYOUT REF: LOCATION A A4
VERSION (PLAN BY)A (A.P-P.S)

CLIENT: WHITEHAVEN COAL LIMITED
JOB REF: 26230

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

1.3 Legislative Context

It is incumbent on any land manager to adhere to legislative requirements that protect both Aboriginal cultural heritage and European cultural heritage in NSW. A brief overview of relevant NSW legislation is listed below with a more detailed explanation of legislation governing Aboriginal and Historical heritage provided in Appendix 1.

1.3.1 National Parks and Wildlife Act 1974

The primary state legislation relating to cultural heritage is the *National Parks and Wildlife Act 1974* (NP&W Act, as amended). The legislation is overseen by the NSW Department of Environment, Climate Change and Water (DECCW), and specifically the Director-General of the DECCW.

There are three main sections of the NP&W Act that the proponent should consider during works within the mine lease(s). These include (but are not limited to) the following:

It is an offence under Part 6 of the NP&W Act for any person/company to:

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

In 2005, the DECCW released the *Interim Community Consultation Requirements for Applicants* (ICCR) which guide Aboriginal community notification and consultation procedures for sites that require applications under Section 87 and Section 90 of the NP&W Act. The consultation requirements are outlined in detail in Appendix 1.

Under Part 3A of the EP&A Act, the requirements to obtain a Section 90 Permit for a site or Section 87 Permit for conservation/research are not required.

1.3.2 Heritage Act 1977

Historical archaeological relics are afforded protection under the Heritage Act 1977 (as amended 1999). As well as buildings and structures, archaeological deposits and features are protected under the relic's provisions of the Heritage Act 1977. Under the Act, a 'relic' is defined as:

"Any deposit, object or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, and which is fifty or more years old"

If relics are discovered, uncovered or moved during works, then they must be assessed by a qualified archaeologist.

1.3.3 Environmental Planning & Assessment Act 1979

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

Part 3A of the EP&A Act relates to Major Projects, and if applicable, obviates the need to conform to other specific legislation. In particular, Section 75U of the EP&A Act explicitly removes the need to apply for a Section 87 or Section 90 permit under the NP&W Act. This means that although Aboriginal cultural heritage is considered during the planning process, a permit is not required to disturb or destroy an Aboriginal object or place. However, the Director-General of Planning must nonetheless consult with other government agencies, such as DECCW prior to any decision being made.

1.4 Scope of Assessment

This cultural heritage report has incorporated an environmental and archaeological regional context assessment, detailed literature review of previous archaeological and historical studies relevant to the Project Site, a search of the DECCW Aboriginal Heritage Information Management System (AHIMS) database, mapping and a field survey of the site. The objective was to determine through a desktop review if there was likelihood for Aboriginal and European historic sites to occur and through field survey to test that premise.

This archaeological report for Aboriginal cultural heritage impact assessment is written in accordance with the NP&W Act and meets all of the requirements of the NPWS survey and assessment writing guidelines (1997). A review of the documentary evidence includes a search of the DECCW's AHIMS database (Appendix 2).

In terms of European heritage, the report was written in accordance with guidelines detailed in the NSW Heritage Manual (1994) issued by NSW Heritage Branch.

In August 2007 Whitehaven engaged Archaeological Surveys and Reports Pty Ltd (ASR) to conduct an assessment of the potential impact of the original Rocglen Coal Mine development proposal (then known as Belmont Coal Project) on Aboriginal heritage to meet the then Director-General's requirements for the project. The extensive archaeological field survey undertaken with members of the Red Chief Local Aboriginal Land Council covered predominantly common ground to this current survey by RPS except for some of the area proposed to be disturbed by the expanded Northern Emplacement Area. Archaeological surveys are considered as being current for up to five years by the DECCW. As such, the RPS methodology for archaeological ground survey focussed on those areas not already covered by ASR two and a half years earlier.

In addition, an Aboriginal and Cultural Heritage Management Plan (ACHMP) was developed as part of the original approval process. This ACHMP was developed based upon the 2007 ASR survey findings, with relevant consultation under the Interim Community Consultation Guidelines (ICCG) undertaken with Aboriginal Groups. This

ACHMP covers the whole of the 2007 project boundary and approximately 90% of the current Rocglen Extension Project Site. Since that time, the sites identified as B1, B2 and B3 have been salvaged under the 2008 Part 3A approval (PA 06_0198).

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

1.5 Aboriginal Community Consultation

RPS has followed the schedule for Aboriginal community consultation and archaeological survey methodology outlined in the Aboriginal and Cultural Heritage Management Plan (ACHMP) that was prepared for Whitehaven Coal Mining Pty Ltd in 2008. Aboriginal Community consultation was initiated through the Interim Community Consultation Requirements for Applicants (2005) on the 12th January 2010.

Letters in accordance with the ICCR (2005) were mailed out to the Aboriginal Community Stakeholders identified by the ICCR process on the 3rd February 2010.
An advertisement was placed in the Namoi Valley Independent on Tuesday 2nd February 2010.

Aboriginal stakeholder groups registered in the Gunnedah LGA were advised of the survey. Red Chief Local Aboriginal Land Council (RCLALC), Bigundi Biame Gunnedarr Traditional People (BBGTP), Gunida Gunyah Aboriginal Corporation (GGAC) and Min Min Aboriginal Corporation (MMAC) responded. These registered Aboriginal stakeholder groups participated in the survey which took place on Tuesday 2nd March 2010.

A copy of this report will be sent to all respondents for comment.

The Consultation Log can be found in Appendix 3.

1.6 Limitations

The desktop review was limited to all available documents with regard to the Project Site. The field based survey covered all landform types occurring in the Project Site with existing tracks and ground exposures providing good visibility. Away from these tracks and exposed areas, ground surface visibility could be considered as low to nil with dense ground cover of grass, weeds and shrubby understorey in some areas. Outbuildings associated with the “Glenroc” residence included hay and stock sheds. These areas generally had exposed dirt floors and were investigated as part of this assessment.

This RPS report was written by Philippa Sokol with assistance from Anna Nardis, Laraine Nelson and was reviewed by Darrell Rigby and Tessa Boer-Mah, all of RPS.

1.7 Acknowledgements

RPS would like to acknowledge the following people who assisted in the Cultural Heritage Survey and Assessment.

Name	Company
Peter Beale	Sites Officer, Red Chief Local Aboriginal Land Council
Gary Griffiths	Sites Officer, Bigundi Biame Gunnedarr Traditional People
Tara Cunningham	Sites Officer, Gunida Gunyah Aboriginal Corporation
Ron Griffen	Sites Officer, Min Min Aboriginal Corporation
Chris Thomas	Whitehaven Coal Limited, Environmental Officer

1.8 Abbreviations

Abbreviation	Definition
ACS	Aboriginal Community Stakeholders
AHIMS	Aboriginal Heritage Information Management System
BBGTP	Bigundi Biame Gunnedarr Traditional People
DECCW	Department of Environment, Climate Change and Water
GGAC	Gunida Gunyah Aboriginal Corporation
LEP	Local Environment Plan
LGA	Local Government Authority
MMAC	Min Min Aboriginal Corporation
NPWS	NSW National Parks and Wildlife Service
NSC	Narrabri Shire Council
PAD	Potential Archaeological Deposit
RCLALC	Red Chief Local Aboriginal Land Council
ASR	Archaeological Surveys and Reports P/L

2 Environmental Context

The environmental context of an area is researched by archaeologists in order to obtain data relevant to the regional area and the specific Project Site. Environmental factors assessed include local geology and soils, topography, hydrology, climatic conditions, and the availability of flora and fauna resources. This information is then utilised to predict what the past local environment was like. Interactions between people and their environment are important in predicting the formation of the archaeological record and its preservation.

2.1 Geology and Soils

The Project Site is located in the northern half of the Gunnedah Coal Basin, which occurs in the eastern half of the Gunnedah Basin, and extends from just north of Narrabri south eastwards to Murrurundi.

The New England fold belt in the northeast of the state is composed of sedimentary rocks of Carboniferous and Permian age that were extensively faulted during a period of rapid continental plate movement associated with granite intrusions in the late Carboniferous. Much of the bedrock is now overlain by Tertiary basalt flows rarely exceeding 100m in thickness that lie on river gravels and sands or on lake sediments.

The geology has a strong influence on topography. The eastern edge of the bioregion is at the Great Escarpment where coastal streams have cut deep gorges below the plateau. The granite country is steep with abundant boulder outcrops and rounded tors. The basalt country is more planar, except around former eruption centres that form high peaks and the individual basalt flows are seen as distinct levels across the plains.

The basalts disrupted former drainage patterns and today the pre-basalt topography has been inverted with former valley floors, becoming ridge crests and hills. Large swamps and lagoons such as Llangothlin were partly created by these topographic changes.

During the Quaternary, colder climates had a major impact on vegetation patterns and allowed the formation of wind-blown lunettes on the eastern margins of the lagoons. Sediment in the lagoon floor preserves a pollen record of these changes.

Siliceous sands derived from granites are found among rock outcrops. Red earths and mellow texture contrast soils of relatively low fertility and poor structure are widespread across the bioregion and are prone to erosion. Soils with increased organic matter occur in swampy sedge lands in valleys. These soils support a variety of open forests and woodlands.

In basalt areas, shallow stony loams are found on steep areas and deep, red brown and brown to black, fertile, well-structured loams are found on flatter slopes. Soils are

sometimes waterlogged in valley floors. Siliceous sands and red earths occur on associated Tertiary sands and gravels.

Harsh texture contrast soils in the bioregion derived from Permian sedimentary rocks are generally yellow, thinner and stonier on steep slopes. Some areas of slightly saline soils also occur.

The soil landscape is generally undulating low hills and level plains of black cracking clays. This clay is associated with Tertiary basalt or alluvium derived from Tertiary basalt. Associated soils include red structured earths, brown and red cracking clays and red – brown earths (Charman & Murphy, 1991: 131-132).

2.2 Topography and Hydrology

The Brigalow Belt South Bioregion is a stepped plateau of hills and plains with elevations between 600 and 1500m on Permian sedimentary rocks, intrusive granites and extensive Tertiary basalts. Rainfall, temperature and soils change with topography and bedrock, and the vegetation is very diverse with a high degree of endemism (DECCW 2008)

The topography of the Rocglen Project Site consists of a lower sloped landscape, low lying areas subject to periodic water ponding and deposition of alluvium. The Project Site is situated in a low lying area of redeposited valley depression, with the Kelvin State Forest located to the east and the Vickery State Forest and Bull Mountain bordering the site to the west. Limitations to the Rocglen Project Site consist of seasonal water ponding across low lying landforms (Boggabri Topographic Map Sheet: 1:100,000).

The Project Site includes a first order stream of Driggle Draggle Creek beginning in the northern part of the Project Site and draining the area in a north west direction. Driggle Draggle Creek flows into the Namoi River via Barbers Lagoon watercourse, which is located approximately 14 km from the Project Site. Local water resource zones would have been capable of supporting sporadic occupation of the area. Aboriginal use of the country was probably restricted to periods immediately following rain when there was an abundance of surface water (DECCW 2008). Rain would have stimulated local vegetation growth, and helped to increase the variety and numbers of other potential food resources such as macropods, birds and insects that become attracted to the area by the revitalised vegetation.

The topography and hydrology suggest that the local environment would have been favourable to past Aboriginal occupation with the potential to traverse between resource-rich zones. Freshwater would have been readily available from the nearby Driggle Draggle Creek, Namoi River system and associated tributaries. Such local features would have provided for a diverse local habitat providing a variety of food and other exploitable resources.

2.3 Climate

Approximately 18,000 years ago climatic conditions began to change affecting the movement and behaviour of past human populations in their environments. During this time, notably at the start of the Holocene (11,477 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, which is similar to the temperature currently experienced. Consequently, the climate in the locality of the Project Site for the past 1,000 years would be much the same as present day providing a year round habitable environment.

The climatic conditions will impact upon the soils, vegetation and the potential occupation of an area. They may also affect the durability of associated cultural materials. The Brigalow Belt South Bioregion lies mainly in the temperate to cool temperate climate zone of NSW, which is characterised by warm summers, with uniform rainfall generally occurring in summer (Bureau of Meteorology, 2010). A warmer, sub-humid climate is present in the north eastern edge of the bioregion on the boundary of the North Coast Bioregion. Patches of montane climate occur at higher elevations, and these are characterised by mild summers and no dry season (Stern et al. 2000). These regional temperatures would be suitable for occupation for the majority of the year, with appropriate shelter required during the cool months and in times of extreme heat.

2.4 Flora and Fauna

In general, the flora landscape in the Project Site and immediate surrounds is comprised of open forest vegetation. Scattered clusters of canopy and shrubby understorey may be present, especially in areas with moisture retention. The following vegetation species can be expected in the location of the Project Site:

- Open crop and pasture land, with portions of land used for cattle grazing and/ or cultivation;
- Canopy vegetation – Narrow-leaved Ironbark, White Cypress, Narrow-leaved Grey Box, Bimble Box, Yellow Box, and White Box Woodland;
- Thick clusters of shrubby understorey; and
- Grassed paddocks which may comprise native grasses and weeds.

Fauna species in the Project Site are expected to be consistent with resources found in inland areas intermittent with rivers and creek lines. A number of faunal species are expected to be observed in the Project Site these include amphibian species in dominant rivers and creek lines, frog species, reptile species of snakes, lizards etc, wombat, kangaroo and wallabies, marsupials such as possums and squirrel gliders and bird species both diurnal and nocturnal.

As a result of the continual impact land clearing, and subsequent revegetation regrowth areas in and surrounding the Project Site; flora and fauna resources that would have been available for foraging in the past have now become limited at this location.

2.5 Condition of the Project Site

The Project Site is situated on a landscape that comprises a level plain. A prominent ridgeline with steep slopes and sheer cliffs lays approximately 3 km to the east, and a second smaller ridgeline lies about 2 km to the west. The Kelvin State Forest lies to the east of the Project Site, and the Vickery State Forest borders the Project Site to the west. The primary site access is via Shannon Harbour Road (from Blue Vale Road), with several secondary site access tracks from the Wean Road. Access into the Project Site for the site survey was via these dirt tracks.

Disturbance to the area was present from existing mining activities, previous long-term farming practices, seasonal water inundation and established service corridors (e.g. electricity easements) and dirt vehicle access tracks. Most of the vegetation comprised open grassed paddocks with few scattered clusters of mature trees. Visibility was generally good, and there are several areas of exposed soil.

“Glenroc” residence is situated in the far north portion of the Project Site. The residence may need to be relocated or demolished to cater for the proposed mine expansion, and on this basis was assessed for European significance. The dwelling assessment incorporated the homestead, fences and associated outbuildings, including agricultural sheds.

2.6 Discussion

At a regional and a local level the environmental climate at Rocglen would have been suitable to have sustained pre contact Aboriginal occupation in the area. The warmer months were most likely spent in the shade of large gum tress or in the surrounding state forest areas, while cooler months would have been spent in sheltered locations found amongst the lower and mid slope areas of local mountainous terrain.

A range of resources including fresh water, fauna, flora and sheltered locations would have been available in the area. Access to raw materials for stone tool manufacture had potential to be sourced from the local area, especially chert and chalcedony. Veined quartz and other pebble sized rocks were also noted in the area, none of which were considered suitable for stone tool manufacture, as much of this raw material was very coarse grained and friable.

3 Aboriginal Prehistory

3.1 Ethnography

The ethnographic information used to interpret the archaeological record is often biased and may be deeply prejudiced particularly in relation to lifestyle, social practices, community interactions, religion and other facets of Aboriginal life (L'Oste-Brown et al 1998). It is important to recognise this possible bias when using early European accounts that describe the lifestyles of Aboriginal people, particularly the interpretation of their daily life and beliefs. Nonetheless, some of these ethnographic records can provide important information and insight on local Aboriginal customs and cultural materials evidenced during the early years of European settlement.

Most of what is known about the local Aborigines of Gunnedah is cited from John Peter Ewing's the "Ewing Papers". "Old Joe" Bungaree, a local Aboriginal elder, was the source of most of the information in the "Ewing Papers" which include several documents explicitly dated to the period 1938-1945 (O'Rourke, 9:2005). These documents describe the local Aboriginal culture, language and life of an important historic figure, "The Red Chief", and the location of his burial site.

Major T.L. Mitchell, the Surveyor–General, wrote a comprehensive record of Aboriginal material and social culture in which he describes the construction of campsites and shelter. Mitchell also notes the various weapons and implements in the toolkits of the Gunnedah Aboriginal community. Another source of information of the Aboriginal community at Gunnedah comes from a convict, George 'the Barber' Clarke. Clarke escaped in 1828, and fled to the Namoi River (O'Rourke, 2005:23). There he was taken in by the local Aborigines at a main camp opposite Boggabri town. Clarke lived with the local Aborigines for almost four years. In his final year with the Aboriginal community Clarke was leading cattle-stealing raids (O'Rourke, 2005:25). There is, however, no direct evidence that the Gunnedah Aborigines joined in these raids.

3.2 The Traditional Owners

The Project Site is located within the boundaries of the land Kamilaroi land, a large tribe that supported many sub groups. They formed a part of a large language group occupying territory extending from as far south as Murrurundi on the Great Dividing Range, to Tamworth, Narrabri, Moree, Boggabilla, Mungindi, Collarenebri, Walgett and Gunnedah into what is now Southern Queensland.

Aboriginal occupation of the area was mainly focused along major rivers and streams including the Namoi River. Aboriginal occupation of the Project Site was mainly focused along the Namoi River and generally radiating outwards from it. The Gunnedah tribe and the Bigundi Biame Traditional Owners occupied these lands, forming a part the Kamilaroi nation (O'Rourke, 2005:11).

Reports by early European explorers and settlers give frequent accounts of mosaic burning to encourage fresh herbage for animals and the stacking of grass seed for future winnowing and harvesting. Extensive trading with neighbours was also observed (Dawson, 1831:198). Weapons and artefacts manufactured from Myall wood being particularly prized from the Hunter Valley and grass tree gum, which was used to fix axe heads, was also widely traded.

