Fitzwalter Group Pty Limited

Aboriginal Cultural Heritage Issues – Former Pasminco Cockle Creek Smelter Site





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1	Correspondence	from	Koompahtoo	LALC
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1.0 INTRODUCTION

The Pasminco Cockle Creek Smelter is located between Cockle Creek and Munibung Hill, Boolaroo (see **Figure 1.1**). These landscape features were important to traditional Aboriginal people for both spiritual and practical reasons. Cockle Creek, Lake Macquarie and their associated estuarine environments provided rich aquatic resources. Munibung Hill was, and continues to be, an important place to the Aboriginal community. It was once the location of a number of stone arrangements and traditional stories regarding their origin have been recorded. Threlkeld (in Gunson 1974) reports that the Aboriginal name for the hill was 'Konakonaba' and that it was a place where ochre was obtained. The hill provides a 360° view of the surrounding area, extending to Nobbys Head (at the mouth of the Hunter River), Redhead, a large part of Lake Macquarie, the Watagan Mountains and Mount Sugarloaf.

1.1 OBJECTIVES

This Aboriginal heritage assessment has been prepared as part of a constraints and opportunities analysis for potential land uses on the former Pasminco Cockle Creek Smelter Site.

The aim of the cultural heritage assessment was to:

- encourage active participation by the local Aboriginal community in the identification, significance assessment, and management decisions about Aboriginal cultural heritage sites and values within the Pasminco Cockle Creek Smelter area;
- obtain basic information about the nature of the Aboriginal cultural heritage resource within the area;
- undertake a preliminary archaeological surface survey of the area, recording the location of all Aboriginal sites found;
- assess the significance of all Aboriginal sites and potential archaeological deposits;
- assess the potential impact of the proposed development on Aboriginal cultural heritage;
- address issues of concern to the Aboriginal community;
- provide management options for all Aboriginal sites and cultural heritage issues identified during the survey; and
- provide a report that fulfils the requirements of the NPWS Guidelines (1997).

1.2 ABORIGINAL COMMUNITY PARTICIPATION

The Department of Environment and Conservation (DEC) (formerly NSW National Parks and Wildlife Service) Aboriginal Cultural Heritage Guidelines outline three principles behind the collaborative approach to Aboriginal heritage survey and site management required by the Department. These principles are:

- that Aboriginal culture is a living culture;
- that the Aboriginal community are the rightful cultural owners of cultural heritage information; and



Legend - Study Area

FIGURE 1.1

Location Map

• that DEC decision making on Aboriginal heritage issues is transparent.

Umwelt (Australia) Pty Limited supports the principles underlying the DEC approach and aims to involve the relevant Aboriginal community in all its heritage assessments.

The Pasminco Cockle Creek Smelter Site is within the area of interest of the Koompahtoo Local Aboriginal Land Council (Koompahtoo LALC). Koompahtoo LALC was, at the time of the survey, under administration by Lawler Partners Pty Limited. Lawler Partners Pty Limited was informed of the proposed project who, in turn, contacted Koompahtoo LALC representative Mr Bob Sampson.

Grant Sampson and Phillip Sampson participated in the survey of the study area and discussed the cultural significance of the area with Katie Sachs (Archaeologist, Umwelt). A draft copy of this report was provided to Bob Sampson with a request that he consider the results and recommendations regarding the cultural heritage assessment of the area on behalf of Koompahtoo LALC. A written response will be attached as **Appendix 1** in the final version of this report.

1.3 RELEVANT LEGISLATION

Section 90 of the *National Parks and Wildlife Act* 1974 (NPW Act) provides statutory protection for all Aboriginal objects (any material evidence of the Indigenous occupation of NSW). It is an offence under Section 90 of the NPW Act to damage, disturb or destroy objects, without the prior written consent of the Director-General of the DEC. Section 84 of the NPW Act provides protection for 'Aboriginal Places (areas of cultural significance to the Aboriginal community)' (NPWS 1997:2).

2.0 ABORIGINAL CULTURAL HERITAGE

2.1 ENVIRONMENTAL CONTEXT

The Pasminco Cockle Creek Smelter site is located on the lower slopes between Cockle Creek and Munibung Hill. Munibung Hill forms a prominent feature in the landscape around northern Lake Macquarie. The slopes of the hill are very steep, rising to 160 metres above sea level at the crest. A number of first order ephemeral drainage lines drain the western slopes of the hill (see **Plate 1**). These gullies have steep banks and conglomerate/sandstone outcrops are common. A spring is located on one of these tributaries (see **Figure 2.1** and **Plate 2**). Locals refer to this spring as 'Pots and Pans', it was used by early travellers as a reliable water source even during times of drought. Pots, pans and utensils were left in the area permanently for the use of people travelling between Toronto and Newcastle.

Cockle Creek is the major drainage line flowing into northern Lake Macquarie. Its catchment originates in the slopes of the Sugarloaf Range some 20 kilometres to the west. In the lower reaches, industrial and residential development generally extend to the banks of the creek which are lined with mangroves, tea trees, *Melaleuca sp.*, rushes and sedges, bracken fern, blady grass, and introduced species such as lantana and purple top. The estuarine (tidal) section, which extends upstream from Lake Macquarie for approximately 6 kilometres, is approximately 50 metres wide. The creek divides into two branches at its outlet to Lake Macquarie, and the creek delta has formed a number of swampy islands, referred to as Five Islands.

In flood conditions, Cockle Creek flows fresh to its mouth, and fresh/brackish water extends across Cockle Bay for periods of several days. However, most of the time, the nearest freshwater sources in the area come from intermittent flows in small tributary creeks on the slopes of Munibung Hill, small creeks in the hills west of Teralba and the catchment of Marmong Creek to the south.





