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# PROPOSED LEXTON WIND FARM

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## DESKTOP CULTURAL HERITAGE ASSESSMENT

AAV Project No 3547  
HV Project No 2749

A Report to Lexton Wind Farm Pty Ltd

October 2006

Prepared by

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Some information regarding specific site details contained within this report is of a sensitive nature e.g. AMG co-ordinates and site plans. Before releasing contents of this report to the general public permission should be obtained from the relevant authorities/communities.

## **EXECUTIVE SUMMARY**

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This report outlines the results of a desktop investigation of the Aboriginal and historic cultural heritage values within the proposed Lexton Wind Farm (LWF) and has been commissioned by Lexton Wind Farm Pty Ltd. The LWF is located within the Pyrenees Shire approximately 44km north-west of Ballarat between Lexton and Beaufort. This study reviews the Aboriginal and historic cultural heritage background of the study area and is supplemented by a brief field inspection. The study produces a site prediction model, identifies general areas of archaeological potential/sensitivity for Aboriginal and historic archaeological sites, and presents a preliminary cultural heritage assessment of the impact that the LWF development will have on known and potential cultural heritage values within the study area.

This desktop cultural heritage investigation fulfils a range of social and legislative obligations relating to cultural heritage sites and places within the study area. However, it does not replace a comprehensive cultural heritage assessment, which includes a comprehensive archaeological site survey.

Prior to the present study, few regional or local cultural heritage assessments have been conducted in the region (Sections 4.1 & 6.1). The LWF has not been subject to any previous heritage assessment and no heritage sites have been previously identified in the LWF. Eight historic sites, three Aboriginal archaeological sites and one historic Aboriginal place have been previously recorded within 7-10km of the study area none of which lie in close proximity to the study area and will not be impacted by the proposed LWF.

A brief site inspection was conducted on Tuesday 20 June, 2006 by Tom Rymer (Tardis Enterprises Pty Ltd) and Peter Lovett (Ballarat & District Aboriginal Co-operative Ltd). No Aboriginal archaeological or historic sites were recorded (Section 7). However, areas of general sensitivity for Aboriginal and historic archaeological sites have been identified. The study area has also been reviewed in terms of generalised historic and Aboriginal sensitivity (Section 7.4)

Based on the background information reviewed during this investigation, site prediction models have been generated for the LWF study area and comprise (Sections 4.3 & 6.3):

### **Aboriginal Archaeological Sites:**

- There has been very few systematic surveys or cultural heritage assessments within the region of the study area. No cultural heritage assessments have included the current study area.
- Only three Aboriginal archaeological sites have been previously recorded within 7km of the study area. No recorded sites are listed within the LWF study area.
- The recorded sites do not accurately reflect the site numbers, types, contents or distribution of Aboriginal archaeological sites likely to be present within the study area or the surrounding region.
- The site prediction model is therefore speculative and based on general predictive statements for Aboriginal archaeological sites found in adjacent areas.

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- The most likely site types to be found are low to moderate density stone artefact scatters.
  - Stone artefact sites will be found in higher densities within 100m of past or present perennial watercourses, springs, swamps and lakes; 50m from intermittent drainage lines; and on hilltops, saddles and ridgelines which afford advantageous views, are close to potable water, or provide routes of movement between locales. The number, size and density of stone artefact sites increase with proximity to more than one resource zone typically exploited by Aboriginal groups (eg, rivers and swamps).
  - Stone artefacts will be manufactured predominantly from locally available quartz found in outcrops and in streams. A smaller proportion of artefacts will be manufactured from imported silcrete. Other raw materials may include quartzite, basalt, flint and chert.
  - Formal tool types will comprise a small overall percentage of any stone tool assemblage.
  - To a lesser extent earth features (mounds), rockshelters, quarries and scarred trees may occur.
  - Earth features (mounds) may occur near former swamps (eg, AAV7623-0023) and on flood terraces on watercourses. Rockshelters and quarries may occur in areas of granite outcrops. Scarred trees may be found within remnant stands of mature native trees more than 200 years old.
  - Unlikely site types within the study area include freshwater shell middens, rock wells and burials.
  - Freshwater shell middens could potentially be found along undisturbed the banks of larger watercourses. Rock wells may be found on larger rocky outcrops.
  - Burials are most often found in sandy deposits along watercourses and lake/swamp lunettes, but are considered unlikely within the LWF study area.
  - In terms of any future survey, the level of ground surface visibility affects the ability to identify archaeological sites. Poor ground surface visibility hinders the identification of sites and factors include thick vegetation cover or sedimentation since European occupation.
  - Most of the study area has been subject to ground disturbance by the removal of native vegetation, grazing, ploughing and possibly also gold mining. This will have caused disturbance to surface soils and will impact the integrity of sites and reduce their scientific significance.
  - Most sites are likely date to within the last 6,000 years and most will reflect occupation within the last 1,000 years.

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- The overall Aboriginal archaeological potential for sites of high scientific significance is low to moderate.

#### **Historic Archaeological Sites:**

- There are no previously recorded historic cultural heritage sites within the study area, and the LWF has not been previously surveyed for historic sites.
- There are no pre-emptive right properties within the study area.
- The most likely historic sites to occur in the study area are those associated with the rural history of the region (post 1860s farm buildings, homesteads, fencing, stockyards and other rural features) and to a lesser extent gold mining.
- Rural remains from the late 19<sup>th</sup> to early 20<sup>th</sup> century are likely to be associated with later subdivision of the Pyrenees region.
- Any undisturbed historic site found within the LWF will have increased significance due to rarity.
- The overall historic archaeological potential for sites of high significance is low.

Based on the results of this investigation, the study area has been assessed in terms of its potential to contain Aboriginal and historic archaeological sites. This is discussed further in Section 7.4 and summarised in the table below:

## Areas of Sensitivity for Archaeological Sites

Site Types	Location	Level of Potential/ Sensitivity
<b>Aboriginal Cultural Heritage</b>		
Isolated stone artefacts	Throughout	Low – Moderate
Low to moderate density surface & sub-surface stone artefact scatters	Within 100m of permanent fresh water (creeks, springs)	Moderate
Low to moderate density surface & sub-surface stone artefact scatters	Within 50m of temporary drainage lines or other season water sources throughout the study area	Low
Low to moderate density surface & sub-surface stone artefact scatters	Hilltops, ridges & elevated flat areas	Low – Moderate
Scarred trees	Remnant mature native red gum throughout the study area where they survive	Moderate
Stone quarries	Rocky outcrops	Moderate
Rockshelters	Rocky outcrops on hills	Moderate
<b>Historic Cultural Heritage</b>		
Mid to late 1800s – surface and sub-surface ruins of old homesteads (unlikely) and other rural features (e.g., fencing, sheds, stockyard, huts) and buried deposits (wells, bottle dumps, cisterns & foundations)	Generally in close proximity to natural water sources (<500m)	None - Low
1840s to 1860s – Old transport routes/roads	Beaufort to Lexton	Low
Late 1800s to mid 1900s – ruins of small farm complexes and buried deposits (wells, bottle dumps, cisterns & foundations)	Throughout the study area, mostly near roads and not dependent on natural water sources	Low

### Specific Recommendations (Section 10.1)

The following recommendations have been formulated based on the background research, community consultation and the results of the field inspection.

#### Aboriginal and Historic Cultural Heritage

##### General

At this level of assessment there are no previously recorded sites that need to be avoided by the LWF.

To avoid adverse impact to the majority of archaeological sites, ground disturbance activities should, if possible, avoid identified areas of high sensitivity/potential for archaeological sites; otherwise alternative mitigation strategies are required to manage cultural heritage values.

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### **Recommendation 1: Cultural Heritage Assessment**

Once the scope of the ground disturbance works of the wind farm development has been established, a ground surface archaeological survey for Aboriginal and historic archaeological sites should be undertaken of all areas that are to be impacted by the LWF development. This should include all areas that are likely to disturb surface and sub-surface soils, such as turbine locations, access and cable routes.

All archaeological sites (whether previously recorded or as yet undetected) are protected under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, *Archaeological and Aboriginal Relics Preservation Act 1972* and the *Heritage Act 1995*. To avoid breaching the obligations under these Acts, a comprehensive archaeological site survey should be undertaken in accordance with Aboriginal Affairs Victoria and Heritage Victoria guidelines prior to the wind farm development commencing.

The aims of the survey should be to refine areas of archaeological sensitivity and record any unrecorded cultural heritage sites which may be impacted by the development. The heritage consultant should assess the scientific significance of recorded sites and the Ballarat & District Aboriginal Co-operative Ltd (BADAC) will determine the cultural significance of Aboriginal sites. Recommendations should be formulated to provide mitigation/management measures to avoid/minimise adverse impact to any sites recorded within the LWF development area. Reporting of the results of the archaeological survey must be done in accordance with Aboriginal Affairs Victoria and Heritage Victoria guidelines.

### **Recommendation 2: General Areas of Aboriginal and Historical Archaeological Sensitivity**

Several general areas of archaeological sensitivity for Aboriginal and historic sites have been broadly identified, details of which are provided in Section 7 and Figure 11. The archaeological survey proposed in Recommendation 1 would serve to further refine these sensitive areas as well as generating specific management recommendations.

### **Recommendation 3: Consultation**

During the survey of the areas to be impacted by the LWF development (see Recommendation 1), consultation regarding the project should be conducted with relevant interest groups concerning the Aboriginal and historic cultural heritage of the study area. This consultation will assist in identification of unrecorded/undocumented Aboriginal and/or historic sites that may be located in the study area. This consultation process will enable statements of cultural significance to be obtained, and ensure all relevant interest groups are given an opportunity for input into the project. The groups that should be included in heritage consultation are:

- Ballarat & District Aboriginal Co-operative Limited
- Native Title claimants
- Planning Department of the Pyrenees Shire
- Local historical societies

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**Recommendation 4: Preliminary Consultation with Aboriginal Community**

Mr Peter Lovett, Cultural Heritage Officer with the Ballarat & District Aboriginal Co-operative Limited, has expressed the community desire that further cultural heritage assessment of the study area is conducted to clarify archaeologically sensitive areas and potential sites discussed in this investigation and further consultation on cultural heritage management issues as they arise.

**Recommendation 5: Discovery of Human Remains**

If any suspected human remains are discovered during the development, all works must cease in the immediate area, and the procedure outlined in Appendix 3 is to be adopted.

**Recommendation 6: Distribution of the Report**

The consultant will ensure that copies of this report will be sent to Heritage Victoria (Department of Sustainability and Environment), the Heritage Services Branch, Aboriginal Affairs Victoria (Department of Victorian Communities) and the Ballarat & District Aboriginal Co-operative Limited.



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**ACKNOWLEDGEMENTS**

Tardis Enterprises would like to thank the following people for their assistance during the study:

**Peter Lovett** – Cultural Heritage Officer, Ballarat & District Aboriginal Co-operative Ltd  
**Steven Buckle, Jill Parry** – Wind Power Pty Ltd  
**Bindi Thomas** – Aboriginal Affairs Victoria  
**Ron Newsome** – Heritage Victoria

**ABBREVIATIONS**

AAV	Heritage Services Branch, Aboriginal Affairs Victoria
AHC	Australian Heritage Commission
BADAC	Ballarat & District Aboriginal Co-operative Ltd
DSE	Department of Sustainability and Environment
DVC	Department of Victorian Communities
HV	Heritage Victoria
H	Heritage Victoria Inventory
LV	Land Victoria
NT	National Trust (VIC)
RNE	Register of the National Estate
SLV	State Library of Victoria
VHR	Victorian Heritage Register

*\* Throughout this report several technical terms are used that may not be familiar to some readers. An extensive glossary has been included as Appendix 2 and should be referenced for an explanation of terms.*

*\*\* It should be noted that archaeological reports relating to Aboriginal and historic archaeological sites/places and the recommendations contained therein, may be independently reviewed by Aboriginal Affairs Victoria, the relevant Aboriginal community, and Heritage Victoria. Although the findings of a consultant's report will be taken into consideration, recommendations by an archaeological consultant for actions in relation to the management of a site should not be taken to imply automatic approval of those actions by Aboriginal Affairs Victoria, Heritage Victoria or the relevant Aboriginal community.*

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## 1 INTRODUCTION

This report outlines the results of a desktop investigation of the Aboriginal and historic cultural heritage values within the proposed Lexton Wind Farm (LWF) and has been commissioned by Lexton Wind Farm Pty Ltd. The LWF is located within the Shire of Pyrenees, approximately 44km north-west of Ballarat between Lexton and Beaufort (Figure 1 – Study Area Location).

This investigation reviews the Aboriginal and historic cultural heritage background of the study area and is supplemented by a brief field inspection. It presents a preliminary cultural heritage assessment of the impact that the proposed development will have on known and potential cultural heritage values within the study area.

The significance of Aboriginal and historic items, sites and places that comprise the cultural heritage record varies considerably. This can be measured by depending primarily upon their historical, scientific, social, educational, economic and aesthetic values. However, the integrity and significance of cultural heritage items, sites and/or places can be jeopardised by natural (eg erosion) and human (eg development) activities. In the case of human activities, a range of State and Federal Legislation exists to ensure preservation of elements and features of our cultural heritage (Section 9). This background report fulfils a range of social and legislative obligations relating to the potential cultural heritage sites and places within the present study area. However, it does not replace a comprehensive cultural heritage assessment, which includes a comprehensive archaeological site survey.

This investigation has been undertaken in accordance with Aboriginal Affairs Victoria *Guidelines for Conducting and Reporting upon Archaeological Surveys in Victoria* (AAV 2002), the conservation principles of the *Burra Charter* (Australia ICOMOS 1999) and best current cultural heritage practise.

