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Aboriginal Archaeological Assessment

Ashton Coal Project – Proposed Longwall Extension

Report to:
Ashton Coal Operations Ltd

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Executive Summary

Insite Heritage Pty Ltd has been commissioned by Ashton Coal Operations Ltd (ACOL) to conduct an Aboriginal archaeological heritage assessment of an area that has been selected for the extension of underground mining to its existing facilities (herein described as the study area).

ACOL currently operate both underground and open cut coal mines approximately 14km north of Singleton in the Hunter Valley. The study area adjoins the current underground operations and is separated from the open-cut by the New England Highway.

The Aboriginal archaeological assessment identified seven (7) archaeological sites (artefact scatters and isolated finds) within the study area. The identified sites were of low significance, comprising of low density open artefact scatters or isolated finds. However, the portion of the study area that consists of terrace flanking Bowman's Creek may contain substantial sub-surface deposits and has been assessed as being significant. Impact to sites resulting from mine subsidence has been assessed and it is recommended that an an approval will be required under Part 6 of the NPW Act 1974 prior to remediation works within the Bowmans Creek to Brunkers lane area. Detailed recommendations are contained within the body of this report (refer to Section 6.0 and Appendix C).

The authors of this report are Christopher Carter, Angela Besant and Elizabeth Wyatt of Insite Heritage Pty Ltd.

1.0 Project Overview

1.1 Location

The study area is located in the Upper Hunter Valley, New South Wales, approximately 14km north of Singleton adjacent to the New England Highway and opposite the village of Camberwell.

The location of the study area is outlined in Figure 1 below and covers an area of approximately 40 hectares.

1.2 Project Details

The Ashton Coal Project comprises of an open cut and underground coal mine, a coal preparation and handling plant and rail siding. Operations commenced in 2004.[1]

The proposed development seeks to obtain a variation to the development consent area for ACOL current underground mining operations to allow for the extraction of proposed Longwall Panel 9 (LW9).

1.3 Description of Study Area

The study area consists of a narrow corridor approximately 100m wide which is orientated approximately north/south extending from just north of the Hunter River crossing Bowman's Creek to just south of the New England Highway. The northern sector crosses Brunkers Lane and passes over a rehabilitated area that was previously part of the Ravensworth Mine. Figure 1 contains a plan of the proposed mine extension area.

Much of the study area is currently used for grazing stock. The study area consists of creek bank, terrace and lower slopes. Bowman's Creek flows through sections of the study area with its confluence with the Hunter River approximately 150m south of the study area.

[1] http://www.ashtoncoal.com.au/Information.aspx

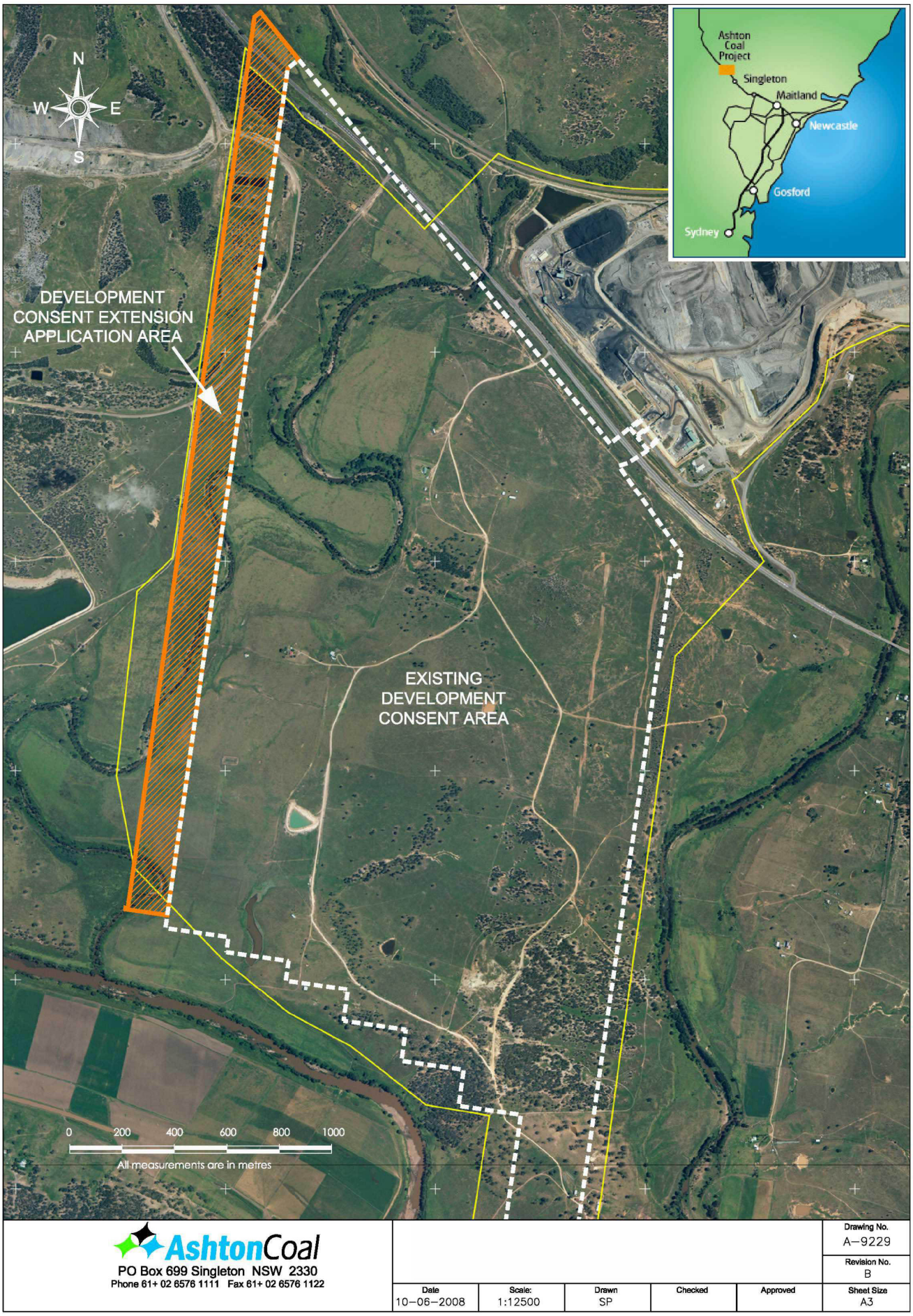

Figure 1 Location of ACOL and area of proposed Longwall Panel 9 (Study Area).

1.4 Community Consultation

Community consultation for the project was conducted by Wells Environmental and ACOL.

Letters of notification of the project and a request for the contact details of Aboriginal stakeholder groups who may have an interest in the project were sent to DECC (Department of Environment & Climate Change), NSW Native Title Services, Office of the Registrar and Singleton Council.

Letters of invitation to register an interest in the project were sent to all stakeholders known to ACOL in accordance with their own register. Additional stakeholders identified by the aforementioned departments were also invited by letter to register. (refer to consultation log in Appendix B).

Advertisement of the project inviting registrations of interest from community stakeholder groups was placed in the public notices section of the Singleton Argus and the Sydney Morning Herald on the 3rd and 10th October 2008.

A total of 21 groups registered interest in the project. All registered groups were contacted by mail and invited to attend in the field work. The field work for proposed LW9 was conducted in conjunction with the field work for the proposed South East Open Cut extension. Due to the number of registrations field work was assigned on a roster basis, of three days per group with the groups indicating preferred days for work. As the field work for LW9 was undertaken in one day, those registered groups who were not in attendance due to the roster system were taken over the study area on the following day

The field work for both projects was attended by the following groups:

Table 1 - List of Community Groups who participated in the field work.

Culturally Aware	Ungooroo Aboriginal Corp.	Hunter Valley Cultural Consultants
Ungooroo C.C. Services	Giwiir Consultants	Wonnarua Nations Aboriginal Corp.
Wattaka Cultural Consultants Services	Upper Hunter Heritage Consultants	Lower Hunter Wonnarua Council Inc.
Wanaruah Local Aboriginal Land Council	Cacatua Culture Consultants	Hunter Valley Cultural Surveying
Wonnarua Culture Heritage	Hunter Valley Aboriginal Corp.	Yarrawalk Enterprises
Aboriginal Native Title Consultants	Wonn1 Contracting	

All registered parties have been forwarded a copy of the draft report for their review and comment.

See Appendices B and C for community consultation log and project advertisements

1.5 Environmental Context

Geology & Soils

The study area is predominantly located within the Hunter Soil Landscape situated in the land adjacent to Glennies Creek (Kovac 1991).

The generalised geology of the Hunter Valley places the study area within the Late Permian Singleton Coal Measures and comprises coal, tuff, conglomerates, shales, fluvial and barrier sandstones (Drysdale *et al*, 2000:12).

The soils of the Hunter Soil Landscape are formed from Quaternary alluvium with the main types consisting of Brown Clays and Black Earths on former channels and tributary flats. Alluvial Soils occur on levees and flats adjacent to the current channel with Red Podzolic Soils and Lateritic Podzolic Soils on former terraces and Non-calcic Brown Soils and yellow Solodic Soils in some drainage lines (Kovac & Lawrie 1991:212).

The flood regime of the Hunter Valley has impacted on the alluvial soils along the Hunter River and major tributaries including Bowman's Creek (Geary *et al*, 2000:70). Deep cuts along Glennies Creek have exposed alluvial soils of over 4m thick.

Landform & Topography

The Hunter Soil landscape is located on the level flood plains and river terraces of Bowmans and Glennies Creek. Elevations range from 20-60m with slope gradients from 0-3%. Local relief is less than 10m (Kovac & Lawrie 1991:213).

Vegetation

Local native vegetation comprises open-woodland with main tree species of ironbark, yellow box, white box, and eucalypt with a grassy understorey (Drysdale *et al*, 2002:25).

Few stands of native vegetation remain in the study area due to the clearing of land for agricultural purposes. Casuarinas were noted along Bowman's Creek.

Hydrology

The study area crosses Bowman's Creek, a permanent (third order) stream that is a tributary of the Hunter River. The confluence of the Hunter River and Bowman's Creek is approximately 150m south of the study area. A number of ephemeral streams (first and second order) flow into Bowman's Creek within the study area. .

The 1:100 flood levels of the Hunter Valley cover the low floodplain and first and second terraces of Bowman's Creek and deposit sediments up to 50cm thick (Mitchell, 2002:7).

2.0 Archaeological Context

2.1 Regional Indigenous Archaeological Context

Aboriginal occupation within the Central Lowlands of the Lower Hunter Valley occurred over 20,000 years ago. Koettig (1986) recorded a date of 20,200 BP from a hearth at Glennies Creek to the north of Singleton. An Aboriginal site on the Liverpool Plains has been dated to at least 19,000 BP (Gorecki *et al,* 1984). The majority of dated sites within the Hunter Valley are less than 4,000 years old (Brayshaw 1994).

