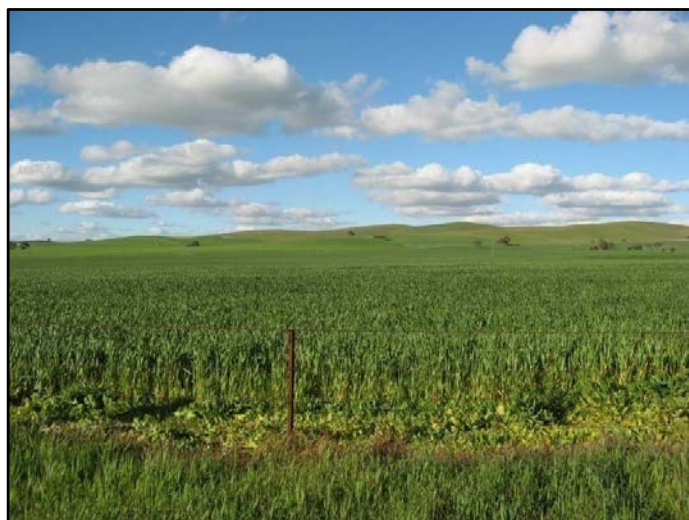


Indigenous cultural heritage study of the proposed Willogoleche Wind Farm Grid Connection and Substation, SA.

(Ngadjuri Walpa Juri Lands & Heritage Association)



A report to

Wind Prospect Pty Ltd
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Christies Beach SA 5165

September 2009

by

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The author is not accountable for omissions and inconsistencies that may result from information which was not forthcoming at the time of this research.

MAPPING DATUM

All coordinates presented in this report are in the mapping projection GDA94 (MGA Zone 54). Coordinates have been captured using a hand held GPS unit (Garmin GPSMap60Cx). Horizontal accuracy is assumed to be greater than 10m.

CONFIDENTIALITY STATEMENT

This report does not contain information which would require restrictions of gender, age or other status.

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1. INTRODUCTION

Wind Prospect Pty Ltd. is proposing to construct a 33kV underground electrical cable connecting the Willogoleche Wind Farm project to the proposed new sub-station approximately 2km to the south-east of the southern end of the wind farm (see Figure 1). In addition, a reactor bay will be constructed in the vicinity of towers (T) 93 to 96 (see Figure 1).

The cable connection will require a 20m wide corridor while the reactor bay will require an area measuring 40x80m. The substation will measure approximately 150x120m and will connect into the existing 275 kV transmission line running from Port Augusta to Adelaide. A new pylon will be installed under the existing line.

The Willogoleche Wind Farm has been previously subjected to an Indigenous cultural heritage study (Wood 2007), with no sites of significance to archaeology, anthropology, history or tradition being recorded in this location.

This report presents the findings of the field cultural heritage assessment of the study area, as shown on Figure 1. The field survey was undertaken on Thursday September 10 2009. The consultant was accompanied in the field by six representatives of the Ngadjuri Walpa Juri Lands & Heritage Association, who are recognised as the traditional owners for the area: Vincent Copley, Vincent Branson, Betty Branson, Craig Branson, Brenton Weetra and Beau Sparrow.

Contextual information for the general area is duplicated from Wood 2007. Information on the regulatory framework governing heritage protection is also outlined.

