
Capital Wind Farm II
Tarago Region, NSW
ABORIGINAL ARCHAEOLOGICAL
& CULTURAL HERITAGE ASSESSMENT
THIS VERSION FOR PUBLIC ACCESS

FINAL REPORT



Prepared by
Austral Archaeology Pty Ltd
Archaeological & Cultural Heritage Consultants
For
Infigen Energy

March 2011
Job No: 1008

**NOTE: SOME INFORMATION OF CULTURAL SENSITIVITY TO THE
ABORIGINAL COMMUNITY HAS BEEN REMOVED FROM THIS VERSION
OF THE REPORT**

EXECUTIVE SUMMARY

Infigen Energy Development Pty Ltd has commissioned Austral Archaeology to prepare an Aboriginal archaeological and cultural heritage assessment for Capital Wind Farm II, to the east of Lake George, as part of an Environmental Assessment and Development Application under the NSW Environmental Planning and Assessment Act 1979-amended (EP&A Act). It is understood that this project is to be conducted as per requirements for Part 3A of the EP&A Act.

Infigen Energy proposes to increase the capacity of the current Capital Wind Farm by constructing an additional 55 wind turbine generators that will produce an extra 100 Mega Watts of power.

The stakeholder consultation process for this project was conducted in accordance with the DECCW (NSW) Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 (the Part 3A Guidelines). At the time the project was initiated new consultation guidelines came into force (DECCW Aboriginal cultural heritage consultation requirements for proponents 2010). However there are as yet no new guidelines for projects running under Part 3A assessments. The Local Aboriginal Land Council (LALC) and registered stakeholders for this project were consulted with. The study area falls within the boundary of the Pejar Local Aboriginal Land Council (PLALC). Gundungurra Tribal Council Aboriginal Corporation was identified as Native Title Holders for the area through a search of the National Native Title Tribunal (NNTT) data base. The Buru Ngunnawal Aboriginal Corporation is also listed as Native Title Claimants for the region surrounding the study area.

Fieldwork was undertaken over 10 days from the 7th of June to the 11th of June 2010, the following week on the 15th, 16th and 18th of June 2010 and the next month on the 5th and 8th of July 2010. 100% of the study area was surveyed. Ground surface visibility was excellent throughout the majority of the study area.

As a result of the survey a total of 63 new sites were recorded in the study area. Of the 63 sites, 31 were isolated finds (49.21%), 30 were open artefact scatters (47.62%) and two Potential Archaeological Deposits (PAD) were recorded (3.17%). PAD 1 is in close proximity to Wrights Creek and has 10 sites associated within its boundaries. These sites are 5 isolated finds and 5 open artefact scatters. PAD 2 is in close proximity to Taylors Creek and has 12 sites associated within its boundaries. These sites were comprised of 3 isolated finds and 9 open artefact scatters.

Infigen's final turbine layout plan has made provision for all newly recorded Aboriginal archaeological sites and accordingly they have relocated all wind turbine generators to avoid all Potential Archaeological Deposits (PAD's) and surface archaeological sites.

Recommendations

On the basis of the field assessment findings, the following recommendations are proposed for the Capital Wind Farm II study area to address Aboriginal archaeological and cultural issues that represent known developmental constraints:

1. Given that Infigen has modified the turbine layout plan as a result of the results of this Archaeological and Cultural Assessment and the responses from the registered stakeholders, no surface sites and PADs will be impacted by the proposed works. Therefore no further archaeological investigation of PADs or collection of surface artefacts is required. As part of the Construction Environmental Management Plan (CEMP), the final layout and report confirming the protection of all Aboriginal objects should be prepared and issued to the relevant stakeholders prior to implementation. If the design changes and impacts will occur, collection of surface material of identified sites will be required as will subsurface investigation of the PAD sites. If collection of sites CWF2-S-06, CWF2-IF-07 and CWF2-IF-20 (see Table 9.1) is required, they should also be subject to lithic analysis, but otherwise managed under the existing recommendations.
2. If additional unrecorded Aboriginal archaeological material is encountered during development, works must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with NSW DECCW

and registered stakeholder groups concerning the significance of any such material. DECCW must be notified of any such finds as per Section 89A of the *NP&W Act*. The CEMP will include procedures that would be implemented if any additional heritage sites are discovered during the development.

3. Restriction of access to Aboriginal archaeological information is recommended, in the event that this report is to go on public exhibition. Consultation with Austral Archaeology Pty Ltd and the registered stakeholders has determined the appropriate level of public release.
4. It is recommended that copies of the finalised report be provided to PLALC, BNAC, Douglass Connors and the NSW DECCW, and that the completed site cards be provided to the DECCW AHIMS Registrar.
5. Adherence to Cultural Heritage Management Sub Plan. The protocols and procedures developed by Austral Archaeology in full consultation with the registered stakeholders entitled: *Capital Wind Farm, Tarago Region NSW: Aboriginal Cultural Heritage Management Sub Plan* (2007) (including the Care and Control Agreement) are to be adhered to by all parties during the course of the Capital Wind Farm II project. The Sub Plan should be updated in conjunction with the registered stakeholders and incorporated into the CEMP.

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Capital Wind Farm is a renewable energy generation facility which became fully operational in October 2009. It is spread across the Hammonds, Ellenden and Grose Hill ridgelines east of Lake George, NSW and currently consists of 67 wind turbines grouped in four locations with a capacity of 140.7 Mega Watts (MW). Infigen Energy intends to increase the capacity of the current Capital Wind Farm by constructing an additional 55 wind turbine generators that will produce an extra 113.4 MW of power. In addition, a transmission line connecting the wind farm to the electrical grid and proposed access tracks are to be constructed.

Each of the turbine footings will require excavation of an area of about 15 x 15 m to a depth of up to 3m. Excess soil and rock excavated from the footing may be used to form a level pad near the base of the turbine tower on which a large crane can be located for the erection of the wind turbine. The extent of the work area including the crane pad and turbine footing will be less than 1000 m². Three bladed horizontal axis turbines will be mounted on towers about 80 m in height with the top of the blade sweep for each turbine having a height in the order of about 125 m.

The existing wind farm generates 140.7 MW of power. The new turbines will be connected by underground cables to the existing substation where the increased output will generate an additional 113.4 MW. This will bring the overall power producing capacity of the Capital Wind Farm to 254.1 MW.

Upgrading of existing tracks and the construction of new access tracks to each of the eight groups connecting the turbine locations and associated minor drainage works is also planned. Where possible, existing roads and tracks will be used to access the project facilities.

1.2 SITE DESCRIPTION

The Capital Wind Farm II study area is located in the South Eastern region of NSW, within the Local Government Area (LGA) of Palerang and within the Pejar Local Aboriginal Land Council boundary.

The study area is approximately 260 km south west of Sydney and 35 km east of Canberra, between Lake George and Bungendore Road. The region is dominated by rural properties consisting predominantly of cleared pasture land which has been subject to ongoing grazing practices since the onset of European settlement. Small stands of regenerated native vegetation occur on some slopes and creek corridors. The local topography is characterised by low creek flats, undulating low, rolling hills rising to steep hills and rocky ridgelines.

The study area covers approximately 20km².

Figure 1.1 Study Areas. Base image © Google Earth 2010.



Figure 1.1

Study Areas



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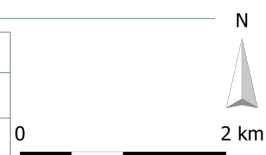


Figure 1.2 *Location of the study area in NSW in relation to Sydney and/or surrounding towns.*



Figure 1.2 Location of Study Area in Relation to Sydney and Surrounding Suburbs



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1.3 REPORT OBJECTIVES

The focus of this study is to identify the Aboriginal archaeological and cultural heritage values present in the study area, and to provide recommendations for their management and the mitigation of any potential impacts as a result of the development.

The main objectives of the assessment project as outlined in this report are as follows:

- Identify and consult with the appropriate Aboriginal stakeholders in regards to the project;
- Undertake field assessment of the entire study area in the company of Aboriginal stakeholder representatives to identify Aboriginal archaeological and cultural sites and issues, areas of potential archaeological deposit, and/or archaeologically sensitive landscapes, within the study area; and
- Produce an assessment and professional recommendations based on the results of the fieldwork and mapping to advise the Client on the Aboriginal archaeological and cultural values of the subject area.

In consideration of the sensitivity of site location information to the Aboriginal community, it is recommended that site location information and maps be removed from the report if it is to be put on public display. This is detailed in Recommendation 7.

1.4 STAKEHOLDER CONSULTATION

The stakeholder consultation process for this project was conducted in accordance with the DECCW (NSW) *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005* (the Part 3A Guidelines). At the time the project was initiated new consultation guidelines came into force (*DECCW Aboriginal cultural heritage consultation requirements for proponents 2010*). However there are as yet no new guidelines for projects running under Part 3A assessments. The Local Aboriginal Land Council (LALC) and registered stakeholders for this project were consulted with. The study area falls within the boundary of the Pejar Local Aboriginal Land Council (PLALC). Gundungurra Tribal Council Aboriginal Corporation was identified as Native Title Holders for the area through a search of the National Native Title Tribunal (NNTT) data base. The Buru Ngunnawal Aboriginal Corporation is also listed as Native Title Claimants for the region surrounding the study area.

Stakeholders were invited to register their interest by advertisements in the Koori Mail and Queanbeyan Age. In addition, contact was made with the Local Aboriginal Land Council and the Buru Ngunnawal Aboriginal Corporation in the form of letters of notification prior to newspaper advertisement. Austral tried on numerous occasions to contact GTCAC but to no avail.

As a result of the invitations and advertisements, the key stakeholder groups identified for this assessment are the Buru Ngunnawal Aboriginal Corporation (BNAC) and the Pejar Local Aboriginal Land Council (PLALC).

Views of the local Aboriginal community groups regarding cultural constraints during the project were sought; Lake George is considered to be the home of the creator spirit for the Ngunnawal people and as such holds great meaning spiritually and tangibly as their ancestors would most definitely have occupied sites around the lake shore to be close to their creator spirit.

A draft copy of this report has been provided to the Aboriginal stakeholders for comment and review. Each has been requested to provide a written submission which has been attached to the final draft of this report. Received submissions can be viewed in Appendix B. Stakeholders were also contacted in relation to the restriction of Aboriginal archaeological information in publicly available copies of this report. The public version of this report reflects that consultation.

1.5 PROJECT TEAM AND ACKNOWLEDGEMENTS

This project was undertaken by staff of Austral Archaeology Pty Ltd. Site survey was conducted by Leigh Bate and Alan Hay (Archaeologists). This report was prepared by Karyn McLeod (Senior Archaeologist) and written by Leigh Bate (Archaeologist) and Alan Hay (Archaeologist). Justin McCarthy (Managing Director, Austral Archaeology Pty Ltd) supervised the overall project and reviewed the draft report.

Austral Archaeology would like to acknowledge the participation of the following people who have contributed to the preparation of this report:

Wally Bell – Buru Ngunnawal Aboriginal Corporation

Tyrone Bell – Buru Ngunnawal Aboriginal Corporation

Karen Denny – Buru Ngunnawal Aboriginal Corporation

Justin Boney – Pejar Local Aboriginal Land Council.

Douglas Connors – Aboriginal Sites Officer

Stephen Donaldson – Senior Development Manager – Infigen Energy

Laura Dunphy – Development Manager – Infigen Energy

Sturt Daley – Site Manager – Capital Wind Farm – Infigen Energy

1.6 LIMITATIONS OF THE REPORT

Site location information received from the AHIMS database is subject to some limitations. First, due to the transition from using AMG84 coordinates to MGA94 coordinates during recording site location (either by hand-held non-differential GPS or through the use of 1:25,000 scale topographic maps), incorrectly projected data may be received. Second, as per DECCW policy the search data was only provided to Austral after being filtered through an algorithm which altered the recorded site locations by 5-10 m, in order to conceal the true locations of the sites. This difference is not visible in the scale of the maps provided throughout this report. Finally, the inherent error range (of generally 4 – 8 m) in recordings made by non-differential GPS must be taken into consideration. Best efforts have been made to confirm the projection of coordinates by reference to the original site cards and report; however Austral cannot confirm these locations without ground-truthing through relocating the sites.

These limitations are considered acceptable and they should not detract from the results of this report.

1.7 DATA RESTRICTION

Please note: This report contains descriptions and locational data relating to Aboriginal archaeological and cultural material and sites. Apart from legislative protection afforded by Section 90 of the *National Parks and Wildlife Act 1974* (amended) this information is considered sensitive and of great importance to the Aboriginal community. As a result public exhibition of this report in its present form would not be appropriate. A public exhibition version of this document has been prepared after liaison between the registered Aboriginal stakeholders, Infigen Energy and Austral Archaeology Pty Ltd.

1.8 ABBREVIATIONS

AD	Artefact Deposit
AFT	Artefact (Stone, Bone, Shell, Glass, Ceramic, and Metal)
ART	Art (pigment or Engraved)
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHPI	Australian Heritage Places Inventory
ATSICC	The Aboriginal and Torres Strait Islander Consultative Committee
Burra Charter, the	ICOMOS Australia Burra Charter 1999
DEC	Department of Environment and Conservation (now DECCW)
DECC Guidelines	DECC Interim Community Consultation Guidelines 2005
DoP	Department of Planning
EA	Environmental Assessment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Planning and Biodiversity Conservation Act 1979
GDA94	Geocentric Datum of Australia 1994
GSV	Ground Surface Visibility
LGA	Local Government Area
LEP	Local Environmental Plan
MNF	Minimum Number of Flakes
NP&W Act	National Parks and Wildlife Act 1974, amended 2001
NSW DECCW	New South Wales Department of Environment, Climate Change and Water
PEI	Preliminary Environmental Investigation
PAD	Potential Archaeological Deposit
RNE	Register of the National Estate
SHI	New South Wales Heritage Office State Heritage Inventory
SHL	Shell
STA	Stone Arrangement
SHR	New South Wales Heritage Office State Heritage Register
S89A	Section 89A of the NP&W Act
S90	Section 90 of the NP&W Act
TRE	Modified Tree (Carved or Scarred)
WTG	Wind Turbine Generator

2.0 LEGISLATIVE FRAMEWORK

2.1 ABORIGINAL HERITAGE LEGISLATIVE FRAMEWORK

Aboriginal archaeological and cultural heritage assessments in NSW are carried out under the auspices of a range of state and Federal Acts and Guidelines. The Acts allow for the management and protection of Aboriginal places and objects, and the Guidelines set out best practice for community consultation in accordance with the requirements of the Acts.

Table 2.1 details the Australian Acts and Guidelines which have been identified as being applicable or with the potential to be triggered for the Capital Wind Farm II project.

Table 2.1 Federal Acts

Federal Acts:	Applicability and implications
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	This Act has not been triggered and so does not apply. <ul style="list-style-type: none"> No sites listed on the National Heritage List (NHL) are present or in close proximity to the study area. No sites listed on the Commonwealth Heritage List (CHL) are present or in close proximity to the study area.
<i>Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987</i>	Applies. <ul style="list-style-type: none"> This Act provides blanket protection for Aboriginal heritage in circumstances where such protection is not available at the state level. This Act may also override state and territory provisions as a last resort.

Table 2.2 State Acts

State Acts:	Applicability and implications
<i>National Parks and Wildlife Act 1974 as amended 2010 (NP&W Act 1974)</i>	Applies. <ul style="list-style-type: none"> Section 89A – requires that the NSW DECCW must be notified of any Aboriginal objects discovered.
<i>The Environmental Planning and Assessment Act 1979 (EP&A Act 1979)</i>	Applies. <ul style="list-style-type: none"> This project is being assessed under Part 3A of the EP&A Act 1979. The DECCW's <i>Draft Guidelines for Aboriginal Cultural Heritage Impact Statement & Community Consultation</i> (July 2005) Part 3A guidelines are to be followed.
<i>NSW Heritage Act 1977</i>	This Act has not been triggered and so does not apply. <ul style="list-style-type: none"> No Aboriginal sites listed on the State Heritage Register are present or in close proximity to the study area.

2.1.1 State and Local Planning Instruments

The Palerang LGA does not at present have a single consolidated LEP for the entire LGA. Rather, the Yarrowlumla LEP 2002, Tallaganda LEP 1991, Mulwaree LEP 1995, Gunning LEP 1997 and Cooma Monaro LEP 1999 (Rural) continue to apply to parts of Palerang. The Palerang Council intends to replace these LEPs with a single Palerang LEP. Until that time the five LEPs listed above are in force.

All the LEPs make allowances for the protection of Aboriginal archaeological and cultural heritage, however no Aboriginal heritage items are listed for the study area or the vicinity within the Heritage Schedule of any of the LEPs.

Table 2.3 Aboriginal Community Consultation Guidelines

Guidelines	Applicability and implications
<i>DECCW Aboriginal cultural heritage consultation requirements for proponents 2010</i>	<ul style="list-style-type: none"> • These Guidelines do not apply to Part 3A projects.
<i>DECCW Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005 (the Part 3A Guidelines) (DEC 2005b)</i>	<ul style="list-style-type: none"> • The Part 3A Guidelines will apply.

2.2 SECTION SUMMARY

Aboriginal Places and Objects, both known and unknown, are protected in New South Wales by State and Federal legislation. The present assessment is being undertaken under the *DECCW Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005* (the Part 3A Guidelines).

3.0 ENVIRONMENTAL BACKGROUND

3.1 ENVIRONMENTAL CONTEXT

Investigations of the distribution of archaeological objects and places include an analysis of information on the natural resources available in a region to gain an understanding of the range of cultural remains that can be expected. Resources are linked to the hydrology, geology and soil types in a region.

Water availability is a major influence on the intensity of Aboriginal occupation. Flaked stone artefacts are the predominant evidence of past Aboriginal activity and are often associated with permanent water sources.

Soil types are influential as accumulating sediments can cover cultural remains while areas of sediment removal through erosion can either uncover buried archaeological material or transport small items away from the original depositional context. Soil analysis has important ramifications for archaeological research through the potential impact of different soils on human activity (such as agricultural exploitation) and the impact of the soils on archaeological evidence such as post depositional movement).

The following section outlines the environmental context of the study area and the historic land uses which have affected the landscape since settlement. The degree to which the original soil context has been disturbed has significant ramifications for the preservation of archaeological deposits.

3.1.1 Climate

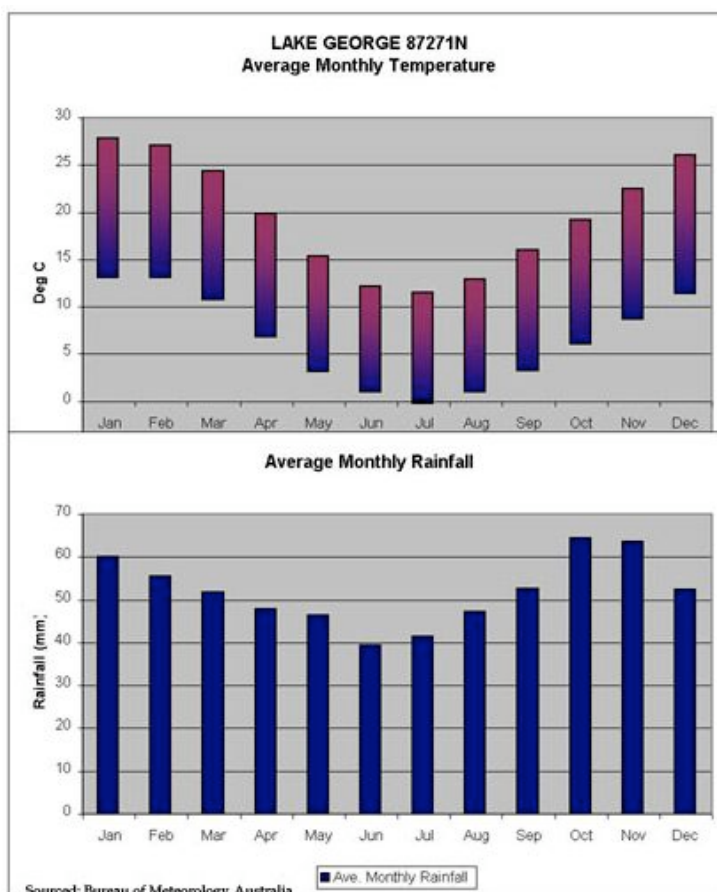
The climate of the study area has been determined through analysis of results from the Bureau of Meteorology's weather station at Goulburn. January is the hottest month with average maximum temperatures of 28.1°C and minimum of 13.2°C while July is the coldest month with an average maximum of 11.4°C and minimum temperature of 1.3°C (Bureau of Meteorology 2010). The climate of the last 1,000 years is considered to be similar to that of the present time (Attenbrow 2002: 39).

3.1.2 Geology and Soils

The study area covers several major soil landscapes, the major characteristics of which are listed below.

Tailors Creek

Tailors Creek is an erosional landscape characterised by undulating low hills on granite of Butmaroo Sand Hills physiographic region. Elevations range from 680 to 860m with local relief 50-90m. Slopes range from 5-10%, with rounded crests, and rock outcrops as tors are common. A variant of the landscape also occurs in the study area, similar to Tailors Creek but with a greater incidence of rock outcrop as tors.



On crests or adjacent to outcrops, the dominant soil materials are 20 cm of brown sandy loam on bedrock, although occasionally <20 cm of brown sandy loam sits on <20 cm of bright brown clay loam, with clear to gradual boundaries. On upper slopes and midslopes up to 20 cm of brown sandy loam overlies <20 cm of bright brown clay loam, which in turn overlies <40 cm of reddish brown massive clay. Lower slopes and drainage lines feature <25 cm of brown sandy loam overlies less than 30 cm of dull yellowish sandy loam which overlies 30-80 cm of blocky mottled clay. Patches of fine yellow Aeolian sand have been blown into the landscape, and particularly feature on upper lee slopes (Jenkins 1996:118-120).

Much of the local vegetation (open-forest to woodland) has been cleared, with isolated individuals and small stands of snow gum (*Eucalyptus pauciflora*), ribbon gum (*Eucalyptus viminalis*), yellow box (*Eucalyptus melliodora*), silver wattle (*Acacia dealbata*), black wattle (*Acacia mearnsii*), blackwood (*Acacia Melanoxylon*), and *Hakea* species. Bracken (*Pteridium esculentum*) occurs on sand patches. Severe gully erosion (<1.5m deep) and minor gully erosion are common in the landscape, and stream bank erosion occurs along watercourses throughout the landscape. Some sheet erosion also occurs in the landscape in isolated patches.

Hammonds Hill

Hammonds Hill is an erosional landscape characterised by rolling to steep to low hills on the granites of the Butmaroo Sand Hills Physiographic region. Local relief through the landscape ranges from 60-180m with elevations between 740 - 940 m. Slopes are moderately to steeply inclined (> 20%). The variant of this landscape encountered in the study area differs in that the local relief is lower (< 80 m) and the slopes are gentler (10-20%).

The dominant soil materials in the landscape consist of a dark brown loam as topsoil with a brown massive loam sometimes occurring beneath this horizon, and subsoil consisting of either a brown light clay or yellow brown massive light clay. On crests and near tors up to 15 cm of dark brown loam sits on bedrock or on a thin layer brown massive loam, while on midslopes and upper slopes up to 20 cm of the dark brown sits on less than 40 cm of brown light clay, with the brown massive loam sometimes occurring between the two. On lower slopes up to 20 cm of the dark brown loam sits on <40 cm of yellow brown massive light clay, with the brown massive loam again sometimes present between these horizons. Finally, around drainage lines and on lower slopes up to 30 cm of dark brown loam overlies between 30 and 60 cm of yellow brown massive light clay (Jenkins 1996:104-106).

Vegetation has been almost completely cleared, but consists of open-forest (dry sclerophyll) with isolated blackwood (*Acacia melanoxylon*), scribbly gum (*Eucalyptus rosii*) and brittle gum (*Eucalyptus mannifera*). Minor sheet erosion is common on the landscape, as is gully erosion (generally 1.5-3.0 m deep). The landscape also features some saline scalds.

Coopers

Coopers is a beach landscape which consists of old lake beaches and dunes on Quaternary alluvium gravel, silt and clay (Jenkins 1996:62). Local relief through the landscape ranges less than 9m with elevations between 670 m - 690 m and no rock outcrops.