In the course of development related studies evidence of Aboriginal occupation has generally been dated to the Holocene period (the last 10,000 years). There are have been a few examples of sites dated back to the Pleistocene within the Hunter Valley supporting evidence found in other part of NSW proving Aboriginal occupation extending back into the Pleistocene, for example the world's oldest ritual cremation at Lake Mungo in western NSW dated to 26,000 year ago (Mulvaney *et al*. 1999). At Glennies Creek Koettig (1986) found evidence of a hearth and dated the associated charcoal to 10,000 to 13,000 years ago. The potential for sites dating back to the Pleistocene in open environments such as predominates in the Hunter is less due to environmental factors. Other Pleistocene dates have been found in other environmental contexts such as Moffats Swamp where Baker (1994) found material dating to 17,000 years ago deep within the Pleistocene sand dunes.

Holocene (the last 10,000 years) are far more common in the open site context. Within this period the morphology of the stone artefacts has been used to give a general estimate of the antiquity of the manufacturing technique. Earlier reduction techniques have been known as the 'core and scraper tradition' that focused on the initial reduction of cores to produce flake blanks for use as tools (Koettig 1990). The resultant cores were abandoned at the stone source and the flake blanks formed at times relatively large tools whose size and shape was dependant upon the character of the stone. The replacement of this technological approach with the manufacture of microliths that were then hafted to produce a functional tool occurred about 5,000 years ago. The change in manufacturing technique replaced the long cutting edges of the previous large flake with a composite tool comprised of small artefacts, resin, bindings and wood. An advantage of the change may have been the use of raw material previously too small for this purpose (Moore, 2000). Reasons for change in technological characteristics have been proposed by Hiscock (1994) who suggested that increased mobility may have become necessary during the Holocene, as people occupied areas of unfamiliar environmental resources, or as climatic fluctuations rendered the environment less predictable. The extension of stone resources to include small pebbles and small outcrops would have increased the amount of time between visits to the stone sources previously used.

Tindale (1974) and Horton (1999) place Camberwell in the area of the Wonnarua peoples, bordering the Awabakal to the east and Worimi to the north. The environment of the Hunter Valley has been reviewed by Brayshaw (1984) based on the records of early explorers. The explorers reported areas of rich meadow, thinly timbered with deep loam soils. Rivers were described with abundant fish. Food resources included 'possum, bear, wallaby, kangaroo rat, bandicoot, porcupine, flying fox,' (Dawson in Brayshaw n.d.). Also "they were expert hunters of the wild ducks, pigeons and brush turkeys. The gins and children hunted and captured the smaller

animal, and sought out the hiding places of various grubs and the nests of the native stingless bees" (Green in Brayshaw nd).

Research in the Hunter Valley has attempted to address various questions related to Aboriginal culture, lifestyles and change over time. Subjects studied include tool manufacture and distribution of stone resources, trade, potential for Pleistocene sites, camp site distribution in the landscape, and landscape modelling.

Material culture of the local Aboriginal people included items made of wood, bark, plant fibres, stone, shell and bone including such items as spears, clubs, shields, dishes, canoes, nets, cloaks, cord and cutting implements.

The Aboriginal population of the region suffered greatly following the arrival of European settlers. Populations were greatly reduced due to the introduction of previously unknown diseases and traditional social structures disintegrated. A significant Aboriginal population remains in the area today and they take an active interest in their cultural heritage.

European settlement of the Hunter Valley commenced in the early 1800's which in turn had a catastrophic impact on the local Wonnarua peoples and their traditional culture. A significant Aboriginal population remains in the area today and they take an active interest in their cultural heritage.

2.2 AHIMS Search

A search of the AHIMS (Aboriginal Heritage Information Management System) register was conducted for an area of 30 square kilometres surrounding the study area. The search identified 50 sites recorded in that area. Table 2 contains the results of the search and Figure 3 displays the location of recorded sites.

AHIMS sites 56-3-0556 (EWA89) and 37-3-0543 (EWA80) are located within the study area and were recorded by Witter in 2002.

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Table 2 Results of AHIMS search

Site_No	Site Name
37-3-0006	Ashton Waterhole Site
37-3-0500	ASH 4
37-3-0501	ASH 5
37-3-0502	ASH 6
37-3-0503	ASH 7
37-3-0511	ASH 15
37-3-0512	ASH 16
37-3-0513	ASH 17
37-3-0514	ASH 18
37-3-0515	ASH 19
37-3-0516	ASH 20
37-3-0517	ASH 21
37-3-0518	ASH 22
37-3-0529	Ashton EWA 24
37-3-0533	Ashton Peak Ridge site
37-3-0534	Ashton Hunter River slope site
37-3-0535	Ashton EWA 97
37-3-0536	Ashton High Spur site
37-3-0537	Ashton High Ridge Workshop site
37-3-0538	Ashton Glennies Flats2 site
37-3-0539	Ashton Glennies Flats site 1
37-3-0540	Ashton Glennies Bluff site
37-3-0541	Ashton Glennies Creek site
37-3-0543	Ashton EWA 80
37-3-0544	Ashton EWA 50
37-3-0545	Ashton EWA 51
37-3-0546	Ashton EWA 52
37-3-0547	Ashton EWA 56
37-3-0548	Ashton EWA 57
37-3-0549	Ashton EWA 60
37-3-0550	Ashton EWA 68
37-3-0551	Ashton EWA 69
37-3-0552	Ashton EWA 70
37-3-0553	Ashton EWA 71
37-3-0554	Ashton EWA 78
37-3-0555	Ashton EWA 83
37-3-0556	Ashton EWA 89
37-3-0557	Ashton EWA 91
37-3-0562	SC - 1
37-3-0572	SC - 12
37-3-0573	SC - 13
37-3-0577	SC - 17
37-3-0578	SC - 18
37-3-0579	SC - 19
37-3-0580	SC - 20
37-3-0581	Ashton EWA 93
37-3-0737	Ashton EWA 77
37-6-0235	Rixs Creek
37-6-0236	Rixs Creek

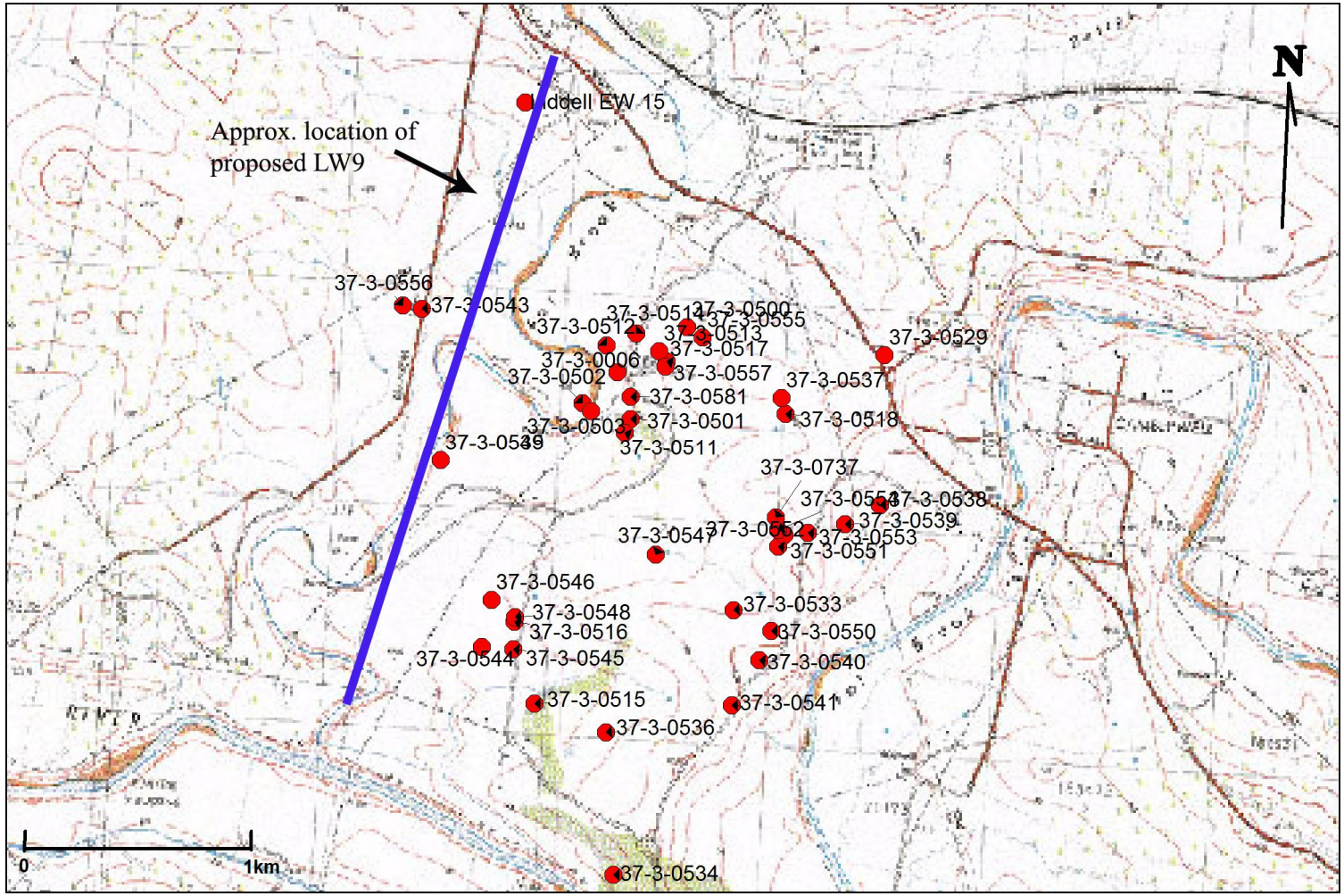

Figure 2 Location of recorded archaeological sites in the proximity of the study area.