Hierarchically the Kamilaroi were ruled by a chief, but, this was not a hereditary position, instead being elected from a Council of sub-tribes who were defined by their hunting grounds (O'Rourke, 2005:25). The society was built on a totemic or caste system which defined very strictly with whom a marriage could be undertaken. The Kamilaroi were regarded as fierce warriors and there is ample evidence in the "Ewing Papers" of intertribal warfare and the kidnapping of women from other tribes.

3.3 Implements for Gathering Food and Weapons

The toolkit of the Kamilaroi Aborigines included a diverse range of implements that ranged from spears for hunting and for war; "woomeras", shields; boomerangs and stone hatchets. The stone axe or hatchet was used as both a weapon and a tool and its handle was flat to enable the axe to be carried under the possum skin belt (Dawson 1831: 202).

Mitchell also describes a varied toolkit being utilised by the Aboriginal people of the region included bark containers for holding water or gathering berries and boomerangs and throwing sticks for hunting along with hatchets used for bark removal. Nets for catching fish and birds and fish traps were also used when gathering food. Clubs or nulla nulla were designed for hand to hand combat and spears that were long wooden throwing sticks may have also been used as weapons.

Women used Yam sticks made of wood which was used as a digging tool. Women also used large and small plaited bags along with needles and grinding mills for gathering food (O'Rourke 2005:105). Large plaited bags described variously throughout the "Ewing Papers" as a 'game-bag' or 'pack' slung across the shoulders (O'Rourke, 2005:105). Small plaited bags, namely the familiar dilly-bag, would contain many useful tools for an Aboriginal woman such as needles of bone; sewing thread of hair; bark; sinews of animals; tying cords of animal hide; flint knives; tinder to dust on her two fire-stick and balls of clay wetted and used to put over a wound (O'Rourke 2005:105).

3.4 Foods and Useful Plants

Various animals and plants are mentioned in the "Ewing Papers". They constitute a general representation of the fauna and flora of the area. Animals that were hunted for food included the Red Kangaroos; common kangaroos such as the Eastern Greys; wallabies; possums; echidnas (O'Rourke, 2005:110). The documents speak of "grilling" wallaby meat, presumably on hot coals, and Ridley (1875) called the possum "the staff of life". The "Ewing Papers" also describe emus; ibises; cranes; pelicans; brolgas and ducks as part of the Aboriginal diet (O'Rourke, 2005:105). It also discusses the cooking of duck

eggs in bark ashes. Other staples included grass-seed 'bread'; larger land mammals; honey; and insect larvae or 'grubs'.

Perhaps the most exploited natural resource, in terms of food were riverine species, as Mitchell describes nets being used to catch both fish and water birds. All this evidence suggests that the river systems of the area played a fundamental role in sustaining the Aboriginal population. Crayfish and freshwater mussels are mentioned in the "Ewing Papers" as part of the riverine diet.

Vegetable foods would also have been collected and eaten as an important part of the diet. Yams, water yams/wild potato, melons, and various other fruits, berries, roots and tubers are recorded as part of the diet witnessed by European observers (O'Rourke 1997:151). Aside from fish and vegetable foodstuffs, there would have been a variety of other food resources of a faunal nature available to past Aboriginal communities.

3.5 Campsites and Shelters

In Mitchell's (1839:77) accounts of his exploration he describes the huts and campsites of the local Aborigines of Gunnedah. Mitchell describes the huts as being:

"Semi-circular, or circular, the roof conical, and from one side a flat roof stood forward like a portico, supported by two sticks. Most of them were close to the trunk of a tree, and they were covered, not as in other parts, by sheets of bark, but with a variety of materials, such as reeds, grass and boughs" (Mitchell 1839:77).

The campsites he encountered were recorded as usually in proximity to fresh water and food supply with a vantage ground in case of attack from an enemy tribe.

3.6 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 (Heath, n.d.:43), with opossum skin described as a commonly used resource for cloaks. Kangaroo skins were also used as cloaks in the cooler months. Bone needles were used for fashioning garments and stone and shell scrapers used for processing the skins (Turner and Blyton 1995: 19). Men also wore a wide girdle woven from animal hair, from which their hatchet was suspended in an animal hide "carrier" (O'Rourke 2005:105).

3.7 Aboriginal History after European Contact

During the early days of European settlement the Aboriginal people were subjected to violence. Disease along with diminished resources resulted in the decline of the Aboriginal population. As the European settlers began to restrict Aboriginal access to rivers and creeks the Aborigines were forced to find alternate food sources and began taking the settler's sheep and cattle. This inevitably brought violent retribution from the

settlers. In turn Aboriginal groups attacked stations, with relatives often seeking revenge for the deaths of their kin.

One of the violent interactions between the Aboriginal Kamilaroi community and the European settlers was the conflict that occurred in October 1827. A party of 11 shepherds and stockmen, most of them assigned convicts, fought off a large body of Kamilaroi, said to have been as many as 200. The warfare between the settlers and the Aboriginals was reported in 1837 by the Crown Land commissioner Alexander Paterson. Paterson had made his way along the Namoi taking returns of inhabitants, stock and firearms, when he began to hear rumours of reports of crimes committed by Aboriginals on the recently formed stations, both there and along the Gwydir River. Sheep and cattle had been speared and driven off, huts attacked and five white men killed. The station hands were reportedly in a constant state of fear of their lives, too frightened to tend to their herds and flocks were wandering far from their runs and consequently losing condition. At least one station on the Namoi had been abandoned, while to the north two white men had been murdered on Bowman's run and two more at Cobb's station on the Gwydir River. Kamilaroi men killed European settlers near Boggabri and at Baan Baa and Therrabri in 1833, 1834 and again in 1835. Conflict was particularly severe on the Namoi and Gwydir, with conflicting reports suggesting the death of at least 25 Europeans along with much stock and the wounding of many Aborigines and settlers. In 1849 native police were sent to the area and much of the Aboriginal resistance was suppressed by the mid 1850s.

During 1830-31 a smallpox pandemic ravaged the Aboriginal population of the Namoi Valley. George Clarke said that the disease ran up-river, from the interior, to Narrabri. It spread thence to Boggabri and Gunnedah in October-November 1830. After the smallpox pandemic subsided in the mid-1830s, malnutrition killed a number of Aborigines. This was partly the result of Aborigines being excluded from the best river-sites and partly the result of the ecological changes wrought by sheep and cattle. Mitchell (1839:40) wrote of cattle trampling ponds and lagoons, destroying "forever" the surrounding grassland. Ridley wrote of "cattle, driving away the kangaroos".

During contact with the European settlers the local Aboriginal community continued their practices, including knowledge of languages, stories and sacred sites. On some occasion, Europeans settlers also observed other traditional practices such as funerals and burial practices. Aborigines were also known to perform corroborees for European audiences and the last recorded corroboree was held in 1881, coinciding with the opening of the railway in Dubbo. If such ceremonies occurred after this, they were held in secrecy to ensure privacy as European settlements increased and government control over Aboriginal people strengthened, the importance of continuing traditional practices grew and the need for secrecy became more important.

From the 1840s to the 1880s, working relationships between Europeans settlers and the local Aboriginal community were established. By 1855 Aboriginal workers had become indispensable to the squatters as shepherds and stockmen during shearing time. With the discovery of gold in the region European labour had become scarce, which resulted in Aboriginals moving on to stations to fill the vacant positions. Some were paid full 'white' wages for their labours, while others received only rations. Aboriginal men and women

were employed as stock workers, shearers and shepherds, while Aboriginal women were employed as domestic hands, as well as outdoors labourers. Aboriginal children often assisted their parents with domestic tasks, such as tending to goats and pigs and watering homestead gardens and orchards. According to Harrison (2004:32) this was particularly the case where Aboriginal people formed camp sites on or close proximity to the pastoral stations.

4 European History

The first European in the area was Alan Cunningham who passed to the north in 1827 en route to the Darling Downs. He was followed by Thomas Mitchell in 1831. The area was quickly settled and by 1849 the area had been divided into large pastoral runs with tenure being given under the Squatters Act 1846-1847 for the leasing of Government land for up to 14 years (Longmuir 1956:13). Sheep and cattle grazing dominated the economy of the region until around the 1880's when wheat and crop production occurred in areas of good soils and reliable water. The result was pressure for the larger land holdings to be broken up to the advantage of smaller acreage farmers. The arrival of the railway to the north-west in the late nineteenth century assisted in the development and growth of the townships of Gunnedah and Narrabri (DECCW 2008).

The main industries contributing to the economy of the region include sheep, grains, beef and other agriculture, agricultural services, education, health, public administration, retail and wholesale trade. The Brigalow Belt South Bioregion has an established mineral industry located in the Gunnedah basin, which is recognised as a major coal-bearing sedimentary formation (DECCW 2008).

4.1 European Cultural Heritage

4.1.1 Registered Historic Items

The State Heritage database is maintained by the NSW Heritage Branch and lists all items that have been identified as of heritage value on Local Environment Plans (LEPs) throughout NSW.

The State Heritage Register lists those places of State Significance recorded by the NSW Heritage Branch under the NSW Heritage Act 1977. The NSW State Heritage Inventory contains items considered by Local Councils to be of heritage value at the local level. The Heritage Register and Heritage Inventory was consulted.

The heritage schedules in both the Narrabri LEP and Gunnedah LEP were reviewed for potential heritage items within and around the Project Site.

In the Project Site and immediate surrounds:

- there are no items on the State Heritage Register;
- no items on the State Heritage Inventory; and
- No items listed in the LEPs.

4.1.2 Potential Historic and Archaeological Elements

There are no known potential historic or archaeological elements in proximity of the Project Site.

5 Aboriginal Archaeological Context

This section presents a review of documentary and physical evidence pertaining to Aboriginal archaeology of the region and in particular the Project Site. Such information is considered as it provides context and accuracy to predictions made about the potential for archaeological remains within the Project Site.

5.1 Aboriginal Heritage Information Management System

A search was undertaken of the DECCW Aboriginal Heritage Information Management System (AHIMS) for an area encompassed by coordinates Easting 219381 to 239381 and Northing 6586082 to 6606082 (MGA Zone 56). The AHIMS search was conducted over a 10 kilometre radius encompassing the Project Site and immediate surrounds.

The AHIMS results detailed in Table 5-1 support the suitability of the regional area for the occurrence of artefact scatters. Artefact scatters predominate with a total of 12 sites recorded on the AHIMS database. Also recorded in the area were a number of scarred tree sites (n=9) and scarred trees sites incorporating artefact scatters (n=4). A grinding groove site was also identified which incorporated an artefact scatter (n=1).

The AHIMS data exhibits a high frequency of artefact scatter sites with additional isolated finds (n=2) and one grinding groove site incorporating an artefact scatter. These sites generally occur in specific geological and topographical areas providing there is access to raw material for artefact procurement and the availability of a reliable water source and associated fauna species capable of supporting local Aboriginal populations.

The results of the AHIMS search show that it is unlikely that shelter sites will occur in the Project Site due to the localised low lying landscape and the lack of rock outcrops where such sites may have been possible. Whereas the State forests to the east and west have the potential for shelters because of the mountainous topography and potential availability of suitable outcropping rock. Midden sites have potential in the area as long as there is fresh water shell fish accessible in local rivers and creek systems. Exposed sandstone along these river and creek systems and other tributary drainage lines are potential areas for grinding groove sites in the locality. Scar trees in the area that may have been utilised for making canoes are likely to be in close proximity to water, whereas trees that were used for making shields or coolamons may have been some distance from water on a variety of landforms (DEC, 2005).

Table 5-1: AHIMS site type and frequency

Site Type	Frequency in Search Area
Artefact Scatter	12
Scarred Tree	9
Artefact Scatter; Scarred Tree	4
Artefact(s) Unspecified	3
Isolated Find	2
Scarred Tree Group	2
Axe Grinding Groove; Artefact Scatter	1
Total	33

Figure 5-1 provides the location of the AHIMS sites.

A complete list of results from the AHIMS search can be found in Appendix 2.
A glossary of Aboriginal site types can be found in Appendix 4.

5.2 Regional Archaeological Context

Occupation deposits in the Willandra Lakes and Lower Darling Basin region illustrate the adjustment to inland freshwater riverine-lacustrine environment (Hughes and Lampert 1980:52). It also demonstrates that the Aborigines were present in the Darling Basin at least 40,000 years ago (Hope 1981). The occupational deposit suggests that the Aboriginal communities spread east and north from here, reaching the highlands in the late Pleistocene as indicated by a site at Graman, between the head waters of the Gwydir and Macintyre Rivers, which was in use 9,000 years ago (Haglund 1984).

Furthermore, Pleistocene occupation south west of the Project Site between Macquarie and Marthaguey Rivers, at Cuddie Springs, has revealed occupation deposits and possible associated mega fauna remains, dating to 31,000 years ago (Dodson et al 1993; Field and Dodson 1999). Mega fauna sites have been recognized throughout the Darling Basin region including along the Condamine River of the Darling Downs, Cuddie Springs, Lime Springs and Tambar Springs all located near Gunnedah. Further south, the ancient lakes of Menindee (Tindale 1955, Tedford 1955), and Lake Tandou (Merrilees 1973) revealed the remains of extinct mega fauna, as well as camp sites and tools of Aboriginal people.

Regionally, the Project Site is incorporated in the Barwon Basin region, which is a vast alluvial system in north central NSW from Narromine to Goondiwindi. It is formed by the Bogan, Macquarie and Castlereagh Rivers flowing north and the southwest Namoi and Barwon Rivers. Aboriginal occupation along these river systems and its tributaries was geared towards the river channels and lakes and their aquatic resources. Fishing sites, such as is found along Talyawalka Creek, northeast of Menindee, reveal considerable size distributions of fish and a high diversity of species, which is indicative of the use of some form of fish trap (Balme 1983).

The use of fish traps made of wood and brush fences and of balks made of large timber was very extensive on all the rivers of the Darling system, however most of these disappeared when the rivers were cleared of snags to improve paddleboat access (Breckwoldt et al. 2004). Stone fish traps were rarer and most of the known ones were confined to the Upper Darling region, on the Barwon River at Brewarrina, and on the Bogan River at Gongolan, north west of Gunnedah. The fisheries consisted of four sets of traps built on a rocky river bar several hundred metres long. The fish traps were called Ngunnuh and each division within the tribal group had their own allotted portion of the fishing grounds (Dargin 1976; Hope and Vines 1994; Breckwoldt et al.).

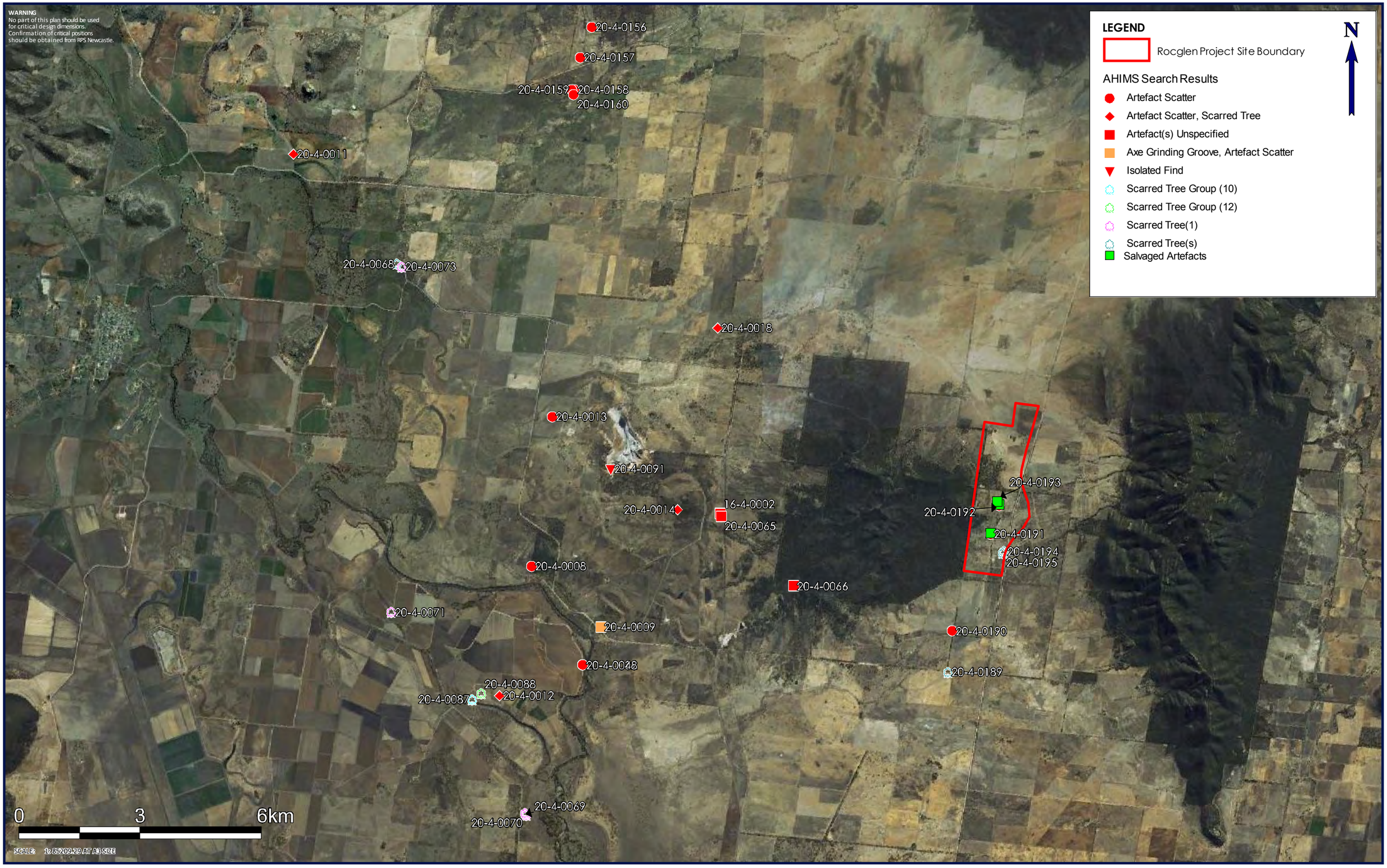
Throughout the region of the Barwon River and its tributaries the custom of carving trees to mark graves and ceremonial bora grounds was common. In 1918 R. Etheridge published a catalogue of taphoglyphs (inhumation carved trees) and teleteglyphs (bora/ceremonial carved trees) known to be standing at the time. In 1979 David Bell attempted to relocate the carved trees described by Etheridge in 1918. He found that many of the carved trees had either been cut down, burnt or simply could not be relocated (Bell 1979, 1982, cited in Hope and Littleton 1995). The distribution of grave marker trees appears to stop south of Narrabri; three grave marker trees were located in the Gunnedah region (Ethridge, 1918:50).