### 1.1 Project Aims

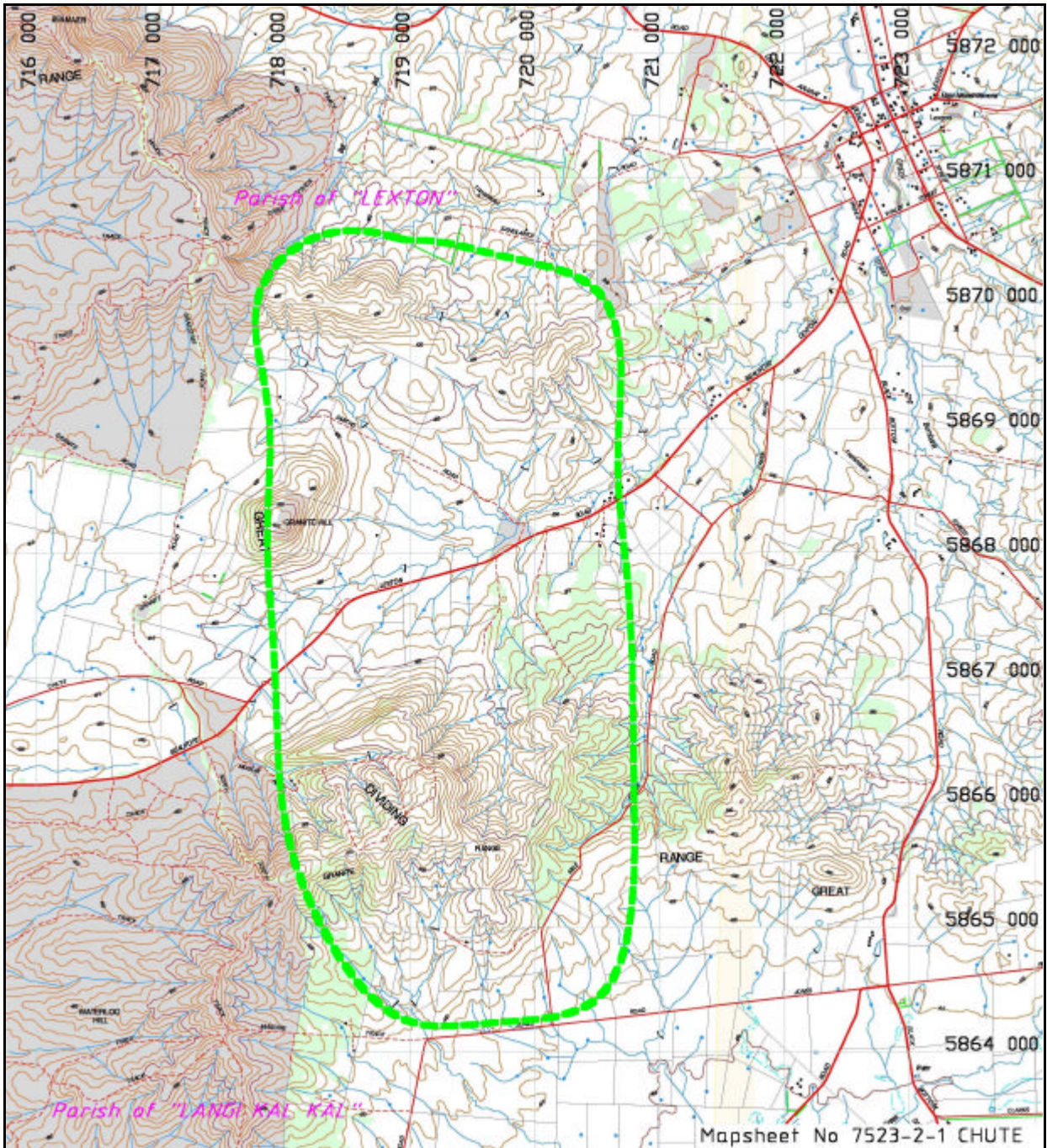
The aims of this study follow standard AAV Report Guidelines (2002) and include:

- Review the existing relevant documented Aboriginal and historic cultural heritage of the study area.
- Conduct a brief field inspection of the study area to broadly identify any cultural heritage issues in the study area.
- Identify any implications that the known and potential cultural heritage of the study area may have for the proposed development of the area, and devise appropriate management/mitigation recommendations.
- Consult with the relevant Aboriginal communities in relation to Aboriginal cultural heritage matters within the study area.
- Provide a summary of the statutory obligations regarding cultural heritage issues.
- Produce a report using the findings in accordance with the guidelines of the Heritage Services Branch, Aboriginal Affairs Victoria (Department of Victorian

Communities, DVC) and Heritage Victoria (Department of Sustainability and Environment, DSE).

- Provide any other information on cultural heritage matters relevant to the project.

## 1.2 The Study Area



**Figure 1 Study Area Location (Vic Roads Map 57 J6-J7)**

The study area is located within the Western Highlands (or the west Victorian Uplands) approximately 44km north-west of Ballarat between Lexton and Beaufort. The proposed study area is bisected by the Beaufort – Lexton Road which runs along the right side of a tributary of the Burnbank Creek. The creek then flows through Lexton to the north-east.



North of the creek lies a ridge line and Granite Hill which forms the northern watershed of the tributary and is dissected by numerous drainage lines. To the south lies Granite Range which forms the southern watershed of the tributary and also the ridge line of the Great Dividing Range. Southward drainage lines flow into another watershed. The study area is used primarily for agricultural purposes with a number of farms throughout the area. It comprises an area of approximately 1696 hectares, and is largely cleared of native vegetation.

### **1.3 Proposed Development**

The development proposes the construction of a wind farm within the study area. The specific locations of the turbines and associated infrastructure have not been provided to the consultant for this preliminary assessment. In general, wind farms have limited adverse impact due to their small footprint (approximately 15 x 15m) and limited infrastructure (access tracks, underground cables). Due to the possibility of slight alterations to specific turbine locations, wind farms can generally be managed in a manner that minimises adverse impact to local archaeological resources. Potential impact to archaeological sites by the wind farm development may be either direct or indirect. Direct impact is where sites are located within the construction zone. Indirect impact is where construction activity is adjacent, or the effects of construction may be active over the longer term, such as increasing sediment accumulation or erosion over a surface archaeological site or adversely impacting the root zone of a living tree which possesses a cultural scar.

### **1.4 Consultation**

Prior to conducting the desktop study and brief field inspection, 'Notification of Intention to Conduct an Archaeological Survey' was lodged (Form D) by the consultant with the Heritage Services Branch, Aboriginal Affairs Victoria (Department for Victorian Communities, DVC (Appendix 1).

Under the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, the study area is located within the legislative boundary of the Ballarat & District Aboriginal Co-operative Ltd (BADAC). Prior to commencing this project the consultant contacted Ms Karen Heap (Chief Executive Officer, BADAC) to arrange an Aboriginal community representative. She requested details of the project to notify the Cultural Heritage Officer of BADAC, Mr Peter Lovett. Peter Lovett accompanied the consultant during the brief site inspection. A copy of this report has been provided to BADAC.

The Site Registers held by the Heritage Services Branch at Aboriginal Affairs Victoria (DVC); Heritage Victoria (DSE), National Trust of Australia (Victoria) and the Australian Heritage Council's Register of the National Estate (RNE) were checked for the presence of previously recorded Aboriginal or historic cultural heritage sites within the study area. Historic plans and maps of the study area region held at Land Victoria (LV) were inspected. The Planning Schemes for the Shire of Pyrenees was checked for Heritage Overlay Restrictions (Planning Schemes Online website).

## 2 ENVIRONMENTAL DESCRIPTION

The importance of understanding the past and present environment is two-fold. Firstly, it is the pre-European settlement that was the evolving context for Aboriginal land use in the region. Secondly, to understand the changes in the environment since European settlement is to bring an understanding of what Aboriginal archaeological sites may have survived and their potential location.

### 2.1 Pleistocene and Early Holocene

The Pleistocene and Early Holocene (Appendix 2 – Glossary) environment within the study area region was one of gradual and continuous change. Aboriginal people are known to have occupied southeastern Australia during the late Pleistocene (c.40,000 to 10,000 years BP) from archaeological evidence at Keilor (Coutts 1977, 1978) and Hunter Island (Bowdler 1984).

During the Pleistocene, sea levels were, in general, much lower than at present. In the late Pleistocene, the sea was low enough for a land bridge, the Bassian Plain, to exist across what is now Bass Strait, between Victoria and Tasmania (Mulvaney & Kamminga 1999: 118). Approximately 18,000 years BP, sea levels began to rise slowly (Marsden & Mallet 1975: 114-116) and by 12,000 years BP the Antarctic ice sheets retreated (Mulvaney & Kamminga 1999: 119). About 5,000 to 6,000 years BP, the sea reached a maximum of 1.5 to 2 metres higher than at present. At this time, the Bassian Plain was fully submerged, as it is today, to form Bass Strait. The archaeological implications of these periods are that they provide different sets of resources for the human populations inhabiting the area. The effect of these climatic changes would have had significant impact for the study area in terms of exploitation by Aboriginals throughout the past 40,000 years. In a study of pollens from forest areas in South Eastern Australia (Dodson *et al* 1988), a general picture of climatic change in the region of the study area has been formulated. Briefly these changes are:

20,000 - 15,000 years – Dry, cold and windy with reduced vegetation and water sources.

15,000 - 12,000 years – Drier still, but, slightly warmer

12,000 - 8,000 years – Becoming wetter

8,000 - 5,000 years – Wetter and warmer than at present

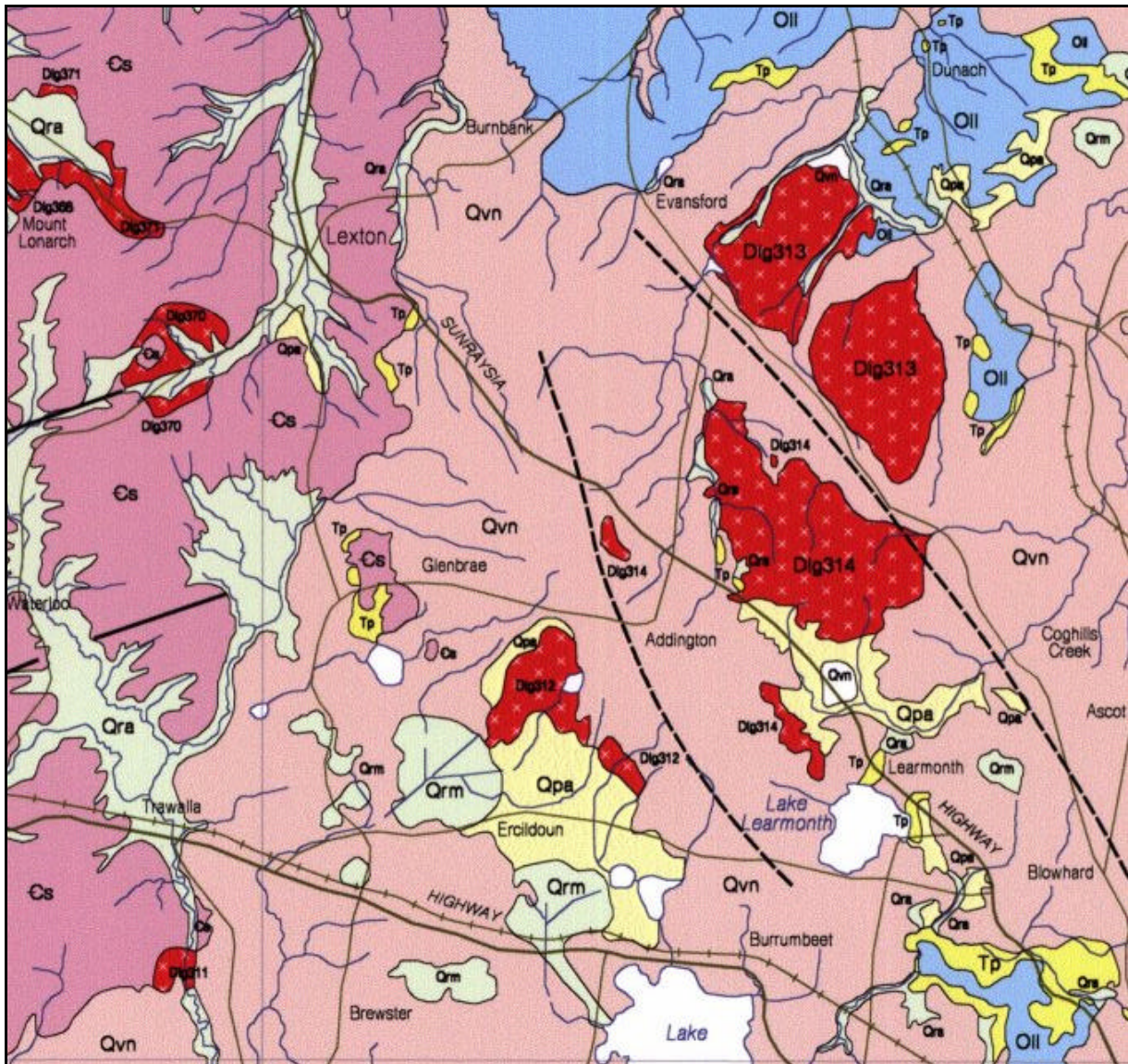
5,000 to present – Cooler and drier

The past climate indicates that due to the more moderate conditions, the last 12,000 years may have been more conducive to intensive exploitation of the region by Aboriginal people than the earlier period between 12,000 –20,000 years.

### 2.2 Geology and Landform

The geology of the study area is dominated by Quaternary Newer Volcanics comprising of basalt, trachyte, phonolyte, scoria and ash, with Devonian hills of granite and granodiorite and areas of Quaternary high level alluvium deposits of sand, silt and gravel (Duncan 1982: 12-13). Several extinct volcanoes exist near Kingston and Beaufort. Big Hill and Quoin Hill are volcanic in origin (Oulton 1995: 246). The lava from these volcanoes covered the deep leads (buried rivers) with thick layers of basalt that were exploited by gold mining companies from the 1860s (McGeorge 1966). Deep leads are Cainozoic

auriferous deposits buried under alluvium and/or basalt. Most are formed in valleys that drain inland from the main divide prior to Cainozoic uplift and stream rejuvenation (Whiting & Bowen in Douglas & Ferguson 1988: 481-482).



**Figure 2 Geology of the Study Area (Geological Survey of Victoria)**

The study area is located within the Western Highlands physiographic division of the Victorian Highlands (Hills 1975) or the West Victorian Uplands (after Jennings and Mabbutt in Duncan 1982: 3). The West Victorian Uplands are described as “moderately high plateaux and strike ridges” (Duncan 1982: 3). The uplands consist of “dissected Palaeozoic sedimentary, volcanic, granitic and metamorphic rocks, [with] rugged to gently undulating terrain” (Duncan 1982: 20).

Three main land systems occur in the area. The southern half of the study area is humid (>700 millimetres average annual rainfall), Volcanic Plain with Quaternary and some Tertiary (mainly basalt) volcanic rocks. The northern part of the study area is hilly land with gentle slopes. It is characterised by a sub humid climate with 500-600 millimetres average annual rainfall, and contains Palaeozoic sedimentary rocks (shale, slate, mudstone and sandstone). In the central east of the study area, around Mount Gap and Mount Bolton,



the land system is one of humid to sub-humid (600-700 millimetres average annual rainfall) climate with gently sloping hilly land and Palaeozoic acid igneous and metamorphic rock that comprises mainly of granite, granodiorite and gneiss (Duncan 1982: 44-45). The soils in these land systems are brown podzolic - yellow acidic gradational (southern part), red (upper slopes) and yellow (lower slopes) sodic duplex (northern end) and reddish yellow acid duplex (central east) (Duncan 1982: 44-47).

Numerous small drainage lines and One Mile Creek drain the study area. No major watercourses traverse the study area (see Figure 1). The Northern flowing streams drain into to the Loddon River and eventually into the Murray, while those in the south flow to Mt Emu Creek, then into the Hopkins River to the Southern Ocean at Warrnambool (Oulton 1995: xv).

### **2.3 Climate**

The climate of the study area is characterised by mild summers and cool winters. The mean annual rainfall ranges from 500 to more than 700 millimetres, depending on the land system of the study area (see above). Temperatures in the study areas range from average annual minimums of between 6 to 9° Celsius and maximums of 15 to 18° Celsius in the south and 18 to 21° Celsius in the north (Bureau of Meteorology website). The climate would not have constrained either Aboriginal or historic occupation of the study area.

### **2.4 Fauna and Flora**

Virtually all of the original vegetation in the study area has been clear-felled by pastoralists since the early 19<sup>th</sup> century. The current vegetation coverage is very sparse and represents some natural re-growth or is designated as reserves (Mount Misery) (Plate 3). The majority of the study area, particularly in the south, is cropland or natural and sown grassland, while in the hillier north, are sections of very open woodland and low forest (Duncan 1982: 52-53). The lakes and lagoons within and to the south of the study area would have supported a variety of aquatic plant and animal species.