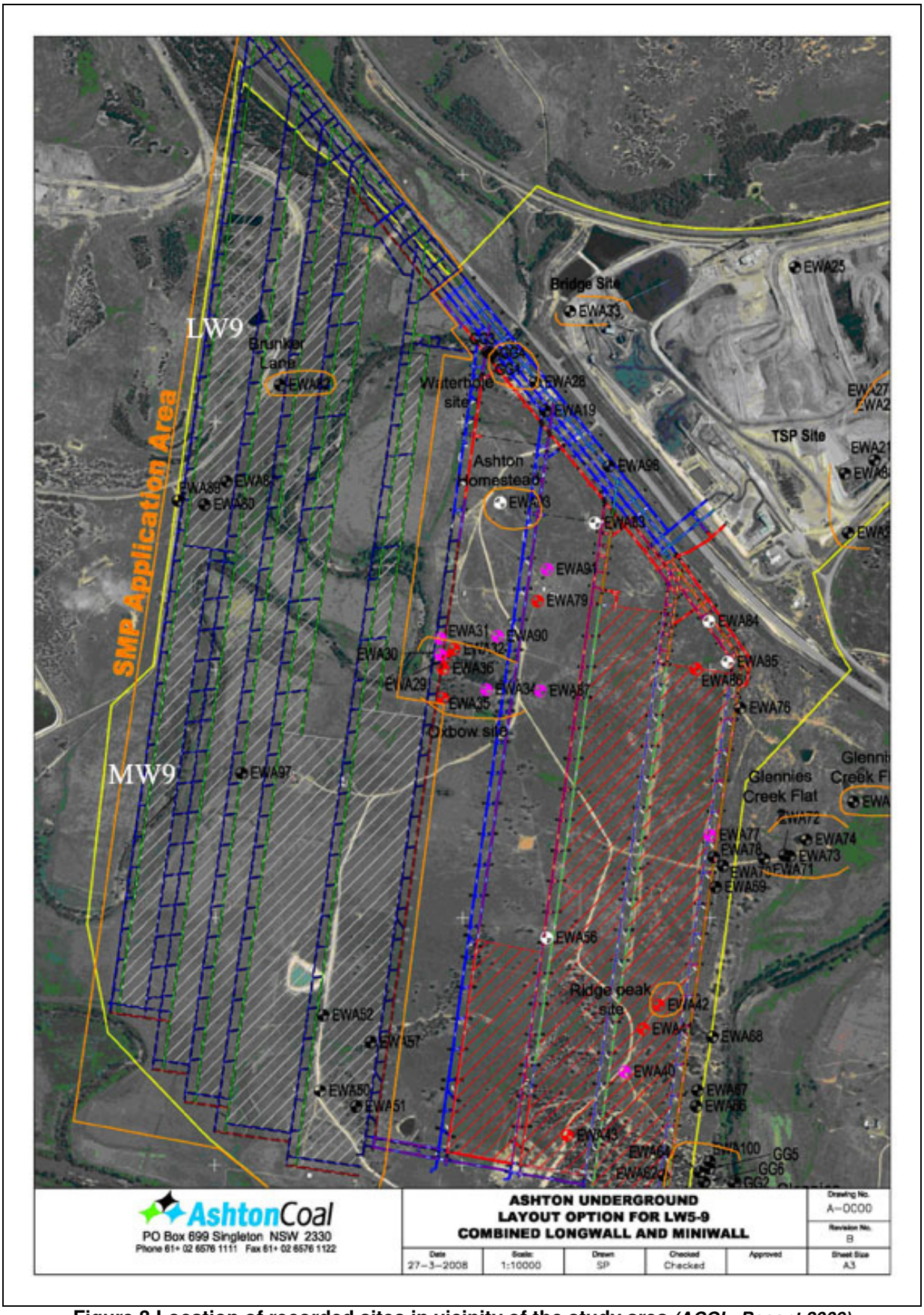

Figure 3 Location of recorded sites in vicinity of the study area *(ACOL, Besant 2009)*

2.2 Local Indigenous Archaeological Context

A review of previous archaeological assessments was conducted in proximity to the proposed development in order to place the study area into an archaeological context.

Koettig (1986) excavated a number of sites on the alluvial flats of Glennies Creek following a survey for the Glennies Creek to Singleton pipeline. Excavations revealed distinct A and B soil units and a geomorphologist who investigated this site suggested that the B unit could date from 10,000 to 30,000 years old. Of note, one site was radiocarbon dated to over 13,000 years BP and contained evidence of a hearth and associated artefacts. This site was located 1m below the ground surface within the B soil horizon. Koettig later suggested that other sites of a Pleistocene age within the region were likely to found at such depths in clay deposits.

Fifty-five archaeological sites have been located with the Camberwell lease to the northeast of the current study area (Koettig,1990). Prior to the commencement of mining within this lease, excavations were undertaken to gain a better insight to the variability of the archaeological record at a regional and local level. These excavations revealed the following site types - hearths, heat treatment pits and an oven. Artefact scatters were found to be more extensive and dispersed than originally thought but did not have large concentrations as have been found at other sites within the Hunter Valley. The most common material was found to be mudstone and artefact types included backed blades, manuports, anvils and hammerstones. It was also determined that much of the silcrete had been heat-treated.

Excavation showed that these sites represented discrete activity units, knapping floors, ovens, hearths and heat treating areas; distance between these features was unpredictable, and their distribution along the creek lines unpattemed. All the dated sites found at Camberwell were of the mid-Holocene period (Koettig 1992).

The mine site at Narama has been extensively surveyed, and a number of sites subsequently excavated by Rich (1992). Previous work had found the majority of sites to lie close to the creek line however there were a few sites, under thick grasses, found on the hill slopes (Rich 1992:18-20). The research focus behind the excavation of the sites at Narama by Rich was to determine the density and type of materials and distribution, particularly the relationship of sites to creeks. The concentration of archaeological material was found on the central valley floors or the alluvial terraces.

Stuart (1999) surveyed an area for a proposed waste rock dump to the east of Glennies Creek and to north of the Camberwell village. The survey concentrated on an area along Station Creek, a tributary of Glennies Creek. The survey located 3 artefact scatters and 16 isolated finds. No sites were assessed as being of high significance, one artefact scatter was regarded as being of medium significance and the remainder were of low significance.

HLA Envirosciences (2005) conducted subsurface investigations for the proposed extension of the Rail Unloader Facility at Newdell Junction, just north of Ravensworth for Macquarie Generation. The previous survey identified three sites (MG#1, 2 &3), all open artefact scatters, located on lower slope and in an open depression. The main artefact types recorded at the sites include flakes, broken flakes, retouched flakes and cores, with raw material types of silcrete, mudstone and fine grained siliceous (FGS). Subsurface testing at sites MG#1 and MG#2 and in designated areas of sensitivity across the site. A total of 197 whole and broken artefacts were

recovered from subsurface testing, with the majority (156) were identified as flakes. 24 retouched flakes were also recorded of which 5 were backed artefacts. 5 cores were also identified. 88 of the artefacts were manufactured from Silcrete, and 88 from FGS. Small numbers of chert, volcanic and quarts were also recorded. The majority of artefacts were recovered from areas of testing located on the lower slopes. Only three artefacts were recovered from test pits located on the alluvial flat, but it was considered that artefacts may have been removed from this area due to flooding or buried deeper than 80cm the limit of the excavations.

HLA Envirosciences (2001) carried out an archaeological assessment for White Mining Ltd at Camberwell for the Ashton Coal Project. This area adjoins the current study area immediately to west of Glennies Creek. Vehicle and foot surveys were conducted over the 801ha proposed for impact (HLA 2001:16). The survey identified twenty four archaeological sites. Twenty of the recorded sites were identified as artefacts scatters ranging from 2 to approximately 200 artefacts, with the majority containing 4-10 artefacts. Four isolated artefacts were also recorded. The majority of recorded artefact types were flakes pieces and flakes with some cores and tools, with silcrete and mudstone the dominant raw material with minor quartz and quartzite. The majority of sites were located along drainage channels, and adjacent creek flats and low ridge lines. Witter (2002) resurveyed the area and completed a more detailed analysis. He revisited previously recorded sites and also identified an additional 18 sites, 31 isolated artefacts and 6 sets of grinding grooves. At three of the recorded sites (Waterhole, Oxbow and Glennies Creek sites) over 200 artefacts were identified. All three sites were located on high ground adjacent to a deep section of a permanent creek. There was also a close similarity in artefact type at the three sites. All three sites were noted as having a low component of micro-blade technology, and two sites also had associated grinding grooves.

Umwelt (2002) conducted an archaeological assessment for enlargement of a mine water storage dam for the Nardell Coal Mine. The survey covered an area of approximately 1200 x 300m and was situated on a hill and gently sloping land to the north of the New England Highway and south of the Macquarie Generation coal conveyor, north of Ravensworth. The survey identified six sites (N1-N5 and the Dam Site) predominantly open artefacts scatters.

The Umwelt (2002) survey also revisited five sites identified by Stuart (1996) located in Nardell Colliery land, north of the Macquarie Generation coal conveyor (Nard 8,9,11,12&13). The dominant raw material types were mudstone and silcrete with some porcellanite and glass with main artefact types recorded as flakes, broken flakes, flaked pieces and cores. The largest site recorded by Stuart and re-recorded by Umwelt, Nard 12 (37-3-0523), comprises of 150 artefacts in a 50m x 30m area. Severe sheet erosion and previous disturbances were noted at the site.

In 2004 Umwelt surveyd land at Glendell for a proposed open cut mine project. This area is approximately three kilometres to the north of the study area and comprises similar landform units, within the Glennies and Bowman's Creek catchments. The survey recorded 29 artefact scatters, 7 isolated finds and a quarry site. The majority of sites were within 30m of watercourses (63%). Three sites contained more than 100 artefacts with mudstone being the most commonly utilised material followed by silcrete. Two sites were deemed to be of high significance and three to be of moderate to high significance.

In 2008 Besant conducted an archaeological survey along the route of a proposed pipeline corridor from Camberwell to the Liddell and Bayswater Powerstations. The southern sector of the corridor is in the vicinity of the study area. This survey located

15 sites however only one (Liddell EW15) was in the vicinity of the study area and that was over 2 kilometres to the west (check please) Liddell EW15 was an artefact scatter of low significance.

Investigation that directly relates to the study area was carried out by Hardy (2001) and Witter (2002) when they surveyed an area between Bowman's Creek and Glennies Creek for White Mining Pty Ltd. This survey covered an area to the east of the study area although portions of the study area were covered at the time. Two sites were located within the study area. EWA80 contained two artefacts and EWA89 had only one.

A number of significant sites were located adjacent to the study area. These include the 'Oxbow Site', 'Waterhole Site', 'Brunker's Lane Site' and 'Asthon Homestead Site' (see figure 3). The Oxbow site was spread over an area measuring approximately 400m x 150m. Witter recorded over 200 artefacts at this site and suggested it may have been related to fish traps (2002: 75). The Waterhole site contained 36 artefacts and a set of nine grinding grooves (*ibid*: 58). The Brunkers Lane site is located to the east of the study area and contains eleven artefacts.