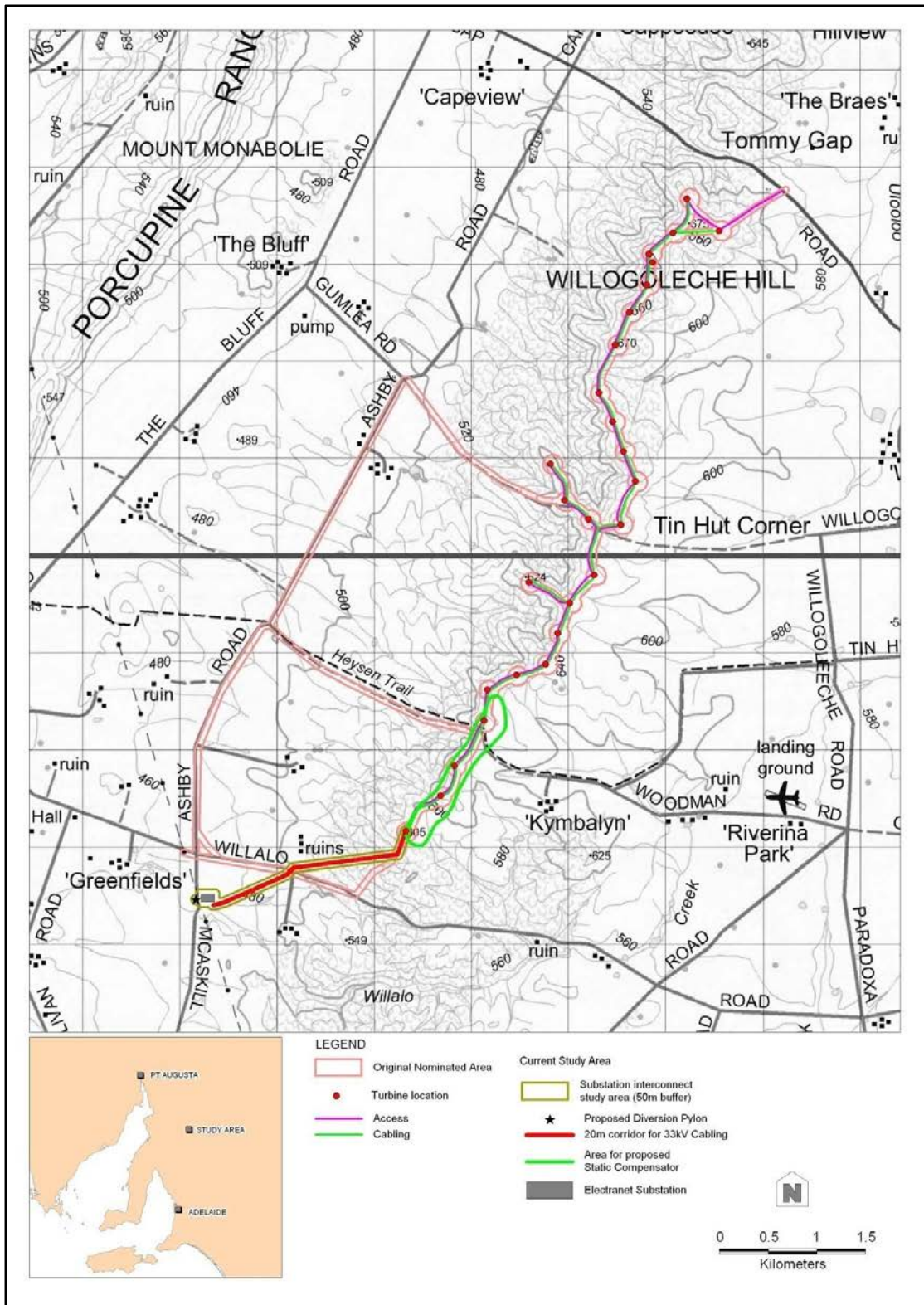


Figure 1: The study area showing the proposed 33kV cable connection and substation and the area of search for the reactor bay location.

2. RELEVANT LEGISLATION

Indigenous cultural heritage is protected at both the State and Federal levels. The Australian government's power and role in heritage place management is, however, strictly limited. Except in the case of Indigenous place protection and World Heritage, it does not impinge upon state powers, cannot usually stop states from destroying places and cannot legislate to actively protect them. The essential protective legislation is state-generated (Pearson and Sullivan 1995:56). Following are details of relevant legislation in South Australia as well as federally.

South Australian legislation

South Australian Aboriginal Heritage Act 1988

The *Aboriginal Heritage Act 1988* provides blanket protection for all Aboriginal sites and objects in South Australia. An Aboriginal site is defined by the Act as being an area of land:

- a) That is of significance according to Aboriginal tradition;
- or
- b) that is of significance to Aboriginal archaeology, anthropology or history.

An Aboriginal object is defined by the Act as an object:

- a) that is of significance according to Aboriginal tradition
- or
- b) that is of significance to Aboriginal archaeology, anthropology or history.

The Aboriginal Affairs and Reconciliation Division (AARD) is required to keep a Register of Sites and Objects (RASO) but all sites are protected, irrespective of whether they are on the Register or not.

Section 7 of the Act establishes an Aboriginal Heritage Committee, now referred to as the State Heritage Committee. This committee includes representatives from local heritage committees and its functions are to advise the Minister on the

significance of sites and objects, their preservation and protection and other matters relating to the Act.

Section 12 allows for a person proposing any action near a site to apply for a determination from the Minister as to the site's significance. Under Section 12(6), the Minister may then accept advice from an 'expert' on this matter and then make a determination as to whether the site is to be retained on the Register of Aboriginal Sites or whether it should be removed from the Register. Sites or objects that are determined not to be significant may be excluded from the operations of the Act (Section 13). Partial disturbance or clearance of a site may be possible through the determination process.