PLATE T A tributary on Munibung Hill (looking northwest). Note dense vegetation



PLATE 2 Spring (facing north)

Umwelt



Legend

Study Area Disturbed Area Transect

Archaeological Site

FIGURE 2.1

Survey Transects and Aboriginal Sites Areas adjacent to Cockle Creek are heavily disturbed. Extensive areas consist of reclaimed land and other areas (including the current study area) have been cleared and reshaped for long standing industrial development. On Munibung Hill, the original vegetation has been extensively cleared or impacted by pollution and fire.

The slopes of Munibung Hill have previously been cleared and many areas have been affected by severe erosion. Several areas on the lower western slopes and at the southern extremity of the hill have been quarried. A large area on the crest of the hill has been disturbed by the installation of communication towers and the construction of vehicle tracks.

The severity and extent of previous ground surface disturbance in the study area means that only the general morphology of the landscape (i.e. the height, shape and visibility of Munibung Hill) and reconstruction of Cockle Creek and its estuarine environment, provide an indication of the type of landscape which may have been utilised by Aboriginal people in the past.

The Smelter site overlies the Boolaroo Subgroup of the Newcastle Coal Measures and consists of tuff, sandstone, shale and irregular coal seams. Soils consist of moderately deep gleyed podzolic soils, yellow podzolic soils, and yellow soloths with poorly drained structured loams in drainage lines (Matthei 1995). These soils are highly erodible.

2.2 CULTURAL HERITAGE RESOURCES

The morphology of the area and reconstruction of the environment based on other similar locations and habitats indicate that the area is likely to have provided Aboriginal people with rich and varied plant and animal resources. The Five Islands area at the mouth of the creek would have supported a rich and diverse range of aquatic species, and the wider area would have provided numerous plant and faunal resources. **Tables 2.1** and **2.2** provide an indication of the aquatic and terrestrial fauna likely to have been found in the area, and **Table 2.3** lists the plants known to have been utilised by Aboriginal people in the area. This information has been derived from local and regional ethnographic descriptions of contact hunting and food preparation techniques. Regional sources have been utilised to gather this information because of broad similarities in habitat types on the Permian sedimentary geology. The resource information is also derived from faunal remains identified in archaeological sites and from information provided by Aboriginal community Elders. The information is not comprehensive listing of Aboriginal food, medicine and equipment resources, but does clearly show that the study area and its immediate environmental context would have provided multiple organic items in readily accessible locations for Aboriginal people

Table 2.1 - Fish and Shellfish Species of the Cockle Creek Estuary

Estuarine creeks (e.g. Cockle Creek)
Black bream and yellow tailed bream (juveniles), also adults during mullet run (common)
Luderick (common)
Mullet (bull, flat tail) – migrate out of the lake in autumn (common)
Dusky flathead (common)
Tailor (up to 200 mm)
Jewfish/Mulloway (often small)
Long finned eels at interface of fresh and saltwater, tolerate very saline conditions
Australian Bass - in freshwater sections of larger creeks (e.g. Cockle Creek)
Freshwater catfish (larger creeks)
Freshwater mussel in upper reaches
Anadara in creek delta area and in Cockle Bay
Rock Oyster
Mud Whelk

Species identified in ethnographic or archaeological sources
Red necked pademelon
Swamp wallaby
Southern bush rat
Southern brown bandicoot, common bandicoot
Bettong
Long nosed potoroo
Greater glider
Feather tailed glider
Squirrel glider (described in historical accounts as being frequently consumed
Echidna
Dragon lizard
Long necked tortoise
Diamond python
Eastern water dragon
Blue tongue lizard
Large skink (also lizard eggs)
Bird eggs
Pigeon
'Duck'
Pelican
Swan
Parrot
Quail (note bird species are poorly represented in archaeological sites, but there are some limited historical descriptions of birds being eaten)

Table 2.2 – Potential Faunal Resources of the Cockle Creek/Munibung Hill Area

Table 2.3 – Potential Aboriginal Cultural Resource Plants of the Cockle Creek/ Munibung Hill Area

Common Name and Scientific Name	Preparation and Use	Reference
Apple Berry Billardiera scandens	The edible fruits are tender and sweet when ripe.	Robinson (1991)
Banksia spp.	Flower heads were sucked to extract the sweet nectar, or were boiled to make a sweet beverage. The smouldering cones were used to transport fire. Species around Lake Macquarie include <i>B.</i> <i>spinulosa</i> , <i>B. integrifolia</i> and <i>B. serrata</i> .	Low (1989) Robinson (1991)
Blue Flax Lily Dianella caerulea	The blue berries are edible raw, seeds inside can be chewed and are nutty in flavour, leaves split and used for weaving, base of leaves edible, roots edible after pounding and roasting, whistle that attracts birds can be made from the base of leaves.	Low (1989) Umwelt (2003) Stewart and Percival (1997)