The soils of this landscape are non cohesive, infertile, highly erodible and have low water holding capacity. Generally, the area consists of deep to very deep poorly drained alluvial soils in Lake George to moderate to deep well drained siliceous sands of the aeolian dunes on the eastern shores of Lake George. The dominant soil types in this landscape consist of dark brown loamy sand /topsoil, loose yellow sand and mottled sandy clay subsoil. These soils are highly erodible on the slopes and waterlogged on the shores of Lake George. Vegetation consists of cleared woodland predominantly used for cattle grazing.

In summary, the study area is dominated by elevations of 680 m to 900 m with sandy matrix soils which are deepest on lower slopes. In these areas, the soils are moderately to very deep while on steeper slopes and ridge tops and crests, soils are typically less than 20 cm deep. Rocky outcrops also dominate higher crests and ridge tops.

In terms of archaeological potential, landscapes with stable, moderately deep topsoils on gentle elevated topography are most likely to yield substantial intact archaeological deposits in contrast to those with little topsoil on steeper elevations where erosion and soil movement is common. In the latter situation, redeposited archaeological material may be present at the base of slope, having been washed down from higher elevations.

Figure 3.1 *Soil landscapes within the study area. The soil landscapes within the study area are the Taylors Creek (tc), Hammond Hill (hh), Coopers(cp), Morass (ms) and Jones Point (jp) soil landscape (Source: Jenkins 2000).*

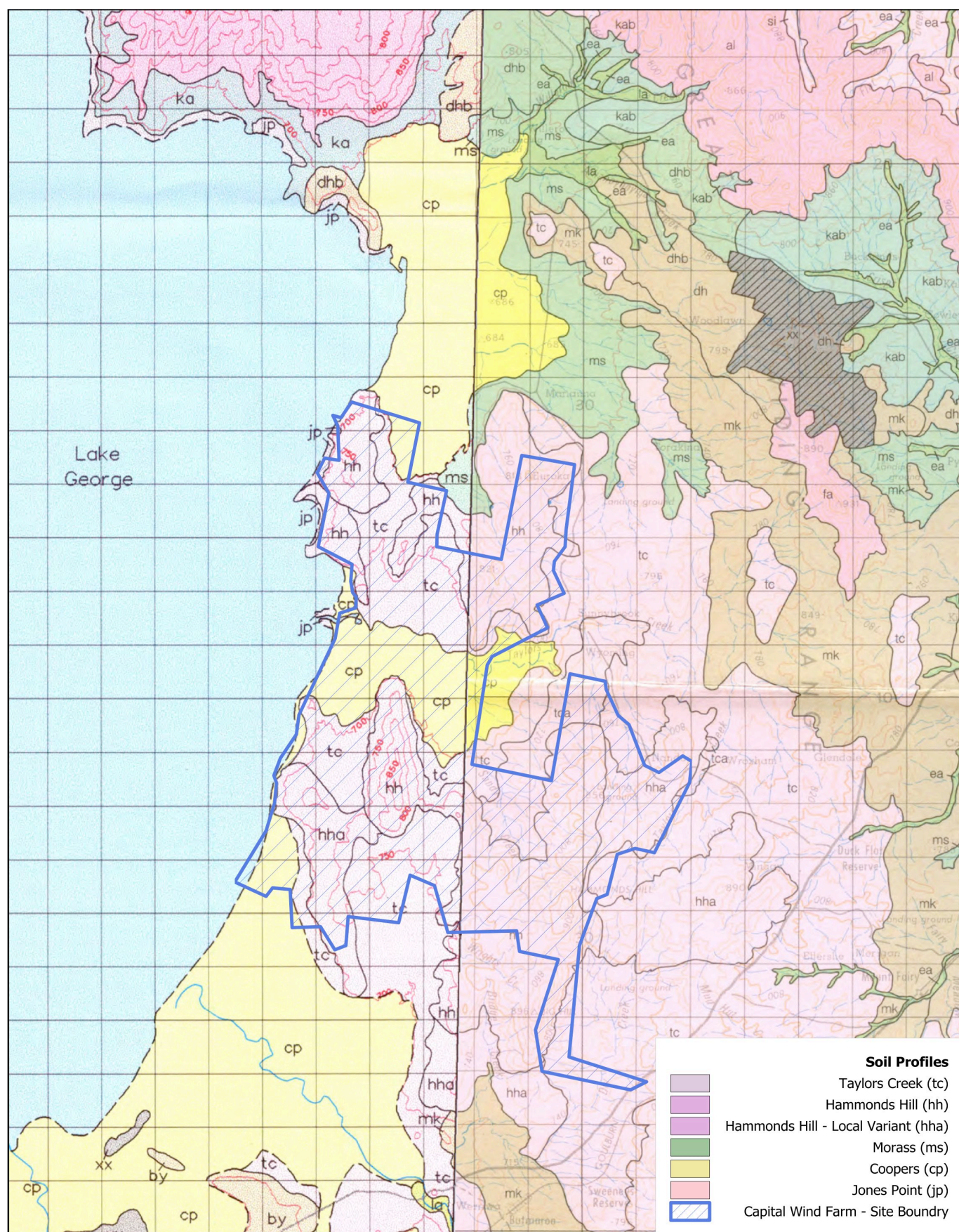


Figure 3.1

Soil Map



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3.1.3 Topography and Hydrology

The subject site is located within the Lake George Catchment area. The major drainage systems in the study area are Taylors Creek and Butmaroo Creek which drain into the basin of Lake George to the west. Wrights Creek joins Butmaroo Creek close to Lake George.

The drainage of the study area has been modified by the construction of bunds and dams along drainage channels limiting the amount of water flowing into the major creeks. The study area consists of shallow valleys between low crests with a large number of ephemeral streams and drainage lines located in the more elevated parts of the catchment and feeding into Taylors and Butmaroo Creek.

At the time of survey both Taylors Creek and Wrights Creek contained running water and water was also present in several dams located on the farming properties within the wind farm site. The area has been subject to drought conditions for several years.

Stream order analysis for this area is based on the hydrological information available in the 1:25 000 scale topographic maps of the study area. The large number of small streams marked on the map are in fact ephemeral streams and/or run-off gullies, that is, non-permanent and not identifiable in the landscape. Taylors and Wrights Creek are currently second or third order streams and only contain water periodically. Prior to European clearance of the native vegetation these creeks are likely to have been permanent water sources. The major creek lines have changed over time and past water courses are visible in the current landscape.

Lake George is largely flat and extremely shallow, with a very small catchment. The lake is characterised by periodic filling and drying episodes on both short term (hours) and long term (years) time scales. Evaporation rates as well as strong winds may contribute to these fluctuations. The lake's depth when full can range from 1.5 to 4.5 metres; however in many areas it is only around 1.0 meter deep. Its deepest point has been measured as 7.5 metres. Lake George dried out in 2002 and remained dry until February 2010 when it began to fill again.

Even when full, the lake is one of the saltiest bodies of water in inland NSW, almost as saline as seawater. The lake may be connected to the nearby Yass River by subterranean aquifers which pass under the surrounding escarpment, and this connection may explain the salinity of the river. When European explorers first encountered the lake in 1820, the local Aboriginal population called it Werreewa (Werriwa), meaning "bad water".

Figure 3.2 *Stream order analysis for the Capital Wind Farm II study area. Base image © Google Earth 2010.*

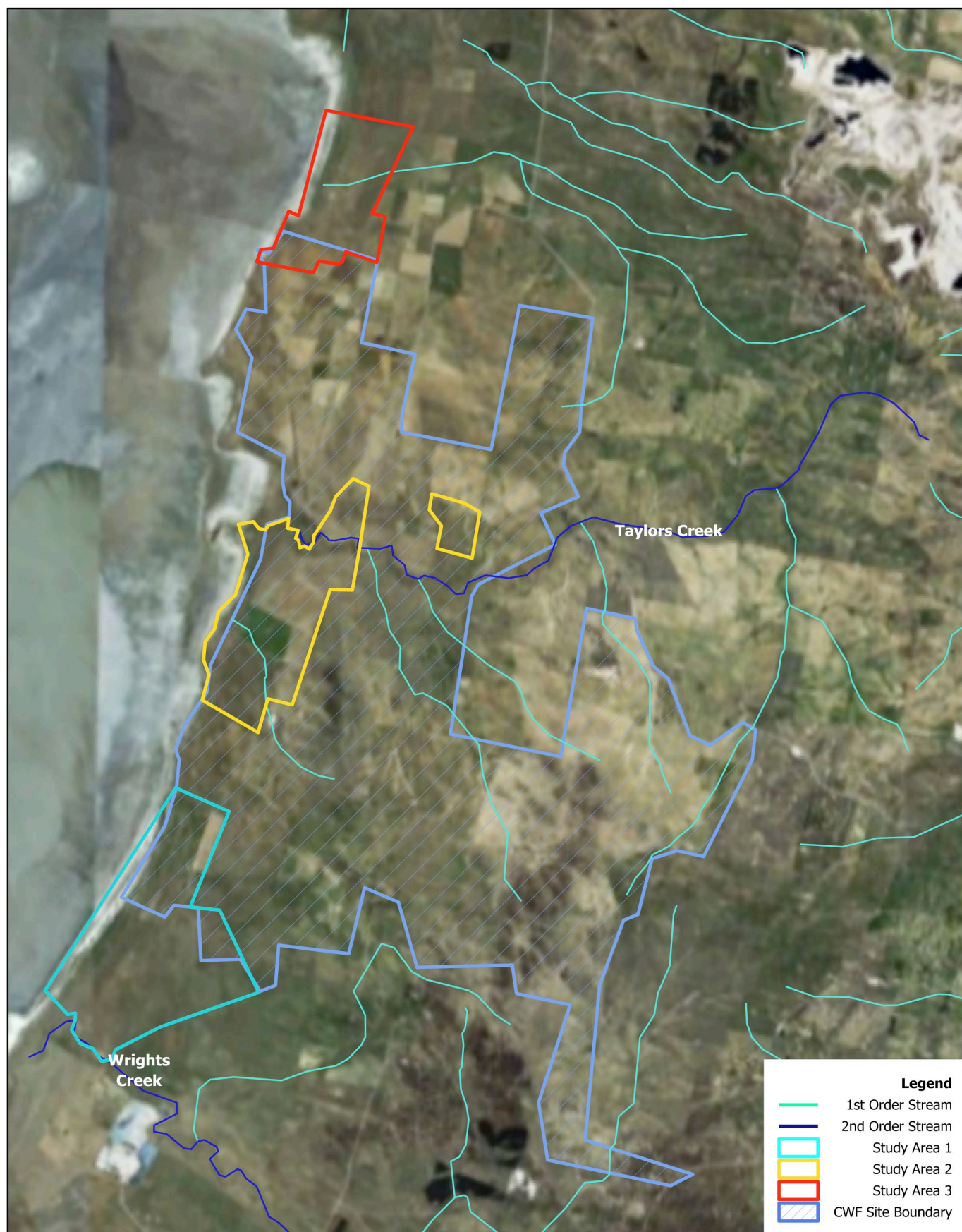
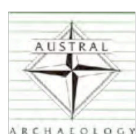
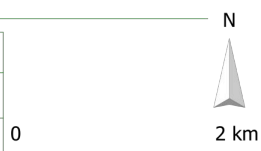


Figure 3.2 Stream Order Analysis



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3.2 PAST LAND USE PRACTICES

Since European settlement of the area, the study area has been predominantly cleared of native vegetation for the purposes of sheep and cattle production. Early agricultural practices would have been concentrated along the rich terraces and plains surrounding the major waterways and Lake George as these soils were considered more suitable for cultivation. The upper hill slopes and crests may have proved unsuitable for these practices and therefore many would have been left wooded.

The closest towns are Tarago to the east and Bungendore to the south. The first Europeans in the vicinity were members of the exploratory party of Dr Charles Throsby in 1820, who, along with Hamilton Hume, also explored the Braidwood area. In 1824, explorer Allan Cunningham passed through the area of Bungendore. A year later, the first European settlers arrived. The mail service to Bungendore was introduced in 1837, the post office was built in 1840.

Tarago was officially founded in 1827. Located on the only road to the Queanbeyan and Canberra valley, the town was a thriving rural centre consisting of a number of stores, public houses and inns, a Cobb & Co. stable and a post office. For many years Tarago was a staging post and railhead for the southern districts. Sheep and cattle production have been the mainstay of the district's development. In 1866, local crops grown were recorded as being wheat, oats, barley and potatoes. Bungendore was also a Cobb and Co staging post and rail head until the line reached Queanbeyan in 1887. By the 1890s, Queanbeyan was emerging as the major town in the area.

In more recent times, the major industry in the area was the Woodlawn Mine, located outside the study area to the northeast, which operated for about 20 years, producing copper, lead and zinc. It has now been converted to the Woodlawn Bioreactor, using the latest technology to generate green electricity by extracting landfill gas during the treatment and disposal of waste material from Sydney.

The land use history of the study area has been one of relatively minimal impact consisting of predominantly pastoral and agricultural activities. The properties in the area contain a number of residences and associated agricultural structures such as shearing sheds and accommodation, work and storage sheds, fencing, stockyards, communications infrastructure, local sealed and unsealed roads and tracks. All the properties are working farms and sheep grazing is the primary land use.

With the exception of the Woodlawn Mine, major ground disturbance is limited to drainage enhancement and water storage work in the form of creek alignment and construction of dams. The removal of the native woodlands has also resulted in accelerated and increased erosion across the study area specifically along creek lines and valleys and has removed evidence of scarred trees. Regular ploughing will disturb the top layer of soil to the depth of the ploughshare (usually between 10-15 cm) therefore potentially affecting site integrity. However, localised artefact movement is common and does not necessarily affect overall site context. Moreover, *in-situ* archaeological deposits have been recorded below the zone of disturbance in many areas of New South Wales.

4.0 REGIONAL ABORIGINAL HISTORY

4.1 ABORIGINAL GROUPS

Nearby excavations have shown that there are at least 21,000 years of Aboriginal occupation in and around the Lake George area (Flood 1996:33). Despite colonisation by Europeans in recent centuries, Aboriginal people descended from the earliest inhabitants of this region still maintain their connection to their country and their customs (Brown *et. al.* 2007; Flood 1996:5).

The linguistic and social links between pre-contact populations in the Lake George area and present Aboriginal groups are obscured by gaps in written and oral histories. The biases of European chroniclers must also be taken into account, alongside the devastating effects of newly introduced European diseases such as influenza and smallpox, social dislocation and the disruption of traditional land use and travel practices by the European settlers. Similarly, the numbers of Aboriginal groups in the area prior to European arrival are difficult to estimate due to the caution of Aboriginal people in approaching Europeans in the early years of settlement (Gillespie 1984:29-32).

Tindale (in Gillespie 1984:1-2) loosely assigns the area demarcated by the towns Tumut to the southwest, Boorowa to the northwest, Queanbeyan to the southeast and Goulburn in the northeast corner to the Ngunnawal people. This assignation is given support by the work of the earlier anthropologist R.H. Mathews who describes the same area as belonging to the Ngunnawal; in his account he uses the term Ngunnawal to describe both a “tribe” and a language (Mathews in Flood 1996:5). Gillespie (1984; 1992) and Flood (1996) also consider this area to have been occupied by the Ngunnawal. Juxtaposed to this is Jackson-Nakano’s (2001:4) reading of historical sources that suggests that a number of specific groups using Gundungurra or dialects thereof (though also speaking Ngunnawal) occupied and shared the lands on the eastern bank and to the southeast of Lake George. These included the Gundungurra-speaking Parramarragoo and Mulwaree, the Walgalu speaking Kamberri and the Ngarigo-speaking Moolingoolah.

It is important to exercise caution in using the above sources yet the close correlation between Tindale’s and Mathews’ accounts combined with the fact that Mathews was drawing information directly from local Aboriginal groups (Flood 1996:5) means that anthropological sources form a firm basis of evidence. Although the intricate social structures of Aboriginal society do not admit of easy translation into scientific or historico-theoretical concepts and as such it is difficult to posit what the relationship between the various groups outlined in the historical and anthropological record might have taken, nevertheless, working on the basis of the above information it can be stated a Ngunnawal people, speaking the Ngunnawal language, occupied the study area and large tracts of surrounding land. It is possible that Gundungurra speaking groups may have occupied and used these lands at the same time or at different times from the Ngunnawal, and indeed that the inhabitant’s dynamic social structures and land boundaries may preclude such clear distinctions of group identity from being drawn at this time. Furthermore, Flood (1996:7) suggests that these groups were part of a larger socio-political context that formed a background against which words, ideas, objects and customs may have been exchanged.

4.2 RESOURCES

The natural resources of the area shaped and were shaped by the practices of Aboriginal people living around Lake George; as such an understanding of the local natural resources is germane to the investigation of cultural heritage within the region. Lourandos (1980b in David *et. al.* 2006:11), however, highlights the limitations of direct analogy based solely on perceived economic imperatives: demographic change, with associated changes in subsistence methods and ecological relations, could have been undertaken for social reasons unrelated to environmental or economic pressures. David *et. al.* (2006:9-11) use the example of historic Aboriginal groups increasing the food yield of their environment to support large occasional gatherings as opposed to permanent maximum population density.

Additionally Hiscock (2008) has recently argued that even very early historical accounts may not be a suitable basis for analogy. As Aboriginal groups in the historic period had to change

their economic, cultural and political practices in order to cope with the social impacts of disease, it is likely that similar drastic changes happened in the past in response to “altered cultural and environmental circumstances” (Hiscock, 2008:17).

Taking into consideration the above points and reviewing the known data, summations can be made, to a certain extent, about how Aboriginal people lived in the past. This includes site location and distributions, resource availability, manufacturing of stone tools, hunting and burial practices. Supplementing this are ethnographic accounts, artist's impressions, and historical and present day accounts to give us a fuller picture on language, culture, population groups, and social structure.

4.2.1 Fauna

A typical variety of south-eastern Australian terrestrial fauna may have been expected to occur in the vicinity of the study area. Important terrestrial resource species for Aboriginal hunter-gatherers in the past would have included kangaroos, wallabies, wombat and possums as well as echidnas, native rats and mice, reptile's birds and eggs. Fresh water fish, eels and shell fish would have been available in the past (Attenbrow 2002: 70) and the remains of large bivalves have been found scattered around Taylors Creek (Austral Archaeology 2010). The spring-summer migration of Bogong moths has also provided a very high-energy food source for groups in the vicinity of Lake George in recorded history, and possibly for the last 1,000 years (Flood 1980:79, 1996:10).

Apart from protein, mammals, reptiles and birds also provided skins and sinew for apparel, and bone, teeth and feathers for tools and ornaments. Within the study area it is likely that a gendered division of labour occurred, with the men hunting large animals like wombats and kangaroos and the women hunting smaller 'birds, lizards, opussums [*sic*], native cats [and] fish' (Gillespie 1984:45). An example of hunting includes the use of hides to ambush emus, for the birds would move at twilight to water sources to drink allowing the hunters to stealthily await them (Gillespie 1984:45-46).

4.2.2 Flora

The landscape now consists of extensively cleared grasslands of native and introduced species and scattered Eucalypts and pine groves. The pre-pastoral landscape was composed of open woodland dominated by *E. mannifera* (brittle gum), *E. rossii* (scribbly gum), *E. viminalis* (ribbon gum), *E. dives* (broad leaf peppermint), *E. melliodora* (yellow box), *E. pauciflora* (snow gum), *Acacia dealbata* (silver wattle), *Acacia melanoxylon* (blackwood) and a ground cover of native grasses and bracken. In early winter, fence lines become clogged with the seedheads of several species of 'blowaway' grasses including *Panicum effusum* (Hairy Panic). The small seeds were once husked by hand to be ground into flour by the local Aboriginal people using grinding stones and hand mortars. Wildflowers such as native buttercups and daisies as well as a host of ground orchids were common in the area and survive today in isolated and wooded groves (Bannerman & Hazelton 1990). The native vegetation of the area once provided the inhabitants with edible seeds, fruits, tubers, roots, rhizomes, leaves, flowers and nectar (Attenbrow 2002: 76).

The natural vegetation would have also provided the Aboriginal population with the raw materials for utilitarian items such as bark shelters and containers, digging sticks, fibres and basketry, tools and weapons, tool and weapon shafts and handles and gum for hafting stone implements. The traditional Ngunawal lands traverse several diverse ecological zones and high mobility would have allowed the most efficient use of the resources of the land, and allowed the population to make seasonal adaptations that made the most of the available resources.

4.2.3 Lithic Material

It is likely that Aboriginal people used equipped themselves with largely organic materials such as wood, bark, resin, palm leaves, reeds, shell and bone, however due to the durability of stone, it is an ubiquitous, though incomplete, record of past Aboriginal culture (Holdaway and Stern 2008:1-2). The usage of stone varied in space, time and across societies but some common stone types were much more readily manipulated to produce artefacts and therefore their distribution through the study area is of central importance in understanding the range of artefacts that may be present.

Hydrothermal deposits of quartz occur in the study area and were a commonly used raw material as was granite. Silcrete, a silicified sedimentary rock very well suited to stone artefact manufacture, has been reported as occurring just below the ground surface to the east of Collector (Koettig 1981). Cobble beds also contain suitable raw materials are present in the alluvial deposits of the Mulwaree River, Crisps Creek (Navin Officer 1998:7) and Taylors Creek (Austral Archaeology 2010).

Fine grained volcanic stone like basalt, used as the primary material for the manufacture of axe-heads was also imported into this area from places such as Monaro, Cooleman Plain and the Tumut Valley (Flood 1996:27). Gillespie (1992:1) takes further note of a wide variety of materials of stone artefacts within land occupied by the Ngunnawal, though owing to their exotic nature many had been brought from some distance away, these include; chalcedony, chert, diorite, hornfels, jasper, quartz, quartzite, rhyolite and volcanic tuff.

4.3 MATERIAL CULTURE

Employing a variety of materials and techniques the Aboriginal people within the study area had an extensive and ideally suited body of equipment to dynamically pursue their goals and traditions. Historical and ethnographic evidence suggests that the environment provided a wide variety of plants and animals which were used by the local Aboriginal populations for artefact manufacture, medicinal purposes, ceremonial items and food (Attenbrow 2002). Aboriginal people used toolkits which were likely to be fashioned largely from materials such as wood, fibres, bark, leaves, shell, bone and stone.

Not only providing food resources, animal products were also used by Aboriginal groups to make a range of items with sinews and bone points or awls used for cloak making (Flood 1996:25). Many other fauna provided products such as feathers, teeth and bone that would also have been used for non utilitarian means, like decoration and ornamentation. Examples of this within the study area both possum and Kangaroo skins, sewn together with the sinew from kangaroo tails, were used as cloaks decorated by incisions on the hairless side (Flood 1996:24). The Aboriginal people of this area also used possum skin to make large belts and browbands, sometimes these browbands were also made from Kurajong fiber (Flood 1996:25). One of the uses for string made from human hair or reeds was as a necklace, upon which may have been threaded orange colored reeds, possum tails or kangaroo incisor teeth (Flood 1996:25).

Bark of various types was used for making diverse items such as wrappings for new-born babies, shelters, canoes, paddles, shields and torches (Attenbrow 2002: Table 10.1). Within the study area sturdy huts for protection from the weather were built during the winter months, using stringy bark, while light shelters constructed using boughs were sufficient in comparatively warmer times of the year (Flood 1996:25). Resin from the grasstree was used as an adhesive for tool and weapon making (Attenbrow 2002: 116; Turbet 2001: 36).

To meet the needs of their different roles men and women were equipped with different ranges of items. Usually men would be equipped with up to six spears, a spear thrower, stone axe, club, boomerangs, a strong narrow shield and a lighter broad one (Flood 1996:25). There was a range of spears in use with many being made from hardwood or the grass-tree, boxtree and ironbark (Flood 1996:25). Various kinds of boomerangs and clubs were also made from hardwoods, as were the women's digging stick (Turbet 2001: 37-39, 45; Attenbrow 2002: 112). The boomerangs were of two types, the smaller used for hunting birds and the larger for fighting (Flood 1996:25). The primary items carried by women were a digging stick, more than a metre in length and also used as a club, a dilly bag, worn over the shoulders, and carrying dishes (Flood 1996:26).

Numerous stone artefacts have been recovered archaeologically or noted ethno-historically within the study area showing that a considerable stone equipage was utilised by the local Aboriginal people. Ground-edge axes, sometimes made from stone sourced from neighbouring lands, were often hafted and used as an axe, hatchet and tomahawk (Flood 1996:27). Hammerstones and anvils used in the manufacture of stone artefacts, grinding stones that were often composed of quartzite, sandstone whetstones for sharpening the cutting edge of stone implements, scrapers, blades and backed blades are representative of the artefacts recorded in this area (Flood 1996:27).