Section 20 states that all people who 'discover' Aboriginal sites or objects must report them to the Minister, through AARD. Details providing particulars of the nature and location of the site, object or remains must be included. The penalty for such an offence is \$50,000 for a body corporate, or \$10,000 or imprisonment for 6 months in the case of an individual.

It is an offence, under Section 23 of the Act, to collect, damage or destroy Aboriginal sites, objects or remains without the written authorisation of the Minister for Aboriginal Affairs. The penalty for such an offence is \$10,000 or imprisonment for six months in the case of an individual and \$50,000 in the case of a corporate body. Where a corporate body commits an offence under the Act, each member of the governing body is guilty of the same offence and is liable to the same penalty as an individual.

Under Section 24, the Minister may prohibit or restrict access to a site and also prohibit or restrict activities at or near a site. Prohibitions and restrictions made under this section require the approval of the Governor.

Contact details for AARD are as follows:

Aboriginal Affairs and Reconciliation Division
GPO Box 2343
ADELAIDE SA 5001
Ph: (08) 8226 8900

Federal legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

Aboriginal sites are also protected by Commonwealth legislation. The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and subsequent amendments provide for the preservation and protection of sites and objects of traditional significance to Aboriginal people. Sites and objects can be protected both from physical threat and from the threat of desecration. Aboriginal tradition means the body of traditions, observances, customs and beliefs of Aboriginal people generally or of a particular community or group of Aboriginal people and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships. The Commonwealth Act takes precedence over State legislation where there is conflict.

Aboriginal people can apply to the Federal Minister for Aboriginal Affairs for an emergency declaration to protect a threatened site or area. Emergency declarations would only be made if it was considered that State heritage legislation did not adequately protect a site or object. Before making a declaration, the Federal Minister must consult with the State Minister for Aboriginal Affairs to determine whether State legislation gives the necessary protection to the site or objects. If the Federal Minister is satisfied that the State or Territory laws offer protection, then a declaration will not be made.

Emergency declarations, giving temporary protection to a site or object, can apply for 30 or 60 days. If the Minister is satisfied that the site or objects are still under threat, long-term protection can be provided. Contravention of declarations made in

relation to significant Aboriginal areas or objects is an offence. At present, there are no areas or sites under the protection of this Act within the study area.

Environment and Heritage Legislation Amendment Act (No. 1) 2003, Australian Heritage Council Act 2003, Australian Heritage Council (Consequential and Transitional Provisions) Act 2003

Together, these three Acts provide protection for Australia's natural, Indigenous and non-Indigenous cultural heritage. Features include:

- A new National Heritage List of places of national heritage significance.
- A Commonwealth Heritage List of heritage places owned or managed by the Commonwealth.
- The creation of the Australian Heritage Council, an independent expert body to advise the Minister on the listing and protection of heritage places.
- Continued management of the Register of the National Estate, although this register is now frozen meaning no new places can be added or any removed.

The first of the Acts amends the *Environmental Protection and Biodiversity Conservation Act 1999* to include 'national heritage' as a new matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution. It also establishes the National Heritage List and the Commonwealth Heritage List.

The second of the Acts establishes a new heritage advisory body to the Minister for the Environment and heritage, the Australian Heritage Council, and retains the Register of the National Estate.

The third of the Acts repeals the *Australian Commission Act 1975*, amends various Acts as a consequence of this repeal and allows the transition to the new heritage system.

Following are details of each of the Heritage Lists and the protection offered to places on them (www.deh.gov.au/heritage/law/heritageact/index.html).

National Heritage List

The National Heritage List is a list of places with outstanding heritage value to our nation, including places overseas. So important are the heritage values of these places that they are protected under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This means that a person cannot take an action that has, will have, or is likely to have, a significant impact on the national heritage values of a national heritage place without the approval of the Australian Government Minister for the Environment and Water Resources. It is a criminal offence not to comply with this law and there are significant penalties.

The National Heritage List is a list of places with outstanding natural, Indigenous or historic heritage value to the nation. When heritage experts assess if a National Heritage List nominated place is considered to have heritage value they will check to see if the place meets one or more of the following criteria:

- (a) The place has outstanding heritage value to the nation because of the place's importance in the course, or pattern, of Australia's natural or cultural history.
- (b) The place has outstanding heritage value to the nation because of the place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.
- (c) The place has outstanding heritage value to the nation because of the place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history;
- (d) The place has outstanding heritage value to the nation because of the place's importance in demonstrating the principal characteristics of:
 - (i) A class of Australia's natural or cultural places; or
 - (ii) a class of Australia's natural or cultural environments.