Mitchell (2002) conducted a geomorphological study into Witter's survey area and this included a pit dug into a terrace within the Asthon Glennies Creek site. Of note, an artefact was exposed in the pit wall by rainwash. This artefact was 550mm below the ground surface within a buried soil profile (Mitchell, 2002:22). Mitchell suggested this buried soil profile may be of an early Holocene or possibly a late Pleistocene age.

Sites dating to the Pleistocene are uncommon in the Hunter Valley and, as such, sites with any potential to provide dates of this age are deemed to be very significant.

2.4 Predictive Model of Archaeological Potential

The archaeological record of the Hunter Valley has revealed a distinct site patterning for the region. Previous archaeological investigations have shown that archaeological sites are more prevalent in areas in close proximity to water sources with the number and density of archaeological sites increasing with the permanence of the water resource. Areas surrounding creek confluences have also been shown to be of importance in the region and potentially contain larger and more complex archaeological sites. River terraces have also been noted to have been favoured areas for Aboriginal encampments. The preference for occupation close to water resources may also lead to the re-deposition of artefacts in alluvial sediments and the exposure of subsurface archaeological material as a result of geomorphological processes. Whilst these areas can be favoured for larger camp sites, smaller artefact scatters may occur in all landscapes, resulting from movement between areas and the procuring of resources.

The following is a brief description of the site types that may occur within the study area:

ARTEFACT SCATTERS: In most archaeological contexts, an artefact scatter has been defined as either the presence of two or more stone artefacts within 50 or 100 metres of each other.

An artefact scatter may consist of surface material only, which has been deflated by erosion, or it more typically involves a sub-surface deposit of varying depth. Other

features may be present within artefact scatter sites, including hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent the evidence of:

camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of stone or wooden tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;

hunting or gathering events;

other events spatially separated from a camp site (eg. tool production or maintenance); or

transitory movement through the landscape.

Isolated finds are single artefacts. They may be representative of simple, singular discards or may be all that is visible within a site, with other material either obscured from view or buried beneath the surface.

The detection of artefact scatters depends upon conditions of surface visibility and ground disturbance and post-depositional change through either sediment accumulation or surface erosion. Vegetation cover and deposition of sediments generally obscures artefact scatter sites and prevents their detection during surface surveys. High levels of ground disturbance can also obscure or remove evidence of a site.

BURIALS: Human remains tended to be placed in hollow trees, caves or sand deposits. Usually burials are only identified when eroding out of sand dunes or creek banks, or when disturbed by development. Aboriginal communities are strongly opposed to the disturbance of burial sites.

Burials have been located in the Hunter Valley (*pers. obs*. Muswellbrook, 2003) and the Bolwarra Burial Site (AHIMS Site No. 36-4-0061) is located in the region. However, the probability of detecting burials during fieldwork is extremely low.

GRINDING GROOVES: Grinding grooves are formed in stone where stone hatchet or axe 'blanks' have had their edges ground sharp. Suitable blanks are prepared by taking flakes off the edges of pebbles then grinding the edge smooth and sharp with a repeated, linear motion across the surface of the grind-stone. Sandstone is generally preferred, as the sand particles have excellent abrasive qualities, particularly when water is introduced onto the grindstone. Grinding grooves are located in Bowman's Creek (AHIMS Site No. 37-3-0006).

SCARRED TREES: Scarred trees contain scars caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Mature trees, remnants of stands of the original vegetation, have the potential to contain scars.

Based on the sites recorded in the area and on the basis of previous studies it is predicted that the most likely sites types to be recorded are isolated finds and/or artefact scatters. There have been few modified trees recorded in the area probably owing to the mining and pastoral history of the area. Grinding grooves may occur in sandstone along watercourses.

Artefact scatters occur to the east of the study area, particularly on the terraces above Bowman's Creek. Sites are likely to occur within the study area on the creek margins and on the slopes leading to and on the terraces flanking Bowman's Creek

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3.0 Archaeological Survey

3.1 Survey Objective

The aim of the survey was to identify any Aboriginal sites or areas of potential archaeological deposit within the study area which may be impacted by the proposed development. Survey results were then assessed as to their significance and the likely impact of the proposed development.

3.2 Survey Details

The survey was conducted on 18 December 2008 and was carried out by Angela Besant, Elizabeth Wyatt and Christopher Carter (archaeologists) and members of the local Aboriginal community. A roster had been developed for the fieldwork to occur in conjunction with the south east open cut assessment (Besant 2009). Half the registered stakeholders participated in the Longwall 9 survey on the 17th December and the other half on the 18th December, 2008.

The survey of the study area was conducted on foot.

Figure 4 contains a map showing landscape unit boundaries, Table 3 outlines the survey details.

Each survey unit was walked by at least four persons, walking parallel in a relatively straight lines deviating to inspect exposed or disturbed areas more closely. An assumed coverage of 4m per person was used to calculate the area surveyed.

Sites located were recorded by their location, visible extent, landform and aspect. Site boundaries were defined arbitrarily; generally because of restrictions to surface visibility. Stone artefacts were recorded at a basic level including type, colour, raw material, basic dimensions and obvious diagnostic features (eg cortex, edge wear, backing etc). Artefacts were not removed from the area.

Appendix A contains details of artefacts located.

The total area of the study area is approximately 40 ha. The survey inspected 16.8ha or approximately 42% of the study area. The total effective survey coverage (visible ground surface inspected taking into account archaeological visibility) was 2327sqm or 0.7% of the study area.

Surface visibility was generally very low due to a dense grass cover. A few exposures were noted along the edge of the creek terrace. Stock trails and dams provided limited exposures as did vehicular tracks. There were very few mature trees located within the study area. All trees of any size were inspected for evidence of scarring.

The total effective survey coverage of the study area was quite low (0.7% of study area). However the lack of archaeological visibility due to the regular flood deposition of surface soils meant that increased surface visibility over the floodplain may have not improved the chances of locating more sites.

The level of survey coverage and recording is considered satisfactory to present an effective assessment of the Aboriginal heritage resources identified and potentially present within the study area. This survey provides a valid basis for determining the

probable impacts of the development and formulating recommendations for the management of the identified and potential Aboriginal heritage resources.

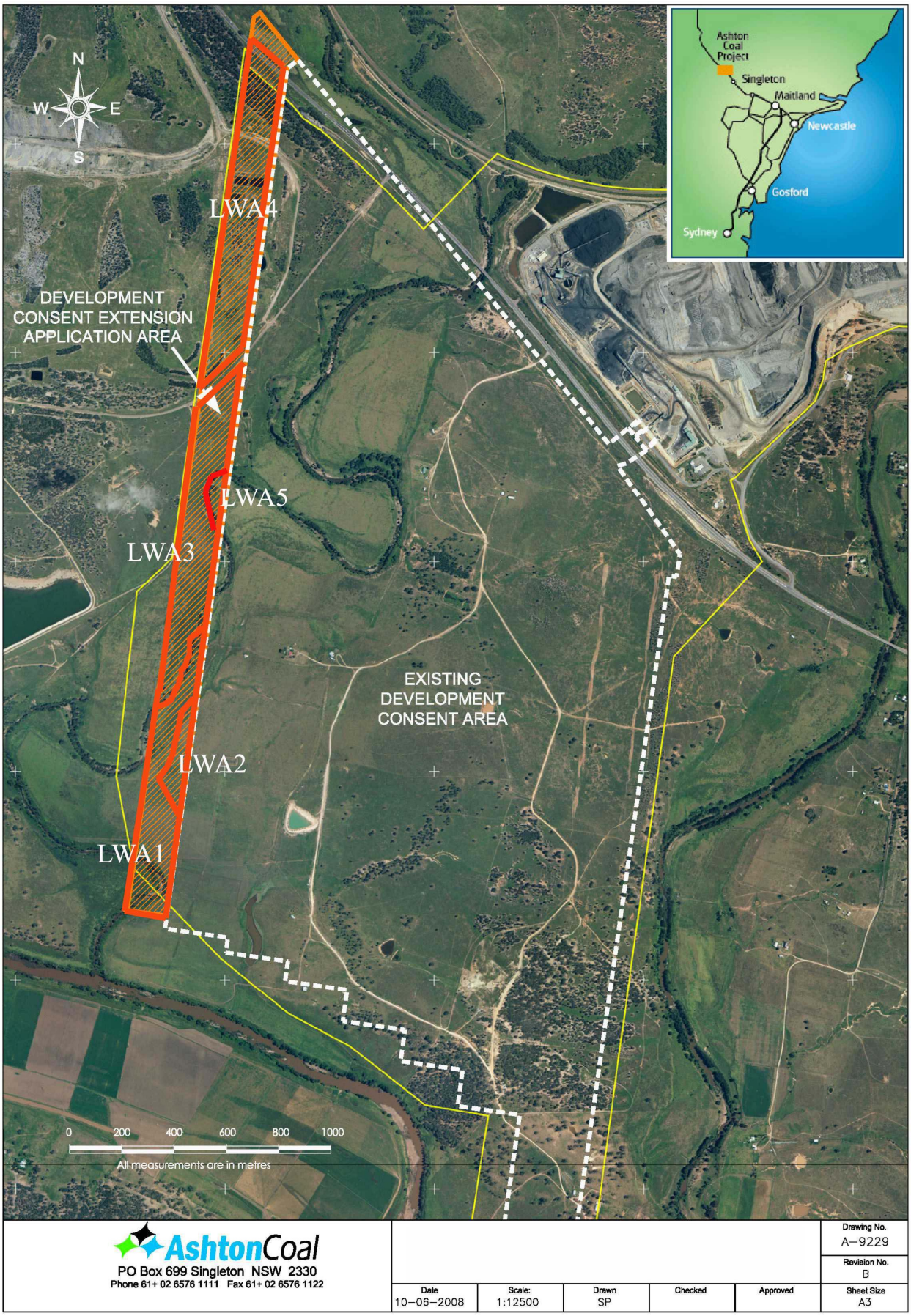

Figure 4 Survey Areas

Table 3 Survey Details

Survey Unit	Location	Landform	Approx Area	Surface Visibility (SV)	Arch. Visibility (AV)	Effec. Coverage m²	Sites	Notes
LWA1	At southern end of study area flanking bend in creek and floodplain to the north.	Floodplain creek bank	9.3ha	<1%	20%	96	0	Very dense grass cover. Limited exposure along vehicular tracks. Cut in creek bank indicate alluvial deposit over 4m deep.
LWA2	Eastern edge of study area cuts into terrace	Terrace	1.3ha	<1%	30%	39	1	Limited exposures on stock trail on edge of terrace above floodplain. Artefacts located.
LWA3	Mid-section of study area west of Bowman's Creek	Floodplain creek bank	12.1ha	<2%	30%	726	0	Very dense grass cover. Limited exposure along vehicular tracks. Woodland of casuarina and eucalypt along creek bank.
LWA4	West of Bowman's Creek toward Brunkers Lane	Ridge crest	11.5ha	<5%	60%	3540	6	Limited exposures in heavy grass cover with a few stands of casuarinas with high exposure underneath. Artefacts located along vehicular track at the base of slope / creek flats margin.
LWA5	Bowmans Creek margins	Creek bank	.9 ha	<1%	60%	54		Small areas of creek margin / bank exposed by sheet erosion and animal tracks.