4.4 SECTION SUMMARY

Although due to the impact of European colonisation there is uncertainty as to the precise details of the Aboriginal groups that occupied these lands, the Ngunnawal people and Ngunnawal/Gundungurra-speaking groups are both indicated as being present within the study area at the time of the arrival of Europeans. Following from this it is possible to assert with some certainty that the people within the study region were the Ngunnawal or groups with very close ties to them. Aboriginal people in this region would have made use of the plant, animal and lithic resources of the area to furnish an adaptive material culture, with both the natural environment and human culture changing over the minimum 21,000 years that people have occupied this region. The resources within the region varied considerably in space and time requiring different approaches from the Aboriginal population. There may have been a tendency for people to pass through the area, using ridge lines as vantage points, either in response to seasonal resources such as aestivating Bogong moths, or *en route* to richer areas for exchange with other groups.

5.0 ARCHAEOLOGICAL BACKGROUND

5.1 HERITAGE DATABASE SEARCH RESULTS

A search of National, State and local heritage databases was undertaken to establish the archaeological context of the study area. A summary of these results is presented below.

5.1.1 *Aboriginal Heritage Information Management System Search Results*

A search of the NSW DECCW's Aboriginal Heritage Information Management System (AHIMS) was conducted covering an area of approximately 20 km² surrounding the proposed study area. A total of 74 Aboriginal objects and places have been recorded within this area (Table 5.1 and Figure 5.1).

Table 5.1 Summary of sites recorded within 20km² of the study area

Feature Type	Total	%
Artefact	62	83.78
Potential Archaeological Deposit (PAD)	12	16.22
TOTAL	74	100

Of the 74 recorded sites within 20 km² of the study area, only 2 sites fall within the current study areas (Site # 57-2-0007 & 57-5-0060). The site cards were recorded in 1968 and 1987 respectively.

NP&WS Site # 57-2-0007

This site was recorded along the north bank of Taylors Creek by R. Lampert in 1968. The site dimensions were recorded as being 150 yards in length and 30 yards in width. Within this area no specific artefacts were recorded but it was written down that cores and scrapers were located within the area.

Ground truthing of this location revealed an artefact scatter of 21 artefacts (CWF2-S-21) which were all recorded in detail. It is proposed that this recording be submitted to update the existing site card.

NP&WS Site # 57-2-0060

This site was recorded along the relict shore line of Lake George by P. Packard in 1987. The site dimensions were recorded as being 1km in length and 80m wide. Once again within this area no specific artefact recordings were made. But brief mention of a small number of edge ground axes, hammerstone/anvils and quartz flakes is made with no specific locations or detailed recordings.

Ground truthing of this location revealed 1 artefact scatter (2 artefacts) and 1 isolated find (CWF2-S-07 & CWF2-IF-06) which were all recorded in detail. No edge ground axes, hammerstones/anvils were relocated within this area. Approximately 300m south of this area another scatter was located (CWF2-S-06) and a broken edge ground axe and quartz flake were identified. It is proposed that these recordings be submitted to update the existing site card.

No other previously recorded sites were located within the current study areas.

5.1.2 *Other Heritage Register Search Results*

Searches of the Australian Heritage Places Inventory (AHPI), the Register of the National Estate (RNE), the National Heritage List and the State Heritage Register (SHR) on the Heritage Branch website did not identify any recorded Aboriginal objects or places in or around the study area.

Figure 5.1 *Results of AHIMS search showing previously recorded sites in the vicinity of the study area. Source: AHIMS database DECCW 2010. Base image © Google Earth 2010.*

This figure has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

5.2 THE ARCHAEOLOGY OF THE LAKE GEORGE BASIN AND THE SOUTHERN TABLELANDS

The archaeology of the region surrounding the study area has been the subject of a number of research and consultancy-driven assessments over recent years. Although the area has not been as intensively assessed as other physiographic regions in New South Wales, such as the Cumberland Plain for example, this research has allowed relatively detailed models pertaining to the distribution of Aboriginal archaeological material in the region (Biosis 2005a: 14).

Dates for human occupation of the Lake George and Southern Tablelands region have been generated based on both archaeological and palynological studies. Flood (1980) suggests that Aboriginal people have occupied the region for the last 4,000 years. Excavations by Lance (1985) and Hughes *et. al.* (1984) provide occupation dates from 800 to 6,000 years ago, and Birrigai Rock shelter in Tidbinbilla Nature Reserve, approximately 70 km to the southwest of the study area, shows signs of sporadic occupation from the last glacial maximum 21,000 years ago to the mid-19th century (Flood 1996: 23). Tentative dates have also been generated for archaeological materials at 17,000 – 23,000 years BP from the ancient lake dunes around Lake George (Flood 1999: 114).

Much earlier occupation dates have been proposed for Lake George (Singh *et. al.* 1981a, 1981b) based on an increase in the amount of charcoal found in Lake George sediments dated from the last interglacial period (c. 128,000 – 75,000 BP). It was inferred from this data that the increased fire activity – indicated by the higher charcoal counts, and change in vegetation to more fire resistant taxa as shown by pollen counts – was the result of human activity (Singh *et. al.* 1981b: 45-47). This conclusion was based on the basic assumption that there was a direct relationship between the incidence of charcoal in the analysed sediment and the frequency/intensity of fires (Singh *et. al.* 1981b: 25), and also on the assumption that 'fire-stick farming' by Aboriginal people as observed in the historic period was also undertaken at this extremely early date.

Wright (1986) reassessed the dates of the sediments tested by Singh *et. al.* (1981a, 1981b) and proposed that they were from 65,000 – 54,000 years BP, and therefore that the increased amount of charcoal found in the sediments of Lake George represented the arrival of humans in the local ecosystem at approximately 60,000 rather than 120,000 years BP. White (1994) and Flood (1999: 115) propose that an age of c.60,000 years BP for Aboriginal arrival in the landscape surrounding Lake George is more likely.

However, these claims for early human arrival are based entirely on pollen records. Hiscock (2008: 27) questions the assumption of a human cause for the recorded vegetation change. He argues that the warmer climate of that time would have supported both larger fuel loads and more fire-prone conditions, and that an increase in the frequency of fires does not indicate human activity. White (in Mulvaney & Kamminga 1999) has, for example, noted a similar spike in charcoal levels in sediments more than a million years old. Additionally he argues that the lack of direct evidence for human burning activities in the ancient past indicates that activities taking place in prehistory differed from those in the historic period (Hiscock 2008: 27). Mulvaney and Kamminga (1999: 143) also note that there can be no single signature of prehistoric Aboriginal burning because different vegetation communities require different burning strategies.

The most common site types in the Southern Tablelands and around Lake George are those containing stone artefacts, either open artefact scatters or isolated finds (Biosis 2005a: 14 Austral Archaeology 2010). Other site types such as painting, engraving, burials and earth works are rare. Models for occupation of the region in general demonstrate that Aboriginal archaeological sites occur across all landform areas; larger sites are located within 100 m of water on lower slopes and flats; drainage confluences, alluvial landforms and hilltop landforms are generally more archaeologically sensitive; and hilly landforms are generally characterised as containing background scatter of artefacts indicative of transient occupation.

5.2.1 Palynological Study of Lake George

A palynological study of the sediments contained within Lake George has revealed evidence which suggests that Aboriginal people have been present in the area much earlier than previously established. This study was possible as the Lake George basin contains a continuous record of vegetation and fire history extending back some 350,000 years.

Singh *et al.* (1981b:24) took an 8.6 m sedimentary core from the lacustrine clay at Lake George and analysed samples for pollen and charcoal. In the analysis of this core a basic assumption was held: that there was a direct relationship between the incidence of charcoal in the analysed sediment and the frequency / intensity of fires (1981b: 25).

The sequence of pollen and charcoal was divided into eleven individual zones (A-K). The changes in vegetation and fire history seen in the sequence prior to the arrival of humans in the landscape (i.e. in Zones K-G) were interpreted to represent an orderly progression of responses of vegetation and natural fires to the changes wrought by glacial and interglacial climates (1981b: 44) The period represented by Zones K-G dates from 350,000 to circa 128,000 BP.

Noticeable changes were subsequently observed in Zone F, dated to the last interglacial period (circa 128,000 – 75,000 BP.). This zone recorded the highest charcoal values so far reached in the sequence. In addition it was noted that cool temperate taxa (such as *casuarina*) that had survived earlier glaciations were far less abundant (1981a:448; 1981b:32-33).

Furthermore the pattern of charcoal deposition as was first recorded in Zone F did not alter substantially during the last glacial period and continued into the Holocene (i.e. the present era). It was inferred from this data that the increased fire activity and vegetation changes coincided with the arrival of humans (i.e. Aboriginal people) in the area (1981b:45-47).

Aboriginal people were known to have utilised fire as a tool. Extensive use of fire or 'fire stick farming' by Aboriginal people is presumed to have reduced the incidence of cool temperate taxa and in turn promoted the growth and spread of 'fire-requiring/promoting' sclerophyll vegetation (such as the ubiquitous *Eucalypt* species). It also cleared much area of forest promoting the incidence of open grassland and forest. Such a landscape change made access across the landscape easier for nomadic peoples as well as promoting the grazing animal life which Aboriginal people would have hunted. In addition it is believed that Aboriginal people would promote certain food bearing/fire resilient species by removing vegetative competition through burning whilst taking care to not destroy future potential subsistence crop plants (Nicholson 1981:66-69).

This spectacular evidence placed the arrival of humans not only in Australia but in the local landscape around Lake George at approximately 128,000 years BP. This date is far in excess of any dated archaeological deposits. Consequently archaeologists and researchers have questioned the accuracy of this date.

Wright questioned not the assumption that there was a causal connection between humans and vegetation change but the date of Zone F at Lake George itself. Specifically Wright queried the use of deep sea cores by Singh *et al.* (Singh & Geissler 1985:423 in Wright 1986:138) to correlate the ages arrived at for the Lake George core sequence. Wright used two methods to estimate the age of Zone F. First he extrapolated an age by regressing known radiocarbon dates to the depth of Zone F. Secondly he used the sequence from Pulbeena Swamp in northwest Tasmania (Colehoun *et al.* 1982: Fig 6 in Wright 1986:139) to equate the 'interglacial' period associated with Lake George's Zone F with a major period of forest growth with the Pulbeena sequence.

The former method arrived at a date of 54,000 years BP whilst the later correlated to a date of no older than about 65,000 years BP. Wright therefore put forward that it was more likely that Zone F at Lake George represents the arrival of humans in the local ecosystem approximately 60,000 rather than 120,000 years BP (Wright 1986:139).

The reliability of the dating of charcoal and pollen sequences is an issue that has seen much discussion. As more core sequences have become available some researchers have inferred additional evidence to give weight to Singh *et al.*'s original assertion of the antiquity of Zone F at Lake George, in some instances claiming dates for Aboriginal occupation of the Australian continent in excess of 140,000 years BP (Kershaw 1994).

Others give weight to the revision of the evidence as provided by Wright (1986). Archaeologists such as White (1994) and Flood (1999:115) posit that an age of circa 60,000 years BP for Aboriginal arrival in the landscape surrounding Lake George to be more likely. This more cautious perspective is the one that has become generally accepted over the intervening years. A date of 60,000 years BP also fits with dates that have been put forward by researchers such as Roberts, Jones and Smith for sites Malakunanja II and Nauwalabila I in Arnhem Land in the Northern Territory (in Flood 1999:86).

It should be noted that this palynological study is not direct evidence of the presence of Aboriginal people in the vicinity of Lake George at either 128,000 nor 60,000 years BP. It is an inference, albeit a compelling one. Unlike Wright (1986), Hiscock (2008:27) questions the assumption of a human cause for the recorded vegetation change. He argues that the warmer climate of that time would have supported both larger fuel loads and more fire-prone conditions, and that an increase in the frequency of fires does not indicate human activity. Additionally he argues that the lack of direct evidence for human burning activities in the ancient past indicates that activities taking place in prehistory differed from those in the historic period (*ibid* 80). However, should corroborating archaeological evidence of such antiquity be discovered in the region it is likely that Singh *et. al.*'s (1981a, 1981b) research would be revisited.

5.3 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS IN THE REGION

5.3.1 Introduction

A number of archaeological assessments have taken place in the Southern Tablelands region. Several of these have involved other Wind Farm developments. A review of the results of these assessments will be informative with regard to the Capital wind Farm II study area due to the similar landforms chosen for wind farm developments and the proximity of the previously assessed sites.

5.3.2 The Capital Wind Farm (2005)

Investigation of the Capital Wind Farm development area by Austral Archaeology in 2004 identified six areas of PAD and, in a small additional survey in 2005, two further sites were recorded to the south of Taylors Creek. Finds included an isolated flake of grey silcrete on top of a ridge of Hammonds Hill and an open artefact scatter and associated PAD eroding out of the western bank of Wrights Creek. Within an area of approximately 30 m, the site consisted of a scatter of six artefacts within the eroded roadway. It was considered that there was moderate to high subsurface potential for archaeological deposit.

Austral Archaeology also undertook a program of subsurface investigation in 2007, for an area to the east of Lake George, directly to the south east of the study area. Eighty three excavation pits were investigated in six excavation areas within the footprints of four wind turbines, an electrical substation and four PADs. Investigation was located on varying topographical locations (i.e. on ridge crests, upper slopes and on areas associated with lower water sources) each differing in proximity to nearby Lake George.

A total of 348 artefacts were recovered, including 320 unretouched flakes, small numbers of cores, flakes, hammerstones, and flaked pieces, of quartz, quartzite, silcrete and chert. The majority (210) were retrieved from the closest wind turbine location to Lake George to be investigated. Of the six excavation areas investigated five were determined to contain no more than the general background scatter of artefacts routinely located within this landscape. The sixth showed evidence of what appeared to be a knapping floor.

5.3.3 The Woodlawn Wind Farm (2010)

The Woodlawn Wind Farm development has also been subject to several phases of archaeological investigation.

Navin Officer Pty Ltd (1998) surveyed a small spur feature to the south of the Woodlawn Mines, and the area around Crisps Creek and the Mulwaree River. The spur feature lies within the northern section of the Woodlawn Wind Farm area. No archaeological material was located in that area and it was concluded that any sites would have been destroyed by severe

ground disturbance. Three artefact scatters and an isolated find were located near Crisps Creek and the Mulwaree River in alluvial terrace deposits or on lower slopes.

Biosis (2005a) undertook a survey of the of the Woodlawn Wind Farm area, consisting of the proposed Wind Turbine Generator locations along the ridge line. A total of 21 Aboriginal archaeological sites were recorded which consisted of 10 isolated finds and 11 open artefact scatters. Of these, all except one were identified as being of low to moderate archaeological significance. The one artefact scatter was considered as being of high archaeological significance as it was described as being a discrete occurrence of over 70 quartz artefacts eroding out of the section of the drainage line. The quartz appeared to show excellent flaking characteristics and that the majority of the artefacts found showed full flake characteristics, some with notable elongation. The site was considered to be an intact archaeological deposit due to the discrete occurrence of the flakes within 1.0 m, and at the same depth in the deposit (Biosis 2005a: 37).

In 2009, Austral Archaeology undertook further survey of a transmission line that runs in a north easterly direction crossing Taylors Creek between Bungendore Road and Lake George. As a result of the field assessment, two isolated finds, three open artefact scatters and seven areas of potential archaeological deposit were identified (Austral Archaeology 2010). Two of these PADs were in association with surface artefact material eroding out of sand deposits. The remainder were determined based on landform characteristics alone. While the research potential of the majority of the pads was considered to be low to moderate, one PAD and the three surface artefact sites associated with it are considered of sufficient research potential to warrant further investigation. Artefacts included flakes, cores, hammer stones and ground edge hand axes consisting of quartz, quartzite, silcrete, chert and granite. All identified sites were considered as being of culturally significant to the Aboriginal stakeholders.

5.3.4 The Gunning Wind Farm (2009)

JMCHM Pty Ltd (2003) undertook an assessment for the Gunning Wind Farm, which is located between the towns of Gunning and Goulburn, approximately 45 km north of the study area. This study found five open artefact scatter sites and three isolated artefacts.

As a result of the assessment, a test excavation was undertaken by Austral Archaeology in 2005. This test excavation consisted of a series of 15 grader scrapes, over six areas, in the location of proposed turbine locations. These landscapes were anticipated to have varying levels of archaeological sensitivity. As a result, no new artefacts were revealed in any of the grader scrapes, and thus no further archaeological investigation – such as test pitting – was considered necessary (Austral 2005).

In 2009 Austral Archaeology undertook a survey of a proposed Transmission Line route within the Gunning Wind Farm development and identified 13 open artefact scatters, 9 isolated finds, 2 areas of PAD and a scarred tree. The open artefact scatters and isolated finds produced a total of 51 recorded artefacts. In addition to these sites, three areas of archaeological sensitivity (defined in relation to areas of artefact concentration) were also identified. The most common artefacts were flakes of grey silcrete.

There was minimal variation in artefact type or material by landform. However the sites recorded within the area of sensitivity along the ridge line contained the greatest variety in raw material type, consisting of grey silcrete with red and yellow inclusions, mudstone, grey silcrete, yellow silcrete, quartz, grey-cream-orange banded silcrete, cream silcrete and FGS (Austral 2009a: 34). The salvage and relocation of a number of the sites identified by JMCHM Pty Ltd (2003) and Austral (2005, 2009a) was undertaken (Austral 2009c). Subsequent assessments by Austral (2009c, 2009d) did not identify any archaeological sites along additional portions of the Transmission Line or at met mast locations, although one small area of low PAD was observed (Austral 2009d).

5.3.5 Taylors Creek Road (2008)

Saunders (2008) undertook an archaeological assessment of Taylors Creek Road, and located two open artefact scatters near the intersection of Taylors Creek Road and Taylors Creek on Narine Green property. Seven stone artefacts were exposed in a 6 m x 2 m area on a highly disturbed sandy deposit along the eastern side of the Narine Green property access road. The artefacts are flakes, a blade and a flaked piece, of silcrete, quartz and quartzite. The artefacts are associated with high quality quartz fragments that may be artefactual but

are without clear diagnostic features. A further 10 flakes, a river pebble, and some associated quartz fragments were located on the crest of a low rise on the northern side of Taylors Creek Road. The raw materials included quartz, silcrete, quartzite and volcanic rocks.

These sites are within 200 m of the site “Nardoo” recorded by Flood (1980). The site was described as containing large numbers of stone artefacts including backed blades. Saunders (2008) considers it likely that these three sites are part of the same complex present in localised sand deposits near Taylors Creek. These are also very similar to the open sites identified during the Woodlawn Wind Farm Survey.

5.3.6 The Crookwell Wind Farm (1998)

The Crookwell Wind Farm (CWF1), located just south of Crookwell, approximately 70 km to the north of the study area, has undergone three phases of archaeological investigation. White (1996) located a single open artefact scatter consisting of 20 pieces of quartz flaking debris. The poor archaeological visibility over the study area led to test excavation being undertaken by JMCHM Pty Ltd (1997). Of the twenty-four test pits excavated, nine contained a total of 52 stone artefacts. One test pit contained 32 artefacts, while the remainder contained 7 artefacts or less.

The following year, JMCHM Pty Ltd (1998) undertook detailed open area salvage excavation of CFW 1. The site consisted of 2154 stone artefacts over an area of 25 square metres, with raw materials of chalcedony (61%), silcrete (27%) and quartz (14%). Evidence for onsite manufacture of backed artefacts was identified, including two previously undescribed types of backed artefacts, named ‘Pejar Points’ and ‘rectangulars’. It was concluded that the site indicated a single limited camping episode where one or a limited number of people knapped a range of raw materials (JMCHM Pty Ltd 1998: 72-73.)

6.0 PREDICTIVE STATEMENT

6.1 DEGREE OF DISTURBANCE

Historic land use and natural taphonomic processes have impacted on the surface and subsurface archaeological potential of the study area. In general, lower levels of ground surface disturbance correlate to higher potential for the survival of the Aboriginal archaeological resource, once patterns of past Aboriginal landscape use have been taken into consideration.

The main processes leading to ground surface disturbance in the study area are the historic land-use effects of vegetation clearance; ploughing and agriculture; grazing of hoofed animals; construction of sealed roads and unsealed access tracks; construction of farm infrastructure such as fences, dams and earthworks; and the natural taphonomic processes of hill slope and ridge erosion from rain; creek bank erosion from river flows; and the deposition and removal of sediment as a result of flooding. It must also be noted that past land use practices such as extensive vegetation clearance have intensified the effects of natural processes such as erosion.

Categories of ground disturbance and their potential impact on surface and subsurface archaeological resources are described in Table 6.1 below.

Table 6.1 Categories of Ground Disturbance

Degree of Disturbance	Impact Description	Impact on Archaeological Resource
Undisturbed	No apparent disturbance to original land surface.	<i>In situ</i> archaeological deposits may be present.
Low	Non-mechanical vegetation clearance and stock grazing.	Archaeological material will retain some spatial integrity although localised displacement is expected. Removal of tree stumps has subsurface impact.
Moderate	Mechanical vegetation clearance and cultivation (ploughing) sheet/gully erosion, fluvial disturbance.	Archaeological materials may be present, although localised spatial displacement and artefact damage is likely; <i>in situ</i> deposits may remain beyond plough zone (usually between 100 – 150 mm).
Severe	Removal of topsoil via excavation for residential development, road and infrastructure construction, landscaped gardens, sheer erosion through natural causes and development, earthworks for dam construction (when topsoil has been moved to create earthworks).	While archaeological sites may be destroyed, remnant dispersed archaeological material may survive. The context of such material may be unknown.

Based on the above mapping, preliminary levels of disturbance for the study area are as follows:

- The majority of the study area has undergone low to moderate impact, in the form of clearance, pastoral use, fence construction, limited farm vehicle traffic, and differing levels of fluvial disturbance through sheet erosion, gully erosion and creek bank erosion.
- It is anticipated that some of the creek banks and drainage lines within the study area would have undergone severe disturbance due to deep gully erosion and/or dam or bund earthwork construction.
- A small percentage of the study area has undergone severe disturbance from the construction of roads or access tracks.

These estimates were generated after examination of available topographic maps and aerial imagery.

6.2 PREDICTIVE STATEMENT

Taking into consideration the archaeological context, local Aboriginal history, and past land disturbances in the study area, a predictive statement has been generated for the study area. The predictive statement suggests likely site locations, site types, and degree of site preservation:

- Site Location
 - Sites may be found on all landforms within the study area.
 - Sites are most likely to occur on lower slopes and alluvial landforms.
 - Sites may also occur on ridgeline crests.
- Site Type
 - Stone artefact sites are the most common site type in the region.
 - Stone artefact sites are likely to be small and represent one-off or short-term use of an area, indicative of the “background scatter” of artefacts that characterises the archaeological record in the region.
 - Scarred trees would be unlikely except in areas where trees of at least 150 + years of age have survived.
- Site Preservation
 - In cleared paddocks, archaeological material may have undergone localised displacement but may still maintain some spatial integrity.
 - In areas of sheet or gully erosion and areas which have undergone fluvial disturbance, such as stream banks, archaeological materials may be present, but damage and displacement is likely and spatial and/or stratigraphic integrity is likely to be low.
 - In areas impacted by the construction of roads, unsealed access tracks, and other farm infrastructure, archaeological sites will likely be destroyed, though dispersed archaeological material may survive out of context.
 - Artefacts may also be located on dams as the disturbance of the deposit through earthmoving works and subsequent erosion of the dam walls increases visibility. However the spatial and/or stratigraphic integrity of any artefacts found in such contexts would most likely be low.

7.0 FIELD ASSESSMENT METHODOLOGY

7.1. SURVEY METHODOLOGY

This survey methodology has been developed to meet the requirements of the *NSW National Parks & Wildlife Service Aboriginal Cultural Heritage Standards & Guidelines Kit* (NSW NPWS 1997).

The CWF II field assessment methodology aimed to accomplish the following:

- To undertake a full pedestrian survey of the study area;
- To identify Aboriginal archaeological and cultural sites and issues;
- To identify areas of potential archaeological deposit, and/or archaeologically sensitive landscapes, within the area covered by the development envelope; and,
- To consult with the Aboriginal stakeholders in the field in relation to the inherent cultural values of the subject property, and to discuss recommendations to avoid or minimise impact to Aboriginal heritage values of the subject area.