Common Name and Reference **Preparation and Use** Scientific Name Bracken Fern The starchy rhizomes were a staple in the Robinson (1991) Aboriginal diet, but required considerable Pteridium esculentum preparation. The juicy young stems may have been used to relieve insect bites. Bullrush (Cumbungi) The new shoots, flowering head and bulb were Low (1989) eaten. The fibre from the bulb was used as string. Zola & Gott (1992) Typha orientalis Burrawang The large, fleshy red seeds were an important part Robinson (1991) Macrozamia communis of the Aboriginal diet. They needed to be Stewart and Percival (1997) pounded and washed in running water for several days to remove the toxins. The growing tip of the palm is edible. Leaves Cabbage Tree Palm Stewart and Percival (1997) were used to hatch roofs of shelters and the bark was used to manufacture string. Elderberry Panax Small, succulent fruit is edible when blue. Fairley (2001) Polyscias sambucifolia Low (1989) False Sarsparilla The leaves of the plant are crushed and then Umwelt (2003) sucked or mixed with water and taken as an elixir Hardenbergia violacea for stomach ache. The small tubers of this plant were eaten. Fringed Lily Zola & Gott (1992) Thysanotus tuberosus Low (1989) Grass Tree The flower heads were soaked to make a sweet Robinson (1991) Xanthorrhoea spp. drink, used fresh or slightly fermented. The resin was used as a glue for weapons and tools. Flowering stems used for spear shafts and fire sticks and nectar licked from flowering stems. Roasted fruits may have been an important part of Grey Mangrove Robinson (1991) Avicennia marina the diet of Aborigines in coastal areas. Grey Saltbush Leaves and stems make a pleasant vegetable. Low (1989) Atriplex cinerea Gum Trees The bark of some species was used to make Umwelt 2003 Appendix B Eucalyptus spp. shields and bowls. The leaves and sap were used to make inhalants, washes for sores. The green leaves were smoke to treat various ailments. Gymea Lily Roots and stems (when 1m high) can be roasted Robinson (1991) Doryanthes excelsa and eaten. Aborigines roasted the roots and made Low (1989) it into a cake which was eaten cold. An important medicinal plant for aborigines. Hop Bush Robinson (1991) Dodonea triquetra Leaves were chewed to treat headache; soaking leaves produced a liquid used to sponge fevers. The roots were soaked and the liquid used to treat open cuts and sores. The seeds were ground for flour. The leaves and Greenway (1910) Kangaroo Grass stems were used for fibre. Zola & Gott (1992) Themeda australis Umwelt (2003) Lilly Pilly The fruit is edible but is dry and not very tasty. Low (1989) May have been cooked into a jam. Acmena smithii Mat Rush The flowers are edible, with a taste compared to Robinson (1991) Lomandra longifolia that of a fresh green pea. Young, white succulent Low (1989) leaf bases are also edible. Seeds were husked and Zola & Gott (1992) ground into flour. Strong leaves were made into net bags by Aboriginal women.

Table 2.3 – Potential Aboriginal Cultural Resource Plants of the Cockle Creek/
Munibung Hill Area (cont)

Common Name and Scientific Name	Preparation and Use	Reference	
Native Cherry Exocarpos cupressiformis	Small fruits grow on red, fleshy stalks. These were eaten together, having a sweet flavour when ripe. The wood was used to make walking sticks.	Robinson (1991) Low (1989)	
Native Raspberry Rubus hillii	Sweet red berries were gathered and eaten raw.	Robinson (1991) Low (1989)	
Native Raspberry Rubus parviflorus	Sweet red berries were gathered and eaten raw.	Robinson (1991) Low (1989)	
Paperbark <i>Melaleuca sp.</i>	The flower heads were soaked in water to produce a sweet beverage. The bark was used for shelters, to make fire, bedding and to wrap food for storage or cooking in earth. Medicinal uses include crushed leaves inhaled for colds, leaf infusion used to wash sores and burns.	Robinson (1991) Low (1989) Scott (1929)	
Rice Flower Pimelea linifolia	The fine silky thread of these bushes was used to make nets. This fibre was extracted by drying the bark then soaking in water weighted down with stones until the non-fibrous portion of the bark rotted away. It was then left to dry, and then beaten with sticks to free the fibre.	Zola & Gott (1992)	
Rushes and Sedges Juncus spp., Carex appressa, Cyperus spp. etc.	Underground stem or tuber was eaten in some species. The strong leaves could be used for weaving.	Low (1989) Zola & Gott (1992)	
Sandpaper Fig Ficus coronata	Ipaper FigThe fleshy fruit is edible when ripe. Aboriginess coronataused the milky latex of young shoots to healwounds.		
Sarsparilla Smilax glyciphylla	Local Aborigines sucked the leaves to extract a refreshing and bitter liquid. Sarsparilla may also have been used medicinally.	Robinson (1991)	
Smooth-barked Apple Angophora costata	The burls common on this species were removed and hollowed out to make bowls which could be heated over the fire to boil water. Aboriginal oral history states that the water would boil before the bowl burnt. The leaves and sap were used for inhalants and washes for sores.	Umwelt (2003)	
Smooth Geebung Persoonia levis	Ripe fruits were part of the Aboriginal diet. The bark was also crushed and boiled to make a drink to treat headaches and heavy chests. Fine scrapings of the wood can be mixed with breast milk to treat sore eyes.	Zola & Gott (1992) Stewart and Percival (1997)	
Spike RushSmall, onion-like tubers can be eaten raw or roasted.		Low (1989)	
Swamp She-Oak Casuarina Glauca	Aborigines stripped the bark off these trees to make canoes.		
Sweet Pittosporum Pittosporum undulatum	The seeds were ground and eaten by Aborigines.	Robinson (1991)	
Sword Sedge Gahnia sieberiana	The leaf bases of this tall grass-like plant are edible and the seeds can be collected and ground for flour.	Stewart and Percival (1997)	

Table 2.3 – Potential Aboriginal Cultural Resource Plants of the Cockle Creek/ Munibung Hill Area (cont)