- (e) The place has outstanding heritage value to the nation because of the place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- (f) The place has outstanding heritage value to the nation because of the place's importance in demonstrating a high degree of creative or technical achievement at a particular period.
- (g) The place has outstanding heritage value to the nation because of the place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- (h) The place has outstanding heritage value to the nation because of the place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.
- (i) The place has outstanding heritage value to the nation because of the place's importance as part of Indigenous tradition.

Commonwealth Heritage List

The Commonwealth Heritage List is a list of places managed or owned by the Australian Government. The list will include places, or groups of places, that are in Commonwealth lands and waters or under Commonwealth control, and are identified by the Minister as having Commonwealth heritage values. These places will be protected under the EPBC Act, which requires that actions:

- Taken on Commonwealth lands which are likely to have a significant impact on the environment will require the approval of the Minister.
- Taken outside Commonwealth land which are likely to have a significant impact on the environment on Commonwealth land, will require the approval of the Minister.
- Taken by the Australian Government or its agencies which are likely to have a significant impact on the environment anywhere, will require approval by the Minister.

As the definition of 'environment' in the EPBC Act includes the heritage values of places, these provisions of the Act in the context of their operation, provide protection for the values of Commonwealth Heritage places.

A place meets the Commonwealth Heritage listing criterion if the place has significant heritage value because of one or more of the following:

- a. The place's importance in the course, or pattern, of Australia's natural or cultural history.
- b. The place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history.
- c. The place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history.
- d. The place's importance in demonstrating the principal characteristics of:
 - i. A class of Australia's natural or cultural places; or
 - ii. a class of Australia's natural or cultural environments.
- e. The place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group.
- f. The place's importance in demonstrating a high degree of creative or technical achievement at a particular period.
- g. The place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
- h. The place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history.
- i. The place's importance as part of Indigenous tradition.

Register of the National Estate (RNE)

Under the new system, the Register of the National Estate is retained as an evolving record of Australia's natural, cultural and Aboriginal heritage places that are worth keeping for the future. The Register was frozen in February 2007 meaning that no places can be added or removed. Places on the Register that are in Commonwealth areas, or subject to actions by the Australian Government, are protected under the EPBC Act by the same provisions that protect Commonwealth

Heritage places.

There is now a significant level of overlap between the Register of the National Estate, and heritage lists at the national, State and Territory, and local government levels. In early 2007, changes were made to the EPBC Act, to address this situation. There will be a transition period of five years to allow governments to consider whether there are places on the Register that should receive protection under another statutory list or a local government heritage register. After this period, the Register's statutory basis will be removed.

Native Title Act 1993

The main purpose of the Commonwealth Native Title Act is to recognise and protect native title. Native Title is the rights and interests in land and waters that Aboriginal and Torres Strait Islanders have under their traditional laws and customs.

While there are currently no native title applications in place over the study area, It is likely that the Ngadjuri Walpa Juri Lands & Heritage Association Inc. will be lodging one in the near future. The Ngadjuri are represented by:

Andrew Beckworth
SA Native Title Services Ltd.
Level 4
345 King William Street
ADELAIDE SA 5000
Telephone: (08) 8110 2800

3. THE STUDY AREA

The study region is located to the west of Hallett, approximately 33km north of Burra, in the mid north region of South Australia.

The wind farm location incorporates a steep north-south trending strike ridge, including the summit of Willogoleche Hill, with dissected foot-slopes and colluvial/alluvial outwash fans extending to the west of the ridge into a narrow valley (see Laut *et al.* 1977). A series of rocky spurs extend west from the ridge line with the eastern slopes typically steep to sheer.

Surface gradients are generally steep to moderate though flatten toward the lower foot slopes. The slopes are dissected by a series of small creek lines, representing the upper catchment of the Broughton River, with narrow fluvial terraces formed on dense gravel beds and clay soils extending from the creek banks in parts (particularly on the lower slopes).

The proposed grid connection cable will run south from a moderately steep slope before heading west along lower foot slopes.

The area is essentially devoid of any surface vegetation other than pastoral grasses and the proposed substation location was under crop at the time of the survey (see photo on the front cover).