The grassland plains, forested hills, the drainage lines, lakes and lagoons would have supported high populations and a great variety of fauna. Historic records indicate a wide variety of native animals in the area. Horace Wheelwright, a professional hunter in the Port Phillip region in the 1850s noted the presence of Tasmanian pademelon, eastern grey kangaroo, potoroo and quoll (LCC 1991: 107). The presence and abundance of fauna would have been seasonal, with the greatest numbers being present after periods of rain. The fauna originally associated with open forest and nearby grassland plains included eastern grey kangaroo, wallaby, white footed dunnart, southern brown and long nosed bandicoot, brushtail possum, koala, bat, echidna, wombat, brown goshawk, wedge tail eagle, peregrine falcon, cockatoo, Rosella, and reptiles, such as, skink and copperhead snake (LCC 1980: 100). Around swampland associated with the flood plain of nearby permanent rivers and creeks, the density of fauna would have increased dramatically. These areas would have sustained vast numbers of migratory birds, waterfowl, fish, crustaceans and shellfish, as well as, attracting larger herbivores.

The Pyrenees region in which the study area is located was a highly attractive place for both pre-Contact Aboriginals and early settlers. The region contained stands of eucalypt, wetlands and extensive grasslands areas. This combination of attributes means that a large number of both Aboriginal and historic sites might have existed. However, the impact of a range of post-Contact activities (see below) will have eliminated many of these sites.

## **2.5 European Impact on the Study Area**

The environment of the study area has been affected by post-Contact land use. The entire region has been occupied from the earliest squatting period in this region of Victoria, when squatters arrived in the late 1830s and 1840s (Section 5). Although the early squatters primarily used the land for grazing stock, these introduced animals would have disturbed the soil and, sheep in particular, were known to have severely impacted on the Aboriginal staple food of the Murnong, or yam daisy (see Section 3.1).

The surrounding region was intensively mined for gold since the 1850s, and the study area has likely also been subject to gold fossicking. The later subdivisions of the land into smaller rural allotments led to tree clearance, more intensive farming of the land. Today, the area includes ploughed fields and pasture grasses being grazed by cows. Lakes and swamps in the surrounding region has been drained and repeatedly ploughed on an annual basis for crops in the recent past (e.g. Ercildoun).

All of these activities impact the integrity of Aboriginal sites, such as; stone artefact scatters and scarred trees. In the case of tree clearance, trees with evidence of scars from use by Aboriginal people would have been completely destroyed. Any surface lithic site would have been heavily disturbed. While individual stone artefacts will still be found, scatter sites will have little or no spatial or temporal integrity and would therefore, be of limited scientific value.

Alternatively, historic sites in the region would have been created by early rural activities, such as, construction of homes, fencing and outbuildings, and rubbish discarding, which can be seen as locally and regionally significant historic places and archaeological sites that provide insight into the way early pastoralists and farmers of the region lived.

In summary, activities that have occurred within the study area that have acted to degrade archaeological resources are:

- Land clearing
- Possible gold fossicking/mining
- Repeated ploughing
- Agricultural & farming use

### 3 HISTORIC BACKGROUND

The following section provides a brief historical background and context. It provides information on the potential for historic sites and their predicted location, as well as local and regional information regarding previously recorded sites. This information is then synthesised in Section 3.3, generating an historic site prediction model specific to the present study area.

In 1802, Mathew Flinders viewed the basalt plains and Bacchus Marsh areas from the summit of the You Yangs. He thought the area showed great promise, noting that the country of Bacchus Marsh was “low, grassy and very slightly covered with wood, presenting great facility to a traveller desirous of penetrating inland” (Flinders in Peterson & Catrice 1995: 13). When Hume and Hovell crossed through the Werribee Plains in 1824, they provided a favourable description of the “abundant game and water, the luxuriant growth of grasses and the general prosperity of the blacks” (du Cros & Watt 1993b: 8). Such descriptions of the area led to land speculation and attracted the attention of John Batman’s Port Phillip Association upon the Colony of Port Phillip. In 1836, Major Thomas Mitchell’s named the Pyrenees Ranges when his exploration party travelled near the study area (now Lexton) on their return trip to Sydney from Portland (Oulton 1995: xv). Mitchell provided a very favourable description of the Pyrenees region in his journal entry of 25 September 1836 (Mitchell in Oulton 1995: 2):

“One bold range of forest land appeared before us, and after crossing it we passed several rivulets falling northward, then over a ridge of trapean conglomerate with embedded quartz pebbles, and descended into a valley of the finest description. Grassy hills clear of timber appeared beyond a stream flowing northward. These hills consisted of old vesicular lava. We entered a forest of very large trees of iron bark eucalypts, and we finally encamped in a grassy valley in the midst of this forest...”

Such favourable descriptions led to large squatting runs, particularly for sheep being taken up throughout the region in the late 1830s (Figure 5). In 1838, Thomas Learmonth and his brother, Somerville Livingstone Learmonth, took up the Ercildoun squatting run to the north of Lake Burrumbeet and south of the present study area (Bride 1983: 92). The brothers had come to Port Phillip from Van Diemen’s Land in April 1837 bringing approximately 2000 ewes with them and purchasing another 1000 on arrival. They originally squatted on the Barwon River, but within a few months began to explore the surrounding country that had yet to be divided up into squatting runs. In August 1837, a party including Thomas Learmonth, Mr Darcy, Mr C Hutton, Mr G Russell, Mr Anderson, Mr Fisher, Dr Thomson and Aboriginal guides, set out to explore the area around Buningyong. After reaching the top of Mount Buningyong, several of the men returned to the Moorabool, while the rest ventured with their guide to Lake Burrumbeet. The lake’s water was brackish and the country was believed to be “too distant for occupation” (Learmonth in Bride 1983: 95).

By January 1838, Learmonth joined another expedition, which travelled to Mount Beckworth ranges. It was during this expedition, when the party were lacking water that Learmonth reflected that they had “passed a most uncomfortable night under the highest point of them, which we called Mount Misery – a foolish name, which unfortunately it has

continued to bear ever since”<sup>1</sup> (Learmonth in Bride 1983: 97). From Mount Misery, the party travelled to Lake Burrumbeet. Learmonth was impressed with the region. On his return to the Barwon River, he and his brother moved their stock to Buninyong and then extended to their runs to include Burrumbeet (73,312 acres) and Maiden Hills<sup>2</sup> (east of the present study area). The Learmonth brothers were still occupying the runs in 1853 when Thomas was writing to Governor La Trobe. In the 1850s, the Learmonth’s centred their operations at Buninyong and renamed it Ercildoun (Learmonth in Bride 1983: 98; Oulton 1995: 5).

Other runs that occupied the study area included Mt Mitchell (20,800 acres), situated on Doctors Creek and settled by Henry Boucher Bowerman in 1838. Bowerman had travelled into the area as the first European settler from the Murray, along Mitchell’s line in 1838. In 1839, the Learmonth brothers purchased the run and the sheep stock. On 7 June 1843, the Learmonth’s transferred the license of Mt Mitchell and Maiden Hills to Mr Skene, who was partners with Mr Robertson until 1851, when Skene withdrew and Robertson and his sons were the licensees.

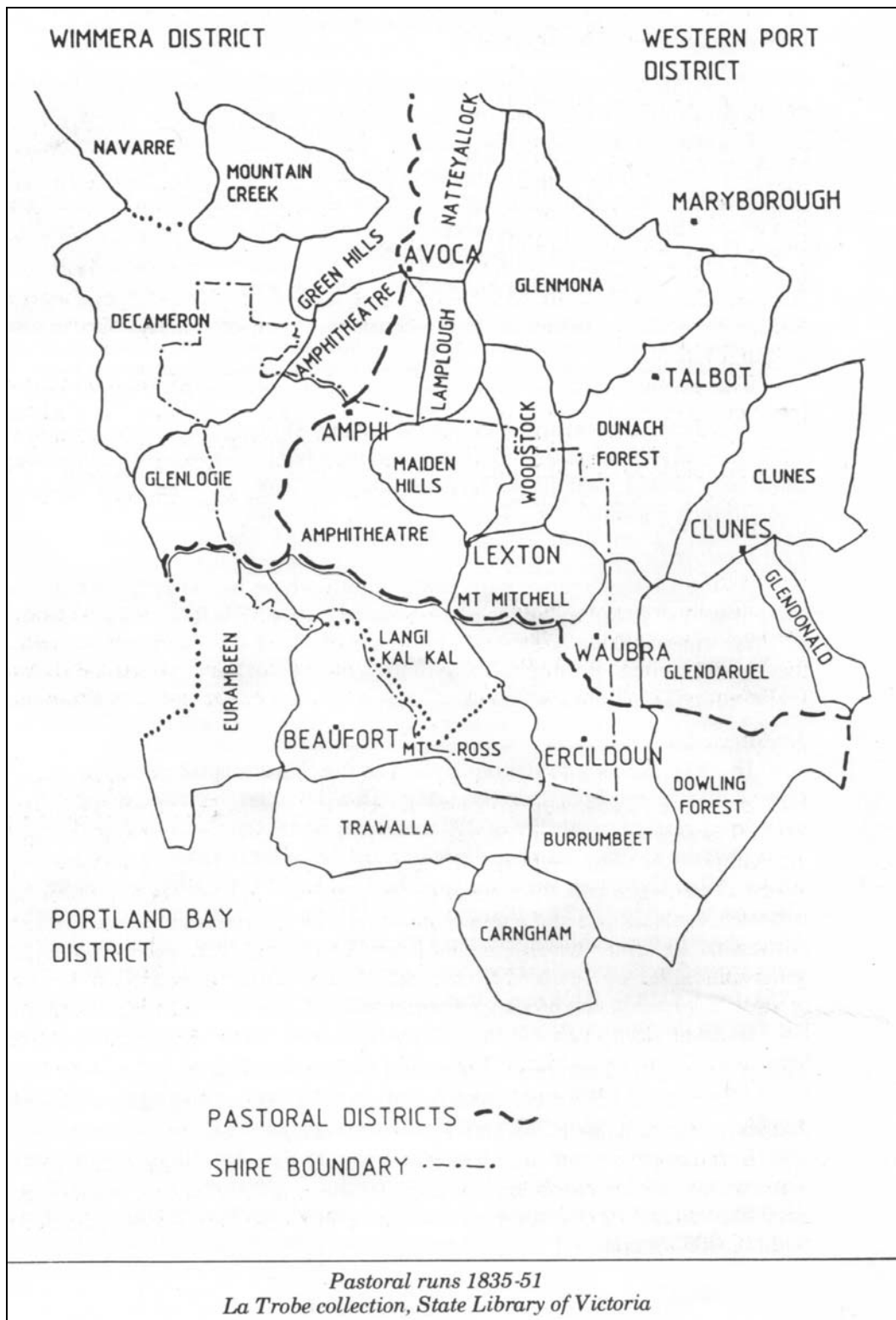
John Hawdon occupied the Dunach Forest run initially in 1839, but was left empty through to 1840 due to Aboriginal attacks on the shepherds. Alexander McCallum established a station there the following year and remained until 1862 (Oulton 1995: 5-6, 13). Many squatters did not establish permanent housing and buildings on their runs until they were given the opportunity to purchase their 640 acre pre-emptive right in 1847 (Oulton 1995: 8). At Mt Mitchell, a head station was built south of Major Mitchell’s line and several shepherds’ huts were positioned around the run (Oulton 1995:10; Figure 5).

The present study area lies for the most part within the Amphitheatre Run (Figure 3). Originally it was part of the Glenlogie (or Junction) run which encompassed 145 square miles with an estimated grazing capacity of approximately 100 cattle and 15,000 sheep (Oulton 1985: 3). It was taken up by Alexander Irvine in 1840 who died in 1856 and the run was subsequently purchased by Charles Williamson who was one of the original partners of the Burbank Inn (in Lexton) established in 1845 (Oulton 1985: 24). In 1862 the run was divided into two with Glenlogie held by Charles Williamson and Amphitheatre purchased by Thomas Clapperton (Oulton 1985: 5). The latter was held until 1874 when it passed to the Bank of Victoria (Spreadborough & Anderson 1983: 201). The southernmost part of the present study area lies within the northern part of the Langi Kal Kal run (Figure 3). William Hamilton and the three Donald brothers took up this run until 1851 when it was divided with Hamilton retaining the northern run in the same name (Oulton 1985: 5). Langi Kal Kal was taken over by Robert Simson in 1853 until it was again divided into Langi Kal Kal east and west, the former held by Simson until 1873 when it was taken up by Thomas Clapperton until acquired by the Bank of Victoria in 1874 (Spreadborough & Anderson 1983: 115).

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<sup>1</sup> As can be seen, Learmonth regretted the naming of Mount Misery. When writing his version of the pioneering history of the region, Learmonth took the opportunity to request that Governor La Trobe rename the mountain (Learmonth in Bride 1983: 97). This did not eventuate.

<sup>2</sup> Refers to hills within the Mt Mitchell run, rather than the Maiden Hills run (Oulton 1995: 5).



**Figure 3 Pastoral Runs 1835-1851 in the Pyrenees Region (Oulton 1995: 4)**

The squatters frequently selected their pre-emptive right in the location of their original homestead and then those most well off would build large homesteads in the same location, such as, Ercildoun and Mount Mitchell homesteads, which are still occupied today (see Table 2). The Learmonths spent £75,000 purchasing the prime agricultural land in their former Ercildoun run between 1855 and 1859. Ercildoun was in close proximity to many gold diggings and, therefore, very attractive agricultural land (Bride 1983: 92). By

1860, Land Acts were developed that led to the sub-division of large pastoral runs into rural allotments of between 40 and 640 acres. Conditions for the purchase included cultivating 10% the land, fencing the allotment or building a house within the first year (Oulton 1995). The Parishes of Lexton and Addington were surveyed in 1855 and sold in December (Oulton 1995: 247-248).

The first main town in this part of the Pyrenees ranges was Lexton on Doctors Creek. The region around Lexton was originally known as Doctors Creek, named after Dr Griffin who settled there between 1841 and 1842. The name later changed to Burnbank as a town grew around a carriers' depot. The town began with Millar and Anderson, who were both stonemasons that decided to join together as hawkers and provide their goods and services to squatters. After travelling around the region, the hawkers decided to establish a permanent base at the junction of squatter's tracks. In 1845, they took out a pastoral license at Burnbank, the ideal situation. Shortly after setting up a roadside inn, other trades built up around it, such as a blacksmith and wheelwright, and by 1848, a Post Office was established. As Ballarat had yet to be established, Burnbank became an important administrative centre between Buninyong and the Wimmera. In 1847, squatters of the district petitioned to have a Minister of Religion in the area and the first Anglican services were held at Burnbank in 1850 (Oulton 1995: 13-17). To minimize the confusion surrounding the town of Burnbank/Lexton being known by two names, particularly as the gold rush brought more people through the area, the township was surveyed as Lexton and gazetted in 1852 (Oulton 1995: 22).

By far the most important historic phase to occur near the study area, and within Australia, was the discovery of gold in 1851. The earliest focus of gold exploration was at Golden Point at Ballarat. Although the study area was not a focal point for gold mining activity, several nearby localities were important sites of gold rushes. Clunes is generally regarded as the site of the first gold strike in Victoria dating to March 1850, where Campbell found gold in an auriferous reef on private land (Bannear 1999: 30). The development of many of the towns, such as, Beaufort, Clunes and Creswick, near the study area was directly or indirectly influenced by gold rushes in each of these areas. Allendale, Kingston, Smeaton and Creswick, to the east of the study area, prospered due to the wealth of gold mining of the Berry Deep Leads and the increased population that these mines brought to the area (McGeorge 1966: 29). Similarly, Beaufort and Clunes prospered during the gold rush periods as rushes brought miners and prospectors to these areas and built the towns around these diggings (Bannear 1999). Lexton was already established prior to the gold rushes but benefited from them as the main town for transport, supplies and administration in the area (Oulton 1985: 18-23). Although there were many gold mining areas around Lexton (e.g. Fiery Creek, Waterloo, Amherst, McCallum's Creek, Amphitheatre) there is no mention of any within the present study area in secondary sources such as Oulton (1985: 118) except limited gold mining west of Ben Major located immediately north of the present study area during the 1930s depression and earlier by the Cosmopolitan Gold Sluicing Company. The initial rush progressed from Waterloo, to Granite Hill and on to Ben Major (Oulton 1985: 121).