Common Name and Scientific Name	Preparation and Use	Reference
Tea Tree Leptospermum laevigatum Leptospermum polygalifolium	Some species were used by Aborigines for medicinal purposes. Leaves were crushed for coughs and colds, or soaked to make an infusion for sores and burns.	Low (1990) Umwelt (2003)
Warrigal Greens/Native Spinach Tetragonia tetragonodes	Leaves are edible when cooked and resemble spinach.	Low (1989)
Wattle Acacia sp.	High protein seeds were roasted and eaten. The leaves and bark thrown into pools to slow down fish to make them easier to catch. The wood of some species was used to make boomerangs, clubs and digging sticks.	Robinson (1991)
Wombat Berry Vine Eustrephus latifolia	Orange fruit are edible, as are the small sugary tubers.	Low (1989)

Table 2.3 – Potential Aboriginal Cultural Resource Plants of the Cockle Creek/ Munibung Hill Area (cont)

2.3 CULTURAL HERITAGE CONTEXT

2.3.1 Ethnography

Uncertainty exists regarding Aboriginal groupings in this region. Gunson (1974:30) argues that the Awabakal were the largest clan of a tribe in the Lake Macquarie region but because of Threlkeld's (an early European missionary) well known studies in the area, Awabakal became the name that represented the whole tribe. Early government documents indicate this large tribe was composed of a number of clans – the Awabakal (Lake Macquarie and Newcastle region), the Five Islands clan, the Ash Island clan, the Kurungbong clan (Cooranbong), and the Pambalong clan (Swamps district and near Newcastle). Tindale (1974) shows the Awabakal as one independent group, so while the information is unclear, the broad geographical and cultural boundaries are consistent between sources.

The historical information regarding Aboriginal occupation of the Lake Macquarie region provides only a general insight into Aboriginal culture prior to the arrival of Europeans. It is difficult to determine how representative the early European descriptions of Aboriginal economic activity are of the actual lifestyle and technology. There must have been a tendency to describe larger and more robust implements that would have been visible from a distance, or were left behind temporarily at some sites.

The majority of early observations of Aboriginal people around Lake Macquarie were made by Reverend L E Threlkeld who established a mission at Belmont and later at Toronto in the early 1920s. Threlkeld recorded the Awabakal dialect and translated scriptures in Awabakal. He documented some of the material culture he observed and noted a number of important sites, including Ko-na-ko-na-ba, 'the name of a large mountain, the north extremity of Lake Macquarie'. He notes that this:

The name of a place where the stone called Ko-na-ko-na is found. There are veins in the stone, which contain a yellow substance, used for paint in warlike expeditions (Threlkeld in Gunson 1974:64).

It is assumed that this mountain is the hill now referred to as Munibung Hill. Threlkeld also refers to this hill during a discussion about high places tending to be held sacred by many cultures around the world:

The only thing I have ever noticed, as rather puzzling to account for on a high hill, or rather range of hills, was a circular erection of stones, of about 5 or 6 feet diameter, and two or three feet high, evidently built, but not cemented with anything. At first I thought it was a burying place, and searching a little distance on, say a quarter of a mile, another mound, and afterwards several more were discovered. I took two or three heaps to pieces and dug expecting to find the remains of a human body, but there was nothing of the kind. On enquiry of my Black tutor, M'Gill, he informed me that the tradition was, that the Eagle-Hawks, brought these stones and placed them together in the form in which they were found (Threlkeld in Gunson 1974:66).

Although Threlkeld did not name the place in the above reference, Gunson (1974:78) notes that a W W Miles supplied some additional notes on the stone circles:

The Rev L Threlkeld informs me that he has seen them on the very summits of the mountains at Lake Macquarrie [*sic*]; and the legend is, that they were brought there by the eagle-hawk, a bird of mysterious omen, and much reverenced by the blacks.

Threlkeld's reminiscences also provide an indication of the incompleteness of today's archaeological record. Two or three of the stone circles which were recorded during the earliest years of European occupation were destroyed at the very time of their recording. The lack of respect for Aboriginal burials (although the mounds were found not to contain skeletal remains) can also be seen.

According to Threlkeld, Aboriginal people called Lake Macquarie:

Nik-kin-ba, from *Nikkin*, Coal, and *ba* place of, meaning a place of coal (Threlkeld in Gunson 1974:64).

Gunson (1974:78) notes that this word is distinct from *Awaba*, their tribal name, which also alluded to the lake, meaning smooth surface.

Canoes are an obvious means of transport and access to food resources around the channels of the mouth of Cockle Creek and along the creeks estuarine reaches. Fishing from canoes is well documented from Lake Macquarie:

Their canoes were made from the bark of a tree about 12 or 14 feet long, and from 3 to 4 feet in width. The blacks are always upon the look out in their travelling through the bush, and when they find a strait trunk suitable for the purpose, they chop round the bark, at about a couple of feet from the root, a space of three or four inches. They procure the limb of a tree and set it up against the standing trunk, as a ladder, on which they ascend and cut around the whole circumference of the tree in the same manner as done at the bottom. They then chop down a perpendicular line, when they insert their throwing-stick...betwixt the bark and the tree...they proceed to separate the sheet of bark from the tree whilst it is most carefully allowed to slide down and then is laid flat on the ground the rough outside of the bark being upward. A fire is then made upon the bark and being heated the steam of the sap softens it so as they can crumble up each end like a folded fan, which they tie securely with vines from the bush. Sticks are placed across one at the one end, another at the other, for both ends are alike, they having no head or stern to their vessels. A cord made of the vine, is tied across the middle which, whilst the two cross sticks press out the sides of the canoe, confine[s] the edges and prevents its spreading open. In the centre, a hearth is made of earth upon which a fire is always kindled when they go upon the water. When fishing it not only serves to warm their feet and hands, but is principally used to roast the bait, whether cockles, or the flesh of the star... (Threlkeld in Gunson 1974:54).

Threlkeld (in Gunson 1974:54) also describes the repair of a canoe. Tea tree bark was sewn onto the holes, and the 'shank bone of a Kangaroo, ground to a point, pierced the bark, and was used in the stead of an awl'. Grass tree gum was then melted and applied over the holes and stitching.