Note: Surface visibility is the estimated percentage of surface exposed.

Archaeological visibility within the exposures above i.e. leaf litter over bare earth reduces archaeological visibility from 100% (100% being bare earth – in-situ surface, no silt, gravel or other obscuring factors)

Plate 1 View to north across LWA1

Plate 2 View to north from LWA1 across Bowman's Creek

3.3 Survey Results

The survey identified a total of 21 artefacts from seven sites. Figure 5 details the location of each site within the study area whilst Table 4 below, outlines the site details.

Table 4 Details of identified sites

Survey Unit	Site	Landform	Location GPS (UTM, datum WGS84)	Exposure (Approx. m)	Visibility	Description
LWA2	1	Terrace	E 56S 317450 N 6404979	60 X 5	100% SV 50% AV	Artefact scatter: Exposure on edge of terrace. . Low potential for sub-surface material. Artefacts: 1 chert, 1 FGS, 1 silcrete, 8 mudstone.
LWA4	1	Ridge crest	E 56S 317665 N 6406142	5 x 10	30% SV 60% AV	Isolated find: Exposure on edge of dam. Artefact: 1 mudstone
LWA4	2	Ridge crest	E 56S 317487 N 6405997	0.5 x 0.2	50% SV 60% AV	Isolated find: Exposure on edge of drill pad. This is probably previously recorded site EWA80 (Witter 2002) Artefact: 1 silcrete
LWA4	3	Ridge crest	E 56S 317431 N 6405609	2 x 1.5	50%SV 100% AV	Artefact scatter: Exposure along vehicular track. Artefacts: 4 mudstone, 1 silcrete
LWA4	4	Ridge crest	E 56S 317456 N 6405801	2 x1.5	50%SV 100% AV	Isolated find : Exposure along vehicular track. Artefacts: 1 mudstone
LWA5	1	Creek bank	E 56S 317548 N 6405739	1x .5	<20% SV 30% AV	Isolated find: Exposure along creek bank Artefacts: 1 silcrete
LWA5	2	Creek Bank	E 56S 317595 N 6405963	1x .75	<20% SV 30% AV	Isolated find: Exposure along creek bank Artefacts: 1 mudstone

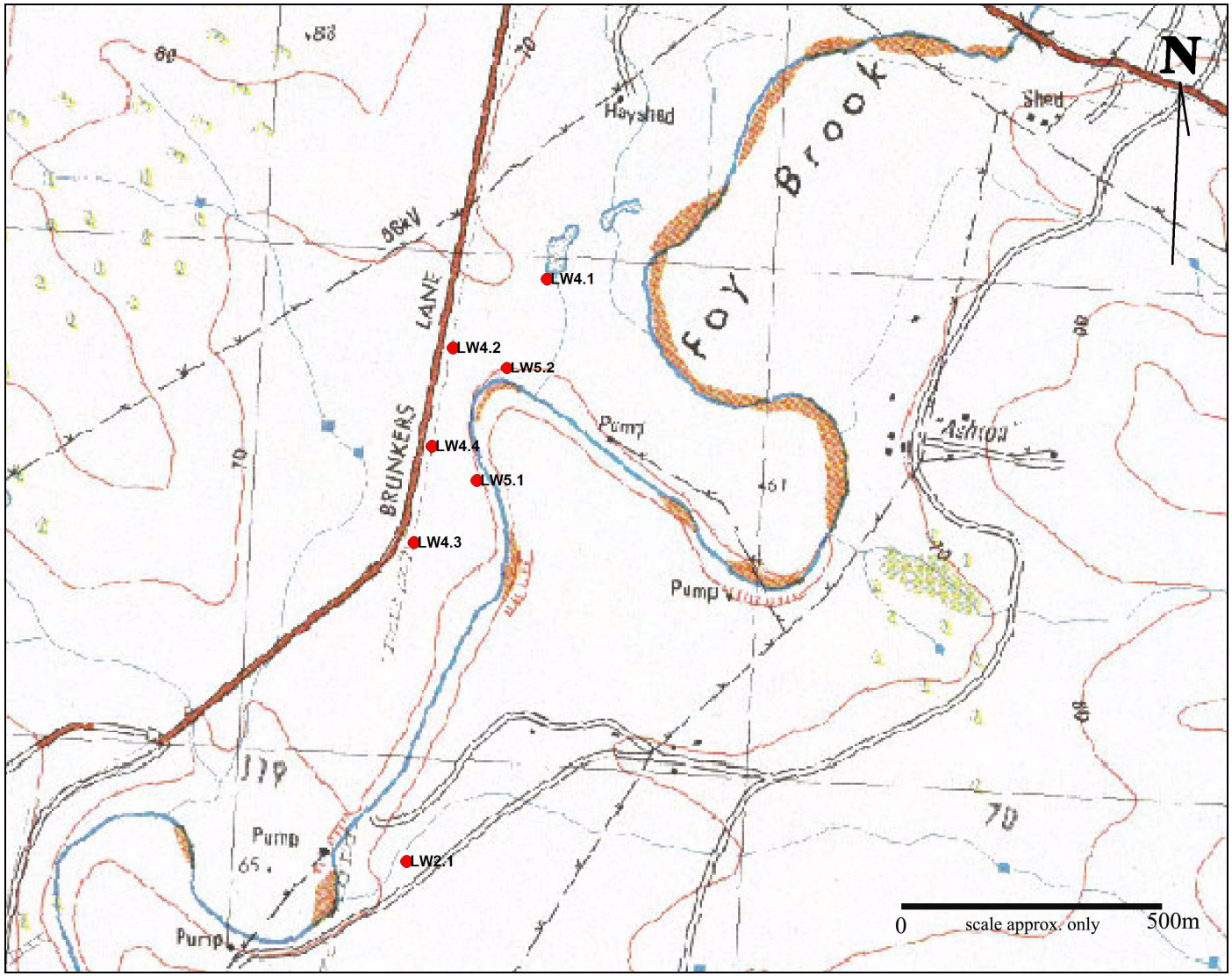

Figure 5 Location of identified sites

Plate 3 View north across LWA2. Yellow flag denotes artefact in LWA2/1.

Plate 4 View south across Bowman's Creek LWA1

Plate 5 Exposure under casuarinas in LWA3

Plate 6 LWA 5

3.0 Discussion & Interpretation

This survey located 21 artefacts from 7 recorded sites (including both artefact scatters and isolated finds).

Site Integrity:

Much of the study are has been affected by recent land use (<200 years ago). Vegetative changes have occurred through land clearance. Low surface visibility most certainly affected the number of sites located. Exposures with high surface visibility were commonly the result of recent activities and included ground disturbance brought about via dam construction, vehicular tracks and stock movements. While such activities may reduce site integrity, they increase the likelihood of site identification.

Bowman's Creek is subjected to periodic flooding and deep alluvial soils are located across its floodplain. Several overflow channels and/or old streams cut through areas to the east of the creek. Much of this area has been subjected to cultivation for pasture.

Overall, site disturbance is relatively limited in area and it is likely that large areas of intact deposit lie beneath identified sites. There is a potential for [deep] sub-surface deposits within the study area that are of sufficient integrity to be a research value.

Figures 3 to 6 contain typical examples of the study area, note the lack of surface visibility.

Lithic items:

Twenty-one lithic artefacts were recorded during this survey. The survey objective was to ascertain if the study area contained Aboriginal heritage items and to assess the significance of any such material. Recorded details of the lithic items recorded can be found in Appendix A.

The major raw materials identified were indurated mudstone (also identified as tuff by some recorders), silcrete, chert and fine grained siliceous material (FGS).

Mudstone is a sedimentary material that may become indurated through pressure or heat or a combination of both. When indurated it becomes more brittle and easily flaked. Tuff is a fine grained stone formed after a cloud of ash ejected by volcanic event descends to form a thin layer over the ground surface. After burial some tuff beds become indurated through a metamorphic process in which the stone hardens and recrystallises to a less friable structure. Tuff is generally grey in colour however it is porous enough to absorb various minerals, particularly iron, to give a yellow, red or orange colour. Volcanic tuffs are widespread across the Hunter Valley and along the coast near Newcastle. The study area lies within the Hunter volcanic arc and the late Permian Singleton Coal Measures are made up of coal, tuffs, conglomerates and shales (Drysdale *et al*,200:15-17). It is highly likely that the material variously described as mudstone and tuff is tuffaceous. Tuff/mudstone cobbles can be found amongst river gravels in some areas of the Hunter River and this provides a readily available source.

Silcrete is a brittle, intensely indurate rock composed mainly of quartz clasts cemented by a matrix which may be well crystallised quartz, crypto-crystalline or amorphous (opaline) silica (Langford-Smith, 1978:3). The texture of silcrete reflects

that of the host rock (eg sandstone) and clasts may range in size from very fine grains to boulders. Silcrete is normally grey in colour but can be whitish/cream, red, brown, black or yellow. It shatters very readily into sharp, angular pieces with a conchoidal fracture and newly broken rocks have a semi-vitreous sheen (*ibid*: 4). It is an attractive material to the local Aboriginal people because of its flaking properties and availability. Flakes have sharp, reasonably durable edges and implements made from the stone were used for a variety of tasks, including wood-working and spear barbs. Studies have identified a number of sources of silcrete in the Hunter Valley including Saltwater Creek (Koettig & Hughes, 1985), Lemington (Brayshaw *et al*, 1996), Jerrys Plains, Bengalla (Kuskie, 2002), Singleton and Mount Arthur (*pers. obs*.).

The assemblage was made up of sixteen mudstone (71%), three silcrete (14%), one chert and one FGS artefact. The small size of the overall assemblage is not sufficient to warrant detailed comparative analysis.

Spatial Patterning:

The spatial distribution of evidence can be examined, particularly in relation to environmental variables such as slope, landform element and distance to potable water. Given the relatively homogenous study area and the very limited surface visibility it can be surmised that the artefacts are small surface exposures in a probable continuous sub surface artefact deposit associated with the Bowmans Creek flats.