7.1.1 Survey Areas/Survey Units

The CWF II study area was divided into three sections – North (Survey Area 1), Central (Survey Area 2) and South (Survey Area 3) – based on groupings of turbines. Survey units can similarly be split into three categories; Flats, Foothills and Ridgelines.

Each Survey Area was split into multiple transects, delineated by paddock boundaries and survey area boundaries. These transects were then walked by archaeologists and Aboriginal stakeholders. Attempts were made to survey the location of each indicative turbine location; however landforms and exposures of interest that intersected the study area or were in the vicinity were also targeted.

The South Survey Area (Survey Area 1) was located to the south and west of the Ellenden portion of the previous study area. The area is approximately 3.4 km in length, and 2.4 km wide. A total of 7 transects were walked throughout this survey unit.

The Central Survey Area (Survey Area 2) was located mainly on the southern side of Taylors Creek in the Ellenden portion of the previous study area. The area is approximately 3.7 km in length, and 1.2 km wide. A total of 26 transects were walked throughout this survey unit.

The Northern Survey Area (Survey Area 3) was located in the Grose Hill area of the previous study area. The area is approximately 2.2 km in length, and 1 km wide. A total of 4 transects were walked throughout this survey unit.

In areas where GSV was excellent transects were walked by all participants spaced at approximately 20m apart. In paddocks where visibility decreased due to grass cover, transects were widened to around 40m to 50m spacing's and areas of exposure, small rises and ridgelines were targeted for closer examination

Consistent recording methods, as outlined below in Section 7.1.2, were employed to allow comparison of findings between Survey Units and the production of a synthesis of results to inform discussion of the archaeological record and potential of the study area.

Figure 7.1 *Survey Units of the Capital Wind Farm II study area 1. Base image © Google Earth 2010.*



Figure 7.1 Survey Area 1 Survey Transects



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Date: 12/07/2010		
Page No.: 35	Client: Infigen Energy	Coordinate System: Zone 56 MGA/GDA 94

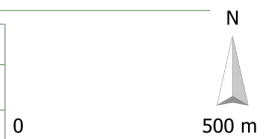


Figure 7.2 *Survey Units of the Capital Wind Farm II study area 2. Base image © Google Earth 2010.*

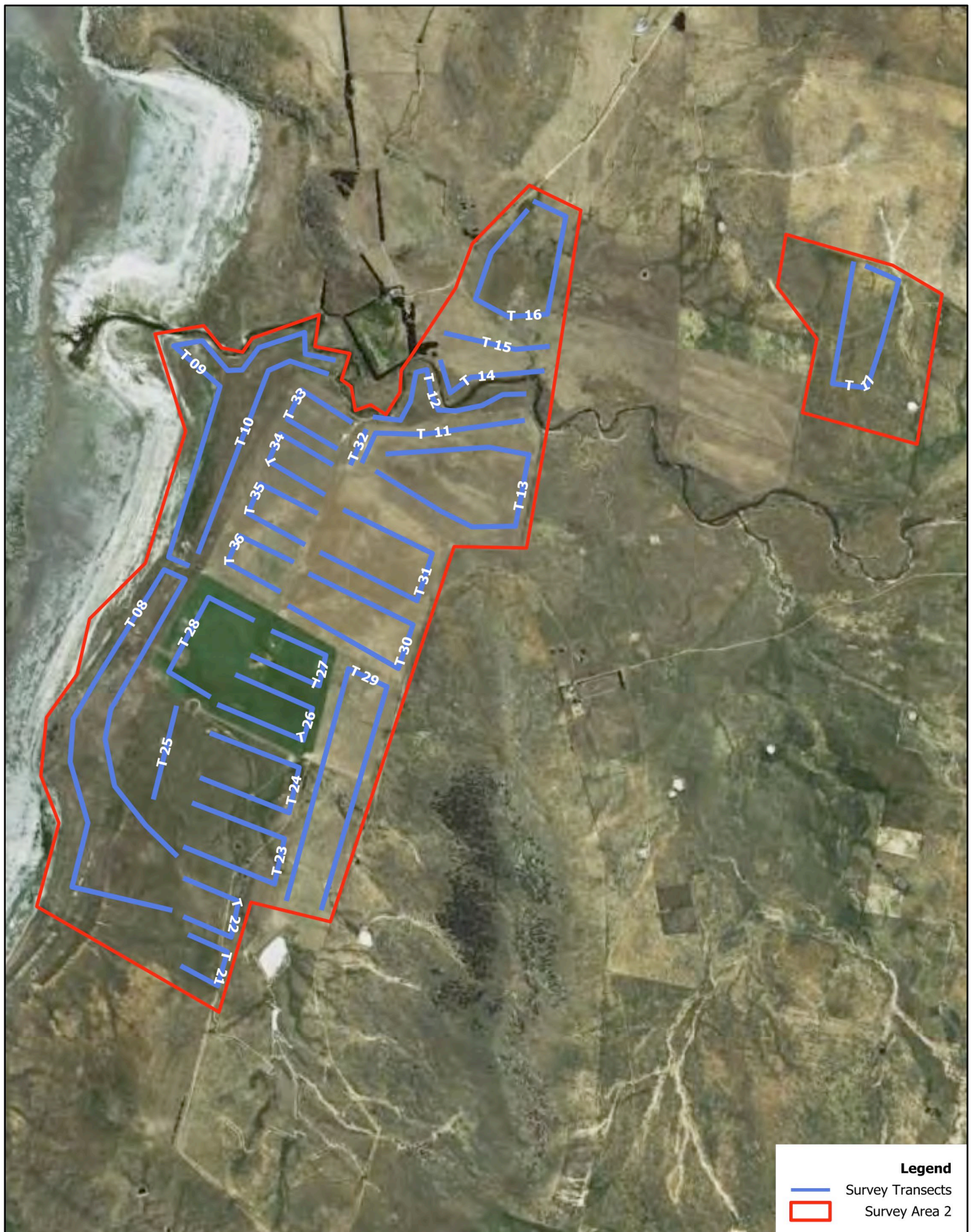


Figure 7.2 Study Area 2 Survey Transects



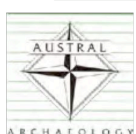
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Figure 7.3 *Survey Units of the Capital Wind Farm II study area 3. Base image © Google Earth 2010.*



Figure 7.3 Study Area 3 Survey Transects



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Date: 12/07/2010		
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Table 7.1 Descriptions of Survey Units

Study Area	Survey Unit	Description	Landform Unit	Potential
1	1	Mainly flat. Sand mining activity has been undertaken in the area. This has caused various depressions and embankments that at first glance look like dams but are too widespread over the area. Low tufted grass and scotch thistle grow throughout the transect. (Area has several scatters and isolated finds. Area is defined as PAD (CWF2-PAD-01) due to proximity to Wrights Creek and artefact concentrations on the surface within the area. GSV is around 45%.	<ul style="list-style-type: none"> • Creek bank • Flat 	<ul style="list-style-type: none"> • High • Low to moderate
1	2	Mainly flat. Sand mining activity has been undertaken in the area. This has caused various depressions and embankments that at first glance look like dams but are too widespread over the area. Low tufted grass and scotch thistle grow throughout the transect. (Area has several scatters and isolated finds. Area is defined as PAD (CWF2-PAD-01) due to proximity to Wrights Creek and artefact concentrations on the surface within the area. GSV is around 45%.	<ul style="list-style-type: none"> • Creek bank • Flat 	<ul style="list-style-type: none"> • High • Low to moderate
1	3	Lake George shoreline. Extensive quartz fragments throughout the transect. There is a slight rise where the old shoreline is situated. This runs the entire length of the study area. Low tufted grass and scotch thistle grow throughout the transect GSV is around 50%.	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
1	4	Lake George shoreline. Extensive quartz fragments throughout the transect. There is a slight rise where the old shoreline is situated. This runs the entire length of the study area. Runs through recently ploughed paddocks. GSV is around 70%	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
1	5	Runs through recently ploughed paddocks. GSV is around 70%	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
1	6	Runs through fallow paddocks. High grass and thistle grow throughout GSV is around 30%	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
1	7	Runs through several paddocks with varying GSV. Some area with low cropped grass. Some with waist high grass. Main exposure is along a drainage line in the eastern section of the transect. GSV is around 35%	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
2	8	Starts at the southern boundary of the study area from the access track. Heads west across the ridgeline of Ellenden Hill down to the old shore line and continues north along the old shoreline. Large outcrop of sandstone boulders ends the northern trek and the transect turns back south along the	<ul style="list-style-type: none"> • Flat • Ridgeline • Slope 	<ul style="list-style-type: none"> • Low to moderate • High • Low to moderate

		paddock fenceline that borders the lake. Then runs back along the ridgeline of Ellenden. GSV consistently good throughout transect 70%.		
2	9	Starts where the sandstone boulders outcrop on the old shoreline and runs north until it reaches Taylors Creek. Then it follows Taylors Creek east approximately 550m and ends. GSV around 65%.	<ul style="list-style-type: none"> • Flat • Creek Bank 	<ul style="list-style-type: none"> • Low to moderate • High
2	10	Runs along the fenceline separating Taylors creek and the northern most paddock west of the access track. Back south along the west paddock fenceline that borders lake George to the Sandstone outcrop. GSV around 65%.	<ul style="list-style-type: none"> • Flat • Creek Terrace 	<ul style="list-style-type: none"> • Low to moderate • High
2	11	Runs east of the access track at the northern end of the study area. Transect covers northern section of the paddock which has been recently ploughed. GSV 90% (Area has several large scatters with multiple tools. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek, site being on a rise and the large amount of surface artefacts identified in the area.	<ul style="list-style-type: none"> • Flat • Small Rise 	<ul style="list-style-type: none"> • Low to moderate • Low to moderate
2	12	Running east to west along the southern bank of Taylors Creek starting at the eastern boundary and finishing at the access track. GSV 45%. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek and the large amount of surface artefacts identified in the area.	<ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	<ul style="list-style-type: none"> • Low to moderate • High • High
2	13	Southern section of ploughed paddock (same paddock as T11) GSV 90%.	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
2	14	Northern bank of Taylors Creek. From the access track east to the survey area boundary. GSV 45%. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek and the large amount of surface artefacts identified in the area.	<ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	<ul style="list-style-type: none"> • Low to moderate • High • High
2	15	Runs along the southern fenceline of the only paddock within the study area on the north bank of Taylors Creek. GSV 55%. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek, the rise in the landform and the large amount of surface artefacts identified in the area.	<ul style="list-style-type: none"> • Flat • Creek Terrace 	<ul style="list-style-type: none"> • Low to moderate • High
2	16	Northern most paddock of the study area, north of Taylors Creek. Low thick tufted grass. GSV 35%.	<ul style="list-style-type: none"> • Flat 	<ul style="list-style-type: none"> • Low to moderate
2	17	Directly south of Grose Hill this transect runs south along the ridgeline and back up north along a drainage line on the eastern side of the hill. GSV 65%.	<ul style="list-style-type: none"> • Midslope • Ridgeline 	<ul style="list-style-type: none"> • Low to moderate • Moderate to high
3	18	Directly north of WTG 66, Transect heads north along ridgeline and down	<ul style="list-style-type: none"> • Ridgeline • Midslope 	<ul style="list-style-type: none"> • Moderate to high • Low to moderate

		the northern slope to the flat shoreline of lake George. Transect continues north 1.3km along shore line then turns back south and heads along the fenceline of the paddock bordering the lake shore back to start of the transect. Overall GSV was around 65%.	• Flat	• Low to moderate
3	19	Located 900m west of the western leg road the transect starts at the eastern study area boundary and moves directly west along the paddock fenceline towards the ridgeline previously surveyed in transect 18 whereupon the ends. GSV was 25%.	• Flat	• Low to moderate
3	20	From the fenceline separating the paddock where transect 18 was surveyed back east and north of the fenceline surveyed along in transect 19. GSV was 25%.	• Flat	• Low to moderate
2	21	First paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat	• Low to moderate
2	22	First paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat	• Low to moderate
2	23	Second paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat • Drainage line	• Low to moderate • Moderate
2	24	Second paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat • Drainage line	• Low to moderate • Moderate
2	25	Second paddock north of the southern boundary of the survey area and directly to the west of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	• Slope	• Low to moderate
2	26	Third paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat • Drainage line	• Low to moderate • Moderate
2	27	Third paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne. GSV high at around 85%.	• Flat • Drainage line	• Low to moderate • Moderate
2	28	Third paddock north of the southern	• Flat	• Low to moderate

		boundary of the survey area and directly to the west of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	• Slope	• Low to moderate
2	29	Two narrow paddocks along the eastern boundary of the survey area at the base of the hills bordering the survey area. GSV was around 30%.	• Flat	• Low to moderate
2	30	Fourth paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	• Flat	• Low to moderate
2	31	Fourth paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	• Flat	• Low to moderate
2	32	Small paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	• Flat	• Low to moderate
2	33	Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	• Flat	• Low to moderate
2	34	Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	• Flat	• Low to moderate
2	35	Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	• Flat	• Low to moderate
2	36	Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	• Flat	• Low to moderate
3	37	Driving in from the western Leg Road along an unsealed access track approximately 1.8km to the start of the transect. Transect starts in the north east corner of the study area and loops around the remaining paddocks in the north eastern section of the study area. GSV was universally poor throughout this transect at around 15%.	• Flat	• Low to moderate

7.1.2 Archaeological Recording

Each of the survey units was recorded and GPS points were taken at the start and end of each unit (transect). Details of landform and exposure were recorded. This ensured that all terrain, land disturbance, resource location and Aboriginal site distribution information for each survey unit was comparable with data recorded for the others.

Landform, landform unit, vegetation type, land use, distance to water, aspect and site features are to be recorded in accordance with the criteria provided in the DECCW AHIMS Aboriginal site recording form.

Exposure and ground surface visibility was recorded following the system outlined in Table 7.2, and levels of disturbance were assessed according to a similar scale (refer to Table 6.1).

Likewise, a pro forma sheet for each artefact find recorded during assessment was kept. Recordable artefact attributes for field assessment included: type, length, breadth, width, material, cortex, and evidence of any diagnostic traits, as well as evidence of use wear and/or retouch. Artefacts were photographed in the field with visible scale reference. GPS co-ordinates (in GDA94) were kept for each artefact find.

Artefacts were recorded singularly, except when major artefact scatters were observed. In such cases, estimates of scatter size based on the number of artefacts per square meter over the estimated size of the area were employed. Site maps and sketches were also made where appropriate.

Each site and area of PAD was recorded on a DECCW AHIMS Aboriginal site recording form for submission to the AHIMS registry as per Section 89A of the *NP&W Act 1974*.

Table 7.2 Categories of Ground Surface Visibility

Ground Surface Visibility	Percentage Rating
Very Poor – heavy vegetation, scrub, foliage or debris cover, dense tree or scrub cover. Soil surface of the ground difficult to see.	0-9% ground surface visible.
Poor – moderate level of vegetation, scrub, and/or tree cover. Some small patches of soil surface visible in the form of animal tracks, erosion, scalds, blowouts etc, in isolated patches. Soil surface visible in random patches.	10-29% ground surface visible.
Fair – moderate levels of vegetation, scrub and/or tree cover. Moderate sized patches of soil surface visible, possibly associated with animal /stock tracks, unsealed walking tracks, erosion, blowouts etc. Soil surface visible as moderate to small patches, across a larger section of the study area.	30-49% ground surface visible.
Good – moderate to low level of vegetation, tree or scrub cover. Greater amount of areas of soil surface visible in the form of erosion, scalds, blowouts, recent ploughing, grading or clearing.	50-69% ground surface visible.
Very Good – low levels of vegetation/scrub cover. Higher incidence of soil surface visible due to past or recent land-use practices such as ploughing, grading, mining etc.	70-89% ground surface visible.
Excellent – very low to non-existent levels of vegetation/scrub cover. High incidence of soil surface visible due to past or recent land use practices, such as ploughing, grading, mining etc.	90-100% ground surface visible.

7.1.3 Aboriginal cultural heritage consultation

The Aboriginal cultural heritage component of the CWF II archaeological and cultural heritage assessment was undertaken simultaneously with the archaeological field assessment component.

During the field assessment the representatives of the Aboriginal stakeholder organisations BNAC, PLALC and Douglas Connors, were asked to identify issues, items or areas of cultural significance and offer comment on cultural rather than archaeological grounds.

Austral Archaeology recognises that it may not be culturally appropriate for certain information on areas of Aboriginal cultural and/or spiritual significance to be provided to archaeologists. However, it was determined that best efforts would be made to elicit general information including, if possible, locational data on the cultural values of the study area without overstepping cultural boundaries.

8.0 FIELD ASSESSMENT RESULTS

Fieldwork was undertaken over 12 days from the 7th of June to the 11th of June, the following week on the 15th, 16th and 18th of June and the 5th of July to the 6th of July. 100% of the study area was surveyed. Ground surface visibility was excellent. As a result of the survey 64 new sites were recorded in the study area.

The survey involved representatives from Pejar Local Aboriginal Land Council and Buru Ngunnawal Aboriginal Corporation and Stakeholder Douglas Connors representing himself.

Consent was sought from PLALC and BNAC site officers and Douglass Connors prior to making any modifications to the proposed survey methodology. During the survey, PLALC and BNAC Site Officers and Douglass Connors were also asked to consider whether there were any Aboriginal cultural values or issues that they wished to raise, identify or have recorded in this report.

8.1 SCOPE OF THE FIELD SURVEY

The proposed transect survey methodology was adhered to throughout the survey.

100% coverage of the study area was attained.

This level of coverage is considered realistic and sufficient to characterise the archaeological record of the Capital Wind Farm II study area. Some discussion regarding the archaeological potential of these areas is undertaken in Section 9.4.1 of this report.

Ground surface visibility was in the large part excellent in all three study areas. There were some areas where visibility was slightly lower due to low thick pasture grass cover but the majority of survey area 1, 2 and 3 had excellent GSV.

Figure 8.1 *Results of Field survey showing previously unrecorded sites in study area 1. Base image © Google Earth 2010.*

This figure has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

Figure 8.2 *Results of Field survey showing previously unrecorded sites in study area 2. Base image © Google Earth 2010.*

This figure has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

Figure 8.3 *Results of Field survey showing previously unrecorded sites in study area 3. Base image © Google Earth 2010.*

This figure has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

8.2 RESULTS

As a result of the field survey undertaken for the Capital Wind Farm II project, a total of 63 sites were recorded, with a total of 218 artefacts. Site location mapping is provided in Figures 8.1, 8.2 & 8.3. The number of each particular site type is presented below in Table 8.1.

Table 8.1 Frequency of Site Types within the study area

Site Type	Number of Sites	Percentage
Isolated Finds	31	49.21%
Open Artefact Scatter	30	47.62%
Potential Archaeological Deposit (PAD)	2	3.17%
Total	63	100%

Of the 63 sites, 31 were isolated finds (49.21%), 30 were open artefact scatters (47.62%) and two Potential Archaeological Deposits (PAD) were recorded (3.17%). PAD 1 is in close proximity to Wrights Creek and has 10 sites associated within its boundaries. These sites are 5 isolated finds and 5 open artefact scatters. PAD 2 is in close proximity to Taylors Creek and has 12 sites associated within its boundaries. These sites were 3 isolated finds and 9 open artefact scatters.

From the 218 artefacts observed during the Field Assessment, all were recorded in detail. Analysis of this assemblage has found it to be dominated by quartz (65.14%) followed by silcrete (30.73%), basalt (1.83%), chert (0.92%), river stone cobbles (0.92%) and mudstone (0.48%).

Table 8.2 Number of Total Artefact Types within the Study Area

Artefact Type	Number of Artefact Types	Percentage of Types
Flakes	158	72.94%
Cores	39	17.89%
Tools	21	9.17%
Total	218	100%

The density of stone artefact scatters within the study area range from low (>1) to high (>40). Sites were located throughout the study area, but were concentrated in several principle areas along both Wrights Creek (Transects 1 & 2) and Taylors Creek (Transects 11, 12 & 14).

Several forms of land-use impacts have had an effect on the study area:

- Clearance of native vegetation for pastoral activities – this is particularly evident in study area 2 and the northern section of study area 1.
- Establishment and operation of agricultural enterprises such as Lucerne crops and Grass feed crops for livestock.
- Agriculture, including construction of land-use earthworks such as dams, contour banks; farmhouses, outbuildings and sheds.
- Construction of roads for various access uses.

The cultural heritage of the area is also likely to have been affected by the process of bioturbation. This process refers to the disturbance of the soil profile by the growth and activities of plants and animals (e.g. burrows, ant mounds, falling-tree impacts, plant growth, etc).

Table 8.3 Number of Artefact Types within the Study Area, Listed by Type

Artefact Type	Number of Artefact Types	Percentage of Types	Percentage of Total Assemblage
Broken Flakes	2	4%	0.917
Distal Flakes	1	2%	0.46
Flaked Pieces	19	38%	8.72
Flake Tips	7	14%	3.21
Medial Flakes	3	6%	1.38
Proximal Flakes	1	2%	0.46
Whole Flakes	17	34%	7.80
Total (Assigned Type)	50	100%	
Unassigned Type	168		77.06
Total (Overall)	218		100

Table 8.4 Number of Tool Types within the Study Area

Tool Types	Number of Tools	Percentage of Tools	Percentage of Total Assemblage
Blades	5	18.52	2.30
Broken Blade	6	22.22	2.75
Baked Blades	4	14.82	1.83
Scrapers	1	3.70	0.46
Bondi Points	1	3.70	0.46
Edge Ground Axe Heads	4	14.82	1.83
Hammer Stones	3	11.11	1.38
Pirri Points	1	3.70	0.46
Blade Cores	2	7.41	0.92
Total (Assigned Type)	27	100%	
Unassigned Type	191		87.61%
Total (Overall)	218		100%

The presence of microblades and microblade portions (albeit limited, accounting for only 7.34% of the assemblage) indicates that microblade manufacturing and/or discard occurred in the study area. 1 microlith implement was identified as a Bondi Point manufactured from silcrete. Bondi points were hafted to spear shafts using resin as a bonding agent for use as hunting spears.

Please note that this section aims to provide a précis of survey results only. Detailed Survey Unit recordings are provided in Appendix D and Site Recordings are provided in Appendix E.