Tea tree bark was also used to make water holders. Large protuberances on trees (often seen on *Angophera sp.*) were detached and used as bowls, '[T]hese wooden bowls they carry about with much care, together with a few other domestic utensils used in their camps or resting places' (Threlkeld in Gunson 1974:67).

A detailed description of fishing spears is provided by Threlkeld (in Gunson 1974:67). He notes that the shaft was made from the stem of a grass tree, to which were added four short pieces of hardwood. These were fastened with a thread (bark) covered with grass tree gum. The total length of the spear was up to nine feet (2.7 metres). At each of the joins of the hardwood pieces, small wooden barbs were added. These were fire hardened and were also fastened with grass tree gum. To each wooden barb was added a sharp barb of stone. Hunting spears were even longer and were armoured with pieces of sharp quartz 'so as to resemble the teeth of a saw'.

Threlkeld's records (in Gunson 1974:55) note some of the foods consumed by Aboriginal people in the Lake Macquarie area: witchety grubs extracted from a grass tree stump, fern root ('they roast, and beat it with stone upon a larger one, when they use it for bread'), Burrawang (presumably the plant referred to which required soaking in a swamp for a week or fortnight to render edible), lizards, snakes, wild dogs, wild ducks geese, pigeons, bandicoots, kangaroos, whale, porpoises, crayfish, fish, and cockles ('an every day dish on the lake, not because they are a favourite food, but, because they can be at all seasons easily obtained').

2.3.1.1 Other References to Aboriginal culture in the Boolaroo Area

In local stories and literature, three other locations provide some insight into the Aboriginal culture of the northwestern part of Lake Macquarie. The Koe-Inba Committee was a group of Aboriginal people (including Percy Haslam and Ken McBryde who still lives in the Westlakes area) who worked to record information about Aboriginal culture from the Lake Macquarie area in the mid 1980s. The Koe-Inba Committee (1986) notes that an initiation site was located on the lake foreshore, in the present sports area of the Lake Macquarie High School (Booragul). There are also references to burials in the Speers Point to Warners Bay area.

The Koe-Inba Committee note that early settlers reported that an Awabakal warrior or leader was buried in the area now occupied by Speers Point Primary School, and that other burials have been discovered in the alluvium associated with a creek at Warners Bay. The local Aboriginal community believes that at least some of these graves are those of Aboriginal children who died of diphtheria (Ken McBryde pers. comm.). Further upstream, in the freshwater section of Cockle Creek at Killingworth, approximately 100 Aboriginal graves have been reported. These were marked by stone arrangements and by 'crying trees' (trees marked so that the sap ran down the trunk). Few, if any of the stone arrangements and none of the crying trees, now exist.

The Koompahtoo LALC has advised that the Aboriginal names for the Teralba, Boolaroo and Booragul area refer to tea tree woodland.

There are many references to the use of bark from large trees near the lake shore to make canoes, although none are known to refer specifically to the Cockle Creek, Speers Point, Teralba or Booragul area. Trees from the Teralba area may have been used for this purpose. It is of note however, that photographs of Teralba from the early twentieth century show the area completely cleared of forest or woodland so it is unlikely that any evidence of tree scarring would have been reported specifically from this area.

The nearest references to archaeological evidence of the removal of bark from trees to make canoes come from Bolton Point and Rathmines, and the Koe-Inba Committee considered that the bark removal for canoes may have continued into the early years of the twentieth century.

2.3.2 DEC Register of Aboriginal Sites

The DEC (formerly NPWS) Register of Aboriginal Sites was consulted for information on sites recorded within a three kilometre radius of the study area. Twenty four Aboriginal sites have previously been recorded in this area (see **Table 2.4**). The majority of these sites are artefact scatters, although three sets of axe grinding grooves have also been recorded. The artefact scatters are located on the margin of Lake Macquarie (although there is some doubt regarding the location and content of the sites recorded by Barrett in the 1920s), and adjacent to the creeks flowing into the main Cockle Creek channel. The axe grinding groove sites are located at the heads of first order drainage lines on conglomerate bedrock. One site is located within the current study area – a mythological place (stone arrangement), located at the crest of Munibung Hill. A recent survey by Umwelt (2003a) failed to relocate this site (see **Section 2.3.3**).

DEC Site Number	Site Type	Description (as detailed on site card)	
38-4-0005	Artefact scatter	Grid coordinates in the DEC Aboriginal Site Register are probably inaccurate (site has not been relocated during several surveys e.g. Umwelt 2003). Recorded/collected in 1920s. Grid coordinates place the site on the western side of the Cockle Creek outlet.	
38-4-0006	Artefact scatter	As above. Grid coordinates place the site on the eastern bank of Cockle Creek.	
38-4-0007	Artefact scatter	As above. Grid coordinates place the site on the eastern side of the Cockle Creek outlet.	
38-4-0116	Isolated find	Located on the eastern bank of Cockle Creek. Now destroyed.	
38-4-0453	Mythological place – stone arrangement	Bluff reports "'Maniibang' was known as an area where circles of stone were located". Ken McBride (Koompahtoo Local Aboriginal Land Council representative) recorded this site in 1986 and recalled that the site consisted of a circle of stones 2-3 metres in diameter. Each stone was approx. 40-50 cm in diameter and were placed so that they were touching each other. The site is highly significant because it was used for initiation purposes and is connected to another ceremonial site in the Booragul area (in the area now occupied by Lake Macquarie High School).	
38-4-0008	Artefact scatter	Grid coordinates in the DEC Aboriginal Site Register are probably inaccurate. Recorded/collected in 1920s.	
38-4-0009	Artefact scatter	As above. Site described as 'Knives at Thompson Street Mance'	
38-4-0011	Artefact scatter	As above. Site described as 'North Creek – knives and other implements'	
38-4-0531	Artefact scatter	Located on the shoreline at Booragul. Nine stone artefacts	
38-4-0078	Axe grinding grooves	8 grinding grooves located at the head of a minor creek. Conglomerate creek bed.	
38-4-0079	Axe grinding grooves	3 grinding grooves located at the head of a minor creek. Conglomerate creek bed.	
38-4-0080	Axe grinding grooves	1 grinding groove located at the head of a minor creek. Conglomerate creek bed.	