4. INDIGENOUS CULTURAL HERITAGE

4.1 Historical and anthropological background (after Wood 2007)

Tindale (1937, 1974) places the current study area within *Ngadjuri* 'tribal' territory, which is thought to have extended from Angaston and Gawler in the south, to Port Pirie and Orroroo in the north, and westward to Crystal Brook. Tindale (1937:149) describes their eastern boundary as the eastern scarp of the Mount Lofty Ranges. The *Kurna* are the Ngadjuri's southern neighbours, and their western neighbours are the *Nukunu* with the *Adnyamathanha* lying to the north-east.

The Ngadjuri were known to the Kurna as *Wirra meju*, meaning 'gum tree men', and *Manu* and *Manuri* to the Nukunu, which means 'back' and 'inland people' respectively. The Ngadjuri people's own name is thought to mean 'we men' and is derived from *nadlu* [we] and *juri* [man] (Tindale 1937:149).

Barney Waria (also called *Gunaia* – Berndt and Vogelsang 1941, or *Ngadjilikuna* – Mountford 1940), a Ngadjuri man, has been the main informant on Ngadjuri culture and language. He was born at Orroroo in 1873. He was a *gararu* moiety man whose 'totem' was *wudlaru* (curlew) and *wada* (stick-nest rat). His name, Waria, means second child born, male (Warrior *et al.* 2005:105).

Waria came to Adelaide in the 1930s and 1940s because he considered that knowledge of Ngadjuri customs and beliefs would be lost for lack of these things being passed down, and, as such, provided details on tribal boundaries and described close interactions with the Adnyamathanha, Kurna and Nukunu who were bound by similar culture and language (Anderson 2000). During his visits he talked with Norman Tindale (Ethnologist with the South Australian Museum at the time), and Ronald Berndt and Charles Mountford, both anthropologists (Warrior *et al.* 2005:6).

Waria provided Ronald Berndt with details of Ngadjuri language during March 1940 and the vocabulary was published in 1941 (Berndt and Vogelsang 1941). As Anderson (2000:10, also see Knight n.d.:5) points out, numerous place names in

the mid north reflect Ngadjuri names, many associated with water and some with animals, such as Appila (hunting ground), Bundaleer (among the hills), Oodlawirra (gum tree country inhabited by kangaroos), Ulooloo (continuous and permanent water), and Yunta (a spring). The name of the town of Orroroo means 'early start' and relates to the place where people camped to get an early start for hunting kangaroos (Gray 1930:6). Place names ending in 'owie' (meaning 'water') are common and include Caltowie (the waterhole of the sleepy lizard), Wilcowie (dog water), Buckalowie (frost water), Canowie (stone water), and Dillowie (thorny saltbush water) (Hercus and Potezny n.d.:5-6, Anderson 2000:10).

Waria also supplied Berndt and Tindale with dreaming stories including *the Old Woman and her Two Dingoes*, which relates to the ochre deposit at Parachilna Gorge in the Flinders Ranges, the *Eagle and Crow* story (Tindale 1937), which focuses on an Aboriginal campsite near Orroroo, *Akarru, the Rainbow Serpent* (Berndt 1987), and *Wiparu, the Whip Snake* (Berndt 1987). Many of these stories are shared with the Adnyamathanha. Another Ngadjuri man, Jim Mooney, gave Berndt the story of *Yuru and Wudlu*.

Waria also provided information on spirit beings which inhabited Ngadjuri country. One of these, the *Mirlki* giant, left a large footprint in a creek at a place called *Mundjapi*, which is near Mt. Bryan (*Yibbi*). According to Waria, there were a large number of people living in this area in the dreaming. In fear of Mirlki they fled north and entered a cave about 10km southeast of Orroroo (*Ar-ru*), and walked underground northward to *Mukalavi* (Bendleby), near Carrieton (Warrior *et al.* 2005:42).

Another Ngadjuri man, Jim Mooney, gave Berndt the story of *Yuru and Wudlu*, which is a story about how the country and the rocks around Yunta and Panaramittee came to be as they are today (Berndt 1987, Anderson 2000:10, Warrior *et al.* 2005:41).

It should be noted that detailed information relating to the Ngadjuri collected by Berndt is under an embargo for 25 years after his death in 1990 and is therefore unavailable at the present time.

It is thought that a number of dreaming tracks travel across Ngadjuri country, which, according to Horton (1994:777), lies near the southern end of the trade and exchange routes which extended into the Gulf of Carpentaria. Ochre, pituri, grinding slabs and other items were traded along this route, via Lake Eyre.