The Shire of Lexton was originally the Lexton District Road Board, proclaimed in 1860 and included in its first members, James Robertson and Thomas Learmonth, as well as other early pastoralists of the region. The road board was responsible for road construction and maintenance, as well as, collecting tolls to fund the development of roads through the district. Sunraysia Highway, earlier known as Pyrenees Road, traverses the region along a

former squatters route and runs through the town of Waubra. In 1863, an Act of Parliament was passed that allowed the road board to become a shire.

Maps examined in this investigation do not provide much evidence for the squatting or gold rush episodes for the study area. An 1859 map shows the area of Lexton with Burnbank Creek to the north, the upper reaches of the Avoca River within the watershed of the Amphitheatre (Figure 4). The ridgeline of the Great Dividing Range is highlighted along with what appears to be the drainage lines of the creek tributaries of the study area. The Robertson pre-emptive right lies east of the future Lexton Township. The Parish map for Lang Kal-Kal shows a number of pre-emptive rights to the south of the Great Dividing Range including C. Simpson on White Stone Lagoon, R. Simsons east of Trawalla Creek and Eurambeen west of Beaufort (Figure 5). There is no run or pre-emptive right shown which includes the current study area.

A map of the Parish of Lexton (County of Talbot) first drawn in 1878 and with additions in 1933 show the Township of Lexton and landholdings along the road to Beaufort down to the Granite Range (Figure 6). Quite a number of landholdings comprise the current study area. South of the Lexton – Beaufort Road the larger blocks were purchased by Amelia and George Beaumont, Patrick Harney, William & Christopher Harrison, Joseph Lyons, Thomas Stephens. To the north the blocks were smaller but multiple blocks were purchased by the same individual and include names such as Henry and Hugh Brady, John Kelly, James Smith and James McFarlane. John Kelly had arrived by 1851 and may be the same who is listed in Figure 6 as an owner of blocks north of Lexton – Beaufort Road in the study area (Oulton 1985: 17). On this map the creek is named One Mile Creek. No house sites or other historic features are marked to indicate possible historic archaeological sites.

The 1893 Geodetic Divisions map show the Granite Range, Granite Hill and Ben Major to the north of the study area. Only part of the Lexton – Beaufort Rd is shown from Lexton to the Granite Range. There appears to be little sub-division between Granite Range and Raglan except for Waterloo Swamp and along Trawalla Creek.

However, the Granite Hill area is reported to have been first settled during the 1870s by land selectors (Oulton 1985: 115-119). Farming income was supplemented by wattle bark collecting. Granite Hill with its granite outcrops and natural freshwater springs became a popular spot for picnics. A school was gazetted in 1878 on 3 acres of land on the Lexton – Beaufort Road, however the school opened ½ mile to the south and closed in 1882; it was not re-established until 1908. All that apparently remains is a lone cypress tree (Blake 1973: 822; Oulton 1985: 118). Oulton (1985: 115) states that a small settlement was at Granite Hill.

Figure 4 Parish of Lexton 1859 – Murray (Gold Fields 75)

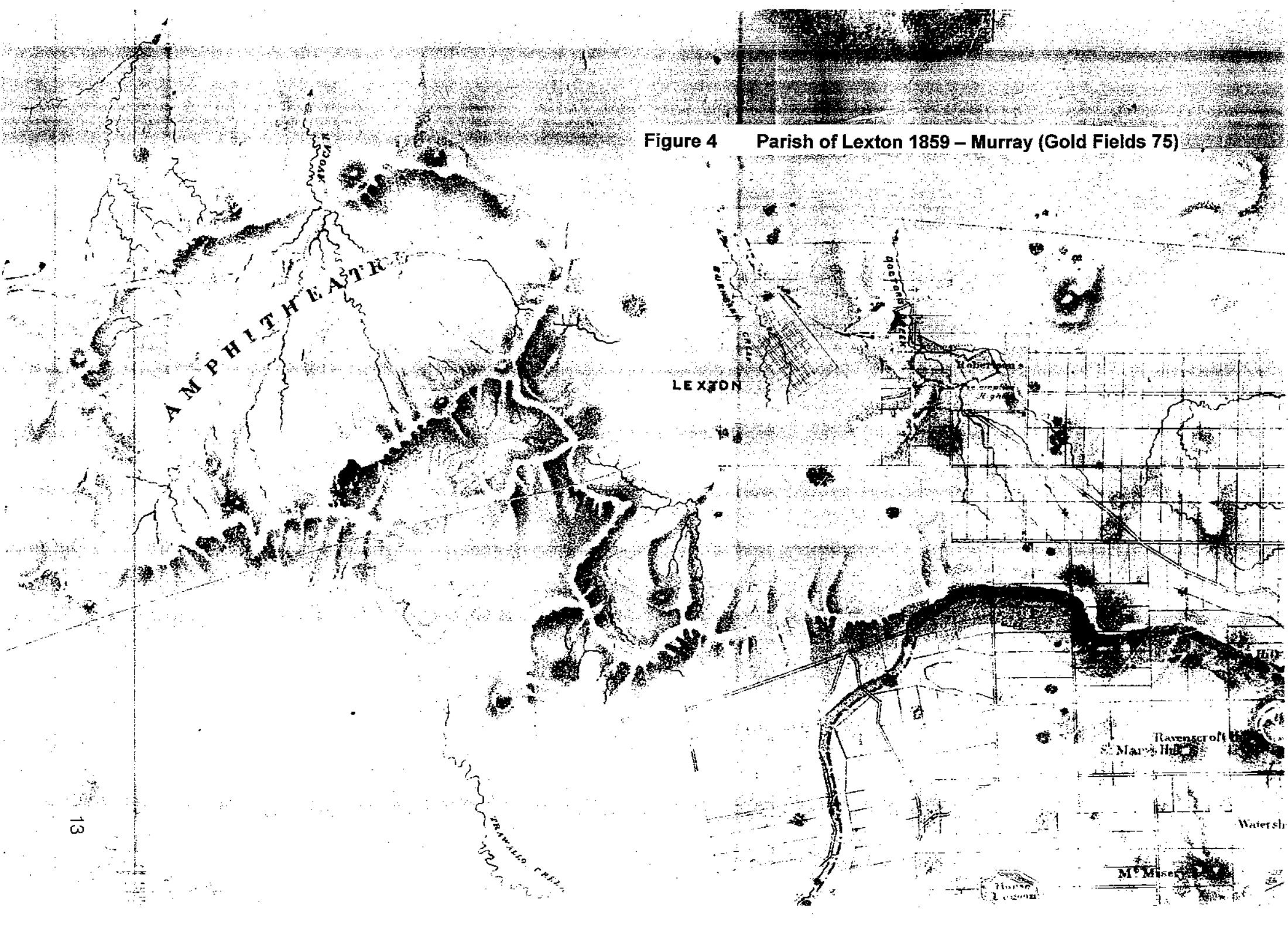




Figure 5 Parish of Langi Kal-Kal (Run Plan 365 - nd)

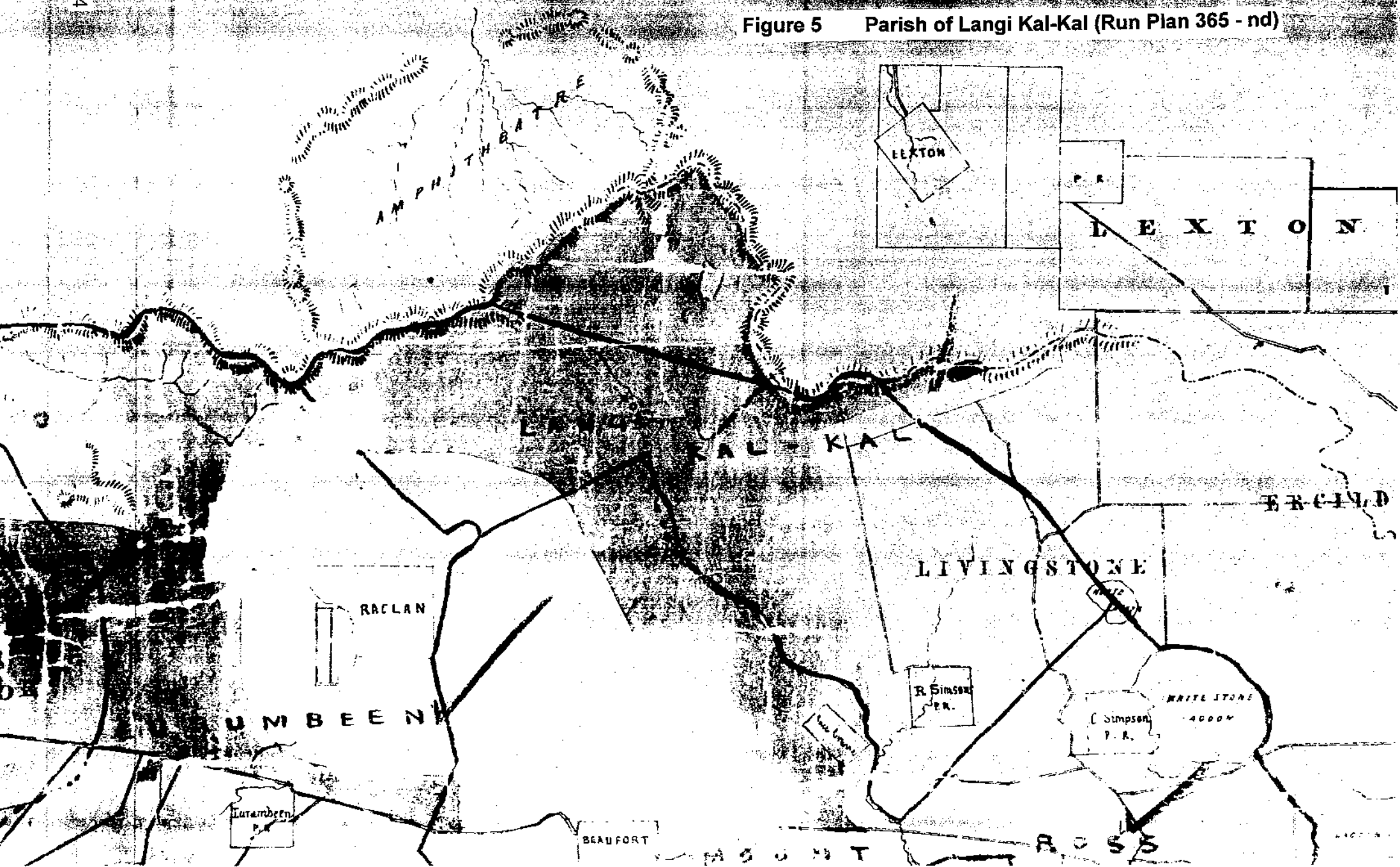




Figure 6 Parish of Langi Kal-Kal 1878 – Smith (Feature Plans 658E)

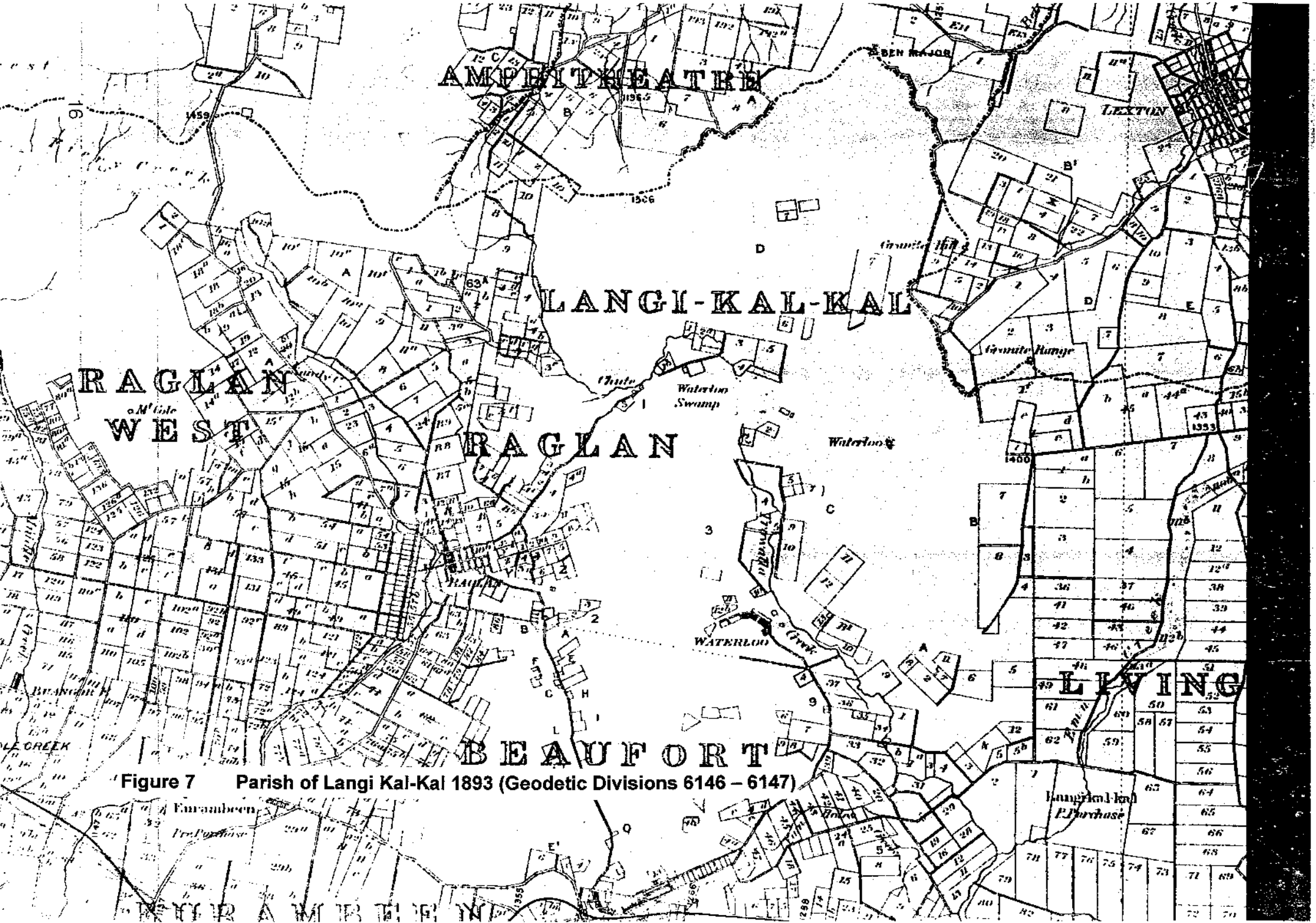


Figure 7 Parish of Langi Kal-Kal 1893 (Geodetic Divisions 6146 - 6147)

## 4 HISTORIC CULTURAL HERITAGE INVESTIGATIONS

### 4.1 Previous Historic Cultural Heritage Investigations

Regional assessments for gold mining sites have included the study area (Bannear 1998 and 1999). No investigation has specifically included the present study area. Various small-scale historical cultural heritage assessments have been conducted in the surrounding area (Weaver 1994; Russell 1995; Long 1998; Murphy & Amorosi 2004a & 2004b; Rhodes & Paynter 2006; Wolski nd).