Table 2.4 - Aboriginal Sites within three kilometres of the Study Area

DEC Site Number	Site Type	Description (as detailed on site card)	
38-4-0108	Axe grinding grooves		
38-4-0296	Isolated find	Mudstone core	
38-4-0377	Isolated find	Indurated mudstone bondi point located on the northern bank of Cockle Creek. Site now destroyed.	
38-4-0378	Isolated find	Indurated mudstone flake located on the northern bank of Cockle Creek. Site now destroyed.	
38-4-0167	Artefact scatter	Consists of 1 silcrete flake, 1 silcrete flaked piece, 1 mudstone flake, 1 mudstone flaked piece, 1 indurated tuff core on northern floodplain of Winding Creek. Site area 5-50 metres from creek.	
38-4-0168	Artefact scatter	Located on a low rise above a small tributary	
38-4-0169	Artefact scatter	52 flakes and flaked pieces, mainly chert. On northern floodplain/low terrace of Winding Creek.	
38-4-0170	Artefact scatter	1 chert flake and 1 chert flaked piece on northern floodplain/low terrace approximately 100 metres from Winding Creek.	
38-4-0171	Artefact scatter	1 chert flaked piece, 2 mudstone flakes, 1 mudstone flaked piece, 1 mudstone/chert flake, 3 silcrete flaked pieces. On alluvial surface 5 metres from Winding Creek.	
38-4-0172	Scarred tree		
38-4-0173	Artefact scatter	1 tuff/silcrete flake, 4 claystone flakes on a low gradient footslope 50 metres north of Winding Creek.	
38-4-0174	Isolated find	Mudstone flake on gentle gradient close to crest of low spur, 200 metres from Winding Creek.	
Winding Creek 1	Artefact scatter	A mudstone flake and flaked piece located 20 metres north of Winding Creek	
Brush Creek 1	Midden	A dispersed scatter of fragmented cockle shell (Anadara) and a chert flaked piece located on the northern bank of Brush Creek.	

Table 2.4 - Aboriginal Sites within three kilometres of the Study Area (cont)

2.3.3 Previous Archaeological Research

A number of archaeological studies have been undertaken in the vicinity of the study area. ERM (2000) undertook a survey for the proposed upgrading of Five Islands Road between the Speers Point roundabout and the Booragul roundabout. One previously unrecorded open campsite (DEC No. 38-4-0531) consisting of nine silcrete and tuff artefacts was located on the eastern side of the mouth of Cockle Creek, 150 metres east of the proposed road corridor. One site (DEC No. 38-4-0005, an artefact scatter recorded by A J Barrett in the 1920s) was reported to have been previously located within the proposed corridor, but not evidence was found at this location.

Umwelt (2003b) addressed a number of conditions required by NPWS (now DEC) relating to the management of the Aboriginal cultural heritage values affected by the proposed road upgrade. It was concluded that the location of site 38-4-0005 (and sites 38-4-0006, 38-4-0007, 38-4-0008, 38-4-0009, and 38-4-0011, also recorded by Barrett) given by NPWS is questionable. Historical records were consulted and failed to substantiate the presence of any archaeological material at the grid reference provided (in a saltmarsh area which is frequently inundated). It was argued that the low rises approximately 20-40 metres from the natural lake shoreline had more archaeological potential. The content of these sites (containing only stone artefacts) was also found to be questionable because the many other sites recorded around the margin of Lake Macquarie contain

both shell and stone. It was concluded that this was a result of selective and sometimes inaccurate recording by Reverend Barrett.

Other previous archaeological investigations undertaken in the area include: Dean-Jones (1989), nine sites were recorded in an area around Winding Creek, including open campsites (the largest consisting of over 50 artefacts, mostly composed of mudstone), isolated finds, and a scarred tree; Effenberger (1996), two isolated finds were located within a narrow corridor between West Wallsend and Edgeworth, a section of which was adjacent to Cockle Creek; Sullivan (1982), a set of axe grinding grooves were located prior to a residential development at Booragul; and Bowdler and Gollan (1982), two axe grinding groove sites and a small open campsite were recorded on the route of a proposed transmission line between Tomago and Eraring, the survey included sections of Cockle Creek and Slatey Creek.

The most recent archaeological survey in the area was undertaken by Umwelt (2003a) as part of an Aboriginal heritage study of the Lake Macquarie City Council area. The eastern side of the lower reaches of Cockle Creek was investigated, an attempt made to relocate site 37-4-0007 recorded by Barrett; the northern bank of a section of Brush Creek was investigated; and an attempt was made to relocate the sites recorded by Dean-Jones (1989) adjacent to Winding Creek in order to assess their condition and determine if further sites existed. An attempt was also made to locate the stone arrangement on Munibung Hill and determine if other sites existed across this landform.