The following naming scheme has been adopted for finds recorded during the field assessment:

Table 8.5 Site Naming Conventions employed during the Field Assessment

Abbreviation	Explanation
CWF2	Capital Wind Farm 2
IF	Isolated Find
S	Scatter (Open Artefact Scatter)
PAD	Potential Archaeological Deposit

Table 8.6 Survey Results

Site Name	Size	# of artefacts	Landform Unit	Exposure type (dam, track etc)	Archaeological Potential
CWF2-S-01	150m x 200m	14	Flat	Access Track	Low
CWF2-S-02	2m x 3m	3	Flat	Access Track/Sand Mining Activity	Low
CWF2-S-03	20m x 4m	4	Flat	Creek Bank	Low
CWF2-IF-01	<1m ²	1	Flat	Access Track/Sand Mining Activity	Low
CWF2-IF-02	<1m ²	1	Embankment	Sand Mining Activity/Disturbance	Low
CWF2-S-04	30m x 5m	3	Embankment	Sand Mining Activity/Disturbance	Low
CWF2-S-05	50m x 7m	5	Embankment	Sand Mining Activity/Disturbance	Low
CWF2-IF-03	<1m ²	1	Flat	Access Track	Low
CWF2-PAD-01	1.2km x 650m	N/A	Flat	Access Track/Creek Bank	High
CWF2-IF-04	<1m ²	1	Flat	Sand Mining Activity/Disturbance	Low
CWF2-IF-05	<1m ²	1	Flat	Patch Grass	Low
CWF2-S-06	50m x 4m	2	Flat	Ploughed Field	Low
CWF2-IF-06	<1m ²	1	Flat	Relict Shore Line	Low
CWF2-S-07	100m x 5m	2	Flat	Access Track	Low
CWF2-IF-07	<1m ²	1	Flat	Access Track	Low
CWF2-IF-08	<1m ²	1	Flat	Patchy Grass	Low
CWF2-S-08	20m x 8m	3	Flat/Drainage Line	Erosional Scald	Low
CWF2-S-09	5m x 3m	2	Flat	Relict Shore Line	Low
CWF2-IF-09	<1m ²	1	Lee of Ridge	Ploughed Field	Low
CWF2-IF-10	<1m ²	1	Midslope	Ploughed Field	Low
CWF2-S-10	20m x 20m	2	Flat	Fenceline/Patchy Grass	Low
CWF2-S-11	100m x 5m	4	Drainage Line	Erosional Scald	Low
CWF2-IF-11	50m x 4m	1	Flat	Fenceline/Patchy Grass	Low
CWF2-S-12	15m x 3m	7	Flat	Eroding Creek Bank	Low
CWF2-S-13	<1m ²	2	Flat	Bioturbated Area (Wombat Burrow)	Low
CWF2-IF-12	<1m ²	1	Flat	Flood Plain (Sandy Flats)	Low
CWF2-IF-13	50m x 80m	1	Flat	Flood Plain (Sandy Flat)	Low

Site Name	Size	# of artefacts	Landform Unit	Exposure type (dam, track etc)	Archaeological Potential
CWF2-S-14	500m x 80m	41	Flat	Ploughed Field	Medium
CWF2-PAD-02	800m x 500m	N/A	Flat	N/A	High
CWF2-S-15	<1m ²	2	Creek Terrace	Patchy Grass	Low
CWF2-IF-14	20m x 4m	1	Creek Terrace	Patchy Grass	Low
CWF2-S-16	75m x 10m	13	Flat	Patchy Grass	Low
CWF2-S-17	30m x 4m	5	Flat	Eroding Creek Bank	Low
CWF2-S-18	10m x 3m ²	8	Creek Bank	Eroding Creek Bank	Low
CWF2-S-19	2m ²	3	Small Rise	Ploughed Field	Low
CWF2-S-20	<1m ²	9	Small Rise	Ploughed Field	Low
CWF2-IF-15	<1m ²	1	Small Rise	Ploughed Field	Low
CWF2-IF-16	150m x 10m	1	Creek Bank	Eroding Creek Bank	Low
CWF2-S-21	<1m ²	22	Creek Bank	Eroding Creek Bank	Low
CWF2-IF-17	2m x 1m	1	Flat	Drainage Line	Low
CWF 2-S-22	<1m ²	2	Ridge Top	Animal Track	Low
CWF2-IF-18	20m x 5m	1	Flat	Animal Track	Low
CWF2-S-23	<1m ²	2	Mid Slope/Erosional Gully/Drainage Line	Drainage Line	Low
CWF2-IF-19	<1m ²	1	Hill Crest	Patchy Grass/Animal Track	Low
CWF2-IF-20	20m x 4m	1	Mid Slope	Animal Track	Low
CWF2-S-24	50m ²	2	Hill Crest	Animal Track	Low
CWF2-S-25	<1m ²	7	Hill Crest	Animal Track	Low
CWF2-IF-21	20m x 5m	1	Mid Slope	Animal Track	Low
CWF2-S-26	<1m ²	4	Flat	Relict Shore Line	Low
CWF2-IF-22	<1m ²	1	Flat	Relict Shore Line	Low
CWF2-IF-23	20m x 5m	1	Flat	Rocky Outcrop (Quartz Outcrop)	Low
CWF2-S-27	20m x 5m	3	Foot slope	Patchy Grass	Low
CWF2-S-28	<1m ²	4	Flat	Patchy Grass	Low
CWF2-IF-24	<1m ²	1	Flat	Patchy Grass	Low

Site Name	Size	# of artefacts	Landform Unit	Exposure type (dam, track etc)	Archaeological Potential
CWF2-IF-25	<1m ²	1	Mid Slope	Ploughed Field	Low
CWF2-IF-26	20m x 6m	1	Flat	Ploughed Field	Low
CWF2-S-29	<1m ²	2	Base of slope	Ploughed Field	Low
CWF2-IF-27	<1m ²	1	Wall of excavated ditch/Base of slope	Earthen wall of excavated ditch	Low
CWF2-IF-28	<1m ²	1	Base of slope	Patchy Grass	Low
CWF2-IF-29	2m x 3m	1	Base of Slope	Ploughed Field	Low
CWF2-S-30	<1m ²	2	Base of Slope	Fenceline/Ploughed Field	Low
CWF2-S-31	<1m ²	2	Flat	Fenceline/Gate/Access Track	Low
CWF2-IF-30	<1m ²	1	Flat	Ploughed Field	Low

8.3 SECTION SUMMARY

As a result of the Field Assessment, 63 new Aboriginal archaeological sites were identified and recorded in the study area. Two previously recorded sites were relocated, although the exact nature and description of these previously recorded sites was a little vague, artefacts were found in the general area of both sites and recorded in greater detail.

No archaeological sites were identified in association with cultural areas or features. However it is understood that all archaeological material is likely to be of cultural importance to the Aboriginal community as it is material produced by past Aboriginal people.

The archaeological and cultural significance of these sites shall be evaluated in the Discussion and Significance Assessment in the following section.

9.0 DISCUSSION AND SIGNIFICANCE ASSESSMENT

9.1 DISCUSSION OF FIELD ASSESSMENT FINDINGS

The field assessment component of the Aboriginal Heritage Assessment of the Capital Wind Farm II study area has identified 63 previously unrecorded Aboriginal archaeological sites.

Analysis of the site type and distribution will allow characterisation of the Aboriginal archaeological record of the Capital Wind Farm II study area and, in conjunction with the cultural assessment, may also give some information on the lifestyles of past Aboriginal people within that area.

Ground-truthing of the predictive statement through comparison of the model with the results of the field assessment tests the accuracy of the predictive statement to the Capital Wind Farm II study area in general and also, through comparison with previous archaeological work in the vicinity as discussed in Section 5.0, the applicability of the predictive statement to the Lake George Basin and Southern Tablelands physiographic region in general.

9.2 INTRODUCTION TO THE HERITAGE ASSESSMENT PROCESS

An assessment of significance seeks to determine and establish the importance or value that an object or site may have to the community at large. The concept of cultural significance is intrinsically connected to the object or place, its location, setting and relationship with other items in its surrounds. The assessment of cultural significance is ideally a holistic approach that draws upon the response these factors evoke from the Aboriginal community.

Archaeological sites require a different approach to significance assessment because the extent of the heritage resource, and the degree to which it can contribute to our understanding of history, is not fully known at the outset. Also of significance is the type of information that can be revealed by potential archaeological deposits, especially where the information is not available through any other source, and the contribution it can make to our understanding of a place, which may also be of cultural heritage significance.

9.3 BASIS FOR ASSESSMENT OF ABORIGINAL SITES

The NSW National Parks and Wildlife Service assessment criteria for archaeological significance have been developed to deal specifically with archaeological resources and cover:

- A) **Research Potential.** This criterion is designed to qualify the significance of potential research which may be carried out at a site. Significance is apportioned according to the amount of new information which might be contained in the deposit, rather than the potential to yield a large number of artefacts. A site may have high significance under this criterion if it has an intact stratigraphic sequence and good integrity, the potential to provide a chronology extending into the past, or if it is connected to other sites within the region. Within this criterion are the subsets of representativeness and rarity. Representativeness is the ability of the site to demonstrate a type of site or deposit. This is important to maintain a contingency sample of all site types. Rarity is often described within the framework of representativeness as it relates to the distinctive features of a site which set it apart from similar sites.
- B) **Educational Potential.** This criterion allows the educational value of a site to be considered as a component of significance. Under this criterion, an archaeologist may assess the potential of a site to educate the general public. DECC has acknowledged that this criterion is open to misinterpretation by archaeologists who have the ability to convey the value of a site to other archaeologists. DECC recommends that, in cases where significance is determined on educational potential, the onus is on the archaeologist to go to the public for an assessment of this value.
- C) **Aesthetic Significance.** Aesthetic significance is not inherent in a place, but arises from the response that people have to it. It is pertinent to remember that this response can vary dramatically between cultures and social groups, therefore an assessment of significance based on aesthetic value should incorporate the views of different cultures.

For a full description of assessment procedures refer to the Aboriginal Cultural Heritage: Standards and Guidelines Kit (NPWS 1997). These criteria have been designed to deal specifically with the archaeological resource; however they do not provide a framework for the assessment of social significance to the Aboriginal community. For this reason, the criteria for assessment provided in the *Australia ICOMOS charter for the conservation of places of cultural significance* (the Burra Charter) are sometimes also used to assess significance as they provide a framework for a more holistic assessment of significance.

9.4 ASSESSMENT OF AREAS IDENTIFIED IN THIS STUDY

The comments made in this section are a reflection of significance from a scientific perspective only, based on established DECCW approved significance assessment criteria. They are not intended as a reflection of cultural significance. Please refer to stakeholder comments for relevant views and statements of cultural significance (Appendix B).

Each of the criteria of assessment outlined in the previous section will now be considered in the sub-sections below.

9.4.1 Research Potential

The research and educational potential of the sites and areas of potential archaeological deposit identified in the field assessment is presented in Table 9.1 and discussed below.

As described in Section 9.3, the research potential of Aboriginal archaeological sites is based on the amount of new information which might be obtained from more detailed investigation of the site; the representativeness or ability of the site to demonstrate a type of site or deposit; and, the rarity or distinctiveness of the site in relation to other sites.

First one should consider issues surrounding ground disturbance. In essence the majority of the 3 study areas have been subject to at least some measure of disturbance. An understanding of ground disturbance is important in consideration of aspects of research potential such as stratigraphic sequence, site integrity and chronology.

Apart from direct impacts as a result of rural practices, land clearance itself can still leave considerable intact and in-situ Aboriginal artefactual material. As the 3 study areas were sizeable at a combined approximate of 1144 ha, it is more appropriate therefore to discuss the land disturbances noted at those areas where Aboriginal artefactual material and deposit was noted or is more likely to occur.

The two areas where the research potential is of greater value are those associated with the two recorded PADs (CWF2-PAD-01 and CWF2-PAD-02). PAD 1 is considered to be of high potential. Several surface sites were located at this locale. Although the area has been utilised in the past for sand mining activities and the ground in the area has been extremely disturbed there are still large areas where mining activity has not occurred. Verbal accounts from the property owner also attest to the existence of camp fires and axe heads that were uncovered during sand mining activities in the area. This evidence increases the potential to yield intact deposits in areas of minimal disturbance, and makes this sites research potential high.

The second area of PAD (PAD 02) represents an area of high potential especially on the rises away from the creek on the southern bank. The location of artefactual material inside the PAD, including several tools, means that there is a greater chance for further material to be present within 100m of the creek, which predictive modelling tells us is more likely to yield intact and more complex site types. Ground disturbance at PAD 02 was noted to include vegetation clearance and impacts associated with the land's use as a rural property, specifically ploughed fields for Lucerne crops.

The scatters recorded during the Field Assessment for the Capital Wind Farm II Project represented different levels of research potential. The majority were considered to be of low potential due to the small size, the lower potential of the area in which they were located based on past land use and condition as observed during the Field Assessment, and the number and variety of associated artefact types and raw material.

Table 9.1: Assessments of Research Potential

Site Name	Potential for new information	Representativeness	Rarity	Research Potential
CWF2-S-01	Low	Low	Low	Low
CWF2-S-02	Low	Low	Low	Low
CWF2-S-03	Low	Low	Low	Low
CWF2-IF-01	Low	Low	Low	Low
CWF2-IF-02	Low	Low	Low	Low
CWF2-S-04	Moderate	Moderate	Moderate	Moderate
CWF2-S-05	Low	Low	Low	Low
CWF2-IF-03	Low	Low	Low	Low
CWF2-PAD-01	High	High	High	High
CWF2-IF-04	Low	Low	Low	Low
CWF2-IF-05	Low	Low	Low	Low
CWF2-S-06	Moderate	Moderate	Moderate	Moderate
CWF2-IF-06	Low	Low	Low	Low
CWF2-S-07	Low	Low	Low	Low
CWF2-IF-07	Moderate	Moderate	Moderate	Moderate
CWF2-IF-08	Low	Low	Low	Low
CWF2-IF-09	Low	Low	Low	Low
CWF2-S-08	Low	Low	Low	Low
CWF2-S-09	Low	Low	Low	Low
CWF2-IF-10	Low	Low	Low	Low
CWF2-IF-11	Low	Low	Low	Low
CWF2-S-10	Low	Low	Low	Low
CWF2-S-11	Low	Low	Low	Low
CWF2-IF-12	Low	Low	Low	Low
CWF2-S-13	Low	Low	Low	Low
CWF2-IF-13	Low	Low	Low	Low
CWF2-IF-14	Low	Low	Low	Low
CWF2-S-14	Moderate	Moderate	Moderate	Moderate
CWF2-PAD-02	High	High	High	High
CWF2-S-15	Low	Low	Low	Low
CWF2-IF-15	Low	Low	Low	Low
CWF2-S-16	Low	Low	Low	Low
CWF2-S-17	Low	Low	Low	Low
CWF2-S-18	Low	Low	Low	Low
CWF2-S-19	Low	Low	Low	Low
CWF2-S-20	Low	Low	Low	Low
CWF2-IF-16	Low	Low	Low	Low
CWF2-IF-17	Low	Low	Low	Low
CWF2-S-21	Low	Low	Low	Low
CWF2-IF-18	Low	Low	Low	Low

Site Name	Potential for new information	Representativeness	Rarity	Research Potential
CWF 2-S-22	Low	Low	Low	Low
CWF2-IF-19	Low	Low	Low	Low
CWF2-S-23	Low	Low	Low	Low
CWF2-IF-20	Moderate	Moderate	Moderate	Moderate
CWF2-IF-21	Low	Low	Low	Low
CWF2-S-24	Low	Low	Low	Low
CWF2-S-25	Low	Low	Low	Low
CWF2-IF-22	Low	Low	Low	Low
CWF2-S-26	Low	Low	Low	Low
CWF2-IF-23	Low	Low	Low	Low
CWF2-IF-24	Low	Low	Low	Low
CWF2-S-27	Low	Low	Low	Low
CWF2-S-28	Low	Low	Low	Low
CWF2-IF-25	Low	Low	Low	Low
CWF2-IF-26	Low	Low	Low	Low
CWF2-IF-27	Low	Low	Low	Low
CWF2-S-29	Low	Low	Low	Low
CWF2-IF-28	Low	Low	Low	Low
CWF2-IF-29	Low	Low	Low	Low
CWF2-IF-30	Low	Low	Low	Low
CWF2-S-30	Low	Low	Low	Low
CWF2-IF-31	Low	Low	Low	Low
CWF2-IF-32	Low	Low	Low	Low

9.4.2 Educational Potential

The educational potential of a study area is best considered in light of its value to the general public, the Aboriginal stakeholders, and other researchers: those people whom the archaeologist has a duty to inform. Therefore the educational potential of the current study area is directly linked to its research potential: what can be learnt from further archaeological investigation, and whom will that knowledge benefit?

The educational value of a site to the general public is the most important criterion. The educational potential must be linked to something that can add to the public's knowledge of the Aboriginal past of a particular area.

As stated above in the consideration of the criteria determining research further archaeological investigation of the study area (apart from PADs 1 & 2) is unlikely to yield site types of neither rarity nor representativeness. It is likely that Infigen Energy will be able to avoid impact to both PADs 1 and 2. Should this not be possible and further investigation of these sites is required however then the educational value of these sites, although likely still low to moderate interest to a public audience, is markedly of greater value of the sites already recorded within the study areas.

Archaeologists draw the threads of data made available as a result of archaeological investigation and produce a story of past peoples. It is the consultant's opinion that the data that could be retrieved from further investigation of the current study area, apart from PAD's 1 and 2, is unlikely to add any archaeological data that is likely to alter the story of Aboriginal people in the area prior to the arrival of Europeans. As such the educational potential in terms of the public is considered to be low.

For the Aboriginal stakeholders the story that archaeologists compile from data is also important for it is *their* story. Their perspective is therefore different from the general public. As a non Aboriginal person the consultant is unable to offer such a valuation as has been provided in consideration of the general public or other researchers.

What can be offered in terms of considering educational value and Aboriginal stakeholders is that which has been offered before in this consideration of overall potential. That is, that the information from the current study area, apart from further investigation of PAD 1 and 2, is unlikely to shed new light on Aboriginal people's use of landscape is times past. However it is appreciated that perspectives do differ and unlike the general public or other researchers, Aboriginal stakeholders may see the compilation of further archaeological data of the same type as a confirmation of their story, which may be of high educational value to them.

Lastly, although the consultant acknowledges that in consideration of a study area's educational potential that its value in educating other archaeologists and researchers is not paramount, it is still of importance. For other researchers the educational value of the current study is considered to be low. Previous archaeological evidence, gathered from similar landforms, is unlikely to yield further information of the 'big picture' of the archaeological context of the area surrounding Capital Wind Farm. An investigation of the PADs within direct proximity to major resource and waterways in lower elevations is likely however to elucidate new information that would be of interest to researchers.

In conclusion the consultant finds the overall educational value of the current study area to be low. Should investigation of either PAD 1 and/or 2 be required, however, this may change. Investigation of these aspects of the project would be of moderate educational value.

9.4.3 Aesthetic Significance

Professional archaeologists view aesthetic significance as an attribute that can only be culturally determined by Aboriginal stakeholders. As noted in Section 9.3, the concept of aesthetic significance deals with the response that people have to a particular place. This criterion differs from the other two in that it is not so readily quantifiable but takes into account a subjective or emotive response to a place as opposed to providing comment upon a tangible item (such as an Aboriginal artefact) or an issue of research relevance (such as an area of PAD).

The criteria that deal with research and educational significance are almost wholly concerned with the archaeological or 'scientific' significance. These are values that are determined by archaeologists, as has been included in subsections 9.4.1 & 9.4.2. However this report must also take into account the Aboriginal *cultural* heritage value of a site or study area. It is this criterion that is utilised to such an end. Only members of the local Aboriginal community can advise of the cultural significance of an area or place.

To gain a determination of cultural significance, the consultant has approached and consulted with the identified Aboriginal stakeholders. This is in keeping the DECCW Aboriginal community consultation guidelines and ethical consultative practice. Each stakeholder organisation was asked to consider the study area from the perspective of the Aboriginal cultural heritage and offer any insights and/or knowledge they may have specific to the current study area.

The Aboriginal landscape and cultural values of the study area remain unchanged by the results of the field assessment. PLALC and BNAC have expressed a contemporary link with the local area and the archaeological record identified within it. Comments on the project received from these groups are presented in Appendix B.

10.0 CONCLUSION & MANAGEMENT RECOMMENDATIONS

10.1 CONCLUSIONS

The recording of artefactual material in the landscape associated with the Capital Wind Farm II project has confirmed the presence of Aboriginal people in the landscape prior to the arrival of European settlers to the region. 100% of the study area was surveyed. Ground surface visibility was excellent throughout the majority of the study area. As a result of the field assessment, 63 sites were recorded. Of the 63 sites, 31 were isolated finds (49.21%), 30 were open artefact scatters (47.62%) and two Potential Archaeological Deposits (PAD) were recorded (3.17%). PAD 1 is in close proximity to Wrights Creek and has 10 sites associated within its boundaries. These sites are 5 isolated finds and 5 open artefact scatters. PAD 2 is in close proximity to Taylors Creek and has 12 sites associated within its boundaries. These sites were comprised of 3 isolated finds and 9 open artefact scatters.

All of the 218 artefacts observed during the Field Assessment were recorded in detail. Analysis of this assemblage has found it to be dominated by quartz (65.14%) followed by silcrete (30.73%), basalt (1.83%), chert (0.92%), river stone cobbles (0.92%) and mudstone (0.48%).

61 of these sites have been assessed as having low archaeological potential and therefore do not warrant further archaeological investigation. If the surface artefacts in these sites are to be impacted by the proposed development, salvage through surface collection has been discussed while onsite with representatives of PLALC and BNAC.

The two PAD sites (namely CWF2-PAD-01 & CWF2-PAD-02) were identified on the basis of surface archaeological material and landform. The potential of the associated PAD's is high based on such factors as proximity to waterways, predictive modelling potentials and past land disturbance. Infigen's final turbine layout plan has made provision for all newly recorded Aboriginal archaeological sites and accordingly they have relocated all wind turbine generators to avoid all Potential Archaeological Deposits (PAD's) and surface archaeological sites.

10.2 RECOMMENDATIONS

On the basis of the field assessment findings, the following recommendations are proposed to address Aboriginal archaeological and cultural issues that represent known developmental constraints for the Capital Wind Farm II study area:

Recommendations

1. Given that Infigen has modified the turbine layout plan as a result of the results of this Archaeological and Cultural Assessment and the responses from the registered stakeholders, no surface sites and PADs will be impacted by the proposed works. Therefore no further archaeological investigation of PADs or collection of surface artefacts is required. As part of the Construction Environmental Management Plan (CEMP), the final layout and report confirming the protection of all Aboriginal objects should be prepared and issued to the relevant stakeholders prior to implementation. If the design changes and impacts will occur, collection of surface material of identified sites will be required as will subsurface investigation of the PAD sites. If collection of sites CWF2-S-06, CWF2-IF-07 and CWF2-IF-20 (see Table 9.1) is required, they should also be subject to lithic analysis, but otherwise managed under the existing recommendations.
2. If additional unrecorded Aboriginal archaeological material is encountered during development, works must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with NSW DECCW and registered stakeholder groups concerning the significance of any such material. DECCW must be notified of any such finds as per Section 89A of the *NP&W Act*. The CEMP will include procedures that would be implemented if any additional heritage sites are discovered during the development.

3. Restriction of access to Aboriginal archaeological information is recommended, in the event that this report is to go on public exhibition. Consultation with Austral Archaeology Pty Ltd and the registered stakeholders has determined the appropriate level of public release.
4. It is recommended that copies of the finalised report be provided to PLALC, BNAC, Douglass Connors and the NSW DECCW, and that the completed site cards be provided to the DECCW AHIMS Registrar.
5. Adherence to Cultural Heritage Management Sub Plan. The protocols and procedures developed by Austral Archaeology in full consultation with stakeholders entitled: *Capital Wind Farm, Tarago Region NSW: Aboriginal Cultural Heritage Management Sub Plan* (2007) (including the Care and Control Agreement) are to be adhered to by all parties during the course of the Capital Wind Farm II project. The Sub Plan should be updated and incorporated into the CEMP.

11.0 REFERENCES

- Attenbrow, V.** 2002. Sydney's Aboriginal Past: Investigating the archaeological and historical records. University of New South Wales Press Ltd: Sydney.
- Austral Archaeology Pty Ltd** (2005a) *Proposed Capital Wind Farm – Tarago Region NSW. Aboriginal Heritage Assessment*. Report prepared for Connell Wagner Pty Ltd on behalf of Renewable Power Ventures.
- Austral Archaeology Pty Ltd** (2005b) *Proposed Capital Wind Farm – Tarago Region NSW. Aboriginal Archaeological & Cultural Heritage Assessment*. Report prepared for Connell Wagner Pty Ltd on behalf of Renewable Power Ventures.
- Austral Archaeology Pty Ltd**, (2009) *Proposed Capital Wind Farm – Tarago Region NSW. Aboriginal Archaeological Excavation Report*. Report prepared for Renewable Power Ventures.
- Austral Archaeology Pty Ltd**, 2010 Woodlawn Wind Farm Transmission Line. Aboriginal Archaeological & Cultural Heritage Assessment Report to Woodlawn Wind Pty Ltd.
- Austral Archaeology Pty Ltd** (2005). Archaeological Test Excavations at Proposed Gunning Wind Farm NSW, Test Excavation Report. Prepared for Connell Wagner PPI.
- Austral Archaeology Pty Ltd** (2009). Gunning Wind Farm. Aboriginal Archaeological and Cultural Heritage Assessment: Additional Assessment Report. Prepared for Acciona Energy.
- Australia ICOMOS** (1999) *Australia ICOMOS charter for the conservation of places of cultural significance [the Burra Charter]*. Australia ICOMOS, Canberra.
- Brown C et. al** 2007 Stories of the Nggunawal. Published by Journey of Healing Inc, ACT.
- Biosis Research Pty Ltd** (Biosis), 2005a. An Archaeological Survey of the proposed Woodlawn Wind Farm, Tarago, New South Wales. Report to EHN (Oceania) Australia & URS Australia Pty Ltd. NSW NPWS: Sydney (unpublished report).
- Bureau of Meteorology 2010**. Climate Averages Website. Accessed online on 22/7/2010, at URL: http://www.bom.gov.au/climate/averages/tables/cw_067108.shtml
- Department of Environment and Conservation** 2005a. Interim Community Consultation Requirements for Applicants.
- Department of Environment and Conservation** 2005b. Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005.
- David B., B. Barker and I. McNiven (eds)** (2006) *The Social Archaeology of Australian Indigenous Societies*. Published by Aboriginal Studies Press, Canberra.
- Flood J.** 1980 *The Moth Hunters: Aboriginal Prehistory of the Australian Alps*. Australian Institute of Aboriginal Studies, Canberra.
- Flood J.** 1996 *The Moth Hunters of the Australian Capital Territory: Aboriginal Traditional Life in the Canberra Region*. Australian Institute of Aboriginal Studies, Canberra.
- Flood J.** (1999) Archaeology of the Dreamtime: The story of prehistoric Australia and its people. Angus & Robertson, Sydney.
- Gillespie, L.** 1984 *Aborigines of the Canberra Region*. Lyall Gillespie, Canberra.
- Gillespie, L.** 1992 *Ginninderra: Forerunner to Canberra*. Lyall Gillespie, Canberra.
- Hughes, P.J., R.K Barz and P. Hiscock** (1984) *An archaeological investigation of the Bungendore sands quarry, Lake George, NSW*. An unpublished report to Corkhill Bros. Pty Ltd, Fyshwick, ACT.
- Hiscock, P.** 2008 *Archaeology of Ancient Australia*. Routledge, Oxon.
- Holdaway, S. and N. Stern** 2008 *A Record in Stone: the study of Australia's Flaked Stone Artefacts*. Aboriginal Studies Press, Canberra.
- Jackson-Nakano A** 2001 *The Kamberri: a history from the records of Aboriginal families in the Canberra-Queanbeyan district and surrounds*.