The Ngadjuri are thought to have had a diverse diet with kangaroos, emus, bandicoots, stick nest rates, wild turkeys, possums, sleepy lizards, snakes, ducks, pigeons, plant foods, insects, etc. included. Brown (1897) provides details on the method of cooking rushes for fibre to be used as twine for making nets used for fishing and catching emus and kangaroos:

A circular hole was dug in the ground, two feet deep by three feet diameter, and into the bottom of the hole large pebbles were placed; a fire was kindled and kept burning until the stones were red hot. The embers were then taken out and sticks laid across the hole; on these a layer of reeds or damp grass was placed, and on them the cress inc concentric layers, the root-ends to the outside; over the cress another layer of grass was laid and more grass round the outside of the heap. A 'yam stick' was then thrust through the heap from the top, and then withdrawn water was poured down the hole thus made; this reaching the hot stones, came up in steam that permeated the whole heap, more water being added from time to time when necessary. In about an hour the cress was well cooked, and the oven ready for another fire as before.

Once cooked, the rushes were chewed and then allowed to dry. It was then rolled by twirling it with the hand on the thigh (Brown 1897:72).

According to Berndt (1940:457), the Ngadjuri would join the Kaurna and Narungga, from Yorke Peninsula, for fishing excursions near Port Wakefield. Freshwater fish were also targeted and, in addition, to netting, they were also sometimes caught by throwing certain leaves into the waterholes which would act to poison the fish causing them to rise to the surface. Nets were also used to catch birds (Warrior *et al.* 2005:47).

An account of Aboriginal people living near Wirrabara in 1874 describes the types of shelters used:

Blacks were then living on section 330 – quite a lot of them – all ages and sizes from piccaninnies to the aged men and women. Their wurlies were all well made and covered with boughs, bark and porcupine grass. (Hollitt quoted in Babbage 1972:3).

While the population of the Ngadjuri is not known, there are records of there being about 800 Aboriginal people living near Bungaree and the Hutt River in the 1840s, while a group of 400 Ngadjuri was recorded by the explorer Horrocks as being involved in a corroboree at Clare in the 1850s. However, few Aboriginal people are recorded as remaining in the area into the late 1860s. This depopulation was, no doubt, due to the impact of European diseases such as tuberculosis and smallpox on the Aboriginal population, as well as venereal diseases reducing fertility. Conflict between the Ngadjuri and the European settlers also played a role.

Anderson (2000) states that initial interactions between the Ngadjuri and early explorers were cordial and tolerant. Edward John Eyre travelled north through the Broughton River region and Crystal Brook to Deep Spring in the late 1830s and was probably the first non-Aboriginal person encountered by many Ngadjuri people. He noted (1839 quoted from Warrior *et al.* 2005:74):

Some natives in the vicinity at other times, when riding with only a native boy over the plains of the interior I have seen the blue smoke of the native fires and have come suddenly upon a party encamped in the hollow.

Frome, another explorer crossing the region, also noted seeing the smoke from many fires and his exploration party used native wells and followed Aboriginal tracks to water sources (Knight n.d:6).

The arrival of the first pastoralists into the area saw a rise in conflict. James Hawker, of Bungaree Station, believes that the reasons for this are because:

The manners and customs of the natives were not known, and no attempt at friendly overtures was considered necessary towards them in the earlier settlement of the northern districts; in fact they were looked upon as equally detrimental with wild dogs on a run. All means of extermination were used to drive them away from the runs, and this obliged them to occupy country further back and trespass on that belonging to a different tribe. Tribal fights were therefore common. The difficulty of obtaining their usual food, owing to their occupancy of the large area of country by the squatters, led to attacks being made on the stations, occasionally with loss of life on both sides, and the killing of cattle and sheep when food was unprocurable (Hawker and Linn 1992:33-4, Anderson 2000:12).

The Ngadjuri began stealing sheep and reprisals and punitive action was subsequently brought to bear on the Ngadjuri (Anderson 2000). Perhaps the best known of these actions was the 'Mount Bryan massacre'. A flock of sheep was stolen in 1844 from John Hallett's station at Mount Bryan. The sheep were found in the hills with a group of Ngadjuri by one of Hallett's men, Spratt. When he returned to the station a party of four men returned to find the group.