A number of the artefact scatters adjacent to Winding Creek were relocated and found to contain less artefacts than originally recorded. Severe sheet erosion was affecting the sites at the time of their original recording and this had continued during the intervening years. One previously unrecorded artefact scatter was located on the northern bank of the creek. The Cockle Creek area consists of largely reclaimed land which has been developed for industrial and recreational use. The original ground surface was impossible to identify and the current surface and sub surface is unlikely to retain any archaeological evidence. Site 38-4-0007 could not be relocated probably because of inaccuracies in its recording (see above discussion). A midden consisting of fragmented cockle shell and one stone artefact was located on the northern bank of Brush Creek. The stone arrangement on Munibung Hill could not be relocated and may have been destroyed during the installation of communication towers on the hill.

A sandstone cave apparently once existed on the south west side of the ridgeline of Munibung Hill (overlooking Lake Macquarie) but was destroyed by quarrying (NPWS card). This may have provided shelter to Aboriginal people. There is also a rockshelter on the eastern slope of Munibung Hill (Umwelt 2003a).

2.3.3.1 Previous Archaeological Research within the Study Area

Wildthing Environmental Consultants undertook an archaeological survey of approximately 4 hectares at the northern end of the current study area. The survey was undertaken in 2002 for EnergyAustralia who proposed to construct an electricity substation. No Aboriginal sites were located although ground surface visibility across the majority of the area was poor. It was recommended that a Koompahtoo LALC representative be present during initial land clearance activities.

2.3.4 Predictive Model

From the previous archaeological and ethnographic research in the Boolaroo/Lake Macquarie area it can be predicted that:

• Stone artefact scatters, isolated finds and middens are the most likely evidence of traditional Aboriginal occupation. Although there are several references to former stone arrangements on the crest of Munibung Hill, the historical references and recent survey suggest that these sites

have been destroyed. It is possible that remnants of stone arrangements are located elsewhere in the study area, but they are likely to have been heavily disturbed.

- The most likely landform units on which the remaining site types will occur are on the crest and ridgeline of Munibung Hill and on the flat and gently sloping areas between Cockle Creek and Munibung Hill (where the original ground surface remains).
- The most likely stone artefact types will be flakes and flaked pieces composed of mudstone, silcrete or chert.
- The most likely shell species within middens will be estuarine species such as *Anadara*, Pyrazus and mud oyster. Although midden deposits are most common close to the shore of Lake Macquarie and its tributaries, it is possible that shellfish were carried further afield. However, shells in open sites remote from the lake shore are likely to be very poorly preserved, given the extent of erosion, acid soil and fire impacts.
- Rockshelters may occur if there are suitable rock outcrops in the area.
- Axe grinding grooves may occur if there are suitable conglomerate/sandstone outcrops in the area. Axe grinding grooves are common in the Lake Macquarie area and many sites have previously been reported along Cockle Creek and its tributaries, and on Mount Sugarloaf.

3.0 CULTURAL HERITAGE SURVEY RESULTS

3.1 SURVEY STRATEGY AND CONSTRAINTS

The survey was undertaken by Grant Sampson (Koompahtoo LALC), Phillip Sampson (Koompahtoo LALC) and Katie Sachs (Umwelt) on 5 February 2004. Areas in which the ground surface was disturbed to the extent that archaeological evidence was unlikely to survive were not investigated. These areas are shown on **Figure 2.1**.

A number of unsealed vehicle tracks cross the relatively undisturbed slopes and ridgeline of Munibung Hill (see **Plate 3**). A number of these were followed in a vehicle until areas with adequate ground surface visibility were identified. These areas were surveyed on foot. An attempt was made to sample the various landform elements present within the study area; to inspect any accessible rock outcrop which may have provided shelter; and to inspect rock outcrops within drainage lines. The survey transects followed are shown on **Figure 2.1**.

Tracks generally provided the only ground surface visibility along ridge crests. A fire recently went through the area and so ground surface exposures were relatively common along drainage lines and slopes, although visibility was generally not higher than 5%. Despite the fire, the majority of the main drainage lines on the slopes of Munibung Hill were inaccessible due to dense growth of introduced species such as blackberry and lantana.

Conglomerate outcrops in the form of small steep cliffs and boulders occur along many upper slopes in the area (see **Plate 4**). These were inspected for rock shelters where access was possible. A large proportion of these steep areas remain unsurveyed because the rugged landscape prohibits access.





PLATE 3 Looking east along track/ridgeline of Munibung Hill



PLATE 4 Looking southeast along conglomerate upper slope

3.2 RESULTS

No previously unrecorded Aboriginal sites were located during the survey, despite the fact that historical records indicate that Munibung Hill was important to Aboriginal people and was the location of a number of stone arrangements (Threlkeld in Gunson 1974:66).

As previously noted, it appears that the stone arrangements that were reported on the crest of Munibung in the nineteenth century have been completely destroyed.

No flaked or ground stone artefacts were observed.

The conglomerate which outcrops in the area was inspected where access was possible. Where access was not possible, the rock formations were inspected from a distance. A number of shallow overhangs were observed which may have been utilised by Aboriginal people.

Sandstone/conglomerate also outcrops in many of the drainage lines on the slopes of Munibung Hill. The sandstone outcrops tend to be relatively thin beds within the more massive conglomerate units, and the sandstone tends to be well weathered. A surface crust of iron enriched sandstone forms a case over softer and poorly cemented rock. At a number of locations the iron rich crust was observed to be exfoliating from the softer material. The sandstone exposures that were observed were generally considered to be not suitable to retain evidence of axe grinding grooves. However, large sections of the drainage lines were inaccessible and the lack of axe grinding groove sites has not been confirmed.

3.2.1 Previously Recorded Sites

The previously recorded stone arrangement (mythological place), DEC No. 38-4-0453, could not be located. It is likely that this site was destroyed during construction of the communication towers located on the crest of Munibung Hill.