In 1982 Silcox and Bowdler surveyed the route of a proposed transmission line from Walgett to Narrabri. Twenty five archaeological sites were located on small eroded areas, vehicle tracks and small elevated areas.

Godwin (1987) investigated the site of the present cotton gin and associated roads on Collymongle station, Collarenebri. One stone artefact scatter, consisting of fourteen artefacts made from silcrete, chert and chalcedony were recorded.

An archaeological assessment was conducted by Appleton in 1997 for the RTA for three alternate options for a Newell Highway Moree bypass. An archaeologically sensitive area along Skinners Creek was identified and the locations of four previously recorded Aboriginal 'fringe camp sites' were defined. The camps are known as Steel Bridge Camp, Top Camp, 1st Camp and Maude Street Camp.

In 2003 Ozark conducted a desktop review of the above literature concerning the bypass route and in 2004 conducted a physical reassessment of the identified Potential Archaeological Deposits (PADs). The investigations concluded that only two of the four defined PAD's were PAD's, the other two having been subject to a high degree of disturbance. Archaeological subsurface testing of the Mehi River PAD and Skinners Creek PAD was recommended. Subsequent subsurface test excavations revealed no evidence for occupation of the Mehi River PAD, while at Skinners Creek two stone artefacts were identified. The artefacts were not in situ and are thought to have been relocated to their current position by alluvial processes. The Mehi River PAD deposits are also entirely composed of floodplain deposits, and despite excavation to a depth of 175cm, the black soils were undifferentiated and no base was reached (Ozark 2004).



TITLE:	FIGURE 5-1 AHIMS SEARCH RESULTS	LOCATION: ROCGLEN	DATUM: DATUM PROJECTION: MGA ZONE 56 (GDA 94)	DATE: 8/3/2010 PURPOSE: ARCHAEOLOGICAL	LAYOUT REF: 26230\DRAFTING\ARCHWORK\FIGURE 5-1 AHIMS A3 VERSION (PLAN BY): A (A.P-P.S)

CLIENT: WHITEHAVEN COAL LIMITED
JOB REF: 26230

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

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5.3 Local Archaeological Context

A number of archaeological surveys and reports have been produced for the Gunnedah region. This section details the most relevant investigations to the Project Site. The following information will assist with predictive modelling to help identify potential archaeological sites and allows for planning and management recommendations to be made with confidence. The following are in descending chronological order.

Haglund and Associates 1984 Archaeological Survey – Coal Haulage Option Red Hill – Top Rocks – Trunk Road 72, Gunnedah NSW.
Haglund and Associates were commissioned by the Vickery Joint Venture to Top Rocks on the Namoi River to assess the archaeological impact of the temporary coal haulage route. The temporary route passed concentrations of material in Greenwood Creek and at Top Rocks. There were no artefact scatters in Greenwood Creek at the proposed coal haulage. The Top Rocks consisted of two separate sites; the archaeological deposit on the high bank and the axe grinding grooves below and outside the low bank. The track would have run between these two sites.

The route was void of archaeological deposit. Use of the route was to have no direct or indirect impact on the archaeological material. It was determined construction of the bridge would have no direct impact on the archaeological site provided that care was taken to avoid the area of axe grinding grooves and construction activities were restricted to a buffer of approximately 20m – 25m along the channel. The study concluded that there would be no long term change to the aesthetic appeal or atmosphere at the site, as the track would, in time be over grown and the bridge removed.

Haglund, L. 1985 Archaeological Investigations of Areas that may be Affected by Proposed Mining For Coal in The Gunnedah Area, NSW.
The study was commissioned by Vickery Joint Venture to consider several adjoining or discrete areas that may be affected by one of two coal mining proposals under consideration. Preliminary survey of a wider area was carried out by P. Thompson (1981). The Project Site was situated north of Gunnedah and north of the Namoi River.

The survey was conducted on foot and identified two open camp sites, an extensive site at Top Rocks and a smaller site to the south of the river, on Mirrabinda. The Top Rocks site covered at least 300m of river bank above or just below 250m contour and the total area was estimated as covering around 22,000 square metres. Much of the site comprised of a sparse surface scatter of artefacts and it was assumed the site had lost much of the soil which once formed the archaeological deposit. The artefacts identified included hammer stones, flaked pebbles, sandstone fragments with ground faces, multi–platform and irregular cores for flakes, blade cores, flakes and blades. The smaller site at Mirrabinda included an artefact scatter of mostly broken flakes, found in patches of two or three within a square metre located several metres apart on an existing farm track.

The Namoi River – Cedar Vale Transport Corridor was also proposed to cut through an extensive open camp site with scarred trees on the south bank of the Namoi River near

the crossing. A sparse artefact scatter was recorded on denuded surfaces southwest of the lagoon. The surface of the site had been subject to impact by vehicles and visitors, and most of the artefacts identified on the surface were small or had been broken into small fragments. Some of the cultural material was identified as backed blades and several large old trees with coolamon type scars, which are likely to derive from traditional Aboriginal activities.

On Greenwood Creek a series of minor scatters of stone artefacts were identified, these were located at the proposed impact area of the proposal. One isolated find was noted on a track along the eastern border of Greenwood Creek, while another isolated find was recorded on the southern section of Blue Vale Road Underground Mine. An isolated find was also identified at the end of the track on the western border of Blue Vale Hill and another was recorded near the dam in the northern corner of Blue Vale Hill.

It was concluded that the mining and associated activities proposed for the Project Site would have a direct impact on Aboriginal archaeological sites in the three locations; at Top Rock, Mirrabinda and Namoi River. Recommendations were made that the Top Rocks site and any development be preceded by systematic and extensive excavation of sample areas within and adjoining the proposed route. Measures should be taken to stabilise and protect the site from further erosion by floods. These measures were also recommended for the route of the Namoi River / Cedar Vale in order to avoid the core area of the archaeological site at the Namoi River. A suitable route through the site should be established through test excavation, and the route should avoid scarred trees and the site recorded in detail. The upgrade of the road across the Mirrabinda archaeological site was advised to be confined to the present surface and adjoining areas of ploughed fields.

Archaeological Surveys and Reports Pty Ltd, 2007 – Belmont Coal Project Via Gunnedah, Aboriginal Heritage Assessment.
This investigation was performed for R.W. Corkey and Co Pty Limited on behalf of Whitehaven Coal Mining Pty Ltd for the original Rocglen Coal Mine proposal (then known as the Belmont Coal Project). This project covers an area of approximately 366 ha, which effectively also covers much of the current Project Site.

The archaeological survey yielded seven sites, however, only three sites including two artefact scatters and an isolated find would be impacted upon by the project. Other sites that would be avoided or did not fall in the potential impact zones comprised of four scarred trees. Recommendations included that any surface excavation within 20m of a north–south oriented drainage line in which three of the Aboriginal sites were identified should be monitored by representatives of the Red Chief Local Aboriginal Land Council. The recommendations also proposed that the scarred trees not be disturbed in any way.

5.4 Literature Review Discussion

The archaeological reports detailed in Section 5.3 Local Archaeological Context and results of the AHIMS search found that the most commonly occurring site type associated with the Rocglen Coal Mine region is artefact scatters. Scarred trees were the second most commonly occurring site type, with some scar tree sites also incorporating artefact

scatters. This supports the ethnographic evidence (Section 3) that the Aboriginal population readily exploited and relied on the natural landscape as a consistent and plentiful resource.

The implication for the Project Site is that there is a high probability that artefact scatters will occur given the proximity of local creek lines and tributaries. Scar trees have also been identified in the region close to permanent water supplies.

The region has probably been exploited for extensive periods by Aboriginal people and further investigation into the area may uncover extended patterns of Aboriginal land use and occupation.

6 Predictive Model for the Project Site

6.1 Predictive Modelling

A predictive model is created to form an educated estimate of the potential for an archaeological site to occur. It involves reviewing existing literature and consulting site databases to determine basic patterns of site distribution and correlating this distribution with the associated environment. The use of land systems and environmental factors in predictive modelling is based upon the assumption that these factors provided constraints that influenced land use patterns by past populations resulting in different spatial distributions and types of sites in the archaeological record. Predictive models can be used as a basis for the planning and management of Aboriginal heritage, and for formulating survey strategies to include areas of maximum archaeological potential.

The summary of environmental data (Section 2) and previous archaeological work (Section 4 and Section 5) was used to create a predictive model for sites in the Project Site.

6.2 Predictive Model for Aboriginal Archaeology in the Project Site

6.2.1 Site Types and Location

The climate information indicates that the area was suitable for habitation year round. The AHIMS records that artefact scatter sites regularly occur along the river and creek lines of the area and in close proximity to the Project Site. Scarred trees are also a common occurrence in the area. The small number of isolated artefacts and grinding grooves may reflect past occupation areas have been covered or degraded by erosion or Aboriginal people traversing the landscape and discarding items no longer useful to them.

6.2.2 Site Aspect

The aspect of the site is oriented towards the south and the Namoi River catchment area and adjoining tributaries. The Project Site is located in the lower slopes of a low lying area. Ridgelines are located in the east and west outside of the Project Site, but no ridge areas are present in the Project Site. The aspect of the Project Site does not provide for a sheltered environment in the cooler months due to the position in a valley depression; shelter may have been obtained in the ridge areas of the Kelvin State Forest and Vickery State Forest.

6.2.3 Slope

The terrain of the Project Site comprises low lying flats located in a valley depression surrounded on the east and west by State Forest reserves. The slope ascends steeply in the state forest areas to the east and west. Archaeological investigations in the vicinity of the Project Site have identified the preference for sites to be located in lower sloped areas generally located to nearby creek lines.

Open landscapes would provide little shelter from environmental conditions such as strong winds, heavy rains and cool winter nights. Open and closed woodlands, comprising the State Forests to the east and west, would provide for temporary shelter in cooler weather and on hot summer days.

6.2.4 Distance from Water

No permanent rivers or creek lines are present in the Project Site. Two ephemeral creeks are present in the Project Site. A first order steam of Driggle Draggle Creek starts in the Project Site and drains the northern portion of the site in a north-westerly direction. Driggle Draggle Creek flows into the Namoi River via Barbers Lagoon watercourse, which is approximately 14 km from the Project Site. An unnamed stream flows in a general south-west direction from the Project Site into the Namoi River approximately 10 km away. Freshwater would have been available for the majority of the year from surrounding drainage lines and associated tributaries.

6.2.5 Food

The Project Site and the wider locality would have been a favoured area for Aboriginal cultural activity and would have provided seasonal supplies of fresh water and local resources. As outlined above, two ephemeral creeks traverse the Project Site. Flora and fauna resources in both terrestrial and freshwater locations would be available in the region and for a majority of the year, including along the creek lines during times of increased rainfall.

6.2.6 Summary

The area presents as a diverse environment with sufficient resources for exploitation by Aboriginal peoples. The AHIMS results demonstrate the regular use of the creek lines of the Namoi River and associated tributaries. This is evidenced by the number of artefact scatters and large scar tree groups present. The proximity of freshwater and terrestrial environments would have made the Project Site potentially desirable as a campsite and as a base for targeting a multitude of flora and fauna species.

6.3 Predictive Model for European Heritage in the Project Site

The results of database searches (NSW Heritage Office), the Gunnedah and Narrabri Shire Councils' Schedules of Listed Heritage Items (Section 4.1.1) and additional historical research provide a concept of the types of potential sites and activities in the Project Site.

The area has a history of pastoral use based on sheep and cattle grazing. There is potential for the following cultural remains:

- Early or significant dwellings; and
- Farming structures such as sheds, fences, stockyards, etc.

The NSW Heritage Branch Significance assessment criteria is reproduced in Appendix 5 of this document.

7 Field Survey

The archaeological pedestrian survey of the area shown on Figure 7-1 was conducted on 2nd March 2010. Weather was overcast and windy but there was no rain and the survey was not inhibited in any way. Survey team members included Peter Beale (Sites Officer of RCLALC), Gary Griffiths (Sites Officer of BBGTP), Tara Cunningham (Sites Officer of GGAC) and Ron Griffin (Sites Officer of MMAC), together with RPS Archaeologists Philippa Sokol and Laraine Nelson.

Three stone artefacts sites were located during the survey, comprising one isolated find and two artefact scatters. These were located at the base of a group of mature trees and in water runoff areas. All sites are situated near a first order stream of Driggle Draggle Creek (see above) in the north west of the Project Site.

Scattered pebbles including chert and veined quartz were noted throughout the survey and are associated with the New England fold belt comprising sedimentary rocks of Carboniferous and Permian age. The quartz material in the area would have been difficult to knap and unsuitable for stone tool manufacture. Whereas the chert pieces were quite fine grained and may reflect the types of raw material used for stone tool manufacture in the area.

The only items potentially qualifying as European heritage is the “Glenroc” residence located in the northern extent of the Project Site. This residence was surveyed and reviewed in accordance with historic cultural heritage standards (Section 7.5).

7.1 Methodology

In August 2007 Whitehaven Coal Mining P/L engaged Archaeological Surveys and Reports P/L (ASR) to conduct an assessment of the potential impact of the original Rocglen Coal Mine development proposal (then known as the Belmont Coal Project) on Aboriginal heritage to meet the Director-General’s requirements for the project. The survey covered predominantly common ground to this current survey by RPS except for the extended northern section of the Project Site. Archaeological surveys are considered as being current for up to five years by the NSW DECCW. As such, the RPS methodology for archaeological ground survey focussed on those areas not already covered by ASR two and a half years earlier (Figure 7-1).

To ensure effective coverage of the area all survey units were traversed and investigated by the survey team. Survey Unit 2 (see Figure 7-2) included an investigation of the “Glenroc” residence.

The survey team was escorted by a Whitehaven Environmental Officer.

The field survey equally targeted areas offering good ground surface visibility as well as more vegetated locations. Exposure included unformed livestock and vehicle tracks,

areas absent of grass cover under trees, along fence lines and dam walls. Some areas in Survey Unit 5 were subject to water ponding, these areas were investigated where possible.

The strategy for field survey was to comprehensively cover all ground surface areas by means of a pedestrian survey and vehicular survey. Much of the Project Site was predominantly covered in natural vegetation, including clusters of mature tress and native grass. There were several exposures and eroded patches relating to access tracks, cattle tracks, drainage channels and fencing.

7.2 Landforms

The entire Project Site comprised a low lying flat landform, and was divided into six survey units used for comparative purposes and predictive modelling of the area. Figure 7-2 illustrates the RPS survey units and Aboriginal archaeological sites identified on the field survey.

As evident, those survey units present in the Project Site include:

- Survey Unit 1 – Dirt access track and grassed verge;
- Survey Unit 2 – Paddock south east of "Glenroc" residence;
- Survey Unit 3 – Paddock south west of "Glenroc" residence;
- Survey Unit 4 – West paddock;
- Survey Unit 5 – East to west portion south of gravelled track; and
- Survey Unit 6 – Wean Road and far northern area.

7.3 Survey Units

7.3.1 Survey Unit 1 (SU1) – Dirt Access Track and Grassed Verge

No items of Aboriginal or European cultural heritage were identified in SU1.

SU1 commenced at a gate entrance off Wean Road into a paddock area and was approximately 10 metres wide and 700 metres long. The survey members divided into two groups, with half the members investigating the east portion (Plate 1) and the other half investigating the west portion (Plate 2). Both portions of land contained a dirt vehicle track enclosed within two fence lines. Areas for investigation in SU1 included the eroded disused track, which comprised B horizon with a conglomerate base of imported fill. Ground surface visibility was high on the track with poor visibility due to grass in some adjacent areas. A farmers access track was contained to the south of SU1 which was formed from new and imported road base. No signs of archaeological material were present. SU1 contained some small animal stock sheds and a disused water trough. The earthen floors of the sheds where investigated where possible for archaeological material (Plate 3).

7.3.2 Survey Unit 2 (SU2) – Paddock Containing "Glenroc" Residence.

No items of Aboriginal or European cultural heritage were identified in SU2.

Entrance into SU2 north of the enclosed fenced area of SU1 was through an adjoining gate. SU2 contained the "Glenroc" residence and outbuildings, which may be relocated or demolished to cater for the Rocglen Extension Project. Results of the "Glenroc" residence assessment are detailed in Section 7.5 below.

SU2 was a grassed paddock that contained a few scattered large trees (Plate 4). In the centre of the paddock, and nearby to the weather station, is a high velocity air sampler PM10 exists which helps to monitor the level of dust produced by the mine and what affect it may have on neighbouring properties.

The survey team spread out in SU2 and covered even transects across the area. Large trees present in SU2 were investigated for evidence of cultural scaring or engravings but nothing of cultural significance was observed. Some soil exposures were available across SU2 and along fence lines and were investigated for signs of cultural material (Plate 5). Raw material found in SU2 comprised veined quartz and chert that was found by a community member. The chert was not an artefact but it is mentioned as it is believed to have originated some distance from the Project Site.

7.3.3 Survey Unit 3 (SU3) – Paddock West of "Glenroc" Residence.

SU3 identified one Isolated Find Aboriginal artefact.

SU3 incorporates the paddock west of the "Glenroc" residence. Ground surface visibility in SU3 was low as the area was heavily covered with native grasses. An access track intercepts from east to west through SU3, the track did not contain bare soils like previous tracks, rather a combination of both dense pasture grasses with scatters of exposed soils.

SU3 had two areas that comprised a small and large cluster of mature gum tree species, in both clusters a shrubby understorey was present along with grass, heavy leaf and bark litter (Plate 6). Cattle would regularly traverse the landscape, but damage is not too great as the open paddock areas of SU3 contain quite compacted grass with minor scatters of exposed soils.

Tall white pegs were present adjacent to the northern border of SU3, which we understand were in place to designate the northern extent of the proposed expanded Northern Emplacement Area.