#### Regional Investigations

**Bannear's 1999** study of the **Historic Gold Mining Sites in the South West Region of Victoria** included all of the present study area. The study was largely a historical review of the gold mining heritage of the South West region, however, gold mining sites were recorded during field surveys of the gold mining areas. Bannear recorded a number of gold mining sites in the Beaufort area.

#### Local Investigations

**Weaver (1994)** conducted a desktop study, supplemented by a vehicular field inspection of an optic fibre cable route from **Learmonth – Waubra – Evansford**. The route extended along the Sunraysia Highway, along Langi Kal Kal and Beaufort – Waubra Roads, north along the road between St Mary's and Ryan Hills, northeast along Troy's Road then north along Evansford Road. Weaver (1994: 7-8) noted 20 archaeologically sensitive areas for historic archaeological sites along the route that contained rural features, such as, old houses, fencing and planted windbreaks.

**Russell (1995)** conducted a desktop cultural heritage assessment of the potential impact of proposed Telstra optical fibre cable routes from **Avoca to Lexton**, Newstead to Campbelltown and Guildford to Yandoit. The Avoca to Lexton route is approximately 8km from present study area running for approximately 32km long within existing road reserves and following mostly existing routes. It was predicted that few if any significant European historic sites existed along the cable route.

**Long (1998)** conducted an archaeological survey of **Fraser's Plantation, Waubra**. The property is named "Stonehenge" and is situated on the south of side of Mt Beckworth Road to the west of Mount Gap. During the survey, Long (1998: 33-34) recorded two historical archaeological sites, Stonehenge Hut (H7623-0229) and Stonehenge Dam (H7623-0230) (see Table 2 for detail). In addition, several historic landscape features, 'rig' field systems, plantation fencing and residual post and rail fencing, were noted but not included on the Heritage Victoria Inventory (Long 1998: 35-37). The Stonehenge Hut was assessed as being of high scientific significance and regional historical archaeological significance, while the dam site was assessed as having moderate scientific significance and local archaeological significance (Long 1998: 44-45). The area surrounding H7623-0229 was considered to have historical archaeological potential to contain buried deposits in association with the site.

**Murphy & Amorosi (2004a)** conducted a cultural heritage assessment of four proposed water treatment sites at **Clunes, Beaufort, Forest Hill and Blackwood** for Kellogg Brown &

Root Pty Ltd on behalf of Thames Water Ballarat Pty Ltd. The closest site to the current study area was at Beaufort located approximately 12km to the south-west. The area has been extensively disturbed by historic working and reworking of alluvial gold mining tailings which began in the 1850s. One historic site (Musical Gully GMS 1, H7523-0065) was recorded and assessed as having moderate scientific significance and local historic cultural significance. area was assessed as highly sensitive for additional buried deposits associated with gold-mining.

**Murphy & Amorosi (2004b)** conducted a desktop cultural heritage assessment of the 18,000 hectare proposed wind farm near **Waubra** approximately 15km ESE from the present study area. No existing historic registrations existed for the study area. Areas of sensitivity for historic sites were identified for the early pastoral and subsequent farming periods in the area.

**Rhodes & Paynter (2006)** conducted a cultural heritage assessment and monitoring of a 94.6 hectare proposed timber plantation near **Buangor** in the foothills of the Pyrenees Ranges approximately 21km west-south-west of the present study area. During the survey no historic sites were recorded and no areas of sensitivity for historic sites were identified.

**Wolski (nd)** conducted an excavation of an outstation at **Mount Cole**. Two phases of occupation were identified at the site: a prehistoric stone artefact assemblage and a European assemblage associated with the outstation. A temporal overlap between the European and indigenous artefacts was adduced suggesting a contact historic site.

In summary, no prior investigation has considered historic values within the LWF study area. Limited previous investigations in the region constrain the capacity to develop an historic site prediction model for the study area.

## 4.2 Previously Recorded Historic Sites

The LWF lies within the Pyrenees Shire. Table 1 indicates the recorded historic sites within 10km of the study area.

**Table 1 Historic Sites on Cultural Heritage Registers within 10km of the LWF**

Site Name	HVR* PSHO* RNE* NTV*	Location/Description	Significance
Baxter Track Deep Lead Workings	H7523-0050 HO48 ISP 101569	Off Lexton-Beaufort Road, north side of Baxter Track. Line of five whim shafts along a deep lead with whim platform shaft/mullock heaps & puddler/pebble dump/slum pond. Good condition.	State
Fiery Creek Dredge Hole	H7523-0049	West of Beaufort-Amphitheatre Road north of Beaufort dredging works for gold.	N/A
Golden Point Workings	H7523-0048	Southwest of the intersection of Guys Road & Beaufort-Amphitheatre Road Puddling, sluicing & dredging works for gold.	N/A
Basin Hut Sawmills Site	H7523-0063	Near intersection of Mont Lonarch Rod & Fortes Rd. Saw milling operations.	N/A
Musical Gully GMS 1	H7523-0065	Musical Gully Rd, Nth of Beaufort. Tailings, water races, reworked pits.	Moderate Local
Mount Mitchell Homestead & Stables	H0312 HO24 R 4062 B3022	Sunraysia Hwy, Lexton. Large single-storied homestead built in mid 1870s for the Robertson family. Condition is good, stables intact.	National
"Belmont", Raglan Rd, Beaufort	H644 HO21 R 4066 B3219	Raglan Road, Beaufort Homestead, outbuildings, historic machinery & gardens.	State
Tipperary Gold Puddling Site	H1250 HO22	Six puddling machines, water races & shallow sinkings.	State

\* Heritage Victoria Register & Inventory, Planning Scheme Heritage Overlay, Register of the National Estate, National Trust of Victoria Register.

There is a range of sites which reflect the history of the area recorded on the Register of the National Trust (VIC), the Register of the National Estate (AHC) and Heritage Victoria's Registry and Inventory. These include early homesteads, forestry and gold mining. Registered sites do not reflect the local farming industry or township settlement. Eight previously recorded historic sites have been identified within 10km of the study area. None of these previously recorded sites would be adversely impacted by the development of the LWF.

The number and type of previously recorded sites reflects in part the type and scope of previous investigations. Many of the sites recorded on the Register of the National Estate, Planning Scheme Heritage Overlays and National Trust of Victoria Register are from heritage studies of extant standing structures predominantly found in larger towns. These types of investigations habitually neglect the identification of historic archaeological sites. Furthermore, few cultural heritage assessments have been conducted and the sample of recorded historic sites is small and skewed to mining and pastoral station site types. Although, historical information and previously recorded sites indicate that there are no highly significant sites within the study area, the lack of comprehensive survey coverage means that the majority of historic archaeological sites in the region remain unrecorded. The scant historical evidence suggests there may be a former Granite Hill settlement, various selectors farmhouse sites and associated features, and possibly also some gold mining sites.

### **4.3 Historic Site Prediction Model for the Study Area and Implications for this Investigation**

The implications of the historic cultural heritage background for the study areas are:

- There are no previously recorded historic cultural heritage sites within the study area, and the LWF has not been previously surveyed for historic sites.
- There are no pre-emptive right properties within the study area.
- The most likely historic sites to occur in the study area are those associated with the rural history of the region (post 1860s farm buildings, homesteads, fencing, stockyards and other rural features) and to a lesser extent gold mining.
- Rural remains from the late 19<sup>th</sup> to early 20<sup>th</sup> century are likely to be associated with later subdivision of the Pyrenees region.
- Any undisturbed historic site found within the LWF will have increased significance due to rarity.
- The overall historic archaeological potential for sites of high significance is low.



## 5 ABORIGINAL BACKGROUND

### 5.1 Ethnohistory

The information used to establish pre-settlement Aboriginal spatial organisation is mostly based on observations made by Europeans during the initial period of Contact and subsequent settlement of the study area region. Early specific historical accounts of Aboriginal land use near the study area are scant.

The Aboriginal people in the Melbourne region belonged to the Kulin nation, made up of five language groups being the *Woiworung*, *Taungurong*, *Jajowrong*, *Bunurong* and *Wathaurung*<sup>3</sup> (Presland 2001: 36-37). The Kulin were divided into two halves (moieties), *Bunjil* (eaglehawk) and *Waa* (crow).

The *Djadja wurrung* language group occupied the country “from the northern slopes of the Great Dividing Range near Kyneton to Amphitheatre; from Kyneton northeast to the Alexandrine Range and the Loddon River near Boort; from Boort northwest to Lake Buloke; and from Lake Buloke southwest along the Richardson River to Wallaloo Creek, then to Navarre Hill and back to the Pyrenees Range at Amphitheatre” (Clark 1990: 151, 153f). The language group comprised 16 clans, one of which, the *Tureet balug*, was located near the LWF study areas. The country of the *Tureet balug* was located at Hepburn’s station and around Smeaton Hill and Mt Moorookyle. They were also noted at the Coghill brother’s station, Glendaruel, near Clunes. The clan head in 1841 was *Karringboot* and *Paparra goondeet* was the chief from 1840-1842. Although Hepburn referred to the clan as “his natives, that is, the tribe belonging to the ground he occupied” (Robinson 1844 in Clark 1990: 165), Robinson also noted that Hepburn, along with Birch and Coghill (Christian names not identified) were involved in killing members of the clan between 1838 and 1839 (Clark 1990: 166).

Clark (1990: 145) noted that during the gold mining era, the *Djadja wurrung* were forced to live on the outskirts of mining settlements and survived largely through begging and prostitution. While some employment was available on stations, increased accessibility to alcohol was leading to its abuse (Clark 1990: 145-146).

The *Wada wurrung* were the Aboriginal language group who occupied land to the west of the Werribee River at the time of Contact. Their language boundary extended from the Otway Ranges in the west to the Werribee River in the east, to the headwaters of Fierly Creek in the north and incorporated the Bellarine Peninsula and Geelong (see Figure 8; Presland 2001: 36, 37f, 44). The *Wada wurrung* clans were part of a larger regional group of clans who shared some common language, marriage and social ties, and, who collectively called themselves the ‘Kulin’ (Barwick 1984: 105; Presland 2001: 36, 37f). The Kulin nation occupied much of central Victoria between Airey’s Inlet and Cape Liptrap and north almost to the Murray River. Clark (1990: 277) considered the ethnographic information suggested that the *Wada wurrung* mortuary practices and distinctive facial and body markings at corroborees could distinguish them from other language groups.

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<sup>3</sup> The spelling of Aboriginal language groups and clans varies according to the source used. For example Presland (1994) uses the spelling *Woiworung* and Clark (1990) chooses to use *Woiwurrung* but identifies approximately 70 variants used in historical texts, including names such as Port Phillip Aborigines and Yarra Yarra Tribe frequently used by early Colonists.



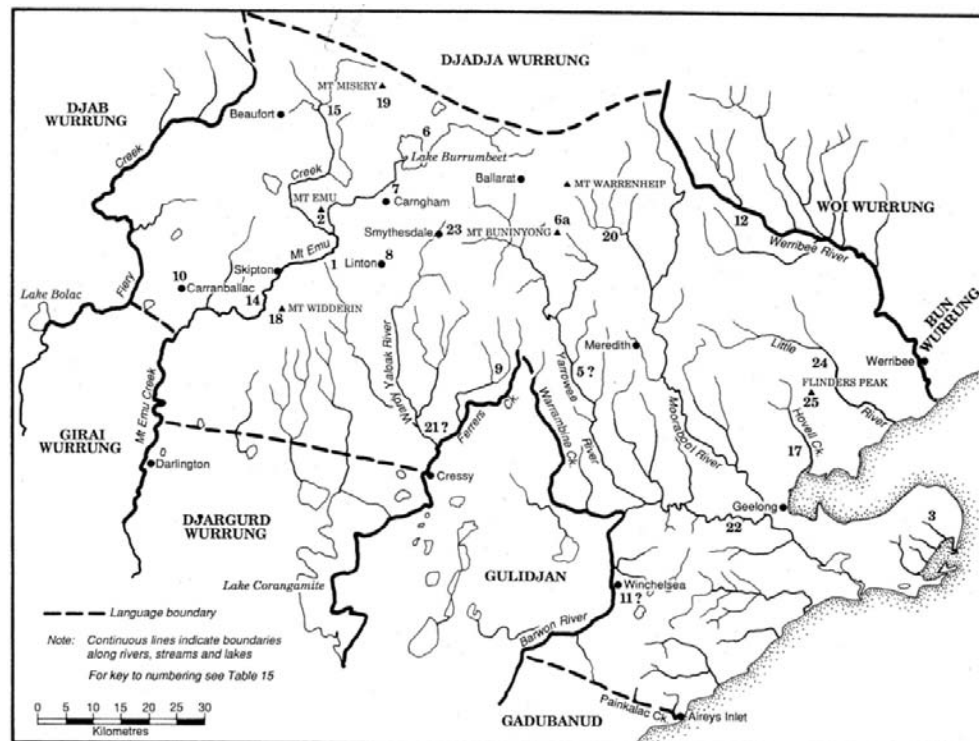
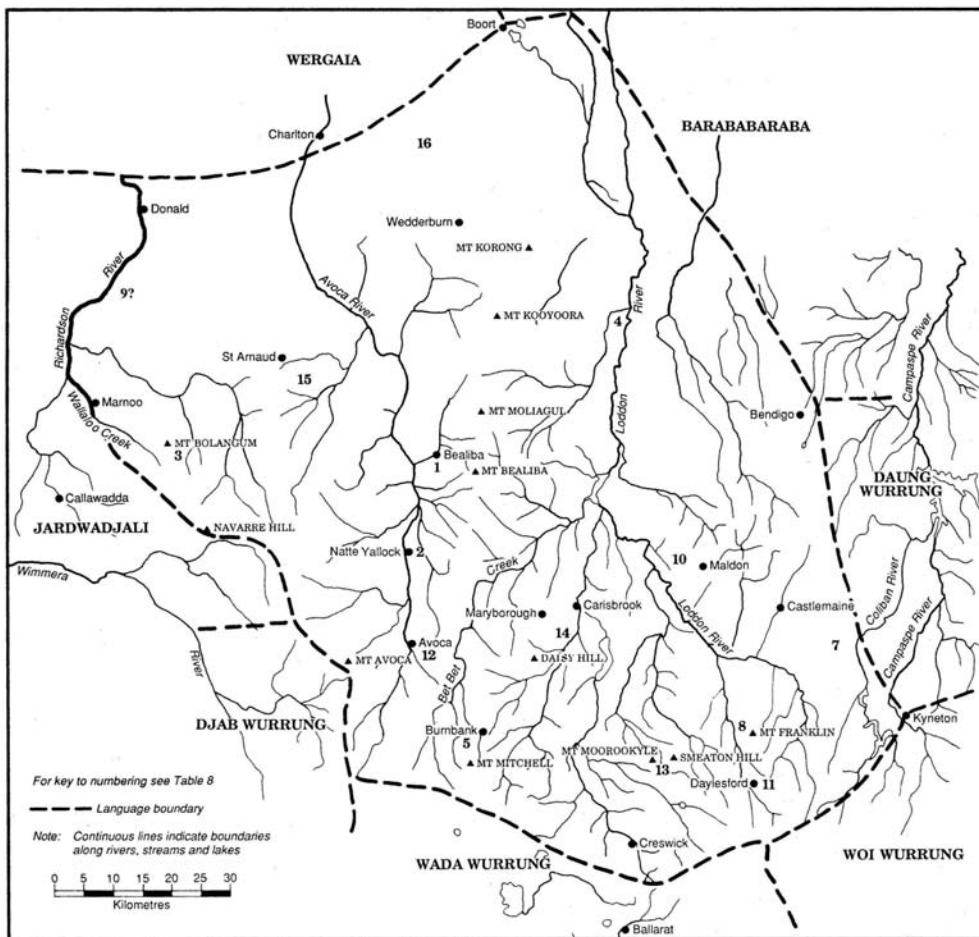


Figure 8 **Djadja wurrung and Wada wurrung language and clan locations (adapted from Clark 1990: 311f, 153f)**

The *Wada wurrung* clans shared a system of organisation with clans to the north and east. They intermarried with the *Djab wurrung*, the *Djargurd wurrung* (Clark 1990: 277) and the *Bun wurrung*, with whom they also had ceremonial links (Gaughwin 1981: 59). Clan heads of the *Wada wurrung* were either *Arweet* or *Noure-nit/Nare* (Clark 1990: 277).