3.2.2 Interpretation of Results

The archaeological record does not reflect the ethnographic record regarding Munibung Hill. Despite a number of archaeological surveys across the area (for instance Ken McBryde and other members of the Koe-Inba Committee, (see **Section 2.3.1.1**), spent two days surveying the area in the 1980s, (Ken McBryde pers. comm. 2003)) no Aboriginal sites have been recorded other than site 38-4-0453. Ken McBryde recalled seeing this site during the 1980s survey.

It is likely that small artefact scatters exist on the slopes, crests and drainage lines of Munibung Hill but the visibility of these is inhibited by vegetation or soil. There is widespread evidence of severe sheet and rill erosion on the slopes, and artefact scatters are likely to have been reworked by these surface processes. It is unlikely that substantial or *in situ* sub surface archaeological deposits occur in this steep and erosional landscape.

4.0 MANAGEMENT RECOMMENDATIONS

No Aboriginal archaeological evidence was identified during the current survey. The previously recorded stone arrangement within the study area could not be relocated and it is considered likely that the site has been destroyed.

The following recommendations are made on the basis of:

- the legal requirements imposed by Section 90 of the *National Parks and Wildlife Act* 1974 which states that it is an offence to disturb, deface or cause or permit the destruction of relics or an Aboriginal place without the written consent of NPWS;
- the results of the Aboriginal cultural heritage survey;
- the results of a review of ethnographic records;
- inferences in relation to geo-archaeological potential;
- consultation with Koompahtoo LALC in relation to the Aboriginal significance of the study area; and
- consideration of the possible management options for the study area in consultation with Koompahtoo LALC.

The lower slopes of Munibung Hill in the Pasminco site have been heavily disturbed by activities associated with past industrial development, earthworks, land filling and severe erosion. There are no archaeological constraints across this part of the study area. Areas considered to be unconstrained are shown in **Figure 4.1**.

The principal issues for future management are considered to be:

- the Aboriginal cultural value of Munibung Hill is in its landscape context. This value appears to be attributed particularly to the high ridge crest. The area is not currently accessible to local Aboriginal people, but the stories about the past uses of Munibung are well known in the local Aboriginal community. This value exists whether or not any archaeological evidence of past activities is retained;
- the potential for previously undetected sites associated with rock outcrop on the steep upper slopes and drainage lines (deposits associated with small rock shelters, grinding grooves); and
- the potential for subsurface stone artefacts to be retained in the shallow soils, particularly along the ridge crest and possible on benches adjacent to drainage lines.

The area to which these issues relate is shown in hatching on **Figure 4.1**. All three of these issues have implications for future development proposals that involve the ridge crest, upper slopes and small areas adjacent to drainage lines.

Three actions are recommended to address these issues if any development on the upper slopes and ridge crest in the area shown on **Figure 4.1** is proposed:

- Further consultation with the Koompahtoo LALC (particularly elders of the community) about how respect for the Aboriginal cultural values of Munibung Hill can be shown.
- Further archaeological investigations, targeting the ridge crest and any benches adjacent to drainage lines if development is proposed for these areas. For instance, some preliminary subsurface investigation of these areas prior to disturbance by new development should be considered.
- Confirm the absence of rock based sites in drainage lines and associated with overhangs, if development is proposed for these areas. This can only realistically be done if the dense cover of weeds is removed.

Umwelt



Legend

Study Area Disturbed Areas Areas which require further archaeological investigation if impacted by development (above 80m ASL)

FIGURE 4.1

Areas which require further Archaeological Investigation if Impacted by Development

5.0 **REFERENCES**

- ERM (2000). Five Island Road Project, Environmental Impact Statement. Report to Roads and Traffic Authority.
- Gunson, N (Ed) 1974. Australian Reminiscences and Papers of L E Threlkeld. Missionary to the Aborigines 1824-1859. Australian Institute of Aboriginal Studies, Canberra.
- Matthei, L E 1995. Soil Landscapes of Newcastle 1:100 000 Sheet. Department of Land and Water Conservation.
- Umwelt (Australia) Pty Limited (2003a). Lake Macquarie Aboriginal Heritage Study, Stage 1B Survey. Report to Lake Macquarie City Council.
- Umwelt (Australia) Pty Limited (2003b). Additional Aboriginal Archaeology and Heritage Study, Five Islands Road Project, Teralba. Report to Roads and Traffic Authority.

APPENDIX 1

Correspondence from Koompahtoo LALC LW:JB:BS KOOM3315

9 February 2004

Katie Sachs Umwelt (Australia) Pty Limited PO Box 838 TORONTO NSW 2283

By Facsimile: 02 4550 5737

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

Aboriginal Heritage Survey – Pasminco Cockle Creek Smelter Site, Boolaroo.

K.L.A.L.C Site Officers: Grant Sampson and Phillip Sampson

Results of the survey 5 February 2004:

On 5 February 2004, Grant Sampson and Phillip Sampson, Site Officers, Koompahtoo Local Aboriginal Land Council, undertook an investigation of the above named area.

The survey area consisted of bushland. A thorough investigation of the site was conducted and no significant Aboriginal Sites or Artefacts.

Recommendations:

Koompahtoo Local Aboriginal Land Council Site Inspectors have investigated the site and have found nothing of Aboriginal significance and do not recommend any further actions. If further information is required regarding the Aboriginal Heritage of this site, further information can be obtained from K.L.A.L.C site inspectors Grant Sampson and Phillip Sampson.

This report was compiled by:

Jampson

Grant Sampson Site Officer for Koompahtoo Local Aboriginal Land Council.

Phillip Sampson Site Officer for Koompahtoo Local Aboriginal Land Council.

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