The isolated find RPS Rocglen IF1 was located in the western section within a large cluster of eucalypt trees. The artefact is a chalcedony flake with a banded quartz vein (Plate 7).

7.3.4 Survey Unit 4 (SU4) – Western Paddock

SU4 identified one Artefact Scatter of 3 Aboriginal stone artefacts.

SU4 comprises the paddock located in the far west of the Project Site extending as far west as the tree line and barbed wire fence and north to edge of the project boundary. Entry into SU4 was via the dirt access track that connects SU3 to SU4. The track had good soil exposure and was investigated for artefactual material. The survey team conducted parallel transects starting from the east and walking in a north to south direction (Plate 8).

An overhead powerline was also noted in SU4 travelling in an east to west direction in the southern portion of SU4. At least 10 metres north and south of the electricity corridor contains highly disturbed exposed soils, these were examined and comprised mainly damaged conglomerate material with no stone artefacts present (Plate 9).

SU4 had a few individual mature trees in the south, a corridor of trees bordering the west and a cluster of trees in the north west corner. The remainder of SU4 was grassed paddock. Soils in the paddock showed evidence of disturbance assumed to be associated with past and present pastoral/cattle grazing activities. A dam located in the south west corner was very full with an overflow of water and was inaccessible in most areas. The trees in the north west corner of SU4 are to be retained and undisturbed.

The artefact scatter RPS Rocglen AS1 was located on the western side of the north to south fence line in an area of exposed B Horizon soils. South of AS1 the soils displayed increased moisture content, this area could possibly contain temporary water in times of heavy rain. RPS Rocglen AS1 contained flake pieces comprising mudstone, chert and grey silcrete (Plate 10).

7.3.5 Survey Unit 5 (SU5) – East to West Portion South of Relocated Jaeger Lane

SU5 identified one Artefact Scatter of 2 Aboriginal stone artefacts.

SU5 comprises the portion of land located south of the relocated Jaeger Lane reserve and covers the entire length from east to west of the Project Site. The area was accessed via a fallen tree over newly refurbished barbed wire fencing. SU5 was approximately 200 metres wide. Vegetation in SU5 differed between the east and west.

Much of the western portion of SU5 contained shallow inundation associated with water runoff from the dam located north in SU4. This made access difficult with the ground surface hidden. Vegetation was native grasses accustomed to moist areas and large clusters of native shrubs of *Sclerolaena* species (Plate 11). Sparse vegetation provided intermittent ground visibility allowing for good inspection of potential archaeological material.

The eastern portion of SU5 was very thick with grass, and after heavy seasonal rain the grass was very tall, thick and difficult to traverse. SU5 was traversed in parallel transects

by the survey team. The exposed soils on the walls of a dam located in the eastern portion were investigated (Plate 12).

The artefact scatter RPS Rocglen AS2 was located in the western extent of SU5 in exposed soils adjacent to an inundated area. The artefact scatter contained flaked pieces of greenstone and chert (Plate 13 & 14). Location of RPS Rocglen AS2 has potential for inundation in times of heavy rain periods.

7.3.6 Survey Unit 6 (SU6) - Vehicular Survey along Wean Road and Far Northern Area

RPS archaeologists conducted a vehicular survey along the current alignment of Wean Road (and its immediate environs) and the far north portion of the project area, which comprises open farmed paddocks traversed by a small ephemeral drainage channel. The recent rain had again provided ideal conditions which resulted in lush grasses and verdant vegetation growth. Whitehaven indicated to the RPS archaeologists that the far northern area was not under threat of impact from mining operations and that a stand of trees in the far north west corner will be retained and remain undisturbed (Figure 3).

As previously discussed, John Appleton of ASR and members of the Aboriginal community surveyed the Rocglen project site south of the current RPS survey area in August 2007 (Figure 6, Appleton 2007:22). Appleton recorded two scarred trees (Btree 1 and 2) on the eastern side of the Wean Road reserve, as identified on Figure 7-3 (Figure 6, Appleton 2007:22). While these scarred trees were not observed during the survey by RPS archaeologists, Whitehaven's Group Environmental Manager sighted and photographed both these trees on Thursday 8 April 2010. As evident on Plate 19 and Plate 20, the scarred trees both appear to be undisturbed and in good condition.

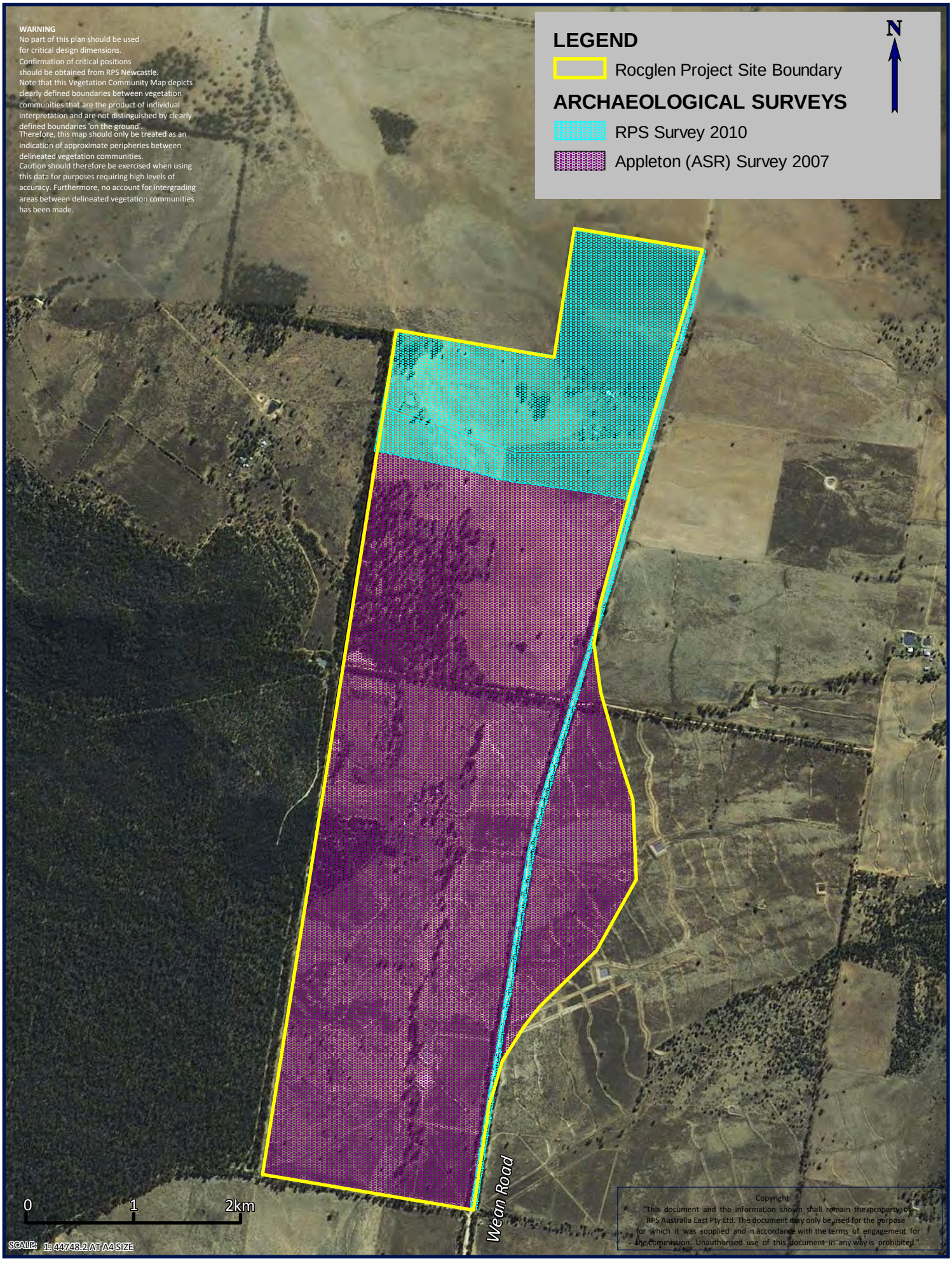
7.4 Survey Results – Aboriginal Archaeology

The survey team recorded three sites during the field investigation, comprising an isolated find and two artefact scatters. The sites have been recorded as RPS Rocglen IF1, RPS Rocglen AS1 and RPA Rocglen AS2. Sites were identified consecutively in Survey Unit 3, Survey Unit 4 and Survey Unit 5.

Results of the field survey showed that there are no permanently flowing rivers or creeks in the Project Site. An ephemeral first order stream of Driggle Draggle Creek flows from the north west out of the Project Site. The three Aboriginal sites recorded on the field survey may have been associated with the fresh water reserves of this first order stream, but the consequence of seasonal weather conditions and agricultural activity in the area may result in the context of the sites being altered.

Two scarred trees, NPWS AHIMS #20-4-0195 Btree 1 and NPWS #20-4-0194, recorded by Appleton (2007) were not observed by RPS archaeologists during the Wean Road vehicular survey. On Thursday 8th April 2010 Whitehaven's Group Environmental Manager sighted and photographed Btree 1 and Btree 2 (Plate 19 & 20). These scarred trees are located on the eastern road reserve of Wean Road and are observed as being in good

condition. A minimum 50 m buffer is in place for the scarred trees so as to avoid impact associated with the Rocglen Mine Extension Project.



TITLE: FIGURE 7-1 ROCGLEN ARCHAEOLOGICAL SURVEY AREAS

LOCATION: ROCGLEN MINE

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

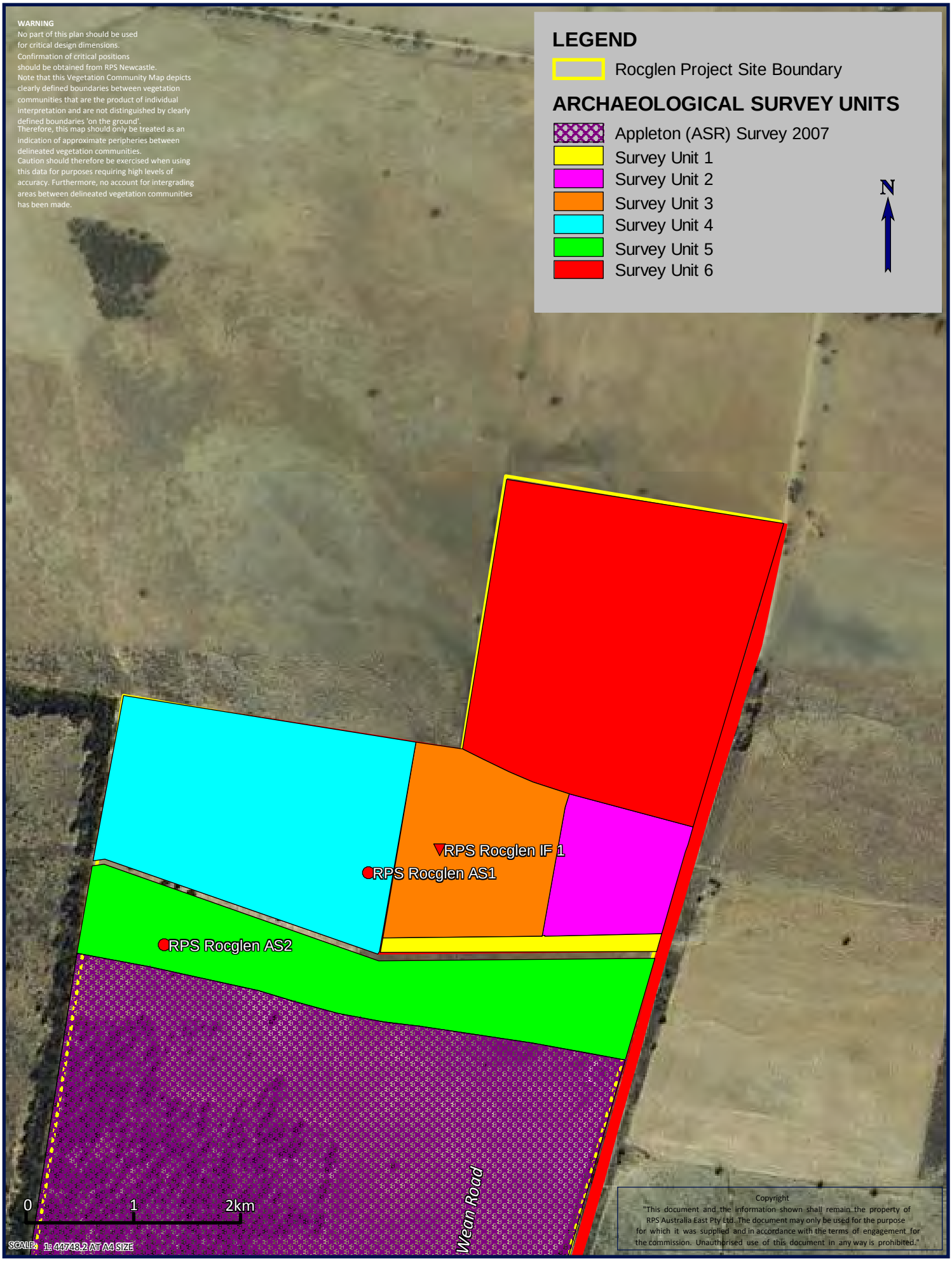
DATE: 29/3/2010
PURPOSE: ECOLOGY

26230\DRAFT\ECOWROKSPACE\
LAYOUT REF 26230 FIG 4-1 VEG BA4
VERSION (PLAN BY): A (A.P-S.C)

CLIENT: WHITEHAVEN COAL LIMITED
JOB REF: 26230

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



TITLE: FIGURE 7-2 SURVEY UNITS & ABORIGINAL ARCHAEOLOGICAL SITES

LOCATION: ROCGLEN COAL MINE

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

DATE: 20/4/2010
PURPOSE: ARCHAEOLOGICAL

26230\DRAFT\ECOWROKSPACE\
LAYOUT REF 26230 FIG 4-1 VEG BA4
VERSION (PLAN BY): A (A.P-S.C)

CLIENT: WHITEHAVEN COAL LIMITED
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LEGEND

Rocglen Study Area

ARCHAEOLOGICAL SITES

- Artefact Scatter
- Isolated Find
- Scarred Trees identified by Appleton (2007)

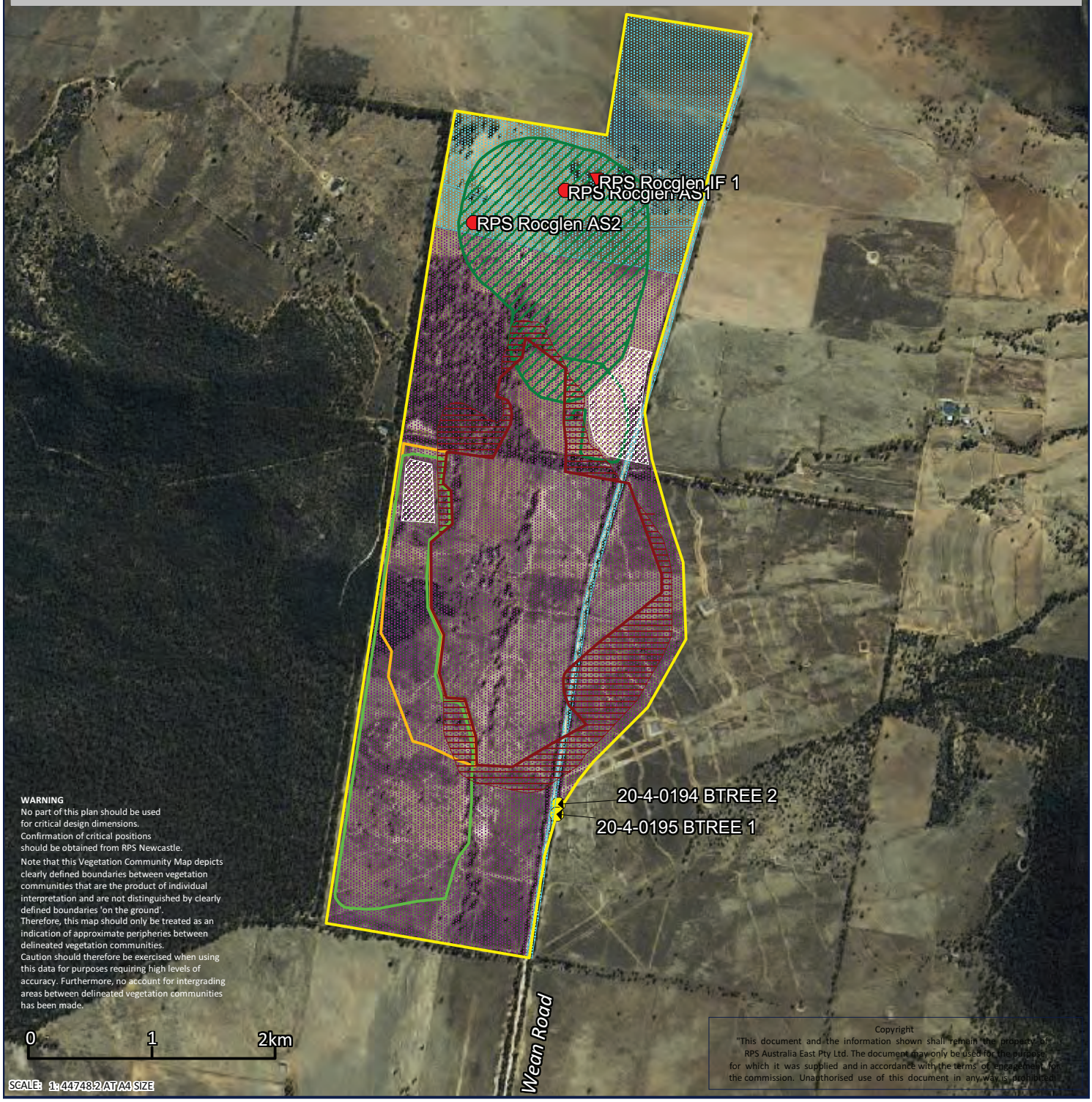
ARCHAEOLOGICAL SURVEYS

- RPS Survey 2010
- Appleton (ASR) Survey 2007

MINE LAYOUT

- Approved Northern Emplacement Area
- Proposed Expanded Northern Emplacement Area
- Approved Area of Auger Mining
- Approved Western Emplacement Area
- Approved Open Cut Pit Areas
- Proposed Expanded Open Cut Pit Limit
- Soil Stockpile Area

N



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

Note that this Vegetation Community Map depicts clearly defined boundaries between vegetation communities that are the product of individual interpretation and are not distinguished by clearly defined boundaries 'on the ground'. Therefore, this map should only be treated as an indication of approximate peripheries between delineated vegetation communities. Caution should therefore be exercised when using this data for purposes requiring high levels of accuracy. Furthermore, no account for intergrading areas between delineated vegetation communities has been made.