Site Interpretation:

This survey recorded 21 artefacts from 7 'sites'. This is consistent with Witter's (2002) identification of the Brunkers Lane site and his suggestion that the Bowmans Creek flats are likely to contain subsurface deposits. It is inferred from the evidence within the study and from other sources that:

Members of the Wonnarua 'tribe' occupied the locality, with the first occupants probably arriving more than 13,000 years ago;

The locality was suited to longer term occupation because of the presence of exploitable resources and its proximity to permanent water;

The locality provided access to both aquatic (riverine and wetland) and terrestrial resources; and

The stone material indurated mudstone/tuff was favoured for stone-working activities and these materials were obtained from local sources.

There is high potential for subsurface deposits to occur within the study area, particularly along the terraces east of Bowman's Creek and along the creek margin.

4.0 Significance of Identified Sites

4.1 Significance Criteria

The basic processes of assessing significance for items of heritage are outlined by *The Australian ICOMOS Charter for the Conservation of Places of Cultural Significance: the Burra Charter* (amended 1999) and its associated *Guidelines*. Sites may be significant according to several criteria, including scientific or archaeological significance, significance to Aboriginal people, aesthetic value, the degree to which a site is representative of archaeological and/or cultural type, and value as an educational resource. In New South Wales the nature of significance relates to historic, aesthetic, social, scientific, cultural or educational criteria and sites are also assessed on the degree to which they exhibit rare or representative characteristics of their type, or whether they exhibit historic or cultural connections.

SCIENTIFIC SIGNIFICANCE

In order to determine scientific significance it is necessary to first place sites within a local and regional context. This process enables the assessment of any individual site in terms of merit against other sites of similar nature within similar contexts.

PUBLIC SIGNIFICANCE

The sites are assessed in terms of their educational value, to enhance community knowledge and appreciation of cultural heritage.

CULTURAL SIGNIFICANCE

Generally, all sites are of significance to the Aboriginal people. It has been recognised however that with the widespread nature of site distribution, sites will eventually be impacted upon by development. It is however necessary to conserve where possible sites which are of high significance to the community.

REPRESENTATIVE SIGNIFICANCE

Site significance is rated low, medium and high. The significance of individual sites is determined by factors such as representativeness, rarity, and the sites potential to add scientific data to what is known about past human occupation of the Australian continent. Conservation outcomes are determined by comparison of a site's qualities with known sites in the region that have been protected.

4.2 Significance Assessment

The following significance assessment is based on the guidelines listed in the preceding section. For the significance assessment regarding the cultural significance of the sites, please refer to community reports in Appendix C.

Table 5 Significance Assessment

Site Name	Site Type	Scientific Significance	Public Significance	Representative Significance
LWA2/1	Artefact scatter	Low	Low	Low
LWA4/1	Isolated find	Low	Low	Low
LWA4/2	Isolated find	Low	Low	Low
LWA4/3	Artefact Scatter	Low	Low	Low
LWA4/4	Isolated Artefact	Low	Low	Low
LWA5/1	Isolated Artefact	Low	Low	Low
LWA5/2	Isolated Artefact	Low	Low	Low

Although the sites located during this survey were all assessed as being of low significance, there is some potential for significant sites and/or artefacts to be located below the ground surface.

5.0 Legislation

THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT (1979)

This project is being assessed by the Department of Planning under Part 3(a) of the EP&A Act 1979. This Act over rides other state legislation as the project is considered State significant. The guidelines on the preparation of planning instruments specifically state that Aboriginal heritage should be assessed as an integral part of these studies.

Part IV of the Act determines the way in which consent authorities make decisions regarding development applications. Section 79C (b) states that;

"The impact of development on the natural or built environment should be considered before consent is granted; and"

Part V of the EP&A Act points out that State government agencies which act as determining authorities must also conduct reviews of their own or other agencies activities in terms of impact on the environment. Where these impacts are deemed to be minimal a Review of Environmental Factors is required, although where impacts are greater an EIS would be generated. This part of the Act requires that;

'any impacts on a locality having aesthetic, anthropological, architectural, cultural, historic, scientific, recreational, scenic or social significance or other special value for present or future generations' (DUAP 1995) be accounted for.

THE NATIONAL PARKS AND WILDLIFE ACT 1974

Whilst this Act is not triggered under Part 3A of the EPA Act, it forms the basis on which DECC provide their recommendations to the Department of Planning upon their review of the project. The NPW Act (section 90) provides statutory protection for all material evidence of Aboriginal occupation of NSW. Aboriginal places which are areas of cultural significance to the Aboriginal community, are also protected by the 1974 Act (section 84) that states:

The Minister may declare lands to be 'protected archaeological areas' to preserve Aboriginal places and relics; and

It is an offence to disturb or destroy an Aboriginal place or relic without first obtaining written consent from the Director of National Parks and Wildlife Service NSW.

The National Parks and Wildlife Act 1974 requires the obtaining of a Section 87 Permit if a person wishes to excavate land to disturb or discover an Aboriginal object (relic) or disturb or move an Aboriginal object.

A Section 90 Heritage Impact Permit is required if an activity will or is likely to destroy, damage, desecrate or deface and Aboriginal object or Aboriginal place.

A relic is defined as any deposit, object or material evidence (not being a handicraft made for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains (NPW A s.5(1)).

6.0 Management Recommendations

The following management recommendations are applicable to the study area as surveyed at the time.

i) The areas known to contain artefact scatters should be regularly monitored by the Aboriginal Community giving them the opportunity to record and relocate artefacts should subsidence appear to damage the site.

ii) The flood plain and terraces adjacent to Bowman's Creek have been previously identified as areas of archaeological sensitivity and should be regularly monitored by an archaeologist with regard to the effects of subsidence. Should subsidence that may damage sites be noted, further action can be taken to mitigate damage to the site.

iii) An approval will be required under Part 6 of the NPW Act 1974 prior to remediation works within the Bowmans Creek to Brunkers lane area.

iv) North of Brunkers Lane the area is considered disturbed by the Macquarie Generation emplacement area.

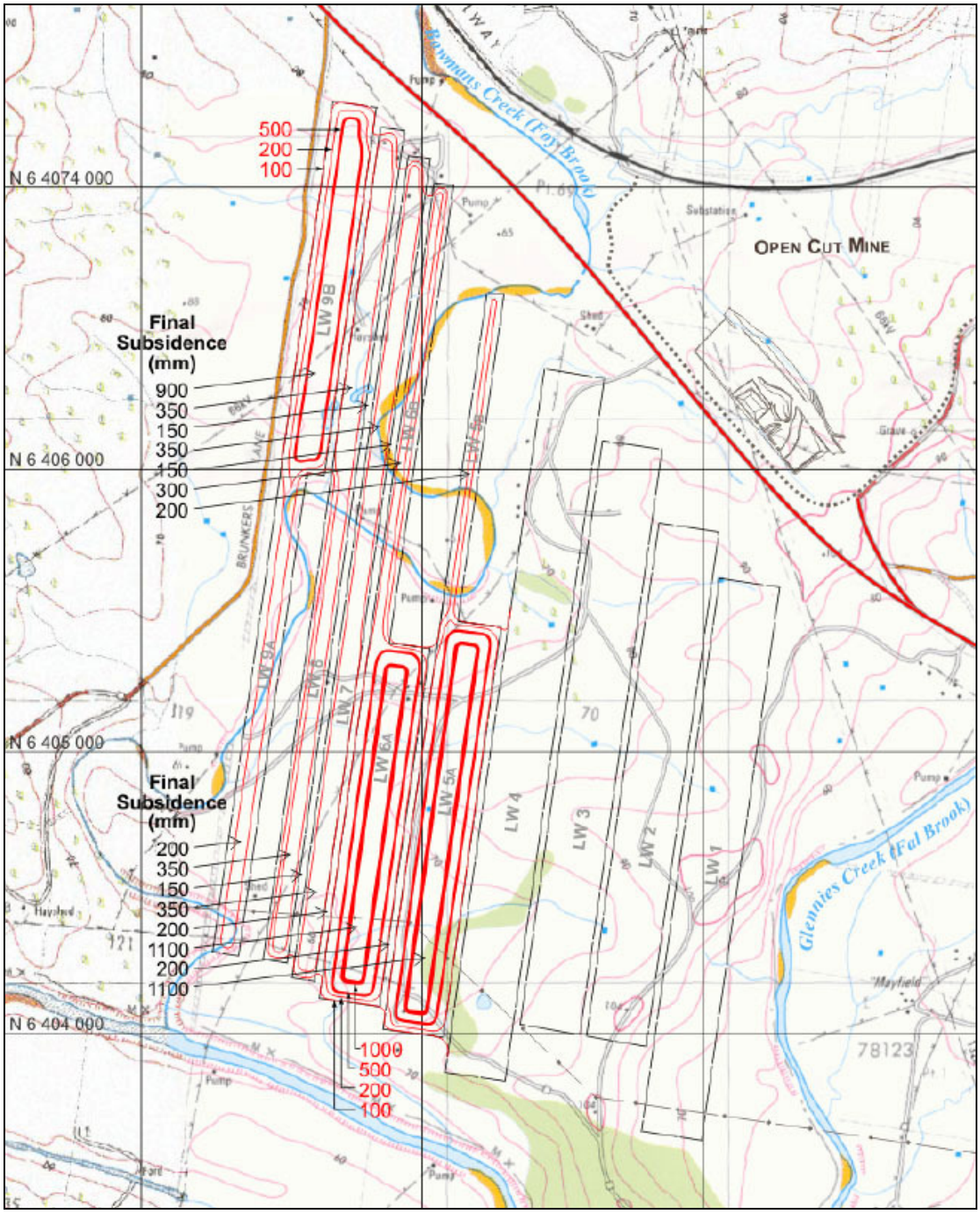

Figure 6 Contours of final subsidence (from SCT Pty Ltd 2008).

8.0 Glossary

Angular Fragment: Flaking debris that lacks diagnostic features. Also referred to as a flaked piece (Holdaway & Stern 2004:113).

Artefact: Any object, usually portable, that has been made or shaped by human hand (Mulvaney & Kamminga 1999:425).

Assemblage: A set of artefacts found in close association with each other (Flood 1989: 281).

Backed: Unidirectional or bi-directional retouch located on one lateral margin of a tool (Holdaway & Stern 2004:159).

Backed Blade: A blade with one margin deliberately blunted to form a penknife-like back (Flood 1989:281).

Basalt: Volcanic igneous rock dark in colour (black – dark grey). Fine grained containing 45-55% silica, iron and magnesium. (Holdaway & Stern 2004:22).

Bioturbation: Reworking of sediments through the action of ground dwelling life forms such as ants, termites, and earthworms (Mulvaney & Kamminga 1999:425).

Blade: A parallel sided flake, twice as long as it is wide (Flood 1989:282).

Broken Flake: A flake fragment which displays only part of the diagnostic features of a complete flake. Broken flakes are classed are classed as either proximal flakes, medial flakes, lateral and distal flakes depending on their visible attributes (Holdaway & Stern 2004:111).