Jenkins B.R. 2000. Soil Landscapes of the Canberra 1:100,000 Sheet. Department of Land and Water Conservation Queanbeyan NSW 2620.

JMCHM Pty Ltd. 1997. *The proposed Crookwell Wind Farm: Test Excavation Report*. Report for Pacific Power.

JMCHM Pty Ltd. 1998. *The proposed Crookwell Wind Farm. Salvage Excavation Report*. Report prepared for Pacific Power.

JMCHM Pty Ltd. 2003. *Archaeological Survey for an Aboriginal Heritage Assessment. Gunning Wind Farm, NSW*. Report prepared for Connell Wagner.

Kershaw, P. A. 1994. Site 820 and the evidence for early human occupation in Australia – a response. *Quaternary Australasia: The newsletter of the Australasian Quaternary Association* 12 (2).

Lance, A. (1985) *An Archaeological Survey of a Proposed Sand Quarry on the Currandooley Lease" via Bungendore NSW*. A report Canberra Wash Sand Pty Ltd, Fyshwick ACT.

Mulvaney, J and Kamminga, J. 1999. Prehistory of Australia. Allen & Unwin Pty Ltd.

Nicholson, P.H. (1981) "Fire and the Australian Aborigine – an enigma". In: Gill, A.M., R.H. Groves, I.R. Noble (Editors), *Fire and the Australian Biota*. Published by the Australian Academy of Science, Canberra, pp.55-76.

Navin Officer 1998 *Woodlawn Mine, Tarago NSW: Cultural Heritage Assessment of Proposed Landfill/Rehabilitation Project*. Report to AGC Woodward – Clyde Pty Ltd.

Saunders, P. 2008. Taylors Creek Road Aboriginal Archaeological Assessment. Report to Eric Martin and Associates. NSW NPWS: Sydney (unpublished report).

Singh, G. N.D. Opdyke and J.M. Bowler (1981a) 'Late Cainozoic stratigraphy, paleomagnetic chronology and vegetational history from Lake George, NSW'. *Journal of the Geographical Society of Australia*: **28**, pp.435-452.

Singh, G., A.P. Kershaw and Robin Clark (1981b) *Quaternary Vegetation and Fire History in Australia* In: Gill, A.M., R.H. Groves, I.R. Noble (Editors), *Fire and the Australian Biota*. Published by the Australian Academy of Science, Canberra, pp.23-54.

Turbet, P. 2001, The Aborigines of the Sydney district before 1788 / Peter Turbet Kangaroo Press, East Roseville, N.S.W

White, J.P. (1994) 'Site 820 and the evidence for early human occupation in Australia'. *Quaternary Australasia: The newsletter of the Australasian Quaternary Association*: Vol. **12**, No. 2

Wright, R. (1986) How old is Zone F at Lake George? *Archaeology in Oceania* 21: 138 – 139.

Images

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APPENDIX A: NATIONAL NATIVE TITLE TRIBUNAL SEARCH RESULTS

This information has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

APPENDIX B: ABORIGINAL COMMUNITY RESPONSE TO THE DRAFT REPORT



ABN : 24 059 704 833

4 October 2010

Austral Archaeology Pty Ltd
Shop1, 92 Percival Road
STANMORE NSW 2048

Attention: Mr Leigh Bate

Cultural Heritage Assessment – Capital Wind Farm II

Thank you for the opportunity to participate in the Aboriginal Cultural Heritage Archaeological Assessment of the Capital Wind Farm II for evidence of Aboriginal occupation by the local Ngunawal people, who are the Traditional Carers. As you may appreciate any planned work to be undertaken in the area that lies within our tribal boundaries will impact on our cultural heritage. We therefore appreciate that the proper protocol of advising and consulting with us has occurred.

Buru Ngunawal Aboriginal Corporation (BNAC), as the Traditional Carers for the area known as Ngunawal, wish to acknowledge the assistance of the other groups with an interest in Cultural Heritage issues on Ngunawal Country and wish to advise that only Ngunawal people hold the right to provide advice on the cultural heritage management for all sites and artefacts that come under the jurisdiction of the Ngunawal people.

The fieldwork was undertaken over a period of ten (10) days on the 7th to 11th of June 2010, the 15th, 16th & 18th of June 2010 and the 5th & 8th of July 2010 by our representatives accompanied by Mr Leigh Bate & Mr Alan Hay, archaeologists from Austral Archaeology Pty Ltd.

The following is our comment in relation to the each recommendation made at Section 10 Conclusion & Management Recommendations, Subsection 10.2 as proposed in the draft report.

10.0 CONCLUSION & MANAGEMENT RECOMMENDATIONS

10.2 Recommendations

On the basis of the field assessment finding, the following recommendations are proposed to address archaeological and cultural issues that represent known developmental constraints for the Capital Wind Farm II study area:

Recommendations

- 1. Given that this report has found that some Aboriginal sites are likely to be impacted by the proposed works, it is recommended that consideration be given to repositioning some wind turbines. If repositioning cannot be achieved then surface salvage of those*

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sites is recommended. As this project is being carried out under Part 3A, no permit will be necessary to disturb and relocate any Aboriginal objects within the study area although new site cards will need to be submitted to DECCW for the redeposited archaeological material.

BNAC agrees with this recommendation as a measure to protect and conserve Aboriginal cultural heritage materials. To be able to fully understand what impacts are to occur as part of the Wind Farm development more detailed information needs to be provided about exact wind turbine locations, where electrical cabling will be laid along with where maintenance service roads to the turbines will be established and the proximity of each to the recorded Aboriginal sites to ascertain what impacts may be incurred on the sites.

2. *Two areas of Potential Archaeological Deposit (PAD) with several associated artefact and isolated finds (see Figure 8.1 & 8.2), were located in proximity to Wright Creek (CWF2-PAD-01) and Taylors Creek (CWF2-PAD-01). If turbines are to be placed in these areas then a program of test excavation and salvage will be needed to clarify the archaeological potential of the PAD sites before any construction can proceed.*

BNAC is in full agreement to the provisions of this recommendation being implemented if turbines are to be constructed and causing impacts to these sites and PAD areas.

3. *No further archaeological investigation is deemed necessary for the following sites but salvage through collection and relocation of surface artefacts is recommended if they are to be impacted by turbine placement or access road construction for the Capital Wind Farm II Project: CWF2-S-01, CWF2-S-02, CWF2-S-03, CWF2-IF-01, CWF2-IF-02, CWF2-S-04, CWF2-S-05, CWF2-IF-03, CWF2-IF-04, CWF2-IF-05, CWF2-S-06, CWF2-IF-06, CWF2-S-07, CWF2-IF-07, CWF2-IF-08, CWF2-IF-09, CWF2-S-08, CWF2-S-09, CWF2-S-10, CWF2-IF-11, CWF2-S-11, CWF2-IF-12, CWF2-S-13, CWF2-IF-13, CWF2-IF-14, CWF2-S-14, CWF2-S-15, CWF2-IF-15, CWF2-S-16, CWF2-S-17, CWF2-S-18, CWF2-S-19, CWF2-S-20, CWF2-IF-16, CWF2-IF-17, CWF2-S-21, CWF2-IF-18, CWF2-S-22, CWF2-IF-19, CWF2-S-23, CWF2-IF-20, CWF2-IF-21, CWF2-S-24, CWF2-S-25, CWF2-IF-22, CWF2-S-26, CWF2-IF-23, CWF2-IF-24, CWF2-S-27, CWF2-S-28, CWF2-IF-25, CWF2-IF-26, CWF2-IF-27, CWF2-S-29, CWF2-IF-28, CWF2-IF-29, CWF2-IF-30, CWF2-S-30, CWF2-IF-31 AND CWF2-IF-32.*

BNAC is in full agreement to the provisions of this recommendation being implemented with the proviso that electrical cabling should also be included as part of the impact measures to be taken into consideration.

4. *If additional unrecorded Aboriginal archaeological material is encountered during development, works must cease immediately to allow an archaeologist to make an assessment of the finds, as all Aboriginal artefacts (known and unknown) are protected under Section 90 of the NP&W Act. The archaeologist may need to consult with NSW DECCW and registered stakeholder groups concerning the significance of any such material. DECCW must be notified of any such finds as per Section 91 of the NP&W Act.*

BNAC is in full agreement to the provisions of this recommendation being implemented and that full consultation with BNAC be an integral part of this process.

5. *As required by the NSW Heritage Act 1977 (amended), in the event that historic relics are encountered, works must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with the Heritage Branch Department of Planning concerning the significance of any historic cultural material encountered.*

This recommendation is outside of our field of expertise and therefore we cannot provide comment on that basis.

6. *Restriction of access to Aboriginal archaeological information is recommended, in the event that this report is to go on public exhibition. Consultation with Austral Archaeology Pty Ltd and the registered Aboriginal Stakeholders will be necessary to determine the appropriate level of public release.*

BNAC is in full agreement to the provisions of this recommendation being implemented.

7. *It is recommended that copies of the finalised report be provided to PLALC, BNAC, Douglass Connors and the NSW DECCW, and that the completed sites card be provided to the DECCW AHIMS Registrar as per Section 91 of the NP&W Act.*

BNAC is in full agreement to the provisions of this recommendation being implemented.

We thank you for this opportunity to make comment on the proposed recommendations and look forward to continuing to work with you and Infigen Energy Development Pty Ltd to protect and conserve our cultural heritage while furthering the progress of environmentally efficient energy production for the benefit of the community.

Yours faithfully



A handwritten signature in black ink, appearing to read 'Wally Bell', is written over a rectangular box.

Wally Bell (Ngunawal TC)
Chair

APPENDIX C: AHIMS SEARCH RESULTS

This information has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.

APPENDIX D: SURVEY UNIT RECORDINGS

Survey Unit: Day 1, Survey Unit 1	
Description: Mainly flat. Sand mining activity has been undertaken in the area. This has caused various depressions and embankments that at first glance look like dams but are too widespread over the area. (Area has several scatters and isolated finds.) Area is defined as PAD (CWF2-PAD-01) due to proximity to Wrights Creek and artefact concentrations on the surface within the area.	
Survey unit area: 12 ha	<i>D.1.1: View west over Survey Unit 1. Photo © Austral Archaeology Pty Ltd 7/6/2010.</i>
Hydrology: Wrights Creek	
Landform Unit: <ul style="list-style-type: none"> • Flat • Creek bank 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<i>D.1.2: Stratigraphy underlying Survey Unit 1 shown in the bank of Wrights Creek looking to the east.. Photo © Austral Archaeology Pty Ltd 7/6/2010.</i>

Vegetation/ground cover: Low tufted grass and scotch thistle grow throughout the transect.

GSV: GSV is around 45%.




D.1.3: The sandy mound was the location of a number of artefacts from CWF2-S-01. Photo © Austral Archaeology Pty Ltd 7/6/2010.







D.1.4: View southsoutheast over CWF2-PAD-01 in Survey Unit 1. Photo © Austral Archaeology Pty Ltd 7/6/2010.







D.1.5: Looking east over the trigonometry peg. Photo © Austral Archaeology Pty Ltd 7/6/2010.



	 <p><i>D.1.6: Overview of Survey Unit 1 from western end looking eastnortheast. Photo © Austral Archaeology Pty Ltd 7/6/2010</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Earthworks – dams etc. 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Severe
Aboriginal sites? CWF2-PAD-01, CWF2-S-01, CWF2-S-02, CWF2-S-03, CWF2-S-04, CWF2-S-05, CWF2-IF-01, CWF2-IF-02, CWF2-IF-03	Natural resources: N/A
Other Comments/Descriptive notes: Other than the nine sites (CWF2-S-01, CWF2-S-02, CWF2-S-03, CWF2-S-04, CWF2-S-05, CWF2-IF-01, CWF2-IF-02, CWF2-IF-03, CWF2-PAD-01), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	


Survey Unit: Day 1, Survey Unit 2	
Description: Mainly flat. Sand mining activity has been undertaken in the area. This has caused various depressions and embankments that at first glance look like dams but are too widespread over the area. (Area has several scatters and isolated finds.) Area is defined as PAD (CWF2-PAD-01) due to proximity to Wrights Creek and artefact concentrations on the surface within the area.	
Survey unit area: 12 ha	<i>D.1.7: Looking east over Survey Unit 2. Photo © Austral Archaeology Pty Ltd 7/6/2010.</i>
Hydrology: Wrights Creek	
Landform Unit: <ul style="list-style-type: none"> • Creek bank • Flat 	<i>D.1.8: Looking northwest over Survey Unit 2. Photo © Austral Archaeology Pty Ltd 7/6/2010.</i>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Low tufted grass and scotch thistle grow throughout the transect. GSV: GSV is around 45%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-PAD-01	Natural resources: N/A
Other Comments/Descriptive notes: Other than one site (CWF2-PAD-01) no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 2, Survey Unit 3	
Description: Lake George shoreline. Extensive quartz fragments throughout the transect. There is a slight rise where the old shoreline is situated. This runs the entire length of the study area.	
Survey unit area: 18 ha	
Hydrology: N/A	 <p><i>D.2.1: Looking north over Survey Unit 3. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Undulating plain. 	 <p><i>D.2.2: Looking south over Survey Unit 3. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Low tufted grass and scotch thistle grow throughout the transect. GSV: GSV is around 50%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Earthworks 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Severe
Aboriginal sites? CWF2-S-06	Natural resources: N/A
Other Comments/Descriptive notes: Other than one site (CWF2-S-06), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



<p>Survey Unit: Day 2, Survey Unit 4</p>	
<p>Description: Lake George shoreline. Extensive quartz fragments throughout the transect. There is a slight rise where the old shoreline is situated. This runs the entire length of the study area. Runs through recently ploughed paddocks.</p>	
<p>Survey unit area: 14.4 ha</p>	
<p>Hydrology: N/A</p>	 <p><i>D.2.3: Looking west over the begining of Survey Unit 4. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
<p>Landform Unit:</p> <ul style="list-style-type: none"> • Undulating plain. 	
<p>Current land use: Intensive farming and pastoral land, grazing.</p> <p>Soil type: Duplex soil with wide areas of aeolian displaced deposits.</p>	 <p><i>D.2.4: View north over Survey Unit 4. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>



<p>Vegetation/ground cover: Crops or low grass.</p> <p>GSV: GSV is around 70%</p>	 <p><i>D.2.5: Detail picture of area of exposure in the old Lake George shoreline where CWF2-IF-07 was located. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>  <p><i>D.2.6: Overview of Survey Unit 4 looking south. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
<p>Disturbance type:</p> <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	<p>Degree of disturbance:</p> <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
<p>Aboriginal sites? CWF2-IF-06, CWF2-IF-07</p>	<p>Natural resources: N/A</p>
<p>Other Comments/Descriptive notes: Other than the two sites (CWF2-IF-06, CWF2-IF-07), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.</p>	




Survey Unit: Day 2, Survey Unit 5	
Description: Runs through recently ploughed paddocks.	
Survey unit area: 19.2 ha	
Hydrology: N/A	 <p><i>D.2.7: View south over Survey Unit 5. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.2.8: View north from the southern end of Survey Unit 5. Photo © Austral Archaeology Pty Ltd 8/6/2010.</i></p>
Current land use: Intensive farming and pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV is around 70%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 3, Survey Unit 6	
Description: Runs through fallow paddocks.	
Survey unit area: 15.6 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.3.1: Overview of Survey Unit 6 looking north. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
Current land use: Intensive farming and Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: High grass and thistle grow throughout GSV: GSV is around 30%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-04, CWF2-IF-05	Natural resources: N/A
Other Comments/Descriptive notes: Other than the two sites (CWF2-IF-04, CWF2-IF-05), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 3, Survey Unit 7	
Description: Runs through several paddocks with varying GSV. Main exposure is along a drainage line in the eastern section of the transect.	
Survey unit area: 58.8 ha	
Hydrology: Large drainage channel.	<p><i>D.3.2: View northeast of the drainage channel in Survey Unit 7. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Levy 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.3.4: View west-southwest from the end of Survey Unit 7. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
Vegetation/ground cover: Some area with low cropped grass. Some with waist high grass. GSV: GSV is around 35%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Earthworks 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Severe
Aboriginal sites? CWF2-PAD-01, CWF2-IF-07, CWF2-IF-08	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-PAD-01, CWF2-IF-07, CWF2-IF-08), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



<p>Survey Unit: Day 3, Survey Unit 8</p>	
<p>Description: Starts at the southern boundary of the study area from the access track. Heads west across the ridgeline of Ellenden Hill down to the old shore line and continues north along the old shoreline. Large outcrop of sandstone boulders ends the northern trek and the transect turns back south along the paddock fenceline that borders the lake. Then runs back along the ridgeline of Ellenden.</p>	
<p>Survey unit area: 40.8 ha</p>	<p><i>D.3.5: Looking northwest over the northern section of Survey Unit 8. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
<p>Hydrology: N/A</p>	
<p>Landform Unit:</p> <ul style="list-style-type: none"> • Flat • Ridgeline • Slope 	<p><i>D.3.6: Looking southwest over the southern section of survey unit 8. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
<p>Current land use: Intensive farming and pastoral land, grazing.</p> <p>Soil type: Duplex soil with wide areas of aeolian displaced deposits.</p>	



<p>Vegetation/ground cover: Crops, tufted grass or low grass.</p> <p>GSV: GSV consistently good throughout transect 70%.</p>	 <p><i>D.3.7: Looking south over Survey Unit 8. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>  <p><i>D.3.8: View west-southwest of the northernmost section of Survey Unit 8. Photo © Austral Archaeology Pty Ltd 9/6/2010.</i></p>
<p>Disturbance type:</p> <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) • Sheet/gully erosion 	<p>Degree of disturbance:</p> <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate • Moderate
<p>Aboriginal sites? CWF2-IF-09, CWF2-IF-10, CWF2-S-08, CWF2-S-09</p>	<p>Natural resources: N/A</p>
<p>Other Comments/Descriptive notes: Other than the four sites (CWF2-IF-09, CWF2-IF-10, CWF2-S-08, CWF2-S-09), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.</p>	



Survey Unit: Day 4, Survey Unit 9	
Description: Starts where the sandstone boulders outcrop on the old shoreline and runs north until it reaches Taylors Creek. Then it follows Taylors Creek east approximately 550m and ends.	
Survey unit area: 24 ha	
Hydrology: Taylors Creek	<p><i>D.4.1: View east-northeast over Survey Unit 9. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.4.2: Looking west-northwest over Survey Unit 9. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Vegetation/ground cover: Crops or low grass throughout reeds and trees near Taylors Creek. GSV: GSV around 65%.	 <p><i>D.4.3: Looking south at a bank of Taylors Creek near the location of CWF2-S-10 in Survey Unit 9. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Fluvial disturbance 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-12, CWF2-IF-13, CWF2-S-10	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-IF-12, CWF2-IF-13, CWF2-S-10), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 4, Survey Unit 10	
Description: Runs along the fenceline separating Taylors creek and the northern most paddock west of the access track. Back south along the west paddock fenceline that borders lake George to the Sandstone outcrop.	
Survey unit area: 12 ha	<p><i>D.4.4: View south over Survey Unit 10. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Hydrology: Taylors Creek.	
Landform Unit: <ul style="list-style-type: none"> • Flat 	<p><i>D.4.5: Looking east-southeast at an example of a sandstone outcrop occurring within Survey Unit 10. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV around 65%.	<p><i>D.4.6: Looking north-northwest over Survey Unit 10. Photo © Austral Archaeology Pty Ltd 10/6/2010.</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-11, CWF2-S-11, CWF2-S-12, CWF2-S-13	Natural resources: N/A
Other Comments/Descriptive notes: Other than the four sites (CWF2-IF-11, CWF2-S-11, CWF2-S-12, CWF2-S-13), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




<p>Survey Unit: Day 5, Survey Unit 11</p> <p>Description: Runs east of the access track at the northern end of the study area. Transect covers northern section of the paddock which has been recently ploughed. (Area has several large scatters with multiple tools.) Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek, site being on a rise and the large amount of surface artefacts identified in the area.</p>	
<p>Survey unit area: 9.36 ha</p>	<p><i>D.5.1: View north-northeast over Survey Unit 11. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>
<p>Hydrology: Taylors Creek.</p>	
<p>Landform Unit:</p> <ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	<p><i>D.5.2: Example of the stratigraphy present in the erosion along Taylor's creek, looking south. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>
<p>Current land use: Intensive farming.</p> <p>Soil type: Duplex soil with wide areas of aeolian displaced deposits.</p>	



<p>Vegetation/ground cover: Crops or low grass.</p> <p>GSV: GSV 90%.</p>	 <p><i>D.5.3: Wombat hole in the bank of Taylors Creek, showing stratigraphy. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>  <p><i>D.5.4: Looking west over Survey Unit 11. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>
<p>Disturbance type:</p> <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	<p>Degree of disturbance:</p> <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
<p>Aboriginal sites? CWF2-PAD-02, CWF2-S-14</p>	<p>Natural resources: N/A</p>
<p>Other Comments/Descriptive notes: Other than the nine sites (CWF2-PAD-02, CWF2-S-14), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.</p>	



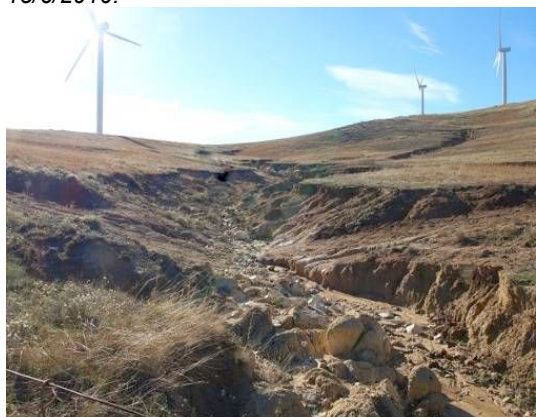
Survey Unit: Day 5, Survey Unit 12	
Description: Running east to west along the southern bank of Taylors Creek starting at the eastern boundary and finishing at the access track. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek and the large amount of surface artefacts identified in the area.	
Survey unit area: 11.76 ha	<i>D.5.5: View west-southwest over Survey Unit 12. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i>
Hydrology: Taylors Creek.	
Landform Unit: <ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	<i>D.5.6: Overview of Survey Unit 12 looking north-northwest. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV 45%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-PAD-02, CWF2-IF-14, CWF2-S-15, CWF2-S-16, CWF2-S-17, CWF2-S-18	Natural resources: N/A
Other Comments/Descriptive notes: Other than the six sites (CWF2-PAD-02, CWF2-IF-14, CWF2-S-15, CWF2-S-16, CWF2-S-17, CWF2-S-18), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 5, Survey Unit 13	
Description: Southern section of ploughed paddock (same paddock as T11).	
Survey unit area: 19.2 ha	
Hydrology: N/A	 <p><i>D.5.7: Looking east-southeast over Survey Unit 13. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.5.8: View west over Survey Unit 13. Photo © Austral Archaeology Pty Ltd 11/6/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV 90%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-15, CWF2-S-19, CWF2-S-20	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-IF-15, CWF2-S-19, CWF2-S-20), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 6, Survey Unit 14	
Description: Northern bank of Taylors Creek. From the access track east to the survey area boundary. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek and the large amount of surface artefacts identified in the area.	
Survey unit area: 6.96 ha	
Hydrology: Taylors Creek	<p><i>D.6.1: Looking east over Survey Unit 14. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p> 
Landform Unit: <ul style="list-style-type: none"> • Flat • Creek Bank • Creek Terrace 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.6.2: View west from the eastern end of Survey Unit 14. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Vegetation/ground cover: Tufted grass, crops or low grass. GSV: GSV 45%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-PAD-02, CWF2-IF-16, CWF2-S-21	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-PAD-02, CWF2-IF-16, CWF2-S-21), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 6, Survey Unit 15	
Description: Runs along the southern fenceline of the only paddock within the study area on the north bank of Taylors Creek. Area is defined as a PAD (CWF2-PAD-02) due to proximity to Taylors Creek, the rise in the landform and the large amount of surface artefacts identified in the area.	
Survey unit area: 5.76 ha	
Hydrology: Taylors Creek, unnamed dam.	<p><i>D.6.3: Looking east-northeast over the beginning of Survey Unit 15. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p> 
Landform Unit: <ul style="list-style-type: none"> • Flat • Creek Terrace 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.6.4: Overview looking southeast over Survey Unit 15. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p> 
Vegetation/ground cover: Low grass. GSV: GSV 55%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Earthworks 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Severe
Aboriginal sites? No	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	