SCALE: 1:44748.2 AT A4 SIZE

TITLE: FIGURE 7-3 ROCGLEN ABORIGINAL SITES
LOCATION: ROCGLEN COAL MINE
DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)
DATE: 29/3/2010
PURPOSE: ECOLOGY
26230\DRAFT\ECOWROKSPACE
LAYOUT REF: 26230 FIG 4-1 VEG BA4
VERSION (PLAN BY): A (A.P-S.C)

CLIENT: WHITEHAVEN COAL LTD
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241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
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7.5 Survey Results – European Historic

The unoccupied residence of the "Glenroc" property is in the northern sector of the Project Site. The residence, associated outbuildings, fences and structures were inspected during the survey to determine if they were of heritage significance.

None of the items present were deemed to be of heritage significance.

"Glenroc" residence was most likely constructed around the early to mid twentieth century. The building has a simple square floor plan with a verandah around the northern, eastern and southern sides. The building is of timber frame construction with machine-sawn weatherboards with a decorative beading on the lower edge. The roofing material was corrugated iron. The house was built close to the ground with no opportunity to examine footings. See Plates 15 and 16.

The interior walls were of plasterboard with floor coverings of carpet, linoleum and pine boards obscuring a close examination of the flooring. A relatively new kitchen was in place while the bathrooms appeared to date from the mid-twentieth century. Two brick chimneys were present, one in the kitchen and one in the main living area. The kitchen chimney had an exposed wall on the southern side verandah. See Plate 17.

The entire building appears to be consistent in age. There was no visible evidence of an earlier older building being encompassed by a later residence.

There were no garden plantings or structures (i.e. mature exotic trees and shrubs, garden beds, fences, gates, etc.) to indicate an earlier house may have been at that location.

An inspection of the outbuildings and fences indicate all most likely were constructed during the mid to late twentieth century. The farm sheds were built with logs used as uprights, sawn timbers for cross beams and corrugated iron cladding. The stockyards were of steel and the fences were a combination of wood and/or steel stakes and wire. See Plate 18.

8 Aboriginal Archaeology Significance Assessment

The term 'archaeological significance' (also referred to as scientific significance) is a value allocated to Aboriginal or European heritage sites by archaeologists to help determine appropriate management strategies and mitigation recommendations for their ongoing care and management.

8.1 Archaeological Significance

The Project Site had been disturbed by existing mining operations, agricultural production activities, access tracks, dams, and electricity corridors. The areas subject to previous agricultural/pastoral activity would comprise high soil disturbance levels.

Three Aboriginal stone artefact sites were identified in the Project Site:

- RPS Rocglen IF1 – isolated find;
- RPS Rocglen AS1 – artefact scatter and
- RPS Rocglen AS2 – artefact scatter.

All three sites were found in the level plain area of the valley depression between the Kelvin and Vickery State Forests. Section 8.2 below ascertains the archaeological context and cultural significance of the recorded Aboriginal archaeological sites in the Project Site found during the RPS 2010 survey.

The scar tree sites Btree 1 and Btree 2 have been assessed for significance in Appleton (2007) Aboriginal Heritage Assessment. The trees were recognised for there contribution to the archaeological knowledge of the area regarding Aboriginal site types and local distribution, and therefore did not possess significant potential for providing new information to the archaeological record. Subsequently Btree 1 and Btree 2 were assessed to be of low research potential. No other scar tree sites were identified in the area that could provide new information to the archaeological record and hold research potential (Appleton, 2007;4-44).

8.2 Site Specific Significance Assessment

The archaeological significance given to a site or area in the absence of identified sites is based on several criteria detailed below. This criterion is then used to ascertain the archaeological significance of the isolated find and two artefact scatters.

- Rarity in a local and regional context
- Representativeness in a local and regional context
- Integrity in a local and regional context

- Connectedness in a local and regional context
- Complexity in a local and regional context
- Ability to contribute to the archaeological understanding of the cultural sequence in a local and regional context

Rarity: *This criterion examines the site type against those occurring in the local and regional context. If the site type being assessed is considered to be rare at either regional or local levels, this raises its importance in the archaeological record. In Australia, the most common site type is an artefact scatter. For the local area, the most common site types are artefact scatters.*

The isolated finds and two artefact scatters were identified in Survey Unit 3, 4 and 5. All sites were located in on a level plain landform associated with a first order stream of Driggle Draggle Creek which drains the north western section of the Project Site. All threes sites would be considered to be of low rarity.

Representativeness: *This criterion relates to determining if the site can be characterised as representative of the sites (types, integrity etc) present in the local and regional context. The purpose of this is to conduct further investigations on a sample of sites within a given area, in order to add to the archaeological understanding of the area, but to leave a representative sample in situ for future generations.*

Artefact scatters are representative of the most common site found across the local and regional area. Isolated finds are very few in the local and regional area. In this instance, the artefact scatter sites (RPS Rocglen AS1 and RPS Rocglen AS2) have the potential to be classified as low to moderate for representativeness of the site type and raw material identified present.

Integrity: *This criterion refers to how undisturbed and intact a site is. 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 forms of analysis. If a site has been the subject of moderate to large degrees of disturbance, it has a low probability of retaining integrity, and thus the information able to be obtained from the site is reduced.*

The area surrounding RPS Rocglen IF1 has been subject to disturbances by grazing cattle and possibly water. Cattle movement in the paddock may have contributed to alteration in the site's location. RPS Rocglen AS1 and RPS Rocglen AS2 have been subject to water flow after heavy rain when the tributary would have been present and abundant. All three sites considered to have low to moderate integrity.

Connectedness: *The connectedness criterion relates to the relationship between a site and others in the local and regional environment. If a site is determined to have connectedness with other sites, the depth of knowledge that can be obtained from the connected sites increases and can be used to develop an understanding of more traditional practices that cannot be identified by looking at one site in isolation. The*

connectedness could relate to age, the landform in which they are contained, the contents of the sites etc. This criterion is often ascertained without subsurface investigations.

The connectedness of this site is assessed in relation to other artefact sites found in the area. Especially artefact scatters located in the vicinity to available fresh water sources in the local area. The area and location of the new recorded sites on the survey are considered to have moderate significance for connectedness.

Complexity: *The complexity criterion relates to the contents of the site. This may relate to a high number of artefacts per square metre or features which can add to the layer of information that can be obtained from a site (e.g. hearths, knapping floors, ochres etc).*

The complexity of the artefact scatter sites can only be determined by the surface material, as there is no evidence of subsurface material in either of the artefact scatter locations, it is considered that the complexity of the artefact scatter sites be assigned as low.

The isolated find (RPS Rocglen IF1) was identified in a heavily vegetated area amongst grass, leaf and bark litter. Evidence of subsurface material was not determined and no other surface artefacts were identified in the close locality. It is considered that the complexity of the isolated find site be assigned as low.

Contribute to Knowledge: *The ability of a site to contribute to knowledge is largely dependent on the site having moderate to high significance assessments for the other criteria. The ability to contribute to knowledge requires 'new' knowledge to be drawn from the site and add to the local and/or regional context.*

The artefact scatters (RPS Rocglen AS1 and RPS Rocglen AS2) and isolated find (RPS Rocglen IF1) are all located in areas of moderate to high disturbance. The two artefact scatter sites have the highest degree of disturbances as they are located in eroded soil context in areas that are at risk of inundation in heavy rain periods. The isolated find would be classified as moderate disturbance as it is not at risk of inundation and is situated at the base of a cluster of trees. As these sites are located in a disturbed context, they have low potential to contribute to the archaeological record.

8.3 Cultural Significance

This can only be determined by Aboriginal community. This section is to be completed once community feedback has been received with the responses at Appendix 8.

9 European Historic Significance Assessment

"Glenroc" residence and associated outbuildings are not considered to have any historic significance. No other items of heritage significance were observed.

10 Discussion

The pedestrian field survey showed the Project Site to contain areas of moderate and high disturbances owing to agricultural practices, surface water inundation, dirt access tracks and powerline corridors. The field survey directed equal attention to all aspects of the Project Site and the dominant level plain landform unit except for parts of SU5 that were inundated from water. Soils in the survey units were predominantly B horizon, with minor areas especially at the base of trees containing remnant amounts of A horizon. Given the consistent disturbance across the Project Site as described in the pedestrian survey (Section 7), the likelihood of unearthing *in situ* and contextual archaeological deposits is extremely low.

The vehicular survey of the area to the east of Wean Road showed there to be little disturbance since John Appleton's survey in 2007. This area is best described as open paddock with rural property entry roads dissecting it. Recent rain had resulted in lush grass and vegetation growth. The scar tree sites Btree 1 and Btree 2 recorded by Appleton in 2007 were not observed by RPS Archaeologists during the vehicular survey. Whitehaven's Group Environmental Manager sighted and photographed both of the scar tree sites on Thursday 8th April 2010, confirming their location on the eastern verge of Wean Road. As evident on Plates 19 and 20, the scarred trees both appear to be undisturbed and in good condition. Whitehaven has restricted the proposed mine extension in this area and has committed to ensuring that no disturbance to the scarred trees or immediate surrounds will occur as a result of the Rocglen Extension Project.

In the far north of the Project Site, accessed from Wean Road by vehicle, the country consisted of open farmed paddocks with a small east–west drainage channel cutting through it. Whitehaven indicated that this area was not under threat of impact from mining operations.

Results of the field survey identified three Aboriginal stone artefact sites comprising one isolated find and two artefact scatters; RPS Rocglen IF1, RPD Rocglen AS1 and RPS Rocglen AS2. All three sites were found on a level plain landscape, the sole landscape of the Project Site, with the Kelvin State Forest located to the east and the Vickery State Forest bordering to the west. The sites RPS Rocglen AS1 and RPS Rocglen AS2 were identified on B horizon soils in a highly disturbed context and are considered to be not *in situ.* The site RPS Rocglen IF1 was identified at the base of large gum trees in survey unit 3. The isolated find was found at the base of the trees in an area dense with grass, leaf and bark litter. It is known for tree roots have the potential to uproot archaeologically significant items and bring them to the surface.

Field survey comments were received from Bigundi Biame Traditional People (BBTP) and recommended that the three sites found undergo archaeological excavation. RPS do not recommend for archaeological excavation to be carried out at Aboriginal archaeological sites RPS Rocglen AS1 and RPS Rocglen AS2 due to the highly disturbed context and no evidence of *in situ* archaeological items. However, in the case of RPS Rocglen IF1, DECCW may request sub surface investigation limited to this area in support of BBTP as

it was the only area where ground surface visibility was nil and where an accurate account of soil context could not be determined.

A search of the AHIMS database revealed five AHIMS listed sites inside the Rocglen Project Site, comprising two artefact scatters (NPWS #20-4-0191 and #20-4-0192), an isolated find (NPWS #20-4-0193) and two scar trees (NPWS#20-4-0194 & 20-4-0195). Research into the three artefact sites found that they have been salvaged prior to extensive clearing and impact associated with the mine. These sites combined are evidence of the area being potentially used for camping and as a resource gathering area, with a permanent fresh water supply providing optimum settings for year round Aboriginal occupation.

The historical component of this assessment was of the “Glenroc” residence situated in the northern extent of the Project Site. The residence and associated outbuildings may need to be relocated or demolished to cater for the Rocglen Extension Project. The residence was most likely constructed in the early to mid twentieth century together with associated outbuildings and fences it is indicative of mid to late twentieth century design and technology. There was no evidence of an earlier house or buildings in the Project Site. The residence is deemed to not contain any heritage significance.

11 Management Requirements

The management requirements that stem from this archaeological assessment are based on the legislation designed to address the impact of development upon sites of cultural significance. Recommendations that outline the management requirements for the Project Site are detailed below.

Recommendation 1 – Aboriginal Community Consultation

Liaison established with the registered Aboriginal stakeholders and other interested parties as per the NSW Department of Environment, Climate Change and Water's (DECCW) *Interim Community Consultation Requirements for Applicants* (2004) during this project should be maintained until all issues in relation to the management of Aboriginal cultural heritage have been resolved.

Recommendation 2 – Aboriginal Archaeological Management

Subject to the proposed works associated with the Expanded Northern Emplacement Area, if impact from the development to RPS Rocglen IF1, RPS Rocglen AS1 and RPS Rocglen AS2 is unavoidable, a surface salvage will be undertaken in accordance with Section 3 of the ACHMP (2008). Artefacts salvaged will be transferred to relevant Aboriginal groups under a Care and Control Permit under Section 85A of the *National Parks and Wildlife Act 1974* (NP&W Act).

Recommendation 3 – Aboriginal Archaeological Excavation

Aboriginal sites RPS Rocglen IF1, RPS Rocglen AS1 and RPS Rocglen AS2 were recommended for excavation by Bigundi Biame Traditional People (BBTP). RPS does not recommend excavation for sites RPS Rocglen AS1 and RPS Rocglen AS2 due to their highly disturbed nature (Section 10). In the case of RPS Rocglen IF1 the DECCW may request sub surface excavation in support of BBTP's position. If this is the case the proponent should liaise with the registered Aboriginal stakeholders identified in this report and a suitably qualified archaeologist.

Recommendation 4 – Aboriginal Archaeological Management of Wean Road Scar Trees

Protective measures designed to prevent damage to Btree 1 (NPWS# 20-4-0194) and Btree 2 (NPWS#20-4-0195) should be enacted upon as per recommendations in Appleton (2007:45) and the ACHMP (2008:9). Whitehaven has restricted the proposed mine extension in this area and has committed to ensuring that no disturbance to the scarred trees or immediate surrounds will occur as a result of the Rocglen Extension Project. In short, the trees are not to be disturbed in any way and fencing and signage should be undertaken in consultation with the Aboriginal Community and DECCW.

Recommendation 5 – Drainage line in far north of Project Site

In areas where surface excavation might occur in the future within 25m of the east-west oriented drainage line Whitehaven should follow protocols in Section 4.1 (iii) of the ACHMP (2008).

In general during the course of development works:

Recommendation 6

If it is suspected Aboriginal cultural heritage material has been encountered, work should cease immediately in that locale. The DECCW, along with RCLALC, BBGTP, GGAC and MMAC, should be notified. Works should only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.

Recommendation 7

In the event that skeletal remains are uncovered whilst operations are underway, work is to stop in the vicinity immediately and the NSW Coroner's Office and NSW Police contacted. If skeletal remains are deemed to be of Aboriginal origin, a representative of the local Aboriginal Community and the DECCW are to be consulted.

European Heritage

No European cultural heritage sites were located during the survey of the Project Site. During the course of any construction work the following recommendation should be considered.

Recommendation 8

If, during the course of clearing works, significant European cultural heritage material is uncovered, work should cease in that area immediately. An archaeologist should be contacted to assess the significance of the remains and works are only to recommence when an appropriate and approved management strategy is instigated.

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13 Plates

Plate 1: Track in the eastern portion of Survey Unit 1

Plate 2: Track in the western portion of Survey Unit 1

Plate 3: Type of stock sheds observed in Survey Unit 1

Plate 4: Densely grassed paddock and scattered large trees in Survey Unit 2

Plate 5: Sparsely scattered exposed soils in Survey Unit 2

Plate 6: Grassed paddock, large cluster of trees with shrubby understorey within Survey Unit 3

Plate 7: RPS Rocglen IF1 identified in Survey Unit 3 (Chalcedony flake piece)

Plate 8: South to north parallel transects in Survey Unit 4.

Plate 9: Overhead electricity powerline in Survey Unit 4

Plate 10: RPS Rocglen AS1 identified in Survey Unit 4 (flake pieces of chert, grey silcrete and grey mudstone)

Plate 11: Dense native grasses and Sclerolaena species in Survey Unit 5

Plate 12: Exposed soils on dam wall in Survey Unit 5

Plate 13: RPS Rocglen AS2 identified in Survey Unit 5 (flake piece of serpentinite)

Plate 14: RPS Rocglen AS2 identified in Survey Unit 5 (proximal flake piece of basalt)

Plate 15: "Glenroc" Residence (view from south)

Plate 16: "Glenroc" Residence (front entrance and weatherboard cladding)

Plate 17: "Glenroc" residence (lounge room)

Plate 18: "Glenroc" Outbuildings

Plate 19: AHIMS NPWS #20-4-0195 Btree 1 (source:- Whitehaven 8/4/10)

Plate 20: AHIMS NPWS #20-4-0194 Btree 2 (source:- Whitehaven 8/4/10)

Appendix 1

Legislative Requirements

SUMMARY OF STATUTORY CONTROLS

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS Australia East Pty Ltd will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommend that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

COMMONWEALTH

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSIHP Act), Amendment 2006

The purpose of this Act is to preserve and protect all heritage places of particular significance to Aboriginal and Torres Strait Islander people. This Act applies to all sites and objects across Australia and in Australian waters (s4).

It would appear that the intention of this Act is to provide national baseline protection for Aboriginal places and objects where State legislation is absent. It is not to exclude or limit State laws (s7(1)). Should State legislation cover a matter already covered in the Commonwealth legislation, and a person contravenes that matter, that person may be prosecuted under either Act, but not both (s7(3)).

The Act provides for the preservation and protection of all Aboriginal objects and places from injury and/or desecration. A place is construed to be injured or desecrated if it is not treated consistently with the manner of Aboriginal tradition or is or likely to be adversely affected (s3).

THE AUSTRALIAN HERITAGE COMMISSION ACT 1975

The Australian Heritage Commission Act 1975 established the Australian Heritage Commission which assesses places to be included in the National Estate and maintains a register of those places. Places maintained in the register are those which are significant in terms of their association with particular community or social groups and they may be included for social, cultural or spiritual reasons. The Act does not include specific protective clauses.