Chert: A fine grained crystalline aggregate of silica (Flood 1989:82).

Clay: Sediment that contains particles less than 4 µm in size (Kearey 2001:49).

Coal: Combustible sedimentary rock, greater than 50% carbonaceous material (Kearney 2001:51).

Colluvial: Transported by non fluvial processes (Kearey 2001:53).

Conglomerate: Sedimentary rock containing rounded clasts greater than 2 mm in size (Kearey 2001:56).

Core: A piece of stone, often a cobble or pebble but also quarried stone, from which flakes have been struck for toolmaking (Mulvaney & Kamminga 1999:426).

Core Tool: A core bearing trimming or use wear indicating its use as an implement (Flood 1989:282).

Cortex: Outer weathered surface of a rock or mineral (Holdaway & Stern 2004:144).

Debitage: The waste product from tool manufacture (Holdaway & Stern 2004:154).

Distal Flake: Flakes which have a termination but do not show a platform or evidence of an impact point (Holdaway & Stern 2004:111).

Dorsal Surface: Retains part of the original surface of the core or scars from earlier flake removals (Holdaway & Stern 2004:143).

Erosion: Process where particles are detached from rock or soil and transported away principally via water, wind, ice and air (Kearey 2001:88).

Flake: A piece of stone detached by striking a core with another stone (Flood 1989:283).

Flake piece/s: Refer to angular fragment.

Geometric Microlith: A microlith of triangular, trapezoidal or other geometric shape, with an abruptly trimmed thick margin (Flood 1989: 283).

Geomorphology: The description and interpretations of landforms (Mulvaney & Kamminga 1999:426).

Hearth: The site of a campfire (Flood 1989:284).

Heat Treatment: Also referred to as heat shatter. The natural or human induced process of heating raw materials to change their properties prior to tool manufacture. Observable changes include alterations in colour, lustre and crystalline structure (Holdaway & Stern 2004:29).

Loam: A soil which contains approximately equal proportions of sand, silt and clay (Kearey 2001:156).

Medial flake: Flake or flake fragment with an identifiable ventral surface but lacking proximal and distal margins (Holdaway & Stern 2004:111).

Microlith: A variety of small, less than 30mm in size, retouched implements of various shapes (Mulvaney & Kamminga 1999: 427, Flood 1989:285).

Microblade Cores: Provide the blanks for the small –tool tradition – Bondi points and geometric microliths. Less than 100mm in maximum dimension. Flake scars are parallel and elongate and long relative to core size (Holdaway & Stern 2004:204).

Midden: Aboriginal occupation site consisting chiefly of shells with minor components of other refuse such as ash, stone artifacts and animal bones (Mulvaney & Kamminga 1999:427).

Mudstone: Used to refer to the fine to very fine grained sedimentary rocks of siltstones and mudstones (Holdaway & Stern 2004:20).

Open Campsite: A surface of stone and other artefacts exposed on the ground surface (Flood 1989:285).

Permian: Geological time period from 290 – 245 Ma (Kearey 2001:200).

Platform: The area on a stone core on which a blow is struck to detach a flake. The detached flake bears on its butt end the original striking platform (Flood 1989: 287).

Podzolic: Acid soils with strong texture contrast between sandy or loamy topsoils and clay subsoils (Matthei 1995:319).

Porcellanite: A rock formed by the thermal metamorphism of a soil horizon in basalt (Kearey 2001:208).

Proximal flake: broken flakes that do not have a termination but exhibit features from where the flake was struck from the core such as a platform, bulb of percussion, impact point (Holdaway & Stern 2004:110).

Quartz: Common mineral with naturally sharp edges and poor fracturing properties. Colour ranging from clear, to milky white and pink (Flood 1989:286).

Quartzite: Homogenous medium to coarse grained metamorphosed sandstone (Flood 1989:286).

Retouch: To shape, sharpen or blunt a stone tool by flaking (Mulvaney & Kamminga 1999:428).

Retouched flake: Flakes removed during retouching of a tool (Holdaway & Stern 2004:173).

Sandstone: A sedimentary rock comprised of greater than 25% clasts of sand grains 0.625-2mm in diameters (Kearey 2001:234).

Scarred tree: Trees which have had portions of their barked removed (Mulvaney & Kamminga 1999:32).

Scraper: A flake with one or more margins displaying retouch along the entire margin (Holdaway & Stern 2004:227).

Shale: A sedimentary rock with particles less than 4µm in diameter (Kearey 2001:242).

Silcrete: A sedimentary rock comprising of quartz grains in a matrix of fine grained – amorphous silica (Holdaway & Stern 2004:24).

Soloth (or Solodic): Acid soils with strong texture contrast between pale topsoil and clay subsoil with coarse blocky or columnar structure (Matthei 1995:319).

Stratigraphy: The study of natural and cultural sedimentary strata (Mulvaney & Kamminga 1999: 428).

Symmetrical backed artefact: see geometric microlith.

Thumbnail Scraper: A small flake with a convex scraper edge opposite the platform of the flake and with a shape similar to a thumbnail (Holdaway & Stern 2004:234).

Tuff: Fine grained stone formed after a cloud of ash ejected by volcanic event descends to form a thin layer over the ground surface. After burial some tuff beds become indurated through a metamorphic process in which the stone hardens and recrystallises to a less friable structure.

Use-wear: Alteration of an artefact caused by its use (Holdaway & Stern 2004:41).

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Appendix A – Artefact Details

Unit	Site	No	Material	Colour	Class	Sub	L	W	T	Comments
LWA2	**1**	**1**	Mudstone		Flake		20	10	3	
LWA2	**1**	**2**	Mudstone		Flake	Portion	15	15	4	
LWA2	**1**	**3**	Chert		Flake	Portion	30	15	1	
LWA2	**1**	**4**	FGS		Flake		35	22	4	
LWA2	**1**	**5**	Silcrete		Flake		26	16	3	
LWA2	**1**	**6**	Mudstone		Flake		15	10	3	
LWA2	**1**	**7**	Mudstone		Flake		25	3	2	
LWA2	**1**	**8**	Mudstone		Flake		8	6	2	
LWA2	**1**	**9**	Mudstone		Flake		12	10	3	
LWA2	**1**	**10**	Mudstone		Flake		10	8	2	
LWA2	**1**	**11**	Mudstone		Flake	Scraper	70	30	15	25% cortex, usewear on margin
LWA4	**1**	**1**	Mudstone	Orange	Angular fragment		28			
LWA4	**2**	**1**	Silcrete	Red	Core		40	38	25	1 neg scar, heat treated
LWA4	**3**	**1**	Mudstone	Yellow	Flake	Portion	15	10	6	Proximal
LWA4	**3**	**2**	Mudstone	Yellow	Flake		60	40	15	5% cortex
LWA4	**3**	**3**	Mudstone	Red	Angular fragment		40	30	30	
LWA4	**3**	**4**	Silcrete	Grey	Angular fragment		30	15	10	
LWA4	**3**	**5**	Mudstone	Yellow	Flake		10	10	6	
LWA4	**4**	**1**	Mudstone	Red	Flake	Portion	6	11	5	Lateral
LWA5	**1**	**1**	Silcrete	Grey	Angular fragment		40	38	20	
LWA5	**2**	**1**	Mudstone	Yellow	Flake		6	10	3	

Appendix B Community Consultation Log

ASHTON COAL OPERATIONS PTY LIMITED
ABN 22 078 556 500

GLENNIES CREEK ROAD
CAMBERWELL NSW 2330

TEL: 02 6576 1111
FAX: 02 6576 1122

PO BOX 699
SINGLETON NSW 2330

WEB ADDRESS: WWW.ASHTONCOAL.COM.AU

2 October 2008

Our Ref: J162U_Pt01_Arch

The Secretary
Ungooroo Aboriginal Corporation
PO Box 3095
SINGLETON NSW 2330

Dear Sir/Madam

Re: Proposed Additional Longwall Panel – Ashton Coal Operations Pty Limited.

I wish to advise that Wells Environmental Services Pty Limited have been engaged by Ashton Coal Operations Pty Limited to prepare an Environmental Assessment Report for an additional longwall (proposed Longwall Panel No. 9) at its operations at Camberwell. Proposed Longwall Panel No. 9 will be located within the western portion of Mining Lease 1533 and part within Exploration Licence 4918. A plan showing the location of the proposed Longwall is attached for your information.

We are seeking input from individuals and/or Aboriginal communities to participate and/or be consulted with regarding archaeological investigation for the proposed Longwall Panel No. 9 in accordance with the Department of Environment and Climate Change – Interim Community Consultation Requirements.

You are invited to register your interest in this project.

Registrations of Interest will be used to compile an Aboriginal Stakeholder Register. Groups and individuals listed on the Aboriginal Stakeholder Register may be invited to participate and comment on the Aboriginal Cultural Heritage Assessment being prepared in respect to the project.

To register your interest, please forward correspondence or contact:

Mr Alan Wells
Wells Environmental Services
P.O Box 205
East Maitland NSW 2323
Telephone: (02) 4934 6588
Fax: (02) 4934 6788
Email: akwells@pacific.net.au

Registrations of Interest close at 5.00pm on Friday 17 October, 2008.

Yours faithfully

Lisa Richards

Environment and Community Relations Manager

Attached: Ashton Plan - Development Consent Extension Area

Sydney Office: Level 14, 213 Miller Street, North Sydney, NSW, 2060 – Tel: (02) 9922 3777 Fax: (02) 9923 2427
Brisbane Office: Level 6, 316 Adelaide Street, Brisbane, QLD, 4000 – Tel: (07) 3248 7900 Fax: (07) 3211 7328

Ref: letterhead template

AshtonCoal

ASHTON COAL OPERATIONS PTY LIMITED
ABN 22 078 556 500

GLENNIES CREEK ROAD
CAMBERWELL NSW 2330

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2 October 2008

Our Ref: J162U

The Notifications Officer
Native Title Services
P.O Box 2105
STRAWBERRY HILLS
NSW 2012

Dear Sir/Madam

Re: Development of an Aboriginal Stakeholder Register – Liaison and Conduct of Archaeological Survey – Additional Longwall Panel – Ashton Coal Mine.

We are seeking input from individuals and/or Aboriginal communities to participate and/or be consulted with regarding archaeological investigations associated with the development of proposed Longwall Panel No. 9 at the existing Ashton Coal Mine located near Camberwell, New South Wales.

In accordance with the NSW Department of Environment and Climate Change (DECC) – Interim Community Consultation Requirements we hereby notify you that we have placed notices in the Singleton Argus and Sydney Morning Herald newspapers to appear on the 3rd and 10th October, 2008 editions.