Survey Unit: Day 6, Survey Unit 16	
Description: Northern most paddock of the study area, north of Taylors Creek. Low thick tufted grass.	
Survey unit area: 15.6 ha	
Hydrology: N/A	 <p><i>D.6.5: Looking south-southeast over Survey Unit 16. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	 <p><i>D.6.6: Looking south-southwest over Survey Unit 16. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Vegetation/ground cover: Low grass. GSV: GSV 35%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-IF-17	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF-17), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	


Survey Unit: Day 6, Survey Unit 17	
Description: Directly south of Grose Hill this transect runs south along the ridgeline and back up north along a drainage line on the eastern side of the hill.	
Survey unit area: 14.4 ha	<p><i>D.6.7: Looking south over Survey Unit 17. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Hydrology: Rill that becomes erosion gully in the very shallow cleft between the study area ridge and adjoining hill.	
Landform Unit: <ul style="list-style-type: none"> • Midslope • Ridgeline 	<p><i>D.6.8: Looking north over the ridgeline in Survey Unit 17. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil.	
Vegetation/ground cover: Low grass. GSV: GSV 65%.	<p><i>D.6.9: Looking north up the erosion gully in the eastern portion of Survey Unit 17. Photo © Austral Archaeology Pty Ltd 15/6/2010.</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Sheet/gully erosion 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-18, CWF2-S-22, CWF2-S-23	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-IF-18, CWF2-S-22, CWF2-S-23), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 7, Survey Unit 18	
Description: Directly north of WTG 66, Transect heads north along ridgeline and down the northern slope to the flat shoreline of lake George. Transect continues north 1.3km along shore line then turns back south and heads along the fenceline of the paddock bordering the lake shore back to start of the transect.	
Survey unit area: 51.6 ha	<p><i>D.7.1: Looking northwest over the ridgeline at the beginning of Survey Unit 18. Photo © Austral Archaeology Pty Ltd 16/6/2010.</i></p>
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Ridgeline • Midslope • Flat 	<p><i>D.7.2: Overview of the flat northern portions of Survey Unit 18, looking north-northwest. Photo © Austral Archaeology Pty Ltd 16/6/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Low grass. GSV: Overall GSV was around 65%.	<p><i>D.7.3: Looking south from the end of Survey Unit 18, showing the ridgeline in the distance. Photo © Austral Archaeology Pty Ltd 16/6/2010.</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-IF-19, CWF2-IF-20, CWF2-IF-21, CWF2-IF-22, CWF2-IF-23, CWF2-S-24, CWF2-S-25, CWF2-S-26	Natural resources: N/A
Other Comments/Descriptive notes: Other than the eight sites (CWF2-IF-19, CWF2-IF-20, CWF2-IF-21, CWF2-IF-22, CWF2-IF-23, CWF2-S-24, CWF2-S-25, CWF2-S-26), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 8, Survey Unit 19	
Description: Located 900m west of the western leg road the transect starts at the eastern study area boundary and moves directly west along the paddock fenceline towards the ridgeline previously surveyed in transect 18 whereupon the ends.	
Survey unit area: 7.2 ha	
Hydrology: Small (3m x 3m to 5m x 3m approximately) collections of surface water.	<i>D.8.1: Looking west from the beginning of Survey Unit 19. Photo © Austral Archaeology Pty Ltd 18/6/2010.</i>
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Low grass. GSV: GSV was 25%.	<i>D.8.2: View east from the western end of Survey Unit 19. Photo © Austral Archaeology Pty Ltd 18/6/2010.</i>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-S-27, CWF2-S-28	Natural resources: N/A
Other Comments/Descriptive notes: Other than the two sites (CWF2-S-27, CWF2-S-28), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 8, Survey Unit 20	
Description: From the fenceline separating the paddock where transect 18 was surveyed back east and north of the fenceline surveyed along in transect 19.	
Survey unit area: 7.2 ha	
Hydrology: Small (3m x 3m to 5m x 3m approximately) collections of surface water.	<p><i>D.8.3: Looking east from the beginning of Survey Unit 20. Photo © Austral Archaeology Pty Ltd 18/6/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.8.4: View west over Survey Unit 20. Photo © Austral Archaeology Pty Ltd 18/6/2010.</i></p>
Vegetation/ground cover: Low grass. GSV: GSV was 25%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-IF-24	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF-24), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 9, Survey Unit 21	
Description: First paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne.	
Survey unit area: 6 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.9.1: View east over Survey Unit 21. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	
Aboriginal sites? No.	
Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate 	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 9, Survey Unit 22	
Description: First paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne	
Survey unit area: 7.56 ha	
Hydrology: unnamed small stream bisecting transect.	 <p><i>D.9.2: View east over Survey Unit 22. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Undulating plain 	 <p><i>D.9.3: View west over Survey Unit 22, showing the small watercourse in the centre of the picture. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. Occasional tree. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) • Sheet/gully erosion 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 9, Survey Unit 23	
Description: Second paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne.	
Survey unit area: 12 ha	
Hydrology: Possible leat.	 <p>D.9.4: View east over the beginning of Survey Unit 23. Photo © Austral Archaeology Pty Ltd 5/7/2010.</p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Drainage line 	 <p>D.9.5: Looking south up the eroded channel bisecting Survey Unit 23. Photo © Austral Archaeology Pty Ltd 5/7/2010.</p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	 <p>D.9.6: Looking west at team members and unusual granite formation on a rise in Survey Unit 23. Photo © Austral Archaeology Pty Ltd 5/7/2010.</p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) • Sheet/gully erosion 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate • Moderate
Aboriginal sites? CWF2-IF-25	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF-25), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 9, Survey Unit 24	
Description: Second paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne.	
Survey unit area: 13.2 ha	
Hydrology: Very small (1m x 1m approximately) collections of surface water.	<i>D.9.7: Looking east at the beginning of Survey Unit 24. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i>
Landform Unit: <ul style="list-style-type: none"> • Flat • Drainage line 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF- 26	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF- 26), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 9, Survey Unit 25	
Description: Second paddock north of the southern boundary of the survey area and directly to the west of the access track. Paddock recently ploughed and planted with grass.	
Survey unit area: 5.16 ha	
Hydrology: Dam (see D.9.10).	<p><i>D.9.10: Looking west looking at the dam situated in the eastern half of the beginning of Survey Unit 25. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Slope 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.9.11: Overview looking north over Survey Unit 25, which extends from some distance north of the turbine to the dam in the centre of the picture. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) • Earthworks – damns etc. 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate • Severe
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



Survey Unit: Day 9, Survey Unit 26	
Description: Third paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne	
Survey unit area: 10.8 ha	
Hydrology: N/A	 <p><i>D.9.12: Looking east over Survey Unit 26. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.9.13: Looking west over Survey Unit 26. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	


Survey Unit: Day 9, Survey Unit 27	
Description: Third paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock has been recently ploughed and planted with Lucerne.	
Survey unit area: 6.8 ha	
Hydrology: N/A	 <p><i>D.9.14: Looking east from the beginning of Survey Unit 27. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.9.15: An overview taken to the east-southeast of Survey Unit 27. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	 <p><i>D.9.16: Looking west-northwest over Survey Unit 27. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 9, Survey Unit 28	 <p><i>D.9.17: Looking east-southeast over the beginning of Survey Unit 28. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Description: Third paddock north of the southern boundary of the survey area and directly to the west of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	
Survey unit area: 9.36 ha	
Hydrology: N/A	 <p><i>D.9.18: Overview of the south-western portion of Survey Unit 28, looking south-southwest. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Slope 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	 <p><i>D.9.19: Overview of the south-eastern portion of Survey Unit 28 looking south-southeast. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 9, Survey Unit 29	
Description: Two narrow paddocks along the eastern boundary of the survey area at the base of the hills bordering the survey area. GSV was around 30%.	
Survey unit area: 25.2 ha	
Hydrology: N/A	 <p><i>D.9.20: Looking north-northeast over the Survey Unit 29. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Landform Unit: <ul style="list-style-type: none"> • Flat • Undulating plain 	
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	 <p><i>D.9.21: Looking south from the northernmost end of Survey Unit 29. Photo © Austral Archaeology Pty Ltd 5/7/2010.</i></p>
Vegetation/ground cover: Tufted and low grass. GSV: GSV was around 30%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate
Aboriginal sites? CWF2-IF-27, CWF2-IF-28, CWF2-S-29	Natural resources: N/A
Other Comments/Descriptive notes: Other than the three sites (CWF2-IF-27, CWF2-IF-28, CWF2-S-29), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 10, Survey Unit 30	
Description: Fourth paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	
Survey unit area: 14.4 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.10.1: Overview to the east of Survey Unit 30. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	 <p><i>D.10.2: Overview to the west from the westernmost limits of Survey Unit 30. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-29	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF-29), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	


Survey Unit: Day 10, Survey Unit 31	
Description: Fourth paddock north of the southern boundary of the survey area and directly to the east of the access track. Paddock recently ploughed and planted with grass. GSV high at around 85%.	 <p><i>D.10.3: Looking east over Survey Unit 31. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Survey unit area: 13.2 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.10.4: Looking west from the easternmost end of Survey Unit 31. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at around 85%.	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-S-30	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-S-30), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 10, Survey Unit 32	
Description: Small paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted. GSV high at 85%	
Survey unit area: 2.04 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	<p><i>D.10.5: Overview looking to the north over Survey Unit 32. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Vegetation/ground cover: Crops or low grass. GSV: GSV high at 85%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	
Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate 	
Aboriginal sites? CWF2-S-31	
Natural resources: N/A	
Other Comments/Descriptive notes: Other than the one site (CWF2-S-31), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 10, Survey Unit 33	
Description: Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted.	
Survey unit area: 7.56 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at 85%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




*D.10.6: Overview to the west of Survey Unit 33.
Photo © Austral Archaeology Pty Ltd 8/7/2010.*



Survey Unit: Day 10, Survey Unit 34	
Description: Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted.	
Survey unit area: 7.92 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.10.7: Overview to the west of Survey Unit 34. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at 85%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	




Survey Unit: Day 10, Survey Unit 35	
Description: Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted.	
Survey unit area: 8.4 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at 85%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? No.	Natural resources: N/A
Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.	



*D.10.8: Overview to the west of Survey Unit 35.
Photo © Austral Archaeology Pty Ltd 8/7/2010.*

Survey Unit: Day 10, Survey Unit 36	
Description: Fourth paddock directly west of the access track and directly south of Taylors Creek. Paddock has been recently ploughed and grass planted.	
Survey unit area: 7.56 ha	
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	 <p><i>D.10.9: Overview to the west of Survey Unit 36. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Current land use: Intensive farming. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	
Vegetation/ground cover: Crops or low grass. GSV: GSV high at 85%	
Disturbance type: <ul style="list-style-type: none"> • Clearance • Animal traffic • Mechanical cultivation (ploughing) 	Degree of disturbance: <ul style="list-style-type: none"> • Low to moderate • Low to moderate • Moderate
Aboriginal sites? CWF2-IF-30	Natural resources: N/A
Other Comments/Descriptive notes: Other than the one site (CWF2-IF-30), no areas of archaeological potential or cultural sensitivity were observed within this survey unit.	

Survey Unit: Day 10, Survey Unit 37	
Description: Driving in from the western Leg Road along an unsealed access track approximately 1.8km to the start of the transect. Transect starts in the north east corner of the study area and loops around the remaining paddocks in the north eastern section of the study area.	
Survey unit area: 40.8 ha	<p><i>D.10.10: View to the north of Survey Unit 37, taken from the start position. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Hydrology: N/A	
Landform Unit: <ul style="list-style-type: none"> • Flat 	<p><i>D.10.11: View to the southwest from the north-easternmost portion of Survey Unit 37. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
Current land use: Pastoral land, grazing. Soil type: Duplex soil with wide areas of aeolian displaced deposits.	

<p>Vegetation/ground cover: Low grass, scotch thistle.</p> <p>GSV: GSV was universally poor throughout this transect at around 15%.</p>	 <p><i>D.10.12: View to the north from southernmost portion of Survey Unit 37. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>  <p><i>D.10.13: View to the north-northeast from southernmost portion of Survey Unit 37. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>  <p><i>D.10.14: View to the north-northwest from southernmost portion of Survey Unit 37. Photo © Austral Archaeology Pty Ltd 8/7/2010.</i></p>
<p>Disturbance type:</p> <ul style="list-style-type: none"> • Clearance • Animal traffic 	<p>Degree of disturbance:</p> <ul style="list-style-type: none"> • Low to moderate • Low to moderate
<p>Aboriginal sites? No.</p>	<p>Natural resources: N/A</p>
<p>Other Comments/Descriptive notes: No areas of archaeological potential or cultural sensitivity were observed within this survey unit.</p>	

APPENDIX E: SITE RECORDINGS

Site Name	Site Type	Survey Unit	Size	Site Features	Number of artefacts	Landform Unit	Easting (GDA94 Zone 56)	Northing (GDA94 Zone 56)	Archaeological Potential
CWF2-S-01	Open Artefact Scatter	Day 1	150m x 200m	Scatter extends west along access track next to Wrights Creek. Area has been heavily disturbed by past sand mining activity in the area. <ul style="list-style-type: none"> Silcrete Blade Core. 39.55 mm x 30.99 mm x 11.35 mm. Silcrete Medial Flake. 20.71 mm x 16.33 mm x 3.66 mm. Silcrete Whole Flake. 38.60 mm x 24.43 mm x 11.02 mm. Quartz Flake. 30.45 mm x 16.05 mm x 4.93 mm. Quartz Core. 32.89 mm x 26.80 mm x 15.87 mm. Quartz Distal Flake. 31.92 mm x 37.19 mm x 12.36 mm. Quartz Medial Flake. 24.20 mm x 15.11 mm x 8.13 mm. Quartz Flake. 42.26 mm x 29.78 mm x 11.90 mm. Quartz Flake. 26.77 mm x 20.27 mm x 9.20 mm. Quartz Whole Flake. 1992 mm x 15.48 mm x 6.13 mm. Quartz Core. 26.02 mm x 30.24 mm x 28.53 mm. Quartz Flake. 20.81 mm x 15.40 mm x 6.13 mm. Quartz Whole Flake. 40.79 mm x 23.32 mm x 13.59 mm. Quartz Flake. 19.66 mm x 18.51 mm x 5.34 mm. 	14	Flat	The information contained within this section has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.	The information contained within this section has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.	Low
CWF2-S-02	Open Artefact Scatter	Day 1	2m x 3m	Located around the base of a small concrete obelisk. Possibly a Trig point. <ul style="list-style-type: none"> Silcrete Flake. 24.52 mm x 19.49 mm x 9.41 mm. Silcrete Flake. 22.02 mm x 9.73 mm x 4.46 mm. Quartz Flake. 21.00 mm x 15.08 mm x 6.24 mm. 	3	Flat			Low
CWF2-S-03	Open Artefact Scatter	Day 1	20m x 4m	Located in and around a similar area to CWF2-S-01. Evidence of sand mining. Displacement of soil/sand into embankments that at first glance look like dams. Embankments do not form enclosed areas but are haphazard and run into each other over a large area. <ul style="list-style-type: none"> Silcrete Flake. 21.42 mm x 17.10 mm x 8.28 mm. Chert Core. 23.13 mm x 21.85 mm x 19.49 mm. Quartz Flake mm x 15.83 mm x 5.78 mm. Quartz Flake. 21.49 mm x 17.75 mm x 6.79 mm. 	4	Flat			Low
CWF2-IF-01	Isolated Find	Day 1	<1m ²	Located on the bank of Wrights Creek approximately 100m from the access track. <ul style="list-style-type: none"> Quartz Core. 59.01 mm 41.74 mm 24.96 mm. 	1	Flat			Low

CWF2-IF-02	Isolated Find	Day 1	<1m ²	Located on a sand embankment wall. Possibly made due to sand mining in the area. Evidence of recent animal activity. (Fox holes) • Quartz Core. 38.39 mm x 22.35 mm x 20.54 mm.	1	Embankment			Low
CWF2-S-04	Open Scatter Artefact	Day 1	30m x 5m	Located on and along sand embankment wall. Possibly made due to sand mining in the area. • Silcrete Core. 73.50 mm x 46.83 mm x 20.33 mm. • Broken Hammer Stone. (River Stone) 83.85 mm x 60.51 mm x 37.70 mm. • Chert Flake. 27.18 mm x 19.41 mm x 7.41 mm.	3	Embankment			Low
CWF2-S-05	Open Scatter Artefact	Day 1	50m x 7m	Located on sand embankments. Possibly made due to sand mining in the area. • Silcrete Proximal Flake. (Use wear on right dorsal margin) 22.78 mm x 15.68 mm x 2.41 mm. • Silcrete Core. (8 negative flakes counted) 27.10 mm x 30.03 mm x 18.83 mm. • Silcrete Flake. 30.17 mm x 17.92 mm x 5.90 mm. • Quartz Flake. 32.62 mm x 16.81 mm x 10.94 mm. • Quartz Flake. 26.24 mm x 29.50 mm x 9.64 mm.	5	Embankment			Low
CWF2-IF-03	Isolated Find	Day 1	<1m ²	Located in the middle of the field approximately 500m north of the access track. • Silcrete flake. 23.96 mm x 14.36 mm x 9.82 mm.	1	Flat			Low
CWF2-PAD-01	Potential Archaeological Deposit	Day 1	1.2km x 650m	PAD is located along the northern banks of Wrights Creek. The PAD extends from the south eastern corner of the study area along Wrights Creek. The area has had some sand mining activity in the past as is evidenced by the disturbed nature of the landform (Irregular depressions and embankments) but a fair portion of the area is still intact and undisturbed.		Flat			High
CWF2-IF-04	Isolated Find	Day 2	<1m ²	Located in a paddock 1km north of where the access track ends. • Quartz Flake. 17.69 mm x 14.85 mm x 3.59 mm.	1	Flat			Low
CWF2-IF-05	Isolated Find	Day 2	<1m ²	Located at the fence line in the middle of transect 6. • Quartz Flake. 25.86 mm x 21.87 mm x 12.57 mm.	1	Flat			Low
CWF2-S-06	Open Scatter Artefact	Day 2	50m x 4m	Located within a ploughed paddock. Approximately 2 km north from the end of the access track GSV 70%. • Quartz Core. 26.42 mm x 23.05 mm x 20.78 mm. • Edge Ground Broken Axe Head. 66.98 mm x 61.41 mm x 14.45 mm.	2	Flat			Low
CWF2-IF-06	Isolated Find	Day 2	<1m ²	Located on an exposed sand dune. Possibly the old shore line for Lake George. Runs the entire length of the study area. • Silcrete Flake. 33.40 mm x 24.82 mm x 7.93 mm.	1	Flat			Low
CWF2-S-07	Open Scatter Artefact	Day 2	100m x 5m	Exposed sand dune. Possibly the old shore line for lake George. Runs the entire length of the study area. • Silcrete Core. 44.88 x 36.82 x 18.82 mm. • Quartz Core. 71.90 mm x 51.10 mm x 20.96 mm. (6 negative flake scars counted. Intact Platform).	2	Flat			Low
CWF2-IF-07	Isolated Find	Day 2	<1m ²	Located on walking track. Approximately 1 km north from the end of the access track. Housing material scattered throughout area. Bricks/roof tiles and metal pieces. • Silcrete Backed Blade. Use wear evident on blade edge.	1	Flat			Low

				22.66 mm x 10.59 mm x 6.08 mm.					
CWF2-IF-08	Isolated Find	Day 2	<1m ²	Located in paddock approximately 200m from eastern boundary of the study area. • Quartz flake. 17.88 mm x 13.50 mm x 5.70 mm.	1	Flat			Low
CWF2-S-08	Open Scatter	Artefact	Day 3	20m x 8m Located along a drainage line that runs through the paddock. • Quartz Flake. 41.84 mm x 35.93 mm x 11.66 mm. • Quartz Core. 43.06 mm x 28.61 mm x 15.92 mm. • Quartz Core. 44.55 mm x 42.44 mm x 21.34 mm.	3	Flat/Drainage Line			Low
CWF2-S-09	Open Scatter	Artefact	Day 3	5m x 3m Located along a sandy stretch which is more than likely the old shore line for lake George. Area is slightly raised and runs the length of the study area. • Quartz Whole Flake. 41.80 mm x 28.32 mm x 10.32 mm. • Silcrete Whole Flake. 28.10 mm x 31.32 mm x 4.79 mm.	2	Flat			Low
CWF2-IF-09	Isolated Find	Day 3	<1m ²	Located in a ploughed. Recently disturbed. Soil is light brown sandy loam. Artefact located approximately 700 m north east of Wind Turbine WTG 18. • Basalt Edge Ground Axe Head. 136 mm x 154.50 mm x 27.82 mm.	1	Lee of Ridge			Low
CWF2-IF-10	Isolated Find	Day 3	<1m ²	Located in a ploughed. Recently disturbed. Soil is light brown sandy loam. Artefact located approximately 1km north east of WTG 18. • Quartz Flake. 28.44 mm x 27.97 mm x 12.98 mm.	1	Midslope			Low
CWF2-S-10	Open Scatter	Artefact	Day 4	20m x 20m Located approximately 2km north east of WTG 18. Located along a fenceline • Quartz Core. 40.20 mm x 31.44 mm x 15.44 mm. • Quartz Flake. 35.10 mm x 28.41 mm x 12.11 mm.	2	Flat			Low
CWF2-S-11	Open Scatter	Artefact	Day 4	100m x 5m Located approximately 2.2km north east of WTG 18. Located along a fenceline • Quartz Flake. 13.55 mm x 14.84 mm x 5.94 mm. • Chert Flake. 29.48 mm x 22.15 mm x 5.12 mm. • Quartz Flake. 23.81 mm x 16.30 mm x 5.96 mm. • Quartz Medial Broken Blade. 17.55 mm x 10.02 mm x 3.92 mm.	4	Drainage Line			Low
CWF2-IF-11	Isolated Find	Day 4	<1m ²	Located approximately 350m west of the access track. The artefact is 2m from the western fenceline of the paddock. • Quartz Core. 149.72 mm x 71.21 mm x 87.49 mm.	1	Flat			Low
CWF2-S-12	Open Scatter	Artefact	Day 4	50m x 4m Located along the bank of Taylors Creek. Artefacts are eroding out of the creek bank. • Silcrete Flake. 11.65 mm x 12.22 mm x 3.46 mm. • Quartz Broken Blade. 12.66 mm x 10.13 mm x 2.78 mm. • Quartz Flaked Piece. 17.54 mm x 15.39 mm x 6.74 mm. • Quartz Whole Flake. 40.22 mm x 33.48 mm x 21.51 mm. • Quartz Flake. 26.58 mm x 11.12 mm x 3.31 mm. • Quartz Flaked Piece. 16.98 mm x 14.04 mm x 6.59 mm. • Quartz Core. 24.93 mm x 21.04 mm x 13.57 mm.	7	Flat			Low
CWF2-	Open Scatter	Artefact	Day 4	15m Located around 20m west of Taylors Creek. The scatter was found	2	Flat			Low