The language group of the *Wada wurrung* was divided into 25 clans. Two of these clans were recorded in areas near the study area at the time of Contact. These clans were; the *Marpeang balug* from the Blackwood, Myrniong and Bacchus Marsh areas, whose clan head or *arweet* was *Worope* and moiety was *Waa*, and the *Burrumbeet balug*, who were recorded as having occupied the lands around Lake Burrumbeet and Learmonth. The clan head was *Noonallaboon* (1842-1844); *Balybalip/Bullurp Bullurp/Bil-le-bil-lup*, also known as, King Billy of Ballarat (c.1823-1881). The clan's moiety was *Bunjil*. During the gold rush of the 1850s, some families of this clan relocated to Mount Franklin (Clark 1990: 311f, 318-319).

Clan estates were not clearly defined or tightly restricted to one specific area (Stanner 1965). Both the *Wada wurrung* and the *Dja Dja Wurrung* clans in the region would have moved through their country in small mobile bands of between 20 and 120 people (Dawson 1981, Lourandos 1977). Band sizes would be largely dependent on seasonal availability of resources and social and ceremonial obligations. In times of seasonal abundance, large intertribal and clan gatherings were possible. Bands could be comprised of members from different clans, most of who would be related through kinship ties. In times of stress, clans would retreat to their own estate and move in a seasonal pattern dictated by the availability of resources.

Mortuary practices of the Kulin included either burial of their dead or placement of the body in tree hollows that were then often burnt. When burial was chosen, the dead were tied up in their cloaks and interred lying on their side, with arms and legs doubled-up or flexed. Dead whom were placed in trees were also tied up using their cloaks, and some time later; part or all of the remains were cremated. Although burial locations have been identified within ancient terraces of major rivers in the region, these are generally an extremely rare archaeological site type. Thus, based on this scant information, burial sites may still exist in undisturbed sand hills or deep alluvial locations within the region.

Parker (in Cannon 1983: 693) noted that the river valleys were often used as travelling routes, describing such areas as "their ordinary place of resort" where Aboriginal people would utilise their most abundant resources. Clan members rarely numbered more than thirty during their day-to-day activities, only forming large groups for particular social functions or to exploit abundant seasonal food resources. During the 1840s and 1850s, corroborees were held close to settlements where Aborigines received provisions (du Cros 1989: 28).

After the establishment of the Aboriginal Protectorate, Assistant Protector Edward Parker travelled to the Loddon River in 1840 to establish the Mount Franklin Protectorate Station, near Daylesford. The station originally comprised of 41,073 acres of good farmland, which was productive until 1843. Although the Aboriginal people of the area could initially both grow crops at Mount Franklin and continue to hunt, the rapid clearance of land meant that their food supply diminished and rations were more heavily relied upon. In time, Europeans settled sections of the station until only 113 acres remained. In 1860, the operation of Mount Franklin was taken over by the Central Board for the Protection of

Aborigines (CBPA). By 1864, the station was closed and the occupants were moved to Coranderrk Station at Healesville or the Framlingham Mission, Purnim (Caldere & Goff 1991: 5, 13).

With the discovery of gold in the region and subsequent expansion of European population and stock numbers, the numbers of local Aboriginal people dramatically declined. These people were amongst the first Victorian groups to feel the full impact of European settlement. Camping reserves at Steiglitz and Bacchus Marsh were set aside for Aboriginal people to provide areas not impacted by gold miners and their habits (Caldere and Goff 1991: 11). Those who did not move away were compelled to rely on rations given or stolen from the squatters, as their traditional food resources were greatly depleted. Honorary Correspondent depots were set up around Victoria to dispense food and other supplies to Aboriginal people. Today, the interests of Aboriginal cultural heritage are in the custodianship of the Ballarat and District Aboriginal Co-operative Ltd.

## **5.2 Resources Available to Aboriginal People**

The resource base available to Aboriginal people in the study region in the past would have been rich and varied. The study area and surrounding region contains a variety of productive ecological zones, such as, riverine, mountainous, lacustrine and terrestrial, that would have been attractive for hunter-gatherers.

The water sources near the study area, such as Wimmers River, creeks and tributaries, would have attracted Aboriginal people to the area. It is likely that areas associated with water bodies and drainage systems were the focus of exploitation, whilst hills and dry locations would have been more intensively utilised for campsites by Aboriginal people near the study area. Within each of the above-mentioned ecological zones, there would have been variations in staple species diversity and abundance, and this, in turn, would have influenced site location (Walsh 1987).

Prior to European settlement, the study area would have contained a large number and wide variety of fauna species associated with forests, wetlands and waterways. With the demise of native habitat, the number and range of species that once existed has greatly reduced. Arboreal and land mammal species that would have been commonplace throughout the study area were: brushtail possum, Leadbeater's possum, ring-tail possum, yellow-bellied glider, greater glider, horseshoe bat, tiger quoll, native rats, wallaby, kangaroo, emu, echidna and koala. Within wetlands and areas associated with waterways, black swans, ducks, ibis, quail, fish, and crustaceans, would have existed (LCC 1991: 111). Along some watercourses in the western region, fish traps were constructed from stone, few of which have survived (Vines 1993: 9). The Yam daisy formed one of the important staple foods, and prior to its destruction by introduced grazing animals, was widespread on the grasslands. In 1873, Thomas Winter observed Aboriginal people around Melbourne, and noted "Their natural food consists of the meat of the country when they kill it, but chiefly roots, of which the favourite is a plant very much like dandelion. This they roast or eat raw" (Winter in Bride 1968: 395). Ephemeral swamp plants, such as, bull rushes and sedges were also an important source of food, as well as, fibre for woven bags and decorative items. Detailed lists of plant and animal species available within the Port Phillip area can be obtained from Presland (2001) and Gott (1983).

Red Gum, Manna Gum and Swamp Gum were common along watercourses and within flood plain areas of the region. Aboriginal people commonly accessed and favoured these trees for the manufacture of bark and wooden implements because of the smooth bark and large size (Edwards 1972: 31). Apart from the manufacture of wooden and bark implements and access to food resources, the bark from these trees would also have been removed for other non-utilitarian ceremonial and social purposes. Austral Bracken had medicinal purposes, as the juice of the stem is applied to relieve the itching of insect bites, as well as for food. The underground stems of the plant were collected and eaten as a starchy staple food (Lane 1997: 3). The sugary extrusions of sap that formed on the leaf of the Manna Gum were collected and eaten by Aboriginal people, and the smoke of its burning leaves was thought to reduce fever (Lane 1997: 3). It is beyond the scope of this study to reconstruct the flora resource structure at a local scale; however, some of the food resources that may have been utilised by Aboriginal people are wetland root crops (such as *Typha*, *Triglochin*) and dry land root crops (such as *Microseris scaigera*).

Stone implements were daily tools used by Aboriginal people throughout Australia for a variety of functions including cutting, scraping and carving, as axes and spear barbs and for ceremonial purposes. The most accessible nearby sources of stone included the basalt from the plains and silcrete would have been found in outcrops, such as that recorded near Coimadai Creek at Bacchus Marsh (AAV 7722/102; Cupper 2002: 13). Quartzite and quartz would have been available, found as pebbles from the rivers and creeks near the study area. The *Djadja wurrung* and *Wada wurrung* would also have had trading rights with the nearby *Woi wurrung* clan who managed the highly valued Mt William greenstone quarry at Lancefield. Stone from the quarry was exchanged through a barter system for other prized possessions such as possum skin cloaks, one of which would have been exchanged for three to four greenstone axe blanks. The value of the stone was evidently high as a cloak often contained as many as 28 skins and took considerable time and effort to make (McBryde 1984; Barwick 1984).

## **6 ABORIGINAL CULTURAL HERITAGE INVESTIGATIONS**

### **6.1 Previous Aboriginal Cultural Heritage Investigations**

This section presents relevant regional and localised archaeological investigations to provide a detailed context of the existing archaeological values of the region so that any sites found during subsequent cultural heritage assessments can be appropriately understood and placed within a local and regional context. It also clarifies to the reader the most likely outcome of any future survey. A synthesis of information in Sections 5 and 6 is made, and a site prediction model generated in Section 6.3.

No detailed regional investigations have been conducted which include the present study area. A few general regional investigations have some limited relevance (Van Waarden 1994, 1995; McConnell, Buckley & Wickman 2002a & b) and are briefly discussed.

## Regional Investigations:

**Van Waarden (1994)** conducted a regional desktop study of the Aboriginal archaeology of the **Loddon River Basin** that incorporated information from systematic surveys including the VAS Summer Field School, Kerang lakes, Little Murray River, Loddon River, Gunbower Island, and locality surveys at Kow Swamp, Kooyoora State Forest, Mt Beckworth and Franklinford. In addition, the information from seven archaeological excavations of sites at Kow Swamp, Gunbower, Koondrook, Burke's Bridge, Mangat Hill and Mount Hope, were included. Van Waarden's (1994) regional study area included the present study area. However, none of the previous surveys cited encompassed this section of the Loddon catchment boundary. The closest study used was Lovett's (1992) Mt Beckworth survey (see below). A total of 853 Aboriginal archaeological sites, with 1005 distinct archaeological features, had been recorded within the Loddon Basin at the time of van Waarden's study. Van Waarden (1994) estimated that this number was only likely to be a small proportion of the sites actually in the study area (van Waarden 1994: 10).

**Van Waarden (1995)** conducted a desktop study of the **Avoca River Basin**, the upper reaches of which has tributaries falling from the northern slopes of Ben Major. Ben Major lies 4.5km north-west of Granite Hill which is within the present study area. Most of the surveys were conducted in the plains unit and hence the sites were clearly biased to this geomorphic unit well to the north of the present study area. As of September 1993 there were 491 registered sites. At this time no systematic surveys had been conducted in the dissected uplands with 37 recorded sites which was considered too few to analyse site distribution beyond noting that scarred trees were the most common followed by rock wells, surface artefact scatters and isolated artefacts (Van Waarden 1995: 16, Table 1). Quartz was the most commonly occurring raw material throughout the Avoca Basin which occurs naturally in the Uplands Unit although silcrete also commonly occurs in the Mallee, which has been suggested, has sources of silcrete. The paucity of archaeological evidence for the uplands units is understandably reflected in the paucity of this unit in the discussion of the Avoca River Basin archaeology (pp. 20-23). Due to the lack of sites only a speculative site prediction model was formulated (pp. 27). The likely common sites types include artefact scatters, isolated artefacts and scarred trees. Site types, which may be found, include rock wells, rock shelters, burials, quarries, rock art sites and middens. It was noted that gold mining may have had a significant affect on the preservation of sites. Sites are most likely to occur on flatter ground such as spurs, ridge lines or river terraces in association with wetlands and other important resources for Aboriginal groups. It was suggested that the uplands unit required systematic survey.

In a study of the **Box - Iron Bark Forests of Northern Victoria**, **Clark (1997)** detailed the range of uses these forests had for pre-Contact Aboriginal people. Supported by extensive ethnographic information, Clark highlighted the importance of a specific habitat to traditional Aboriginal lifeways. One of the language groups who made extensive use of these forests was the *Djadja wurrung*. Therefore, clan members of the study area would have had access to these resources through kinship ties. Although a large range of Aboriginal archaeological sites types are found within this area, scarred trees dominate the archaeological record. These sites are mainly found along the margins of stream systems and around lakes and swamps. Box and Iron Bark species provided an extensive range of uses, including a sweet beverage, spears, canoes, boomerangs, shields, sculptures, bark huts and for ceremonial practices. A large range of potential food and plant resources were prolific on this habitat. This study by Clark sheds some light on the complex

relationship traditional Aboriginal people had with a specific habitat. The implications of Clark's study could be transposed to many other specific habitats, of which little investigation has been undertaken. Further, similar studies would then be able to more accurately indicate the relationship traditional Aboriginal people had with their land, as well as highlighting the inherent bias of the current archaeological record that is predominantly comprised of lithic sites.

**McConnell, Buckley & Wickman (2002)** presented the **Aboriginal Heritage Management in Victorian Forests** report for the Department of NRE within the framework of the Regional Forest Agreement Program. This report followed on from a similar assessment conducted for the North East region of Victoria. An Aboriginal Heritage Management System was developed for forests in West Victoria. It proposed a set of principles for the management of Aboriginal values in DNRE managed forests. It recommended additional identification of Aboriginal heritage values and additional research at a regional level to mitigate disturbance of Aboriginal heritage values and for strategic planning and management purposes. A number of key objectives and mechanisms were proposed to achieve these desired outcomes. A system of Aboriginal Heritage Sensitivity Zoning for the areas under review was presented. There are no forest areas within the study area managed by DNRE.

#### **Small scale investigations:**

**Lovett (1992)** conducted an archaeological survey of the **Mt Beckworth Reserve** to the east of the study area. During the survey, five isolated artefact occurrences were recorded which included unretouched quartz flakes and a basalt chopper. Two of the sites were recorded in association with water courses (Lovett 1992: 3).

**Weaver (1994)** conducted a desktop study, supplemented by a vehicular field inspection of an optic fibre cable route from **Learmonth – Waubra – Evansford**. The route extended along the Sunraysia Highway, along Langi Kal Kal and Beaufort – Waubra Roads, north along the road between St Mary's Hill and Ryan Hill, northeast along Troy's Road then north along Evansford Road. Weaver (1994: 7) noted four archaeologically sensitive areas for Aboriginal stone artefact scatter sites that were associated with creeks and swamps in the southern part of Weaver's study area and outside of the present study area. Weaver (1994: 2) noted that most of the road reserve in the study area had been previously disturbed by cable installation.

**Russell (1995)** conducted a desktop cultural heritage assessment of the potential impact of proposed Telstra optical fibre cable routes from **Avoca to Lexton**, Newstead to Campbelltown and Guildford to Yandoit. The Avoca to Lexton route is approximately 8km from present study area running for approximately 32km long within existing road reserves and following mostly existing routes. A site prediction model was formulated for different site types that may be encountered such as stone artefact scatters, quarries, shell middens, mounds, burials and rock wells. The following potential for site types was generated: stone artefact scatters in close proximity to larger water courses with quartz as the dominant raw material; quarries where quartz naturally occurs at water courses and in lag deposits on rises; shell middens and mounds on the banks of larger water courses; scarred trees on mature >200 years (low potential); burials along the banks of major water courses (unlikely) and rock wells (extremely unlikely). Further ground survey was not recommended because of poor visibility and disturbance making such an assessment useless.