A plan showing the location of the proposed longwall panel is attached for your information.

Should you wish to discuss this matter please feel free to contact me.

Yours faithfully

Lisa Richards
Environment and Community Relations Manager

Attached: Ashton Plan - Development Consent Extension Area

Sydney Office: Level 14, 213 Miller Street, North Sydney, NSW, 2060 – Tel: (02) 9922 3777 Fax: (02) 9923 2427
Brisbane Office: Level 6, 316 Adelaide Street, Brisbane, QLD, 4000 – Tel: (07) 3248 7900 Fax: (07) 3211 7328

Ref: letterhead template

2/10/2008	Notification letter for the development of an aboriginal stakeholder register - liaison and conduct of archaeological survey - additional longwall panel was send to the following: Singleton Shire Council DECC Native Title Services Traby Aboriginal College Ungooroo Aboriginal Corporation Wattaka Wonnarua C.C. Services Wonnarua Local Aboriginal land Council Wonnarua Aboriginal Custodians Corporation Junburra Consulting Biami Pty Ltd Aboriginal Native Title Heritage Consultants Lower Wonnarua Tribal Council	Liaison and conduct of archaeological survey DC Variation LW9
3/10/2008	Public notice advertised in the Singleton Argus and the Sydney Morning Herald for aboriginal stakeholder register for DC Variation LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
7/10/2008	Tracey Skene emailed Wells Environmental and expressed her interest of being listed on the DC Variation LW9 Aboriginal Stakeholder Register	Liaison and conduct of archaeological survey DC Variation LW9
10/10/2008	Public notice advertised in the Singleton Argus and the Sydney Morning Herald for aboriginal stakeholder register for DC Variation LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
17/10/2008	Updated correspondence list as per correspondence from DECC to line up with the DECC known aboriginal parties. The following groups were added to the list:	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9 & Proposed SEOC Project

Agency Groups for EIS and DC notifications	Singleton Shire Council PO Box 314 SINGLETON NSW 2330 Attention: Ms Erica Duffy	
	DECC Locked Bag 914 COFFS HARBOUR NSW 2450	
	Native Title Services PO Box 2105 STRAWBERRY HILLS NSW 2012 Attn: The Notifications Officer	
	Office of the Registrar, ALRA Tranby Aboriginal College PO Box 112 GLEBE NSW 2037 Attn: Ms Megan Mebberson	
DECC addition list for DC.		
	Aboriginal Native Title Elders Consultants 69 Tobruk Avenue MUSWELLBROOK NSW 2333	
	Barkuma Neighbourhood Centre Inc 76 Lang Street KURRI KURRI NSW 2327	
	Black Creek Aboriginal Corporation PO Box 168 KURRI KURRI NSW 2328	
	Upper Hunter Heritage Consultants 160 Sydney Street MUSWELLBROOK NSW 2333	
	Girwirr Consultants 8 Fitzgerald Avenue MUSWELLBROOK NSW 2333	

	Hunter Valley Aboriginal Corporation PO Box 579 MUSWELLBROOK NSW 2333	
	Hunter Valley Cultural Consultants 40 Humphries Street MUSWELLBROOK NSW 2333	
	Hunter Valley Cultural Surveying 297 Pioneer Road SINGLETON NSW 2330	
	Lower Hunter Wonnarua Council Inc. 142 Northcote Street KURRI KURRI NSW 2327	
	Mimagen Wajaar Pty Ltd 7 Wybalena Close KILABEN BAY NSW 2283	
	St Clair Singleton Aboriginal Corporation PO Box 710 SINGLETON NSW 2330	
	Wonnaruah Elders Council PO Box 814 SINGLETON NSW 2330	
	Valley Culture 140 Sydney Street MUSWELLBROOK NSW 2333	
	Wanaruah Custodians 35 Acacia Circuit SINGLETON NSW 2330	
	Wonnarua Cultural Heritage 19 O'Donnell Crescent METFORD NSW 2323	
	Yamuloong Group Initiatives Ltd PO Box 487 CARDIFF NSW 2285	

	Mur-Roo-Ma Inc 7 Vardon Road FERN BAY NSW 2295	
	Awabakal Traditional Owners Aboriginal Corporation PO Box 253 JESMOND NSW 2299 Contact: Kerrie Brauer and Dene Hawkin	
	Muswellbrook Cultural Consultants 10 Scott Street MUSWELLBROOK NSW 2333	
	Mingga Consultants 11 Coolibah Close MUSWELLBROOK NSW 2333	
	Wonn1 Contracting 619 Main Road GLENDALE NSW 2285	
	Awabakal Descendants Traditional Owners Aboriginal Corporation PO Box 38 WALLABADAH NSW 2343 Contact: Shane Frost	
	Nur-Run-Gee Pty Ltd 22 Popplewell Road FERN BAY NSW 2295	
	Kathleen Stewart/ Kinchella 7 Cypress Place MUSWELLBROOK NSW 2333	
21/10/2008	Gidawaa Walang registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
20/10/2008	Received correspondence from Officer of the Registrar advising that the proposed archaeological investigation for DC LW9 subject land does not have Registered Aboriginal Owners	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9

22/10/2008	Upper Hunter Heritage consultants correspondence returned. Lisa contacted DECC - they do not have a contact number for Upper Hunter Heritage Consultants. Remove them from the correspondence list.	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9 & Proposed SEOC Project
22/10/2008	Wonarua Cultural heritage expressed their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
22/10/2008	Aboriginal Native Title Consultants registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
23/10/2008	Wonnaruah Eldre Council correspondence returned - wrong PO box on envelope changed to correct one (PO Box 184 not 814) and resent Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9 & Proposed SEOC Project	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9 & Proposed SEOC Project
23/10/2008	Ungooroo Aboriginal Corporation registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
27/10/2008	Girwirr Consultants registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
28/10/2008	Cacatua Culture Consultants registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
29/10/2008	Wonn 1 Consulting registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9

28/10/2008	Upper Hunter Heritage Consultants registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
30/10/2008	Hunter Valley Cultural Consultants registered their interest in being included in the Aboriginal Stakeholder Register for the DC Variation for LW9	Establishment of Aboriginal Stakeholder Register - Liaison and conduct of archaeological survey -DC Variation LW9
25/11/2008	Rang Junburra Victor Perry, to confirm that he did not want to register for the DC and the SEOC. His initial comment was that they are not big projects are they. I indicated that the SEOC was victor was not sure he had seen that one, I agreed to email it to him.	
25/11/2008	Wanaruah Nation - Lorry Perry they have been very busy sorting things out they have stated doing some heritage work so would like to register for both projects. Barry French has been doing this work for them	
25/11/2008	Lower Wonnarua Tribal Council (now consultancy) - Barry French, he would not register on behalf of the consultancy as he will be doing the Wanaruah Nation work. Wants to try giving it ago under the large group banner how it should be.	
29/11/2008	Sent email to Lower Wanarua Council Via Lea-anne Ball (lea5972@hotmail.com) (Tom Miller	SEOC and DC
1/12/2008	Received email from Lea-anne ball confirming that the information will be given to Tom Miller and that they had had an address change. The Address has not been updated in the ashton register DECC advised to update theirs.	General Correspondence

1/12/2008	Spoke with Mrs Mathews, she requested to register for the SEOC as well as the UG, does not recall getting a letter for the SEOC, checked and it was addressed right. Also asked to confirm that Upper Hunter Heritage Consultants and Hunter Valley Cultural Consultants were also register for both as she had also faxed these out. They were not registered for both I agreed to register. Also asked about Giwiirr Consultants they were register for both.	SEOC and DC

NAME	ADDRESS	DATE RECEIVED
Tracey Skene Culturally Aware	7 Crawford Place Millfield NSW. 2325	
Ungooroo Cultural and Community Services Incorporated	8 Blaxland Avenue SINGLETON NSW 2330	8/10/2008
Wattaka Cultural Consultants Services	4 Kennedy Street Singelton NSW 2330	9/10/2008
Wanaruah Local Aboriginal Land Council	P.O Box 127 MUSWELLBROOK NSW 2333 19 Mailtand Street MUSWELLBROOK NSW 2333	16/10/2008
Wonnarua Culture Heritage	19 O'Donnell Cr METFORD NSW 2323	22/10/2008
Aboriginal Native Title Consultants	16A Mahogany Avenue MUSWELLBROOK NSW 2333	22/10/2008
Ungooroo Aboriginal Corporation	26 George Street SINGLETON NSW 2330	23/10/2008
Giwiirr Consultants	8 Fitzgerald Avenue MUSWELLBROOK NSW 2333	27/10/2008

Upper Hunter Heritage Consultants	14 Edinglassie Drive MUSWELLBROOK NSW 2333 Darrel Mathews	28/10/2008
Gidawaa Walang	76 Lang Street KURRI KURRI NSW 2327	28/10/2008
Cacatua Culture Consultants	22 Ibis Parade WOODBURY NSW 2322	28/10/2008
Hunter Valley Aboriginal Coporation	P.O Box 579 MUSWELLBROOK NSW 2333 180 - 182 Bridge Street MUSWELLBROOK NSW 2333	29/10/2008
Wonn 1 Consulting	619 Main Road GLENDALE NSW 2285	29/10/2008
Hunter Valley Cultural Consultants	40 Humphries Street MUSWELLBROOK NSW 2333 Christine Archabold	
Wonnarua Nations Aboriginal Coporation	P.O Box 3066 SINGELTON DELIVERY NSW 2330 Laurie Perry	25/11/2008
Lower Hunter Wonnarua Coucnil Inc.	Shop 2 145 Lang st KURRI KURRI NSW 2327 Tom Miller	28/11/2008
Muswellbrook Cultural Consultants	10 Scott Street MUSWELLBROOK NSW 2333	21/10/2008

November – December 2008
Registered groups contacted regarding field work, provision of insurances etc and preferred dates for field work.

15.12.08 – 19.12.09
Field work conducted and was attended by the following groups:

Culturally Aware	Ungooroo Aboriginal Corp.	Hunter Valley Cultural Consultants
Ungooroo C.C. Services	Giwiir Consultants	Wonnarua Nations Aboriginal Corp.
Wattaka Cultural Consultants Services	Upper Hunter Heritage Consultants	Lower Hunter Wonnarua Council Inc.
Wanaruah Local Aboriginal Land Council	Cacatua Culture Consultants	Hunter Valley Cultural Surveying
Wonnarua Culture Heritage	Hunter Valley Aboriginal Corp.	Yarrawalk Enterprises
Aboriginal Native Title Consultants	Wonn1 Contracting	

Appendix C – Project Advertisements

Advertisements placed in the Singleton Argus and the Sydney Morning Herald 3rd & 10th October 2008.

Appendix C – Community Reports