Waiting till daybreak, the Europeans opened fire on the sleeping Aborigines, resulting in their carnage. Following an investigation into the incident by Protector of Aborigines, Matthew Moorhouse, *Pintia Ngalya*, or Kangaroo Jack, was tried before the Supreme Court for sheep stealing, but was acquitted for lack of evidence. None of the perpetrators of the massacre were brought to trial (GRG52-24/6/1844/1120). Later Carter boasted that he shot and killed a man and his pregnant wife and that he cut open her belly and fed the foetus to the dogs (Anderson 2000:11).

While some Aboriginal people began working on the stations for food and rations, many Ngadjuri people were moved to missions at Poonindie and Point Pearce in the 1880s. Others joined the Adnyamathanha or other Aboriginal communities, while some Olary people moved to the Broken Hill region (Anderson 2000:14, Berndt 1987, Mawson and Hossfeld 1926).

4.2 Archaeological background (after Wood 2007)

The mid north region of South Australia has been the focus of much archaeological research in the past, with a range of archaeological sites having been recorded. These include stone artefact scatters/campsites, quarries, stone arrangements and cairns, scarred trees, burials, rock holes, painting sites and engraving sites, with the latter being the most represented and studied site type in the region (see Appendix I for definitions of these site types).

Rock art sites, in particular engraving sites, are the most well-represented site type in the study region (see Mawson and Hossfeld 1926, Gara 1983, Anderson 2000, Walshe and Bonnell 2003). Whilst the dominance of this particular site type is certain to reflect a bias in reporting generated through targeted research, rock art sites (both engraved and painted) nevertheless proliferate in the region, with the Burra – Olary region acknowledged both nationally and internationally, as one of Indigenous Australia's great art provinces.

The art generally comprises specked motifs on exposed rock pavements, usually associated with semi-permanent or permanent fresh water such as springs, creek

beds or waterholes (Warrior *et al.* 2005:69). Barney Waria, a Ngadjuri man who was born in Orroroo in 1873 and main informant to various ethnologists, told Ronald Berndt that the *Budla-bila* spirit beings were responsible for the engravings (Warrior *et al.* 2005:68).

There have been a number of cultural heritage studies undertaken for various development projects in the area, including wind farms. It should however be pointed out that information relating to some of these reports is limited due to the fact that a letter from the relevant Indigenous organisation is required to get more detailed access to the database of reports held by AARD. Following are some details of these studies which are held by the consultant.

Gara (1983) carried out an archaeological survey for the 275kV transmission line from Port Augusta to Eudunda, (the proposed Willogoleche sub-station connects to this transmission line – see Figure 1). Gara recorded a total of five Aboriginal archaeological sites during the survey, the closest being in the vicinity of Appila, 25km north-west of Jamestown. This site comprises a scarred river red gum from which Gara suggests bark was removed by Aboriginal people to make a shelter (Gara 1983:11). The other four sites recorded by Gara were stone artefact scatters.

Walshe and Bonnell (2003) carried out a desk-top study of the broader Hallett region for Wind Prospect Pty Ltd. They provide a list of Aboriginal archaeological site types previously recorded for the region along with the landforms where they are commonly found. This information is included in Table 1.

Table 1: Site type and associated environment (after Walshe and Bonnell 2003).

Site Type	Associated Environment
Engraving	Exposed rock pavement/face along gorge, creek or outcrop, all watercourses.
Campsites/surface scatters	Watercourse, valley, confluence.
Painting	Rockshelter.
Stone cairn	Ridge, peak, valley floor.
Culturally modified tree	Woodlands.
Quarry	Ridge, watercourse.
Burial	Watercourse, ridge.

Of direct relevance to the present study is the cultural heritage survey carried out for the Willogoleche Hill Wind Farm (Wood 2007). No sites of significance to archaeology, history or tradition were recorded during this survey. In terms of anthropology, it has not been determined, nor is there information available, as to whether the myths described above relate to the Willogoleche study area. During the 2007 survey, the traditional owners were confident that there were no anthropological sites in this location although they believe that further information relating to such sites may become known when the embargo on Ronald Berndt's work with the Ngadjuri becomes available in 2015.

4.3 Site inventory

The following documentary and archival sources relating to Indigenous cultural heritage sites have been reviewed as part of this report:

- The Register of Aboriginal Sites and Objects, maintained by AARD.
- The Australian Heritage Places Inventory. This database includes all items found on the Register of the National Estate.

In summary, no previously identified Indigenous heritage sites are located in the present study area.

5. SURVEY METHODOLOGY AND RESULTS

The survey of the study area, as shown in Figure 1, was undertaken by a combination of pedestrian (75%) and vehicular (25%) survey. The team accessed the ridgeline in the vicinity of T96 and moved generally northwards (previous survey had covered an area of 50m wide in the vicinity of the proposed tower locations).