**Long (1998)** conducted an archaeological survey of **Fraser's Plantation, Waubra**. The property is named "Stonehenge" and is situated on the south of side of Mt Beckworth Road to the west of Mount Gap. During the survey, eight Aboriginal isolated artefact sites (AAV 7623/41 to 7623/048) and a surface artefact scatter (AAV 7623/049) were recorded (Figure 4). The main raw material found was quartz, with only a small amount of basalt also present at two of the sites. All of the sites were subject to disturbance from slope wash, stock and vehicle tracks, ploughing, tree clearance and/or cropping. The sites were located either adjacent to drainage lines or on the summit adjacent to the granitic outcrop (Long 1998: 22-27). All sites were assessed as being of low scientific significance, due to the materials found at the sites and the level of previous disturbance at each site (Long 1998: 40). Five areas of moderate to high archaeological potential were identified. The summit ridge and granite outcrops were identified as being of high archaeological sensitivity for sites, such as, rockshelters (with or without art), rock wells, stone arrangements, artefact scatters and scarred trees (on mature native trees). The southern drainage system of eroded gullies and ephemeral drainage lines was considered to have moderate sensitivity for containing scarred trees, artefact scatters and isolated artefact occurrences. The northern drainage system was assessed as having the same potential as the southern drainage system, with the exception of scarred trees. Two stands of native vegetation were considered to have moderate sensitivity for scarred trees. Finally, the basalt outcrops adjacent to a drainage line were considered to have moderate sensitivity for artefact scatters and quarry sites (Long 1998: 51-52).

**Gunn (2001)** surveyed a **Wimmera River Water Diversion Pipeline** for a vineyard near the study area and recorded three artefact scatter sites at Quoin Hill (QH – 1 to QH – 3, AAV 7623/050 to 7623/052).

**Murphy & Amorosi (2004a)** conducted a cultural heritage assessment of four proposed water treatment sites at **Clunes, Beaufort, Forest Hill and Blackwood** for Kellogg Brown & Root Pty Ltd on behalf of Thames Water Ballarat Pty Ltd. The closest site to the current study area was at Beaufort located approximately 12km to the south-west. The area has been extensively disturbed by historic working and reworking of alluvial gold mining tailings which began in the 1850s. No Aboriginal sites were recorded or areas of sensitivity for Aboriginal archaeological sites.

**Murphy & Amorosi (2004b)** conducted a desktop cultural heritage assessment of the 18,000 hectare proposed wind farm near **Waubra** approximately 15km ESE from the present study area. Four previously recorded Aboriginal archaeological sites in the study area included three artefact scatters and one earth feature (mound). The three artefact scatters consisting primarily of flakes, some cores and one scraper made from quartz. The mound contained burnt stone, charcoal and quartz artefacts. None were assessed for scientific significance.

**Rhodes & Paynter (2006)** conducted a cultural heritage assessment and monitoring of a 94.6 hectare proposed timber plantation near **Buangor** in the foothills of the Pyrenees Ranges approximately 21km west-south-west of the present study area. Four sites were located during the survey (AAV7523-0183 to –0186) comprising 2, 2, 15 and 3 stone artefacts respectively. During monitoring of soil testing an additional two sub-surface artefact scatters were recorded (AAV7523-0187 & 0188) comprising 91 and 9 artefacts respectively. All the artefacts were made from locally available quartz except for one chert flake found at AAV7523-0187. 122 artefacts were recorded including 72 flaked pieces

(59%), 37 flakes (30%), 12 cores (10%) and one formal tool (<1%) which was a thumbnail scraper. The artefacts were interpreted as the discard of the manufacture and maintenance of stone artefacts at short-term campsites by people travelling between different locales. Site AAV7523-0187 was assessed as having high scientific significance. Artefacts were predominantly found in a layer of relatively undisturbed sandstone gravel and sand 100-300mm in depth. Quartz veins were found in outcrops on both hills within the study area although they did not appear to represent quarries or primary stone reduction sites. The results confirmed that campsites are located on hills and connecting ridges between them which form natural routes of movement. All of the sites were within 200m of intermittent and possibly permanent sources of potable water, but were not found on small alluvial flats (the result of flood/erosion?). Areas of archaeological sensitivity were protected from development and a program of monitoring of works immediately outside the buffer zones protecting sites recommended for monitoring.

## 6.2 Previously Recorded Aboriginal Sites

Although there are no sites previously recorded within the LWF, there are three previously recorded Aboriginal archaeological sites and one Aboriginal historic place within 7km of the present study area (see Figure 9 & Table 2).

**Table 2 Previously Recorded Aboriginal Sites within 7km of the Study Area**

Site	Location	Contents	Scientific Significance Assessment*
AAV7623-0023 Whitestone Lagoon 1	725500E 5857100N Sandy lunette of drained swamp	Stone Artefact Scatter & Earth Feature Burnt basalt, quartz artefacts, possible hearth	N/A Fair condition, ploughed
AAV7623-0051 QH-2	727820E 5864860N	Stone Artefact Scatter	N/A
AAV7623-0052 QH-3	727910E 5864890N	Stone Artefact Scatter	N/A

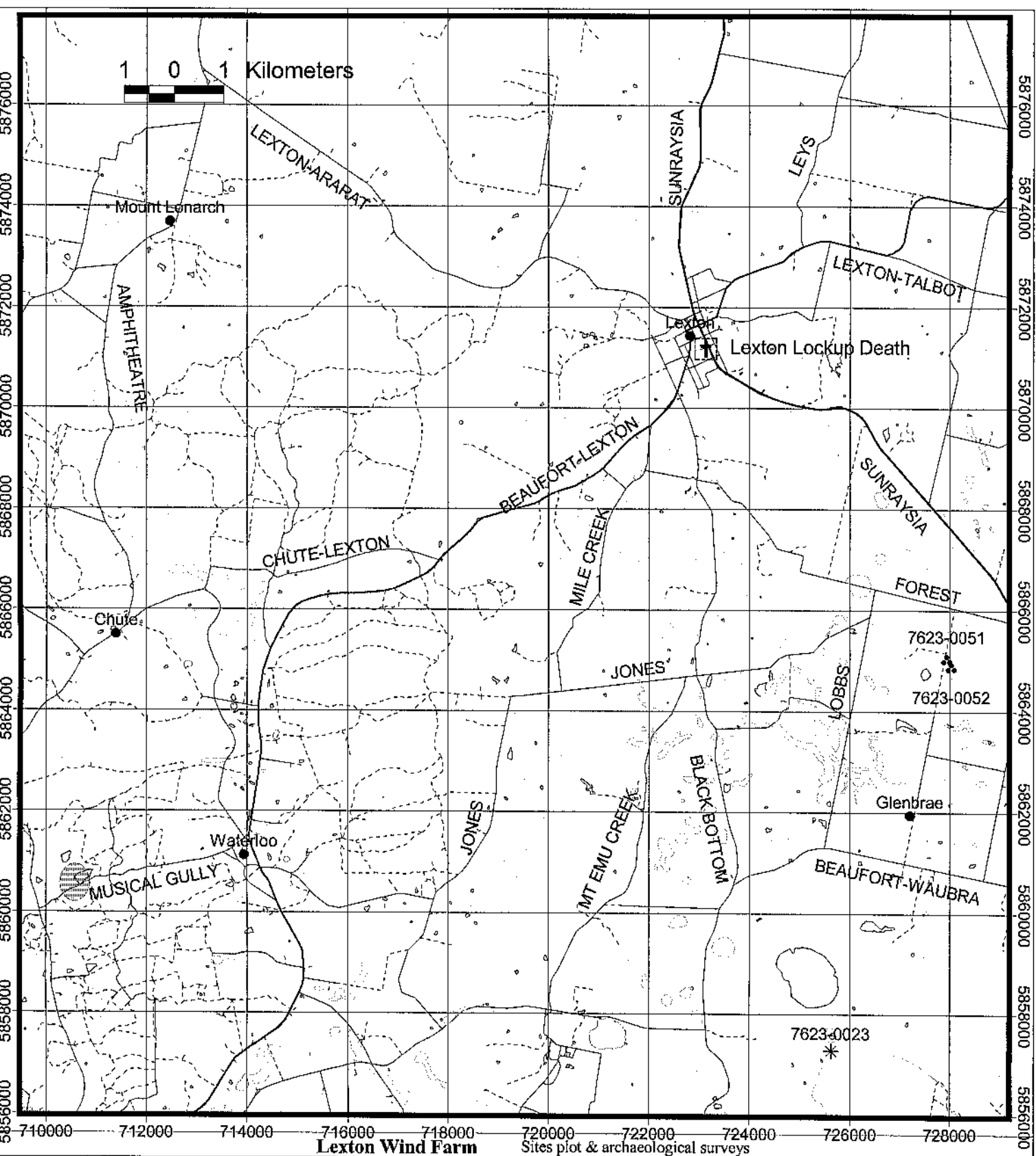
\* If N/A, then some comment on condition/preservation/factors affecting condition are noted if information is available.

Recorded sites include two stone artefact scatters and one combined stone artefact scatter and earth feature. Other surveys in the region have identified primarily stone artefact scatter sites with the occasional earth feature as well. The primary raw material used to manufacture tools is quartz with much smaller components of silcrete, basalt and chert. Quartz is locally available in basalt outcrops and from watercourses. Silcrete is most likely imported from northern areas within the Avoca and Loddon River basins. Archaeological sites are located within close proximity to water courses. There are historical reports of springs at Granite Hill which would have been an attractive source of all-year round potable water. The small amount of information on site distribution and contents suggests that sites reflect small short-term campsites of groups travelling between different locales during hunting and gathering forays.



The Aboriginal historic place is the “Lexton Lockup Death” (AAV Place No. 9.4-8). In 1855, Tommy, who worked as a stockrider on Carngham Station, died in the Lockup. The death was attributed to suffocation after heavy drinking. Clark (1990: 148) states: “the jury was of the opinion that the drunken man should have been visited more frequently during the night and that some blame was attached to the sergeant or officer in charge. They also felt that the Government was negligent in not taking care to provide medical attendance for the lockup.”

Information from the Aboriginal background, cultural heritage investigations and previously recorded Aboriginal sites can be combined to generate an Aboriginal site prediction model applicable to the present study area.



DQS View - MGA Zone 54

<p><b>Post-contact Places</b></p> <p>[+ ] Death/Burial</p> <p><b>Pre-contact Places</b></p> <p>* Artifact Scatter</p> <p>* Multiple Feature Types</p> <p><b>Water Bodies</b></p> <p>[ ] Lake/Dam</p> <p>[ ] Area subject to inundation</p> <p>[ ] Swamp</p>	<p><b>Water courses</b></p> <p>— River</p> <p>— Stream</p> <p>- - - Drain/Channel</p> <p>- - - - - Creek</p> <p>- - - - - connector through water areas</p> <p><b>Roads</b></p> <p>— Highway</p> <p>— Minor road</p> <p>- - - - - Vehicular track - unsealed</p> <p>• towns and localities</p>	<p>[ ] Archaeological survey areas and transects</p>	<p>N</p> <p>GDA94</p> <p>Date: 09 May 06</p>
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**Figure 9 Previous Surveys, Recorded Aboriginal Archaeological Sites and Historic Aboriginal Places within 7km of the Study Area (AAV Map)** 31

This document contains culturally sensitive information concerning the heritage of Victoria's Aboriginal communities, and cannot be included in any reports resulting from research associated with this document. This information is accurate at the date of production. However, the State of Victoria and its employees do not guarantee that the information in this document is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on this information.

### **6.3 Aboriginal Site Prediction Model for the Study Area and Implications for this Investigation**

The implications of the Archaeological background for this investigation are:

- There has been very few systematic surveys or cultural heritage assessments within the region of the study area. No cultural heritage assessments have included the current study area.
- Only three Aboriginal archaeological sites have been previously recorded within 7km of the study area. No recorded sites are listing within the LWF study area.
- The recorded sites do not accurately reflect the site numbers, types, contents or distribution of Aboriginal archaeological sites likely to be present within the study area or the surrounding region.
- The site prediction model is therefore speculative and based on general predictive statements for Aboriginal archaeological sites found in adjacent areas.
- The most likely site types to be found are low to moderate density stone artefact scatters.
- Stone artefact sites will be found in higher densities within 100m of past or present perennial watercourses, springs, swamps and lakes; 50m from intermittent drainage lines; and on hilltops, saddles and ridgelines which afford advantageous views, are close to potable water, or provide routes of movement between locales. The number, size and density of stone artefact sites increase with proximity to more than one resource zone typically exploited by Aboriginal groups (e.g. rivers and swamps).
- Stone artefacts will be manufactured predominantly from locally available quartz found in outcrops and in streams. A smaller proportion of artefacts will be manufactured from imported silcrete. Other raw materials may include quartzite, basalt, flint and chert.
- Formal tool types will comprise a small overall percentage of any stone tool assemblage.
- To a lesser extent earth features (mounds), rockshelters, quarries and scarred trees may occur.
- Earth features (mounds) may occur near former swamps (eg, AAV7623-0023) and on flood terraces on watercourses. Rockshelters and quarries may occur in areas of granite outcrops. Scarred trees may be found within remnant stands of mature native trees more than 200 years old.
- Unlikely site types within the study area include freshwater shell middens, rock wells and burials.

- Freshwater shell middens could potentially be found along the undisturbed banks of larger watercourses. Rock wells may be found on larger rocky outcrops.
- Burials are most often found in sandy deposits along watercourses and lake/swamp lunettes, but are considered unlikely within the LWF study area.
- In terms of any future survey, the level of ground surface visibility affects the ability to identify archaeological sites. Poor ground surface visibility hinders the identification of sites and factors include thick vegetation cover or sedimentation since European occupation.
- Most of the study area has been subject to ground disturbance by the removal of native vegetation, grazing, ploughing and possibly also gold mining. This will have caused disturbance to surface soils and will impact the integrity of sites and reduce their scientific significance.
- Most sites are likely date to within the last 6,000 years and most will reflect occupation within the last 1,000 years.
- The overall Aboriginal archaeological potential for sites of high scientific significance is low to moderate.

## **7 FIELD RECONNAISSANCE**

### **7.1 Methodology**

On Tuesday, 20 June 2006, Dr Tom Rymer (Tardis Enterprises Pty Ltd), and Aboriginal community representative Peter Lovett (Cultural Heritage Officer, BADAC), conducted a brief vehicular inspection to assess the potential impacts of the proposed works on Aboriginal and historic cultural heritage values of the study area.

This inspection does not constitute an archaeological survey, but rather, a reconnaissance of the study area to aid in identifying potential issues relating to cultural heritage values and assessing prospects for future field survey. These observations have been used in conjunction with an aerial photo of the study area along with the desktop background to further refine these assessments. No access to private property was available during the field inspection. Therefore, all observations were made from the nearest road.

During the inspection maps were examined, photographs taken (Plates 1-7) and detailed notes were made of all features of the study area. Notes were made regarding any potential for Aboriginal or historic sites likely to occur in each area. The study area is divided into Assessment Units and assessed taking into consideration site inspection, aerial photograph observations and background information. Physical descriptions of each inspection unit are described in Table 3.