The Australian Heritage Council Act 2003 together with The Environment Protection and Biodiversity Conservation Act 1999 (Amended) includes a National Heritage List of places of National heritage significance, maintains a Commonwealth Heritage List of heritage places owned or managed by the Commonwealth and ongoing management of the Register of the National Estate.

STATE

It is incumbent on any land manager to adhere to legislative requirements that protect Aboriginal culture heritage in NSW. The relevant legislation includes but is not limited to:

National Parks & Wildlife Act 1974 (NPW Act), Amended 2001.

The DECCW issued their *Interim Community Consultation Requirements* in January 2005 to replace all previous consultation guidelines that related to Part 6 of the NPW Act 1974. The requirement of the guidelines is for the proponent, or consultant for the proponent, to contact the Local Aboriginal Land Council(s), Registrar of Aboriginal Owners, Native Title Services, local councils and the DECCW, to request contact information for any/all potential Aboriginal people/groups with an ancestral interest in the cultural heritage of the project area.

The updated consultation guidelines *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) were released in April 2010; DECCW has advised that consultation commenced for projects prior to the 12th of April 2010 can continue under the ICCR process.

The NPW Act provides statutory protection for all Aboriginal relics (not being a handicraft made for sale), with penalties levied for breaches of the Act. Part 6 of this Act is the relevant part concerned Aboriginal objects and places, with the Section 86 and Section 90 being the most pertinent:

Section 91: Under Section 91 of the Act it stipulates that a person who is aware of unregistered Aboriginal sites must report these to the DECCW, regardless of the land status (Freehold, leasehold, Crown land).

Section 90: “A person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence against this Act.” Under s.5 of the Act “object” means any deposit, object or material evidence (not being a handicraft made for sale) relating to Aboriginal habitation of the area. This applies to habitation both prior to and concurrent with the occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains.

Section 87: Preliminary Research Permits issued under Section 87 of the Act, allow the permit holder to conduct investigations of areas considered to be potential sites for the purpose of research, and also for conservation work associated with known sites.

Impact Permits issued under Section 90 of the Act are for salvaging sites prior to ground disturbance works associated with construction. Any disturbance, damage or destruction of Aboriginal sites, known or unknown, is considered to contravene the NPW Act (1974) and the DECCW will pursue the person/company responsible.

Penalties under these two sections are currently 50 penalty units, or 6 months in gaol, or both for an individual and 200 penalty units for a corporation. The DECCW record all S.87 and S.90 permits issued in order to manage Aboriginal sites and ensure representative samples of sites are left in situ for future generations. In order to achieve this, the DECCW need to be made aware of all Aboriginal sites located in NSW.

Section 86: This section of the Act states that "A person, other than the Director-General or a person authorised by the Director-General in that behalf, who:

- disturbs or excavates any land, or causes any land to be disturbed or excavated, for the purpose of discovering an Aboriginal object,
- disturbs or moves on any land an Aboriginal object that is the property of the Crown, other than an Aboriginal object that is in the custody or under the control of the Australian Museum Trust,
- takes possession of an Aboriginal object that is in a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area,
- removes an Aboriginal object from a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area, or
- erects or maintains, in a national park, historic site, state conservation area, regional park, nature reserve, karst conservation reserve or Aboriginal area, a building or structure for the safe custody, storage or exhibition of any Aboriginal object,

except in accordance with the terms and conditions of an unrevoked permit issued to the person under section 87, being terms and conditions having force and effect at the time the act or thing to which the permit relates is done, is guilty of an offence against this Act."

Section 84: Aboriginal places of traditional significance (that may or may not contain archaeological material) are given protection under Section 84 of the NPW Act. To be an Aboriginal place for the purposes of this Act, this is a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

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 EP&A Acts, Parts III, IV, and V relate to Aboriginal heritage.

Part III regulates the preparation of planning policies and plans. Part IV governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part V 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 V 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.

Part 3A of the EPA relates to major projects, and if applicable, obviates the need to conform to other specific legislation. In particular, s75U of the EPA Act explicitly removes

the need to apply for s87 or s90 permits under the NPW Act. This means that although Aboriginal cultural heritage is considered during the planning process, a permit is not required to disturb or destroy an Aboriginal object or place. However, the Director-General of Planning must nonetheless consult with other government agencies, including DECCW and National Parks & Wildlife, prior to any decision being made.

THE HERITAGE ACT 1977

This Act protects the natural and cultural history of NSW with emphasis on non-Aboriginal cultural heritage through protection provisions and the establishment of a Heritage Council. Although Aboriginal heritage sites and objects are primarily protected by the National Parks & Wildlife Act 1974 (NPW Act), Amended 2001, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council.

Other legislation of relevance to Aboriginal cultural heritage in NSW includes the NSW Local Government Act (1993). Local planning instruments also contain provisions relating to Aboriginal heritage and development conditions of consent.

Appendix 2

AHIMS Registered Sites

Site ID	Site Name	Datum	Zone	Easting	Northing	Site Types
16-4-0002	VM-OS-1	AGD	56	231950	6593800	Artefact(s) Unspecified
20-4-0008	Wilga;	AGD	56	227300	6592500	Artefact Scatter
20-4-0009	Wilga;	AGD	56	229000	6591000	Axe Grinding Groove; Artefact Scatter
20-4-0011	Barbers Stockyard;	AGD	56	221400	6602700	Artefact Scatter; Scarred Tree
20-4-0012	Gulligal Lagoon;	AGD	56	226500	6589300	Artefact Scatter; Scarred Tree
20-4-0013	Whitehaven;Driggle Draggle Creek	AGD	56	227800	6596200	Artefact Scatter
20-4-0014	Greenwood Creek;	AGD	56	230900	6593900	Artefact Scatter; Scarred Tree
20-4-0018	Driggle Draggle Creek;	AGD	56	231900	6598400	Artefact Scatter; Scarred Tree
20-4-0038	Mirrabinda;	AGD	56	228560	6590060	Artefact Scatter
20-4-0042	Mirrabinda;	AGD	56	228560	6590060	Artefact Scatter
20-4-0048	Mirrabinda;	AGD	56	228560	6590060	Artefact Scatter
20-4-0065	BBS; Red Chief LALC; Whitehaven Rd 1	AGD	56	231986	653729	Artefact(s) Unspecified
20-4-0066	BBS; Red Chief LALC; Vickory SF1	AGD	56	233780	65920196	Artefact(s) Unspecified
20-4-0068	BBS; Red Chief LALC; Barkers Lagoon ST 2	AGD	56	223950	6599986	Scarred Tree(s)
20-4-0069	BBS: Red Chief LALC; “Avona” ST 1	AGD	56	227165	6586355	Scarred Tree(s)
20-4-0070	BBS: Red Chief LALC; “Avona” ST 2	AGD	56	227127	6586397	Scarred Tree(s)
20-4-0071	BBS: Red Chief LALC; Undoola ST 1	AGD	56	223820	6591370	Scarred Tree(s)
20-4-0073	BBS; Red Chief LALC; Barkers Lagoon ST 1	AGD	56	224074	6599919	Scarred Tree(s)
20-4-0087	BBS: Red Chief LALC; Denison TSR Scarred Trees 1-10	AGD	56	225818	6589209	Scarred Tree Group (10)
20-40088	BBS: Red Chief LALC; Denison TSR Scarred Trees 11-22	AGD	56	226044	6589363	Scarred Tree Group (12)
20-4-0091	Whitehaven 4	AGD	56	229250	6594910	Isolated Find
20-4-0156	NAS 2	AGD	56	228783	6605841	Artefact Scatter
20-4-0157	GGOS 1	AGD	56	228499	660591	Artefact Scatter
20-4-0158	GGOS 2	AGD	56	228345	6604288	Artefact Scatter
20-4-0159	GGOS 3	AGD	56	228292	6604288	Artefact Scatter
20-4-0160	GGOS 4	AGD	56	228335	6604163	Artefact Scatter
20-4-0189	Stratford ST 2	AGD	56	237590	6589890	Scarred Tree(s)
20-4-0190	Stratford ST 2	AGD	56	238650	6593300	Artefact Scatter
20-4-0191	B3 – Wean Rd Site Salvaged	AGD	56	238650	6593300	Artefact Scatter
20-4-0192	B2 – Wean Rd Site Salvaged	AGD	56	238850	6594010	Artefact Scatter
20-4-0193	B1 – Wean Rd Site Salvaged	AGD	56	238810	6594070	Isolated Find
20-4-0194	BTREE 2 – WEAN RD	AGD	56	238980	6592870	Scarred Tree(s)
20-4-0195	BTREE 1 – WEAN RD	AGD	56	238950	6592830	Scarred Tree(s)

Appendix 3

Figure 6 Appleton 2007

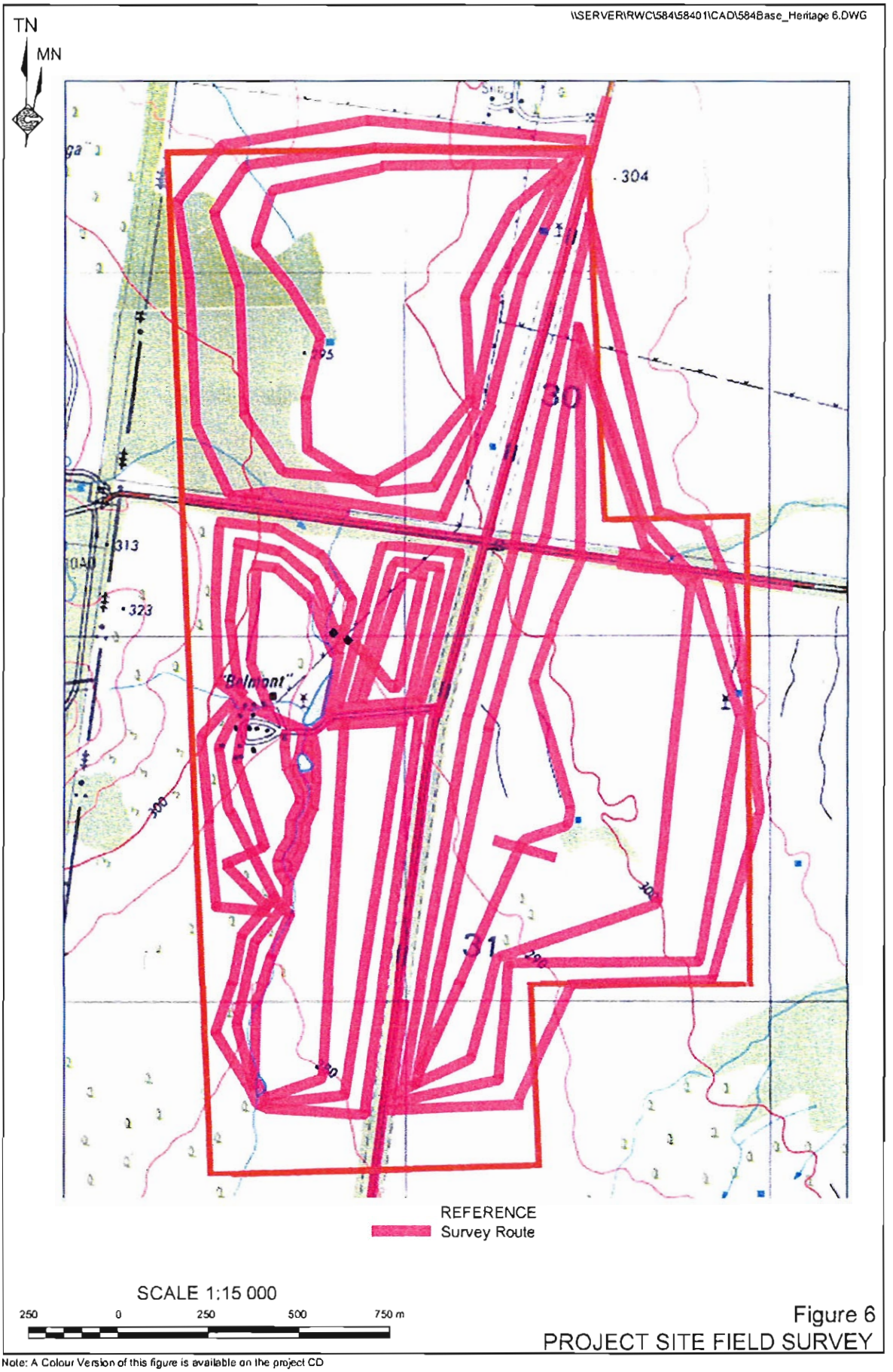

Figure 6
PROJECT SITE FIELD SURVEY

Note: A Colour Version of this figure is available on the project CD

Appendix 4

Aboriginal Consultation Log

Date	Description	Contact Method	Outcome
12/01/10	Stage 1: ICCR letters sent to DECCW Coffs Harbour and Armidale Offices, Gunnedah Shire Council and Registrar of Aboriginal Owners	Mail	
12/01/10	Stage 1: ICCR letters sent to Red Chief Local Aboriginal Land Council (RCLALC), Bigundi Biame Gunnedah Traditional People (BBGTP), Gunida Gunyah Aboriginal Corporation (GGAC), Min Min Aboriginal Corporation (MMAC)	Mail	
19/01/10	Jane Bender from GGAC registered their interest in the project	Phone	Spoke to AN of RPS to register their interest
19/01/10	Email from Wayne Griffiths from BBHTP registering their interest	Email	Replied acknowledging their registration of interest on 19/01/10
27/01/10	Received letter from DECCW listing the known ACS in area	Mail	
02/02/10	Advert for registration of interest went in Namoi Valley Independent	Newspaper	
03/02/10	ANTC spoke to AN in regards to the advert	Telephone	AN sent Stage 1 letter via mail to Margaret and John Mathews on the 03/02/2010
03/02/10	Stage 1 letters sent to additional ACS listed on DECCW Register: Ellilewis Cultural Heritage Consultants (ECHC), Namoi Catchment Authority (NCA), Aboriginal Native Title Consultants (ANTC), Upper Hunter Heritage Consultants (UHHC), Cobronwonga Consultants (CC), Bullem Bullem Consultants (BBC), Mingga Consultants (MC), Hunter Valley Consultants (HVC) and Giwiir Consultants (GC).	Mail	
04/02/10	Received registration of interest from ANTC, CC,GC, HVC, MC, UHHC, BBC.	Fax and Mail	
05/02/10	RCLALC registered their interest	Mail	PS PDF the document and noted on consultation
05/02/10	Received letter from Office of the Registrar in regards to any known ACS in area	Mail	
08/02/10	ECHC sent their registration of interest	Mail	AN PDF the document and noted on consultation log
16/02/10	Stage 2 refusal letters sent to ANTC, CC, ECHC, GC, HVC, MC, UHHC, BBC	Mail	
18/02/10	Stage 2 letter in addition to	Mail	No response

	Stage 2 from the 16/02/10 sent to ANTC, CC, ECHC, GC, HVC, MC, UHHC, BBC with study area map and field survey methodology		
25/02/10	MMAC registered their interest	Phone	Acknowledged registration of interest and noted in consultation log
02/03/10	Archaeological survey conducted with RCLALC, BBGTP, GGAC and MMAC.	In person	Report to be written up and sent to stakeholders for review and comment
06/05/10	Draft CHS&A Report sent to RCLALC, MMAC, GGAC and BBGTP for perusal and comment	Mail	BBGTP comments received – 01/06/10 MMAC & GGAC comments received – 04/06/10. Awaiting RCLALC report comments. Awaiting response.
01/06/10	BBGTP sent through report comments to RPS	Email	
04/06/10	Verbal Response received from GGAC and MMAC for report comments	Phone	Philippa Sokol (PS) of RPS typed up response to be inserted in final report.
07/06/10	PS of RPS called RCLALC to ask whether the report had been reviewed and if comment have been formulated	Phone	Will try to formulate comments and send them to RPS over the next week. Awaiting response.
15/06/10	PS of RPS called RCLALC to ask whether they have reviewed the report and formulated comments.	Phone	Report comments were unable to be formulated by RCLALC.

Appendix 5

Glossary of Site Types

GLOSSARY OF 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. Unfavourable conditions obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They are 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 comprised arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of sea-life.

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

Isolated finds occur where only one artefact is visible in a survey area. 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.

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.

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.

Rock Shelters with 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.

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 elevated terrace crests that contain stone outcrops or surface stone, where impact from recent land use practices has been minimal.

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 6

NSW Heritage Branch Significance Criteria

Heritage Council of New South Wales

Heritage Act 1977

CRITERIA FOR LISTING ON THE STATE HERITAGE REGISTER

The State Heritage Register is established under Part 3A of the Heritage Act (as amended in 1998) for listing of items of environmental heritage[1] which are of state heritage significance[2].

To be assessed for listing on the State Heritage Register an item will, in the opinion of the Heritage Council of NSW, meet one or more of the following criteria[3]:

a) an item is important in the course, or pattern, of NSW's cultural or natural history;

b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history;

c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW;

d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons;

e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history;

f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history;

g) an item is important in demonstrating the principal characteristics of a class of NSW's
   - cultural or natural places; or
   - cultural or natural environments.

An item is not to be excluded from the Register on the ground that items with similar characteristics have already been listed on the Register.

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[1] ***environmental heritage*** means those places, buildings, works, relics, moveable objects, and precincts, of state or local heritage significance (section 4, *Heritage Act, 1977*).

[2] ***state heritage significance***, in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific cultural, social, archaeological, architectural, natural or aesthetic value of the item (section 4A(1), *Heritage Act, 1977*).

[3] Guidelines for the application of these criteria may be published by the NSW Heritage Office.

Appendix 7

Site Cards

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Office Use Only

Site Number | | | | | | | | | | | | |

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

Entered by (I.D.)