For the pedestrian survey, a team of between three to four people spread out across the defined study area which generally displayed excellent ground surface visibility. For the vehicular survey, the alignment was driven along slowly and the team stopped to inspect areas of particular interest or where the ground surface visibility was good. In addition, all outcrops of quartz and quartzite were checked for evidence of quarrying and all rock surfaces. No trees old enough to contain scars were present within the study area.

No cultural material/objects or sites of significance to archaeology, history or tradition were located or highlighted by the Ngadjuri representatives during the survey, who are recognised as the traditional owners for the area. It is considered that the area on the ridge top is not conducive to occupation given the steepness of the terrain and the windy nature of the hill tops, nor were there any remaining trees old enough to bear evidence of cultural modification. In addition, the outcropping rocks on the ridgeline in the nominated area, in particular the quartz outcrops, are of poor quality in terms of stone tool manufacture.

In terms of the anthropology, and as in the previous Willogoleche survey (Wood 2007) it has not been determined, nor is there information available, as to whether the myths described above relate to the present study area. The traditional owners were confident that there were no anthropological sites in this location although they believe that further information relating to such sites may become known when the embargo on Ronald Berndt's work with the Ngadjuri becomes available in 2015.

6. RECOMMENDATIONS

- No Indigenous sites of significance to archaeology, anthropology, history or tradition were identified during the current study nor are there any previously recorded sites located within the study area as shown on Figure 1. The traditional owners do state that further information relating to anthropological sites may become known when the embargo on Ronald Berndt's work with the Ngadjuri becomes available in 2015. However, for the purposes of this study, they are satisfied that none of the previously known mythological stories relate to the present study area.
- It is strongly recommended that further survey be undertaken should the development change to include areas outside of the study area, as shown on Figure 1. This includes areas which will be utilised during the construction of the substation, cable and reactor bay.
- It is also strongly recommended that the construction contractor be provided with all information pertaining to the cultural heritage study, and, in particular, maps showing the area covered during the cultural heritage survey. Failure to do this may lead to inadvertent disturbance to sites which are protected under the *Aboriginal Heritage Act 1988* (see Section 2 above).

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APPENDICES

APPENDIX I:

Definitions of site types found in the study region.

Stone artefact scatters/open campsites
This site type comprises sites where worked stone and other evidence (i.e. hearthstones, other transported stones called manuports, charcoal from fires, and food remains such as bone and shell) of Aboriginal occupation remains on exposed ground surfaces. Most artefacts recorded from sites in the region are manufactured from quartz, indicating the shortage of other local raw material sources as well as silcrete.
Hearths
Also known as ovens these sites are roughly circular features mainly comprising lumps of burnt/baked clay or calcrete nodules, sometimes in an ash and charcoal matrix. Occasionally other cultural material can be found associated with the hearths, such as burnt and unburnt fish, mammal and bird bone, shell and stone artefacts. Hearths are often found associated with other cultural material but are also found in isolated occurrences, or in groups,
Scarred trees
The size and shape of the scar is thought to have depended on the use for which the bark was intended. For example, bark was used for a variety of dishes and containers, shields, canoes and in the construction of huts. Aboriginal derived scars are distinct from naturally occurring scars by their oval or symmetrical shape and occasional presence of steel, or more rarely, stone axe marks on the scar's surface. Other types of scarring include toeholds cut in the trunks or branches of trees for climbing purposes and removal of bark to indicate the presence of burials in the area.
Art sites
Art sites, engraved and painted, occur throughout the region. Engravings were produced using a variety of percussive and abrasive techniques and may occur in open sites where suitable rock surfaces exist. Painting sites, on the other hand, are usually located in closed locations such as caves or rockshelters, with ochre, kaolin, manganese oxide and other pigments used to stencil, draw or paint surfaces. Art sites can range from single motifs to galleries of hundreds of engraved petroglyphs.
Burial sites
Burial sites, both single and multiple, as well as cemeteries, have been found both in association with occupational deposits and alone.
Stone cairns
These sites comprise piles of stone which are generally conical in outline with a roughly circular base. Cairns can be interpreted in a number of ways: the presence of cairns can indicate the location of an Aboriginal burial; they can be route markers; they can be the foundations for hunting hides.
Quarries
Quarries comprise sources of surficial hardstone which have been utilised for the manufacture of lithic and edge-ground artefacts.