S-13	Scatter		x 3m	in front of several Wombat holes. Artefacts were in the spoil from the excavated material of the wombat holes. <ul style="list-style-type: none"> Quartz Flake. 22.48 mm x 17.93 mm x 6.28 mm. Quartz Flake. 24.29 mm x 19.60 mm x 9.24 mm. 					
CWF2-IF-12	Isolated Find	Day 4	<1m ²	Located within 15m of Taylor Creek. Area is a flood plain with extensive quartz fragments scattered throughout. <ul style="list-style-type: none"> Quartz Flake 38.89 mm x 27.39 mm x 2.88 mm. 	1	Flat			Low
CWF2-IF-13	Isolated Find	Day 4	<1m ²	Located within 10m of Taylor Creek. Area is a flood plain with extensive quartz fragments scattered throughout. <ul style="list-style-type: none"> Silcrete Blade. (The proximal end has some backing initiated but not completed). 24.29 mm x 8.54 mm x 4.08 mm. 	1	Flat			Low
CWF2-S-14	Open Scatter	Day 5	500m x 80m	Scatter extends 500m along northern fenceline of paddock south of Taylor's creek. Field is the last one on the right side of the access road before the Taylors Creek Crossing. The paddock has been recently ploughed and building material (Bricks etc) and glass and ceramics are scattered throughout the field. <ul style="list-style-type: none"> Quartz Flake. 24.39 mm x 18.84 mm x 7.77 mm. Quartz Core. 37.43 mm x 32.45 mm x 14.84 mm. Silcrete Flake (Feather Termination). 32.31 mm x 23.31 mm x 10.19. Quartz Core. 26.93 mm x 16.63 mm x 14.90 mm. Quartz Flaked Piece. 15.49 mm x 11.91 mm x 3.16 mm. Quartz Flake. 15.61 mm x 15.67 mm x 5.86 mm. Quartz Core. 49.00 mm x 43.59 mm x 28.52 mm. Silcrete Whole Flake. 49.17 mm x 31.84 mm x 19.50 mm. Quartz Flake. 35.85 mm x 23.18 mm x 10.81 mm. Quartz Flake. 22.58 mm x 18.72 mm 8.99 mm. Quartz Flake. Quartz Flake. 19.79 mm x 12.31 mm x 5.04 mm. Quartz Flake. 20.29 mm x 14.50 mm x 7.53 mm. Silcrete Flake. 24.47 mm x 23.63 mm x 5.70 mm. Silcrete Blade. 30.42 mm x 11.31 mm x 3.21 mm. Silcrete Flaked Piece. 14.64 mm x 10.93 mm x 2.28 mm. Quartz Core. 36.70 mm x 26.44 mm x 18.83 mm. Silcrete Core. 31.95 mm x 18.12 mm x 11.91 mm. Quartz Whole Flake. 29.91 mm x 30.03 mm x 7.17 mm. Silcrete Broken Backed Blade. (Use wear right dorsal margin) 19.38 mm x 13.17 mm x 3.44 mm. Silcrete Flaked Piece. 8.25 mm x 8.39 mm x 2.24 mm. Silcrete Flake. 24.41 mm x 15.50 mm 5.20 mm. Quartz Flake. 22.47 mm x 15.12 mm x 4.96 mm. Silcrete Core. 50.21 mm x 37.37 mm x 18.06 mm. Quartz Flake. 28.25 mm x 18.28 mm 9.71 mm. Silcrete Flake. 17.59 mm x 12.46 mm x 2.72 mm. Quartz Flake. 20.06 mm x 20.59 mm x 9.13 mm. Silcrete Whole Flake. 47.44 mm x 26.29 mm 11.18 mm. Quartz Flake. 24.69 mm x 14.62 mm x 4.51 mm. Silcrete Flake. 28.89 mm x 18.64 mm x 4.51 mm. Silcrete Flake. 28.89 mm x 18.64 mm x 6.91 mm. 	41	Flat			Medium

				<ul style="list-style-type: none"> Silcrete Flake. 13.04 mm x 9.48 mm x 2.87 mm. Silcrete Flaked Piece. 13.17 mm x 10.21 mm x 5.10 mm. Silcrete Flaked Piece. 13.44 mm x 9.48 mm x 4.31 mm. Basalt Edge Ground Axe Head (Use wear along blade edge). 118.54 mm x 56.50 mm x 35.33 mm. Silcrete Flake. 17.06 mm x 16.77 mm x 11.76 mm. 					
CWF2-PAD-02	Potential Archaeological Deposit	Day 5	800m x 550m	Located along the banks of Taylors Creek on both the southern and northern sides. The PAD extends from the access road that crosses the creek to approximately 800m east. There are several associated artefact scatters and isolated finds throughout the surface area of the PAD.	1	Flat			High
CWF2-S-15	Open Artefact Scatter	Day 5	5m ²	Located on the creek terrace along Taylors Creek approximately 70m from the creek bank. <ul style="list-style-type: none"> Quartz Flake. 16.09 mm x 10.97 mm x 4.96 mm. Quartz Whole Flake. 48.28 mm x 29.43 mm x 11.43 mm. Quartz Flake Tip. 12.90 mm x 10.38 mm x 3.00 mm. Quartz Flake Tip. 15.49 mm x 12.44 mm x 4.34 mm. 	2	Creek Terrace			Low
CWF2-IF-14	Isolated Find	Day 5	<1m ²	Located on the creek terrace along Taylors Creek approximately 70m from the creek bank. <ul style="list-style-type: none"> Quartz Flake. 16.05 mm x 19.07 mm x 4.60 mm. 	1	Creek Terrace			Low
CWF2-S-16	Open Artefact Scatter	Day 5	20m x 4m	Located on the creek terrace along Taylors Creek approximately 10m from the creek bank. <ul style="list-style-type: none"> Quartz Broken Blade. 15.84 mm x 9.71 mm x 4.52. Quartz Flake. 30.26 mm x 29.11 mm x 6.62 mm. Quartz Flake. 28.30 mm x 44.66 mm x 11.86 mm. Silcrete Broken Flake. 34.34 mm x 43.69 mm x 7.50 mm. Silcrete Flake (retouch along edge). 24.62 mm x 27.26 mm x 5.35 mm. Quartz Flake. 28.00 mm x 23.39 mm x 8.31 mm. Silcrete Pirri Point. 43.79 mm x 19.17 mm x 10.23 mm. Quartz Flake. 27.08 mm x 18.23 mm x 7.43 mm. Silcrete Broken Blade. 11.97 mm x 6.33 mm x 1.52 mm. Quartz Blade Tip. 16.17 mm x 4.43 mm x 4.62 mm. Quartz Flake. 17.29 mm x 16.48 mm x 7.17 mm. Silcrete Flake. 31.24 mm x 27.91 mm x 8.21 mm. Silcrete Flaked Piece. 12.25 mm x 8.48 mm x 8.21 mm. 	13	Flat			Low
CWF2-S-17	Open Artefact Scatter	Day 5	75m x 10m	Artefacts were found eroding out of the south bank of Taylors Creek. The artefact scatter extends for 75m. <ul style="list-style-type: none"> Quartz Flake. 32.40 mm x 16.00 mm x 11.31 mm. Quartz Flake (40% Cortex) 41.90 mm x 24.07 mm x 17.61 mm. Silcrete Core. (7 Negative flakes intact platform). 36.67 mm x 33.31 mm x 13.44 mm. Silcrete Scraper (Retouch along left dorsal margin and right). 34.564 mm x 21.36 mm x 3.26 mm. Silcrete Flake. 28.50 mm x 16.42 mm x 4.90 mm. Quartz Flake. 37.14 mm x 34.32 mm x 8.59 mm. Silcrete Flake. 33.50 mm x 17.57 mm x 8.61 mm. Quartz Flake. 30.79 mm x 23.70 mm x 12.51 mm. Quartz Flake. 22.99 mm x 32.12 mm x 12.44 mm. 	5	Flat			Low

					<ul style="list-style-type: none"> Quartz Flake. 22.38 mm x 16.69 mm x 5.50 mm. Quartz Flaked Piece. 11.12 mm x 7.03 mm x 2.76 mm. Silcrete Flake Tip. 6.81 mm x 4.37 mm x 1.22 mm. Silcrete Flaked Piece. 16.03 mm x 10.41 mm x 2.76 mm. Silcrete Flaked Piece. 10.84 mm x 10.00 mm x 2.38 mm. Silcrete Flake. 25.89 mm x 14.93 mm x 5.86 mm. 					
CWF2-S-18	Open Scatter	Artefact	Day 5	30m x 4m	<p>Artefacts were found eroding out of the south bank of Taylors Creek. The artefact scatter extends for 30m.</p> <ul style="list-style-type: none"> Silcrete Whole Flake. 40.75 mm x 24.17 mm x 7.57 mm. Quartz Flake. 39.29 mm x 16.12 mm x 10.55 mm. Silcrete Broken Bondi Point. 27.18 mm x 14.13 mm x 9.40 mm. Silcrete Medial Flake. 22.31 mm x 15.56 mm x 7.17 mm. Quartz Flaked Piece. 32.90 mm x 16.61 mm x 8.04 mm. Quartz Flake. 26.70 mm x 12.78 mm x 5.79 mm. Quartz Flake. 25.18 mm x 17.59 mm x 5.83 mm. Silcrete Core. 26.31 mm x 15.02 mm x 9.93 mm. 	8	Creek Bank			Low
CWF2-S-19	Open Scatter	Artefact	Day 5	10m x 3m ²	<p>Scatter is located along a small rise within the field approximately 220m from Taylors Creek. This landform continues from the eastern fenceline of the field to the access road.</p> <ul style="list-style-type: none"> Quartz Flake. 22.45 mm x 14.58 mm x 4.99 mm. Quartz Flake. 17.25 mm x 15.15 mm x 8.21 mm. Quartz Flake. 17.29 mm x 10.00 mm x 6.24 mm. 	3	Small Rise			Low
CWF2-S-20	Open Scatter	Artefact	Day 5	2m ²	<p>Scatter is located along a small rise in the middle of the field approximately 340m from Taylors Creek.</p> <ul style="list-style-type: none"> Silcrete Flaked Piece. 16.01 mm x 8.67 mm x 5.87 mm. Quartz Flake. 13.21 mm x 13.54 mm x 2.95 mm. 	9	Small Rise			Low
CWF2-IF-15	Isolated Find		Day 5	<1m ²	<p>Located on a small rise in the middle of the field approximately 220m from Taylors Creek.</p> <ul style="list-style-type: none"> Quartz Flake. 23.11 mm x 10.09 mm x 4.45 mm. 	1	Small Rise			Low
CWF2-IF-16	Isolated Find		Day 6	<1m ²	<p>Located on the north bank of Taylors Creek approximately 100m from the access road creek crossing.</p> <ul style="list-style-type: none"> Quartz Flaked Piece. 16.27 mm x 12.02 mm x 4.99 mm. 	1	Creek Bank			Low
CWF2-S-21	Isolated Find		Day 6	150m x 10m	<p>Located along the north bank of Taylors Creek. Artefacts are eroding out of the northern bank.</p> <ul style="list-style-type: none"> Quartz Flake. 31.55 mm x 18.10 mm x 12.71 mm. Quartz Flaked Piece. 15.89 mm x 12.56 mm x 7.57 mm. Quartz Flake. 26.34 mm x 15.52 mm x 7.70 mm. Quartz Flaked Piece. 13.30 mm x 12.35 mm x 5.09 mm. Quartz Flaked Piece. 11.79 mm x 5.25 mm x 3.27 mm. Quartz Core. 40.51 mm x 33.19 mm x 30.32 mm. Quartz Flake. 17.62 mm x 20.75 mm x 8.54 mm. Quartz Flake. 20.67 mm x 12.90 mm x 5.70 mm. Quartz Flake. 28.20 mm x 20.71 mm x 9.61 mm. Quartz Flake Tip. 8.43 mm x 6.77 mm x 3.39 mm. Quartz Flake. 21.03 mm x 15.06 mm x 7.27 mm. Silcrete Core. 25.80 mm x 30.02 mm x 21.58 mm. Quartz Flake Tip. 9.40 mm x 6.18 mm x 2.89 mm. Quartz Flake. 11.48 mm x 11.41 mm x 5.63 mm. Quartz Blade. 24.21 mm x 10.27 mm x 4.39 mm. 	22	Creek Bank			Low

				<ul style="list-style-type: none"> Quartz Flake Tip. 11.03 mm x 6.93 mm x 4.28. Quartz Flaked Piece. 18.92 mm x 11.05 mm 7.98. Quartz Flake. 19.74 mm x 11.83 mm 2.20 mm. Quartz Blade. 24.25 mm x 13.22 mm x 3.65 mm. Quartz Flake. 19.61 mm x 13.70 mm x 3.15 mm. Quartz Flake Tip. 13.14 mm x 5.80 mm x 6.10 mm. Quartz Flake Tip. 10.11 mm x 9.23 mm x 3.28 mm. 					
CWF2-IF-17	Isolated Find	Day 6	<1m ²	<p>Located in the middle of the paddock north of Taylors Creek and to the east of the access road.</p> <ul style="list-style-type: none"> Silcrete Core. 28.00 mm x 20.00 mm x 14.00 mm. 	1	Flat			Low
CWF2-S-22	Open Artefact Scatter	Day 6	2m x 1m	<p>Located approximately 900m south of WTG 17W. The artefact scatter is situated along the ridge top.</p> <ul style="list-style-type: none"> Quartz Flaked Piece. 11.71 mm x 9.36 mm x 2.22 mm. Quartz Blade. 23.12 mm x 13.39 mm x 3.30 mm. 	2	Ridge Top			Low
CWF2-IF-18	Isolated Find	Day 6	<1m ²	<p>Located in the saddle of the ridgeline running south from WTG 17W approximately 900m south of the turbine.</p> <ul style="list-style-type: none"> Quartz Whole Flake. 48.95 mm x 35.14 mm x 15.41 mm. 	1	Flat			Low
CWF2-S-23	Open Artefact Scatter	Day 6	20m x 5m	<p>Located within 1m of an erosional gully to the 700m south east of WTG 17W.</p> <ul style="list-style-type: none"> Silcrete Core. 40.00 mm x 19.84 mm x 9.64 mm. Quartz Flake Tip. 14.83 mm x 8.88 mm x 3.72 mm. 	2	Mid Slope/Erosional Gully			Low
CWF2-IF-19	Isolated Find	Day 7	<1m ²	<p>Located at the hill crest 250m north east of WTG 66.</p> <ul style="list-style-type: none"> Quartz Flake. 15.78 mm x 15.63 mm x 4.54 mm. 	1	Hill Crest			Low
CWF2-IF-20	Isolated Find	Day 7	<1m ²	<p>Located mid hill slope on the north facing slope approximately 350m north east of WTG 66.</p> <ul style="list-style-type: none"> Hammer Stone (pitting at both ends end some in the middle, possible use as an anvil for bipolar flaking). 160.77 mm x 82.44 mm x 51.82 mm. 	1	Mid Slope			Low
CWF2-S-24	Open Artefact Scatter	Day 7	20m x 4m	<p>Located on the ridge top approximately 450m north east of WTG 66.</p> <ul style="list-style-type: none"> Quartz Whole Flake. 48.82 mm x 38.77 mm x 12.30 mm. Silcrete Flake. 21.39 mm x 28.27 mm x 7.34 mm. 	2	Hill Crest			Low
CWF2-S-25	Open Artefact Scatter	Day 7	50m ²	<p>Located on the northern slope approximately 780m north east of WTG 66.</p> <ul style="list-style-type: none"> Silcrete Core. 47.31 mm x 45.53 mm x 15.79 mm. Quartz Flake. 27.16 mm x 37.73 mm x 9.83 mm. Quartz Flake. 35.42 mm x 23.25 mm x 11.86 mm. Silcrete Flake. 34.88 mm x 28.98 mm x 13.18 mm. Silcrete Core. 39.27 mm x 46.72 mm x 15.68 mm. Quartz Core. 46.12 mm x 24.76 mm x 22.99 mm. Mudstone Core. 33.72 mm x 30.36 mm x 13.15 mm. 	7	Hill Crest			Low
CWF2-IF-21	Isolated Find	Day 7	<1m ²	<p>Located on the northern slope approximately 800m north of WTG 66.</p> <ul style="list-style-type: none"> Silcrete flake. 44.45 mm x 20.96.96 mm x 8.12 mm. 	1	Mid Slope			Low
CWF2-S-26	Open Artefact Scatter	Day 7	20m x 5m	<p>Located on the remnant shoreline of Lake George.</p> <ul style="list-style-type: none"> Silcrete Flake. 42.48 mm x 35.03 mm x 4.92 mm. Quartz Flake. 36.15 mm x 22.21 mm x 11.67 mm. Quartz Core. 21.15 mm x 27.68 mm x 16.86 mm Quartz Blade Core. 37.60 mm x 23.12 mm x 22.80 mm. 	4	Flat			Low

CWF2-IF-22	Isolated Find	Day 7	<1m ²	Located on the remnant shoreline of Lake George. • Quartz Flake. 38.33 mm x 54.51 mm x 13.44 mm.	1	Flat			Low
CWF2-IF-23	Isolated Find	Day 8	<1m ²	Located at the base of a large Quartz outcrop. Quartz boulders. • Silcrete Flake. 45.75 mm x 26.38 x 10.95 mm.	1	Flat			Low
CWF2-S-27	Open Scatter	Day 8	20m x 5m	Located a located on the foot slope to the north east of WTG 66 approximately 1km. • Quartz Flake. 30.13 mm x 18.81 mm x 8.56 mm. • Quartz Core. 38.93 mm x 26.90 mm x 23.32 mm. • Quartz Flake Tip. 13.28 mm x 7.05 mm x 6.58 mm.	3	Foot slope			Low
CWF2-S-28	Open Scatter	Day 8	20m x 5m	Located along the northern fenceline of the paddock approximately 1km north east of WTG 66 • Broken Hammer Stone. 102.30 mm x 75.28 mm x 43.38 mm. • Quartz Core. 37.44 mm x 25.13 mm x 20.75 mm. • Quartz Flake. 16.62 mm x 14.25 mm x 6.33 mm. • Quartz Flake. 18.62 mm x 16.70 mm x 8.77 mm.	4	Flat			Low
CWF2-IF-24	Isolated Find	Day 8	<1m ²	Located along the northern fenceline of the paddock approximately 1.2km from WTG 66 and 1.5km west of the West Leg Road. • Quartz Whole Flake. 32.05 mm x 26.68 mm x 10.22 mm.	1	Flat			Low
CWF2-IF-25	Isolated Find	Day 9	<1m ²	Located in the middle of the field approximately 500m east of the access road. • Quartz Whole Flake. 16.69 mm x 19.60 mm x 2.53 mm.	1	Mid Slope			Low
CWF2-IF-26	Isolated Find	Day 9	<1m ²	Located along the eastern boundary fenceline approximately 550m east of the Access road. • Basalt Broken Edge Ground Axe Head (use wear along blade edge present). 47.84 mm x 27.71 mm x 12.13 mm.	1	Flat			Medium
CWF2-S-29	Open Scatter	Day 9	20m x 6m	Located at the base of the ridge line that spur northeast of Ellenden Hill approximately 550m east of the access road. • Quartz Flake. 22.01 mm x 22.27 mm x 7.44 mm. • Quartz Core. 35.38 mm x 34.01 mm x 23.81 mm.	2	Base of slope			Low
CWF2-IF-27	Isolated Find	Day 9	<1m ²	Located on the wall of a ditch that seems to have been dug out for the purpose of dumping sheep carcasses. Artefact is within 10m of the eastern boundary fenceline. • Quartz Broken Flake. 28.33 mm x 29.49 mm x 9.18 mm.	1	Wall of excavated ditch/Base of slope			Low
CWF2-IF-28	Isolated Find	Day 9	<1m ²	Located at the base of the ridgeline that spurs northeast of Ellenden Hill approximately 684m east of the access road. • Quartz Flake. 23.23 mm x 17.03 mm x 9.01 mm.	1	Base of slope			Low
CWF2-IF-29	Isolated Find	Day 10	<1m ²	Located approximately 500m east of the access track at the base of the foot hills for Ellenden Hill. • Quartz Flake. 23.23 mm x 17.03 mm x 9.01 mm.	1	Base of Slope			Low
CWF2-S-30	Open Scatter	Day 10	2m x 3m	Located approximately 500m east of the access track at the base of the foot hills for Ellenden Hill. • Silcrete Whole Flake. 34.09 mm x 39.58 mm x 7.93 mm. • Quartz Flake. 22.43 mm x 18.61 mm x 5.35 mm.	2	Base of Slope			Low
CWF2-	Open Artefact	Day 10	5m x	Located in a paddock 50m west of the access track • Quartz Broken Blade. 13.10 mm x 7.45 mm x 2.34 mm.	2	Flat			Low

S-31	Scatter		5m	<ul style="list-style-type: none"> Silcrete Flaked Piece. 11.73 mm x 8.74 mm x 2.40 mm. 					
CWF2-IF-30	Isolated Find	Day 10	<1m ²	<p>Located IN the south east corner of the paddock approximately 5m west of the access track and 2m from the gate.</p> <ul style="list-style-type: none"> Silcrete Flake. 26.03 mm x 24.55 mm x 8.22 mm. 	1	Flat			Low

APPENDIX F: ABORIGINAL COMMUNITY RESPONSES TO METHODOLOGY

From: Alice Williams [Alice.Williams@environment.nsw.gov.au]
Sent: Monday, 24 May 2010 9:57 AM
To: Leigh Bates (leigh@australarchaeology.com.au)
Subject: douglas commors comments on methodology

Hi Leigh

Douglas Connors as asked me to inform you that he does agrees with the methodology to be used in the Capital Windmill Study Area assessment

Alice

Alice Williams
Aboriginal Heritage Conservation Officer
Culture and Heritage Division
Southern Aboriginal Heritage Operations Branch
Department Environment and Climate Change
Phone: 0264505565
Fax: 0264562291
Mobile: 0447606690

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.
If you are not the intended recipient, please notify the sender and then delete it immediately.
Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the Department of Environment, Climate Change & Water NSW.

file:///C:/..._CWF_II/Consultation/Indigenous/Methodology%20Responses/douglas%20commors%20comments%20on%20methodology.txt[6/09/2010 10:26:37 AM]

From: Pejar LALC [pejar1@bigpond.com]
Sent: Tuesday, 1 June 2010 9:02 AM
To: 'Leigh Bate'
Subject: RE: 1008 CWF_II

Good Morning Leigh

Everything appears to be ok. I have organised Justin to attend the survey as our Representative, if you could call him direct on 0406968199 to arrange the time and place of meeting that would be good, its just easier to do it this way instead of relaying the message.

regards Delise

file:///C:/...010/Active%20Projects/1008_CWF_II/Consultation/Indigenous/Methodology%20Responses/RE%201008%20CWF_II_Pejar.txt[6/09/2010 10:26:12 AM]

From: Wally Bell [walbell@bigpond.net.au]
Sent: Saturday, 22 May 2010 1:33 PM
To: 'Leigh Bate'
Cc: Tyrone & Bronwyn Bell; dd265965@bigpond.net.au
Subject: RE: 1008_CWF_II
Attachments: attachment.pdf; Certificate Currency Attachment.pdf

Hi Leigh,

Thank you for the Info Pack. We have had a look at the methodology and agree with the proposed assessment. As we have had past experience with the Capital Wind Farm we would like to reinforce with Austral that there is a need to know where access roads, cables, site sheds, substations, transmission lines etc are going as these works have a huge impact on the landscape.

The main Aboriginal cultural value for the area is that Lake George holds very strong spiritual connections for the Ngunawal people as it is the home of our Creator Being. Further information in relation to spiritual connection and sites/areas of significance can be provided during the field assessment.

We will have a representative available for the field assessment on Monday 7 June 2010.

Our Insurance policies are attached.

Regards,

Wally Bell
Chair
Buru Ngunawal Aboriginal Corporation
Traditional Carer Group
PO Box 6900
CHARNWOOD ACT 2615
Ph: 02 6259 1672 Fax: 02 6258 1264 Mb: 0419 425 347

file:///C:/.../2010/Active%20Projects/1008_CWF_II/Consultation/Indigenous/Methodology%20Responses/RE%201008_CWF_II_BNAC.txt[6/09/2010 10:25:33 AM]

APPENDIX G: CONSULTATION LOG

This information has been omitted from the current document due to its potentially culturally sensitive nature. Such data is presented in the restricted version only.