Information Access

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

Office Use Only

For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number Fax

Client on system ☐

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name RPS ROCGLEN IF1

Easting 239147 Northing 6595752 AGD/GDA GDA

Mapsheet BOGGABRI

Zone 56 Location Method Differential GPS

Other Registration

Primary Recorder

Title | Surname | First Name | Initials

MIS | PHILIPPA | SOKOL |

Organisation RPS HARPER SOMERS O'SULLIVAN

Address PO BOX 428 HAMILTON NSW 2303

Phone number 02 4940 4200 Fax 02 4961 6794

Date recorded 03/03/2009

Client on system ☐

NPWS Aboriginal Site Recording Form - Site Information

OPEN/CLOSE SITE Open Site

Site Context

Landform

- [ ] Mountainous
- [x] Plain
- [ ] Rolling hills
- [ ] Steep hills
- [ ] Undulating plain

Landform Unit

- [ ] Beach
- [ ] Coastal rock platform
- [ ] Dune
- [ ] Intertidal flat
- [ ] Lagoon
- [ ] Tidal Creek
- [ ] Tidal Flat
- [ ] Cliff
- [ ] Crest
- [ ] Flat
- [ ] Lower slope
- [ ] Mid slope
- [ ] Upper slope
- [ ] Plain
- [ ] Ridge
- [ ] Tor
- [x] Valley flat
- [ ] Levy
- [ ] Stream bank
- [ ] Stream channel
- [ ] Swamp
- [ ] Terrace
- [ ] Terrace flat

Slope

0 degrees

Vegetation

- [ ] Closed forest
- [x] Grasslands
- [x] Isolated clumps of trees
- [ ] Open forest
- [ ] Open woodland
- [ ] Scrub
- [ ] Woodland
- [ ] Cleared
- [ ] Revegetated
- [ ] N/A

Land use

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

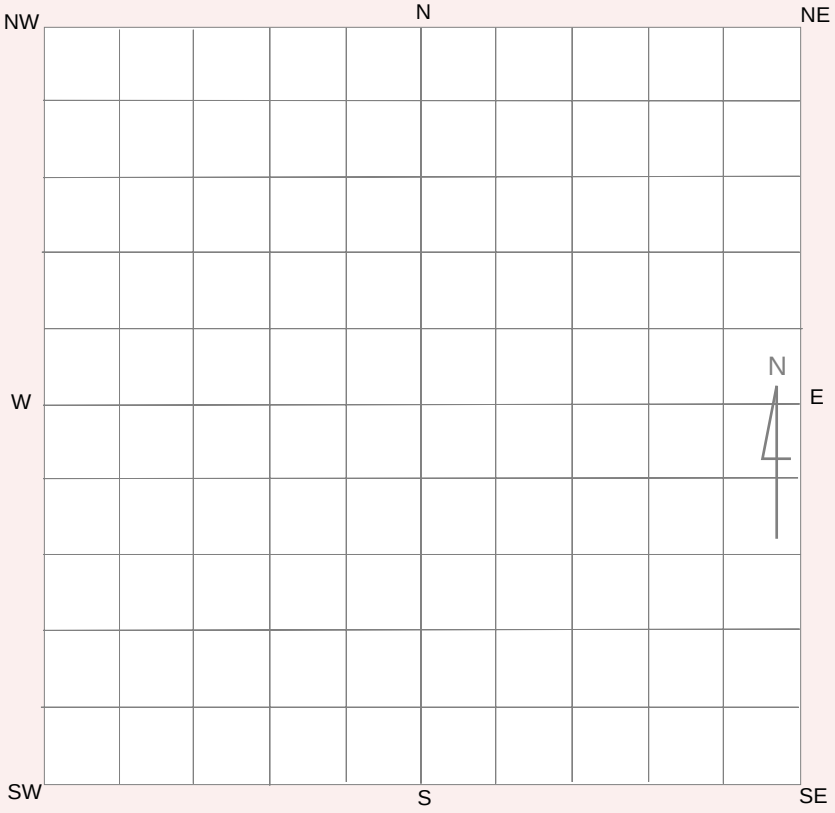
Water

Distance to permanent water source	500 metres
Distance to temporary water source	300 metres
Name of nearest permanent water source	Driggle Draggle CK
Name of nearest temporary water	Unnamed channel

Directions for Relocation

40km north of Gunnedah along Wean Rd. Turn west along Jaegar Lane approx 250m to reach north paddock gate. Enter through gate, follow track through outbuildings and as it turns to head west. Follow track into adjacent paddock until reaches a large cluster of trees. Walk into centre of trees, north of a large gum tree, RPS Rocglen IF1 on ground.

Site Location Map



Current Land Tenure

- [ ] Public
- [x] Private

National Park / other Government Dept.

Primary report **I.D.** (I.D. Office Use only)

NPWS Aboriginal Site Recording Form - Site Information

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
- [x] E-W
- [ ] SE-NW
- [ ] N/A

Features

- [ ] 1. Aboriginal Ceremony & Dreaming
- [ ] 2. Aboriginal Resource & Gathering
- [ ] 3. Art
- [x] 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)

1m	Total length of visible site
1m	Average width of visible site
1sqm	Estimated area of visible site
5m	Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

If the site is likely to be impacted upon by works associated with the Rocglen Coal Mine, than recommendations dealing with Aboriginal objects within the approved project area will need to be addressed in accordance with Section 3 of the Whitehaven Coal Mine Pty Ltd Aboriginal and Cultural Heritage Management Plan (2008).

A Care and Control Permit under s85A of the NP&W Act will need to be obtained for any salvage works that require the transfer of Aboriginal objects to Aboriginal groups.

This section should only be filled in by the Endorsees

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

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Attachments (No.)

- ☐ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No. ☐

Comments

Photo 1: RPS Rocglen IF1

NPWS FEATURE RECORDING FORM - ARTEFACT

Site I.D.

Site Name: RPS Rocglen IF1

First recorded date: 02/03/2010

Importance: Cannot be presently determined

No. of instances: 1

Recorded by: P. Sokol

	Yes	No
Stone artefacts only	Yes	
Artefacts collected		No
Permit issued		No

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% | 10-19% | 20-29% | 30-39% | 40-49% | 50-59% | 60-69% | 70-79% | 80-89% | 90-100%

0-9%

Feature Context & Condition

Scatter No. 1

Easting: 239147

Northing: 6595752

Density (Artefact count per square metre):

Dimensions: 1 Length (m) × 1 Width (m) × 0 Depth (m)

	Yes	No
In situ		No
Stratified		No

Feature Condition

- [ ] Very good
- [x] Good
- [ ] Poor

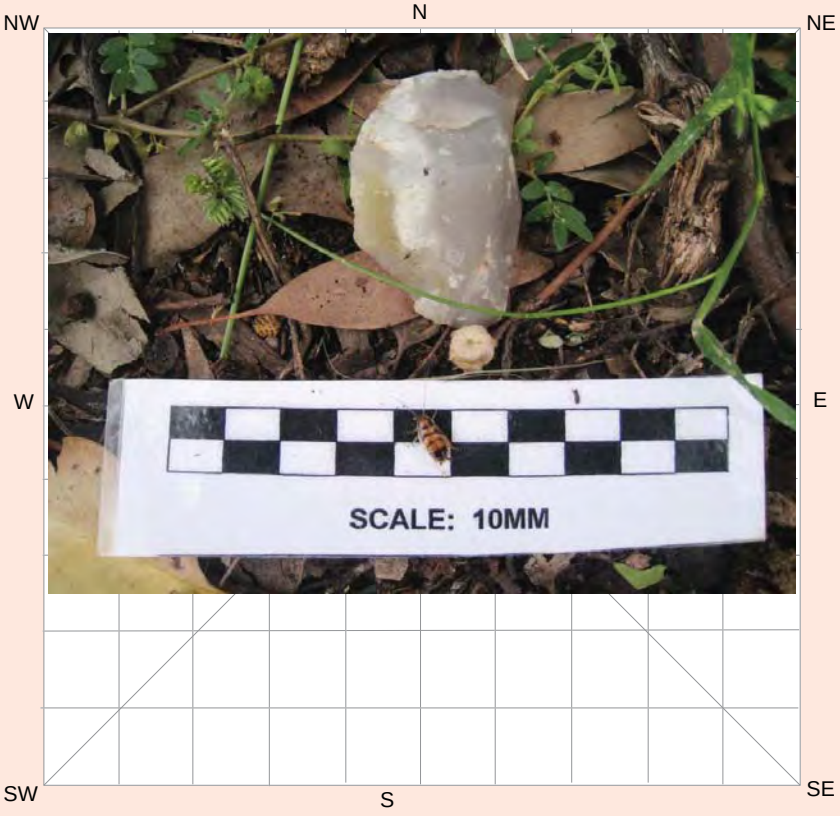
General Condition

- [ ] Weathered
- [ ] Vehicle damage
- [ ] Surface water wash
- [ ] Fire damage
- [ ] Erosion
- [x] Stock damage
- [ ] Exposed archaeological material

Recommended Action

- [ ] Boardwalk
- [ ] Fencing
- [ ] Closure to public
- [x] Continued inspection
- [ ] Fire hazard reduction
- [ ] Expert assessment
- [ ] Meeting with land manager
- [ ] Revegetation
- [ ] Signage
- [ ] Soil erosion control
- [ ] Track closure/re-routing
- [ ] Additional recording

Feature Plan (Indicate scale, location of instances)



Feature Environment

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

- Land form: Plain
- Land form unit: Valley Flay
- Slope: 0
- Vegetation: Tree cluster, grassed
- Land use: Farming - low intensity

Water

Distance to permanent water source: 500 metres

Distance to temporary water source: 300 metres

Name of nearest permanent water source: Driggle Draggle Creek

Name of nearest temporary water: Unnamed drainage channel

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Office Use Only

Site Number | | | | | | | | | | | |

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

Entered by (I.D.)

Information Access

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

Office Use Only

For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number Fax

Client on system ☐

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name RPS ROCGLEN AS1

Easting 239004 Northing 6595700 AGD/GDA GDA

Mapsheet BOGGABRI

Zone 56 Location Method Differential GPS

Other Registration

Primary Recorder

Title | Surname | First Name | Initials

MIS | PHILIPPA | SOKOL |

Organisation RPS HARPER SOMERS O'SULLIVAN

Address PO BOX 428 HAMILTON NSW 2303

Phone number 02 4940 4200 Fax 02 4961 6794

Date recorded 03/03/2009

Client on system ☐

NPWS Aboriginal Site Recording Form - Site Information

OPEN/CLOSE SITE Open Site

Site Context

Landform

- [ ] Mountainous
- [x] Plain
- [ ] Rolling hills
- [ ] Steep hills
- [ ] Undulating plain

Landform Unit

- [ ] Beach
- [ ] Coastal rock platform
- [ ] Dune
- [ ] Intertidal flat
- [ ] Lagoon
- [ ] Tidal Creek
- [ ] Tidal Flat
- [ ] Cliff
- [ ] Crest
- [ ] Flat
- [ ] Lower slope
- [ ] Mid slope
- [ ] Upper slope
- [ ] Plain
- [ ] Ridge
- [ ] Tor
- [x] Valley flat
- [ ] Levy
- [ ] Stream bank
- [ ] Stream channel
- [ ] Swamp
- [ ] Terrace
- [ ] Terrace flat

Slope

0 degrees

Vegetation

- [ ] Closed forest
- [x] Grasslands
- [x] Isolated clumps of trees
- [ ] Open forest
- [ ] Open woodland
- [ ] Scrub
- [ ] Woodland
- [ ] Cleared
- [ ] Revegetated
- [ ] N/A

Land use

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

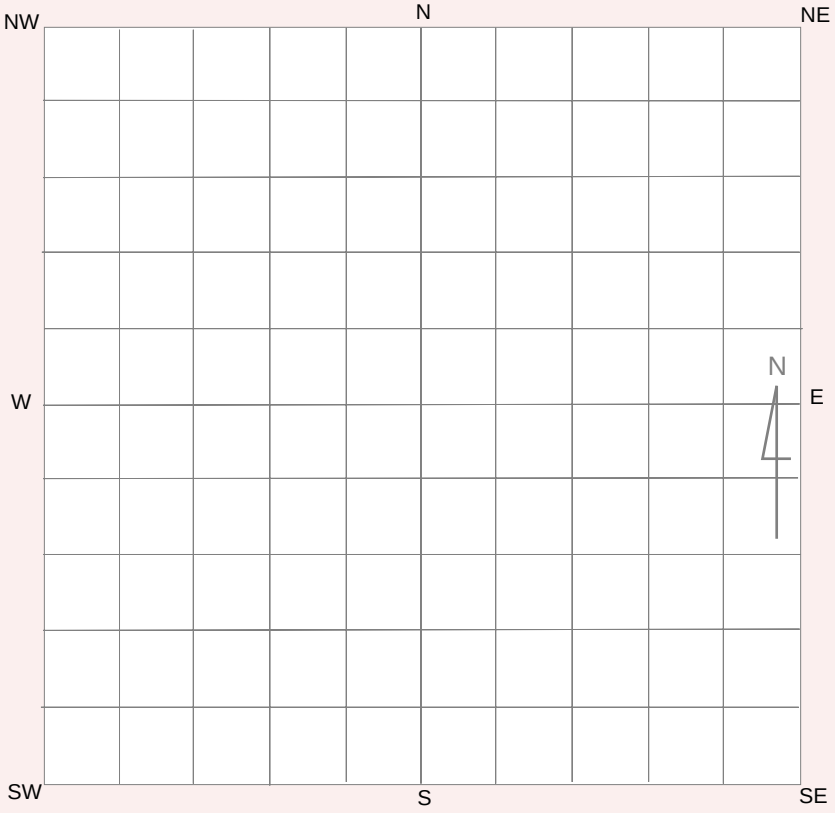
Water

Distance to permanent water source	350 metres
Distance to temporary water source	450 metres
Name of nearest permanent water source	Driggle Draggle Ck
Name of nearest temporary water	Unnamed channel

Directions for Relocation

40km north Gunnedah along Wean Rd. West onto Jaeger Lane for 250m. North through paddock gate past outbuildings. Follow track west into adjacent paddock. Continue past large tree cluster into next adjacent west paddock. Approx 20m south of gate entrance in paddock on exposed soils adjacent to fence is RPS Rocglen AS1.

Site Location Map



Current Land Tenure

- [ ] Public
- [x] Private

National Park / other Government Dept.

Primary report **I.D.** (I.D. Office Use only)

NPWS Aboriginal Site Recording Form - Site Information

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

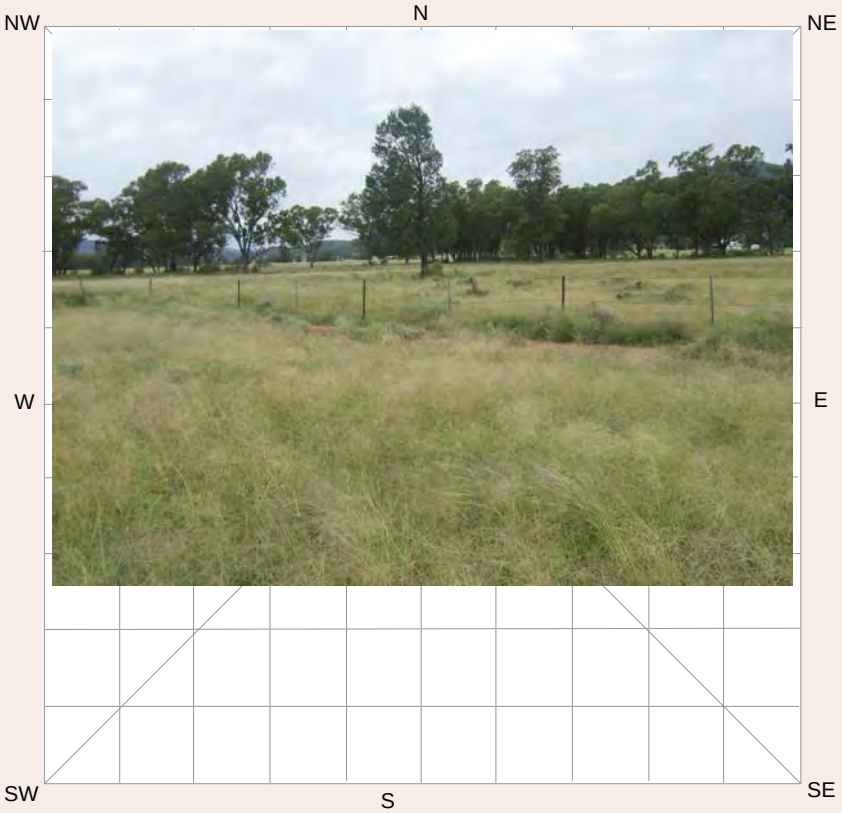
- [ ] N-S
- [x] NE-SW
- [ ] E-W
- [ ] SE-NW
- [ ] N/A

Features

- [ ] 1. Aboriginal Ceremony & Dreaming
- [ ] 2. Aboriginal Resource & Gathering
- [ ] 3. Art
- [x] 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)

50m	Total length of visible site
5m	Average width of visible site
250sqm	Estimated area of visible site
60m	Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

If the site is likely to be impacted upon by works associated with the Rocglen Coal Mine, than recommendations dealing with Aboriginal objects within the approved project area will need to be addressed in accordance with Section 3 of the Whitehaven Coal Mine Pty Ltd Aboriginal and Cultural Heritage Management Plan (2008).

A Care and Control Permit under s85A of the NP&W Act will need to be obtained for any salvage works that require the transfer of Aboriginal objects to Aboriginal groups.

This section should only be filled in by the Endorsees

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

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Attachments (No.)

- ☐ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No. ☐

Comments

Photo 1: RPS Rocglen AS1

NPWS FEATURE RECORDING FORM - ARTEFACT

Site I.D.

Site Name: RPS Rocglen AS1

First recorded date: 02/03/2010

Importance: Cannot be presently determined

No. of instances: 1

Recorded by: P. Sokol

	Yes	No
Stone artefacts only	Yes	
Artefacts collected		No
Permit issued		No

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% | 10-19% | 20-29% | 30-39% | 40-49% | 50-59% | 60-69% | 70-79% | 80-89% | 90-100%

10-19%

Feature Context & Condition

Scatter No. 3

Easting: 239004

Northing: 6595700

Density (Artefact count per square metre):

Dimensions: 50 Length (m) × 5 Width (m) × 0 Depth (m)

	Yes	No
In situ		No
Stratified		No

Feature Condition

- [ ] Very good
- [ ] Good
- [x] Poor

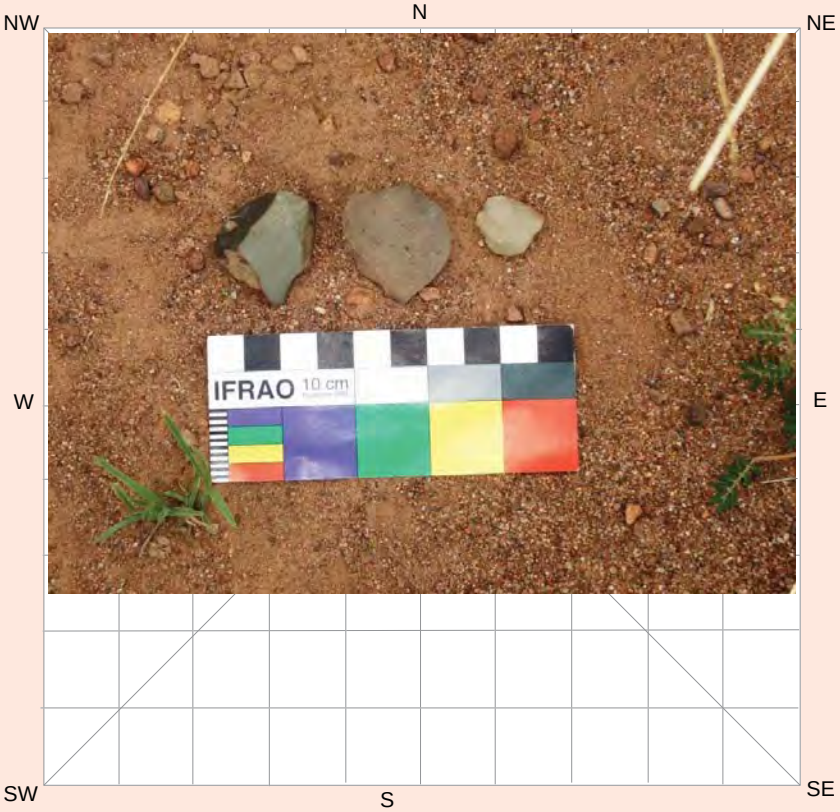
General Condition

- [ ] Weathered
- [ ] Vehicle damage
- [x] Surface water wash
- [ ] Fire damage
- [ ] Erosion
- [x] Stock damage
- [x] Exposed archaeological material

Recommended Action

- [ ] Boardwalk
- [ ] Fencing
- [ ] Closure to public
- [x] Continued inspection
- [ ] Fire hazard reduction
- [ ] Expert assessment
- [ ] Meeting with land manager
- [ ] Revegetation
- [ ] Signage
- [ ] Soil erosion control
- [ ] Track closure/re-routing
- [ ] Additional recording

Feature Plan (Indicate scale, location of instances)



Feature Environment

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

Land form: Plain

Land form unit: Valley Flay

Slope: 0

Vegetation: Grassed paddock, trees

Land use: Farming - low intensity

Water

Distance to permanent water source: 350 metres

Distance to temporary water source: 450 metres

Name of nearest permanent water source: Driggle Draggle Creek

Name of nearest temporary water: Unnamed drainage channel

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Office Use Only

Site Number | | | _ | | _ | | | | |

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

Entered by (I.D.)

Information Access

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

Office Use Only

For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name RPS ROCGLEN AS2

Easting 238589 Northing 6595542 AGD/GDA GDA

Mapsheet BOGGABRI

Zone 56 Location Method Differential GPS

Other Registration

Primary Recorder

Title | Surname | First Name | Initials

MIS | PHILIPPA | SOKOL

Organisation RPS HARPER SOMERS O'SULLIVAN

Address PO BOX 428 HAMILTON NSW 2303

Phone number 02 4940 4200 Fax 02 4961 6794

Date recorded 03/03/2009

Client on system ☐

NPWS Aboriginal Site Recording Form - Site Information

OPEN/CLOSE SITE Open Site

Site Context

Landform

- [ ] Mountainous
- [x] Plain
- [ ] Rolling hills
- [ ] Steep hills
- [ ] Undulating plain

Landform Unit

- [ ] Beach
- [ ] Coastal rock platform
- [ ] Dune
- [ ] Intertidal flat
- [ ] Lagoon
- [ ] Tidal Creek
- [ ] Tidal Flat
- [ ] Cliff
- [ ] Crest
- [ ] Flat
- [ ] Lower slope
- [ ] Mid slope
- [ ] Upper slope
- [ ] Plain
- [ ] Ridge
- [ ] Tor
- [x] Valley flat
- [ ] Levy
- [ ] Stream bank
- [ ] Stream channel
- [ ] Swamp
- [ ] Terrace
- [ ] Terrace flat

Slope

0 degrees

Vegetation

- [ ] Closed forest
- [x] Grasslands
- [x] Isolated clumps of trees
- [ ] Open forest
- [ ] Open woodland
- [ ] Scrub
- [ ] Woodland
- [ ] Cleared
- [ ] Revegetated
- [ ] N/A

Land use

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

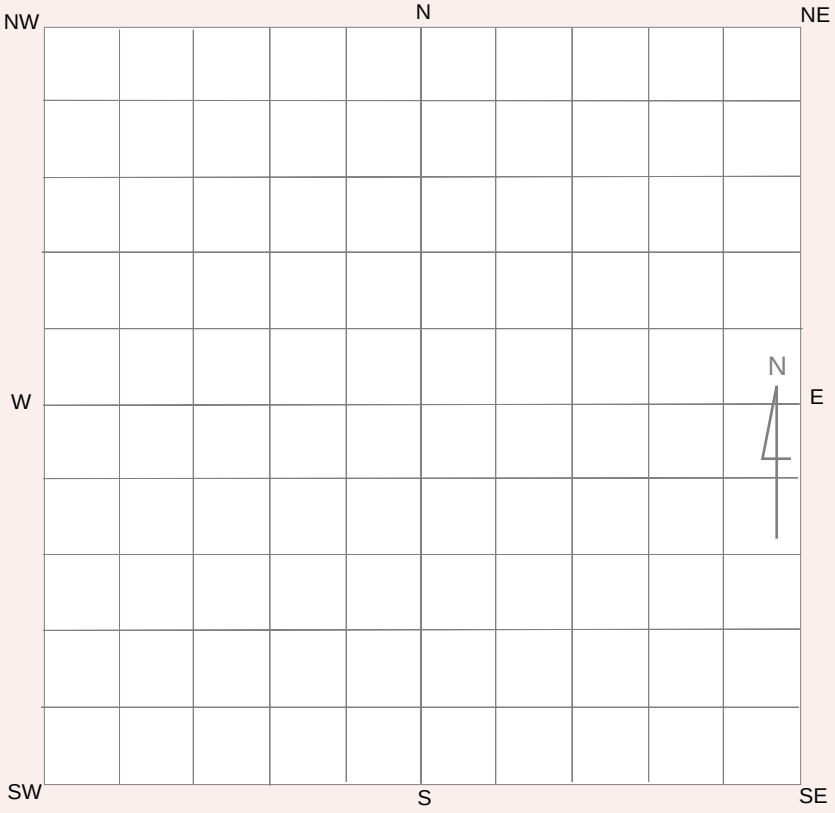
Water

Distance to permanent water source	150 metres
Distance to temporary water source	700 metres
Name of nearest permanent water source	Driggle Draggle CK
Name of nearest temporary water	Unnamed channel

Directions for Relocation

Approx 40km north Gunnedah, enter Wean Rd in west continue 250 m to reach south paddock gate. Enter through gate, walk west along fence for approx 1,100m. Walk south approx 120m. Exposed soils in 50 x 20 area is RPS Rocglen AS2.

Site Location Map



Current Land Tenure

- [ ] Public
- [x] Private

National Park / other Government Dept.

Primary report **I.D.** (I.D. Office Use only)

NPWS Aboriginal Site Recording Form - Site Information

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

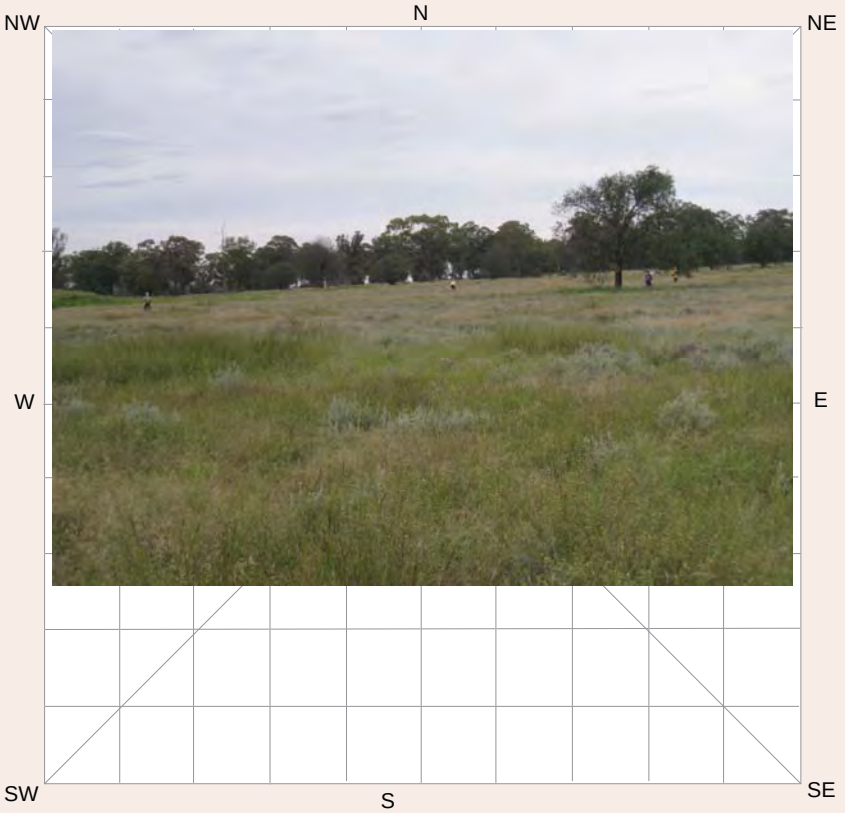
- [ ] N-S
- [ ] NE-SW
- [x] E-W
- [ ] SE-NW
- [ ] N/A

Features

- [ ] 1. Aboriginal Ceremony & Dreaming
- [ ] 2. Aboriginal Resource & Gathering
- [ ] 3. Art
- [x] 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)

50m	Total length of visible site
20m	Average width of visible site
1000sqm	Estimated area of visible site
60m	Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

If the site is likely to be impacted upon by works associated with the Rocglen Coal Mine, than recommendations dealing with Aboriginal objects within the approved project area will need to be addressed in accordance with Section 3 of the Whitehaven Coal Mine Pty Ltd Aboriginal and Cultural Heritage Management Plan (2008).

A Care and Control Permit under s85A of the NP&W Act will need to be obtained for any salvage works that require the transfer of Aboriginal objects to Aboriginal groups.

This section should only be filled in by the Endorsees

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

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Attachments (No.)

- ☐ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No. ☐

Comments

Photo 1: RPS Rocglen AS2 - Serpentinite Flake

Photo 2: RPS Rocglen AS2 - Basalt proximal flake

NPWS FEATURE RECORDING FORM - ARTEFACT

Site I.D.

Site Name: RPS Rocglen AS2

First recorded date: 02/03/2010

Importance: Cannot be presently determined

No. of instances: 1

Recorded by: P. Sokol

	Yes	No
Stone artefacts only	Yes	
Artefacts collected		No
Permit issued		No

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% | 10-19% | 20-29% | 30-39% | 40-49% | 50-59% | 60-69% | 70-79% | 80-89% | 90-100%

10-19%

Feature Context & Condition

Scatter No. 2

Easting: 238589

Northing: 6595542

Density (Artefact count per square metre): -1

Dimensions

50 Length (m) × 20 Width (m) × 0 Depth (m)

	Yes	No
In situ		No
Stratified		No

Feature Condition

- [ ] Very good
- [ ] Good
- [x] Poor

General Condition

- [ ] Weathered
- [ ] Vehicle damage
- [x] Surface water wash
- [ ] Fire damage
- [x] Erosion
- [ ] Stock damage
- [x] Exposed archaeological material

Recommended Action

- [ ] Boardwalk
- [ ] Fencing
- [ ] Closure to public
- [x] Continued inspection
- [ ] Fire hazard reduction
- [ ] Expert assessment
- [ ] Meeting with land manager
- [ ] Revegetation
- [ ] Signage
- [ ] Soil erosion control
- [ ] Track closure/re-routing
- [ ] Additional recording

Feature Plan (Indicate scale, location of instances)

Feature Environment

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

- Plain — Land form
- Valley Flay — Land form unit
- 0 — Slope
- Grassed paddock, trees — Vegetation
- Farming - low intensity — Land use

Water

Distance to permanent water source: 150 metres

Distance to temporary water source: 700 metres

Name of nearest permanent water source: Driggle Draggle Creek

Name of nearest temporary water: Unnamed drainage channel

Photo 2: RPS Rocglen AS2 – Basalt Proximal Flake.

Appendix 8

Aboriginal Community Response

Cultural Heritage Survey and Assessment for the Rocglen Mine Extension Project

RPS received only one written response to the Draft *Cultural Heritage Survey and Assessment for the Rocglen Mine Extension Project (CHS&A).* The written response was by email from Bigundi Biame Gunnedah Traditional People.

In order to obtain feedback on the draft report from the additional Aboriginal Community Stakeholders, multiple telephone calls were made to Red Chief Local Aboriginal Land Council, Gunida Gunyah Aboriginal Corporation and Min Min Aboriginal Corporation, seeking either oral or written comments as representatives from these groups had also attended the field survey.

Several criteria were proffered on the phone as suggested guidance for oral response. RPS offered to transcribe the oral comments and then read back the transcript to the Aboriginal Community Stakeholder to check that they concurred with the content. Comment was requested using but not limited to the following criteria:

- The overall content of the report;
- The field survey methodology;
- The report discussion section; and
- The recommendations.

There were two verbal responses as a result of these calls. Both Min Min Aboriginal Corporation and Gunida Gunyah Aboriginal Corporation requested RPS to transcribe their oral comments. These comments have been incorporated into the Final Report of the *Cultural Heritage Survey and Assessment for the Rocglen Mine Extension Project* and are included as an attachment in this Appendix. Red Chief Local Aboriginal Land Council indicated they were unable to provide comment.

MEMORANDUM

Date: 4th June 2010

To: Gwen Griffen

From: Min Min Aboriginal Corporation

Subject: Comments regarding the Cultural Heritage Survey and Assessment for Rocglen Mine Extension Project

The above mentioned RPS report was sent to Min Min Aboriginal Corporation (MMAC) for perusal and comment. The following comments were received by MMAC via verbal response over the phone:

- The field survey undertaken for the RPS Rocglen Mine Extension Project report was discussed with Gwen Griffen, Chairperson of MMAC. Ron Griffen of MMAC was the representative Sites Officer for the field survey and had expressed his satisfaction with the area covered by field survey to Gwen Griffen.

- MMAC understood and was satisfied with the methodology process used for the field survey and the attached map outlining the field survey units figure.

The above comments for the Rocglen Mine Extension Project report by RPS was dictated to Philippa Sokol Archaeologist representing RPS Australia East Pty Ltd.

MEMORANDUM

Date: 4th June 2010

To: Jane Bender

From: Gunida Gunyah Aboriginal Corporation

Subject: Comments regarding the Cultural Heritage Survey and Assessment for Rocglen Mine Extension Project

The above mentioned RPS report was sent to Gunida Gunyah Aboriginal Corporation (GGAC) for perusal and comment. The following comments were received by GGAC via verbal response over the phone:

- The RPS Rocglen Mine Extension Project report was discussed with the Governing Board and at a community meeting. Overall, the Governing Board and community are happy with the report.

- With regards to the significance of Aboriginal cultural heritage, GGAC strongly believe that all cultural heritage items are significant and believe they tie in as part of GGAC heritage. GGAC aim to protect and conserve all artefacts and cultural material as they are all considered valuable items.

- Monitoring activities should continue to be done with the Aboriginal Community. Community elders are committed to keeping a check on monitoring and making sure that nothing is destroyed, and significant items removed and returned back to the country at a later date.

The above comments for the Rocglen Mine Extension Project report by RPS was dictated to Philippa Sokol Archaeologist representing RPS Australia East Pty Ltd.

Philippa Sokol

From: Michelle Griffiths [wallis.griffiths@bigpond.com]
Sent: Tuesday, 1 June 2010 10:44 PM
To: Philippa Sokol
Subject: Cultural Heritage Survey and Assessment Rocglen Mine Extension Project

Dear Philippa

Thank you for the report, regarding Rocglen Mine Extension Project.

The report is very well detailed.

I would like to make the following comments:

Point 3.2 Traditional Owners – Bigundi Biame Traditional People is not mentioned in this in section and we acknowledge that we are the traditional owners and Custodians of this land and culture and heritage, as part of one of the many sub groups of the Kamillaroi People.

Point 2 Field Survey – You have stated under this section that the survey was not inhibited in any way, and also identified that three stone artefact site were located during this survey.
I think the survey itself was inhibited by the poor visibility due to dense grass coverage in many areas and a very brief survey time. I would recommend that excavation work be carried out, and should be done in conjunction with Red Chief Local Aboriginal Land Council and Bigundi Biame Traditional People where the artefacts were located.

Observation – although the survey of the land was carried out in difficult conditions a limited time frame, three artefacts were found, point to this area being a culturally significant location warranting further investigation, preservation, and documentation. Once mining goes ahead on this land, this historically significant information can never be retrieved and therefore every effort should be made at this stage, prior to desecration of the area, to gather as much significant data and as many artefacts as possible to preserve as much as culturally signify information for future generations of traditional owners and wider community.

The report in its entirety is very well detailed including the management of the cultural and heritage practices and management requirements.

I therefore offer my support of the Cultural Heritage Survey and Assessment Rocglen Mine Extension Project hoping the above comments can be given due consideration.

Wayne Griffiths
Traditional Owner
PO BOX 254
Gunnedah NSW 2380
Tel: +61 2 6742 0311

Mob: +61 409 220 756