**Table 3 Inspection Unit Descriptions**

Inspection Unit	Location	Landforms	Landuse & Disturbance	Ground Surface Visibility	1. Aboriginal Potential 2. Previously Recorded Sites (within 1km)	1. Historic Potential 2. Previously Recorded Sites (within 1km)
A	720115E 5864217N Corner of Jones & Mile Creek Rds	Hills & drainage lines on southerly aspect of Granite Range Plate 1	Grazing, native vegetation clearing	Poor – covered by Pasture grasses	1. Low density stone artefact scatters on hills and within 50m of drainage lines; scarring on mature native trees 2. None	1. Rural & gold mining 2. None
B	718294E 5867377N & 718930E 5867753N Lexton Road	Sth of Lexton Rd: northerly aspect of Granite Range & drainage lines Plates 2 & 3	Grazing, native vegetation clearing, ploughing	Poor – covered by Pasture grasses. Recently ploughed areas very high	1. Low density stone artefact scatters on hills and within 50m of drainage lines; scarring on mature native trees. 2. None	1. Rural & gold mining 2. None
C	As Above	Nth & Sth of Lexton Road creek valley plain with drainage lines flowing into swampy creek Plate 4	Grazing, native vegetation clearing, ploughing	Poor – covered by Pasture grasses	1. Low density stone artefact scatters within 50m of intermittent drainage lines & 100m of permanent watercourses 2. None	1. Rural & gold mining 2. None
D	As Above	Nth of Lexton Rd: Granite Hill Plate 5	Grazing & native vegetation clearing	Poor – covered by Pasture grasses. Recently ploughed areas very high	1. Low density stone artefact scatters within 50m of intermittent drainage lines & 100m of permanent watercourses & on hills and rocky outcrops; rockshelters; scarring on mature native trees. 2. None	1. Rural & gold mining 2. None
E	718344E 5869072N Jack Smith Road	Nth of Lexton Road: Upper valley, drainage lines & creekline Plate 6	Grazing & native vegetation clearing	Poor – covered by Pasture grasses	1. Low density stone artefact scatters within 50m of intermittent drainage lines & within 100m of permanent watercourses; scarring on mature native trees 2. None	1. Rural & gold mining 2. None

F	718344E 5869072N Jack Smith Road	Nth of Lexton Road: Northern most range of hills in the study area Plate 7	Grazing & native vegetation clearing	Poor – covered by Pasture grasses	1. Low density stone artefact scatters within 50m of intermittent drainage lines & 100m of permanent watercourses & on hills, ridges & flat areas; scarring on mature native trees 2. None	1. Rural & gold mining 2. None
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Plate 1

Inspection Unit A,  
Cnr Jones & Mile  
Creek Rds, View of  
Granite Range,  
Facing North.



Plate 2

Inspection Unit B,  
South of Lexton Rd.  
Facing East.



Plate 3

Inspection Unit B,  
South of Lexton  
Rd,  
View of Granite  
Range.  
Facing South.





Plate 4

Inspection Unit C,  
North Lexton Rd,  
View of One Mile  
Creek.  
Facing North-East.



Plate 5

Inspection Unit D,  
North Lexton Rd,  
View of Granite Hill.  
Facing North.



Plate 6

Inspection Unit E,  
Jack Smith Road  
718344E  
5869072N,  
Upper Valley  
Creekline and  
hillslope.  
Facing South-East.





Plate 7

Inspection Unit F,  
Jack Smith Road  
718344E 5869072N,  
Northern most range  
of hills. Facing North-  
North-East.

## 7.2 Aboriginal Cultural Heritage – Discussion

The proposed Lexton Wind Farm comprises low-lying hills of the Great Dividing Range (Granite Range), Granite Hill and east-west ridgeline in the north of the study area. Drainage lines fall from these landforms and for the most part flow to the creekline which runs south-west to north-east along the left side of the Lexton – Beaufort Road. The study area is on the north side of the Great Dividing Range at the head of the watershed of small watercourses flowing into the Loddon River Basin and on to the Murray River. There are two main landforms within the study area, the hills/ranges and the undulating plains of the creek valley. However, the study area appears to be some distance away from major rivers and swamps and therefore obvious major rich resource zones attractive to pre-contact Aboriginal groups for long-term campsites. This is not to say that there were no significant resources available in the study area (e.g., trees, stone sources, animal resources), but that they are not immediately obvious based on the background information from this investigation. Furthermore, there have been few detailed regional cultural heritage studies conducted for the area to place the study area within a regional context.

Creeks would have provided important potable water sources along routes of movement between different locales such as ranges, rivers and swamps found both north and south of the Great Dividing Range. The historically reported permanent fresh water springs at Granite Hill would have been an attractive all-year round source of potable water for Aboriginal groups. This location is likely to have archaeological deposits associated with its Aboriginal use. Granite outcrops within the study area may have provided raw materials for stone tool manufacture. Trees are likely to have been utilised for the manufacture of wooden implements and the flora and fauna would have been exploited as groups moved through the study area. Creeklines may have provided convenient short-term camping sites while hilltops would have provided possible vantage points down the valley and ridgelines as routes of movement between different locales.

Based on this scenario the most common sites likely to be present within the study area are low-density stone artefact scatters representing short-term campsites or episodes of stone tool manufacture, maintenance and discard. Higher density stone artefact sites may be present if there are stone raw material sources within the study area and if they are located in the granite outcrops which may also contain rockshelters. This area may be

particularly attractive if there are also permanent fresh water springs. Some mature native trees appear to remain on hilltops and upper slopes and may show evidence of cultural scarring. Apart from low-density stone artefact scatters, scarred trees and possibly also stone quarries, other sites types (e.g. shell middens, burials) are considered unlikely to be present within the study area.

The study area has been extensively modified since European occupation including the clearing of native vegetation, possible gold exploration and fossicking, and grazing and ploughing. This will have disturbed the ground deposits and will affect the spatial and temporal integrity of any surviving archaeological material. Based on stone artefact typology most sites are likely to date to the last 5,000 years and most probably to within the last 1,000.

Archaeological survey and possibly sub-surface testing of the LWF will identify if any Aboriginal archaeological sites are to be directly or indirectly impacted by the proposed development.

### **7.3 Historic Cultural Heritage – Discussion**

Although historical archaeological cultural heritage values have been assessed by small-scale cultural heritage assessments the region has never been subject to a comprehensive archaeological survey for historic archaeological sites.

The area was first squatted in the early 1840s. The region of the study area was transformed by the gold rush during the 1850s and gold mining historic sites are recorded within 7km of the study area. After the decline of the gold rush, the area has been subject to sub-division during the Closer Settlement since the 1860s. Farming and agriculture has been the main industry until the present. Possible historic archaeological sites include outstations and shepherds huts during the squatting period, evidence of gold fossicking from the 1850s and subsequent farming and agricultural sites. A small historic settlement is reported at Granite Hill.

No historic archaeological sites were identified during the vehicle reconnaissance.

Archaeological survey of the study area will identify if any historic archaeological sites are likely to be impacted by the proposed LWF.

### **7.4 Areas of Archaeological Sensitivity – Potential**

Areas designated as archaeologically sensitive are those evaluated as containing potential for archaeological sites. These are usually areas that have poor ground surface visibility so it is possible that surface and/or sub-surface deposits may exist, but are currently obscured by factors such as thick vegetation or sediment deposits. Archaeologically sensitive areas can also be areas that have not been surveyed. For example, when a desktop study indicates that sites may occur on certain landforms or near creek lines, these potentially sensitive areas can be identified. Areas may be deemed as being of low, medium or high archaeological sensitivity (Table 4 and Figure 10).

Areas of archaeological sensitivity can only be discussed in a generalised way in a desktop assessment. Field survey and subsequent archaeological testing can more accurately define archaeological sensitivity.

### **Aboriginal Sites:**

The areas of main archaeological sensitivity for Aboriginal archaeological sites have been identified in both regional and small-scale cultural heritage assessments (Section 6) include perennial watercourses in valleys, hilltops and ridgelines that provide good vantage points and routes of movement, and stone outcrops which may contain stone sources for the manufacture of stone artefacts. Therefore the banks of creeks and other fresh water sources, hilltops and ridgelines contain low to moderate sensitivity for short-term camp or meal sites or episodes of stone tool manufacture, maintenance and discard. Evidence of these sites is identified archaeologically through low-density surface and sub-surface stone artefact scatters and possibly also hearths. Higher density artefact sites will be located around stone sources found in rocky outcrops and these areas have moderate sensitivity.

### **Historic Sites:**

Most of the region has some potential for historic sites, particularly along property boundaries where fencing (hedges & windbreaks) have been planted or constructed and adjacent to natural water sources. Rural properties often contain buried deposits associated with the earliest periods of occupation (wells, bottle dumps, cisterns and foundations). The study area contains fencelines, water courses and therefore may contain historic archaeological sites. As with Aboriginal sensitivity, historical archaeological sensitivity can only be clearly defined and assessed through archaeological survey and subsequent testing.

Table 4 contains the general sensitive areas for Aboriginal and historical cultural heritage sites, which are also depicted in Figure 10.

**Table 4 Areas of Sensitivity for Archaeological Sites**

Site Types	Location	Level of Potential/ Sensitivity
<b>Aboriginal Cultural Heritage</b>		
Isolated stone artefacts	Throughout	Low – Moderate
Low to moderate density surface & sub-surface stone artefact scatters	Within 100m of permanent fresh water (creeks, springs)	Moderate
Low to moderate density surface & sub-surface stone artefact scatters	Within 50m of temporary drainage lines or other season water sources throughout the study area	Low
Low to moderate density surface & sub-surface stone artefact scatters	Hilltops, ridges & elevated flat areas	Low – Moderate
Scarred trees	Remnant mature native red gum throughout the study area where they survive	Moderate
Stone quarries	Rocky outcrops	Moderate
Rockshelters	Rocky outcrops on hills	Moderate
<b>Historic Cultural Heritage</b>		
Mid to late 1800s – surface and sub-surface ruins of old homesteads (unlikely) and other rural features (eg, fencing, sheds, stockyard, huts) and buried deposits (wells, bottle dumps, cisterns & foundations)	Generally in close proximity to natural water sources (<500m)	None - Low
1840s to 1860s – Old transport routes/roads	Beaufort to Lexton	Low
Late 1800s to mid 1900s – ruins of small farm complexes and buried deposits (wells, bottle dumps, cisterns & foundations)	Throughout the study area, mostly near roads and not dependent on natural water sources	Low



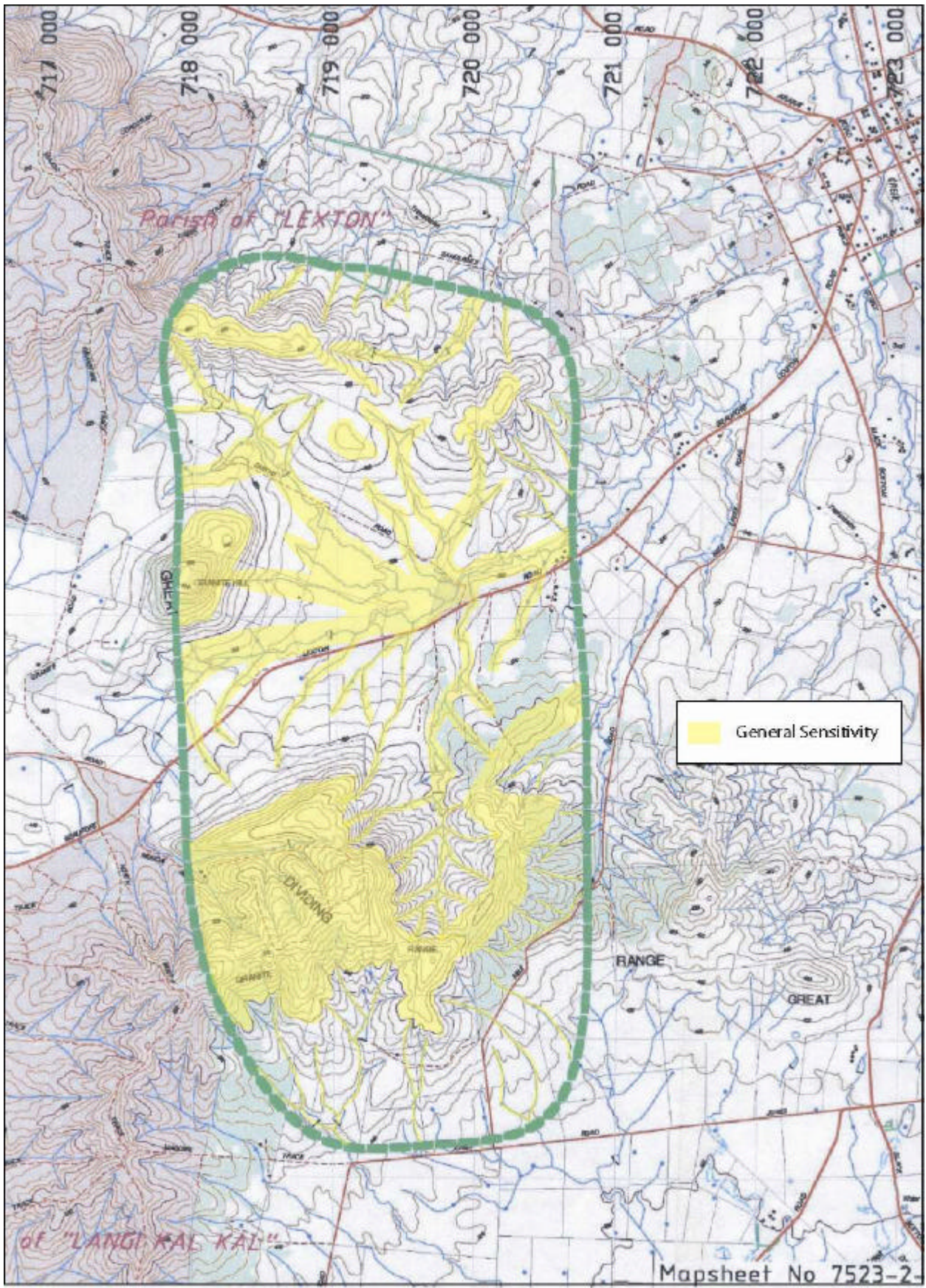


Figure 10 Areas of General Archaeological Sensitivity

## **8 ASSESSMENT OF SCIENTIFIC AND CULTURAL SIGNIFICANCE**

No assessment of Aboriginal or historic archaeological sites was conducted as part of this study. However, as there are sixty-two previously recorded Aboriginal archaeological sites within the study area and a high likelihood that more are present in the study area, Aboriginal cultural significance is briefly discussed in Section 8.1. Detail in regard to the criteria associated with scientific significance assessment will be presented in the subsequent survey report.

### **8.1 Cultural Significance – Aboriginal Sites**

Both prehistoric and historic Aboriginal sites and places will generally have specific significance to the Aboriginal community possess custodianship, and more broadly to Australian Aboriginal people.

Any archaeological sites that may potentially be located within the study area are to be considered as culturally significant to the Aboriginal communities. Such sites are the main source of information about the area's Aboriginal past, as they provide evidence for occupation and land use.

It is important also to note that archaeological (scientific) and Aboriginal (cultural) significance are not necessarily the same assessment. It is up the relevant community to decide the Aboriginal cultural significance of any site or place within the area of custodianship. A non-Aboriginal person cannot decide on Aboriginal cultural significance. Although Aboriginal views are sought at the time archaeological sites are identified, they are not necessarily the same as those provided in an archaeological assessment.

## **9 STATUTORY REQUIREMENTS**

This section relating to the statutory requirements associated with archaeological sites has been included to inform users of this report of the legal obligations regarding heritage sites. Person/s breaching this legislation are liable to prosecution.

The following is a summary of the Victorian Cultural Heritage Legislation that protects Aboriginal and historic sites.

### **9.1 Aboriginal Sites**

Victoria has both State and Commonwealth legislation providing protection for Aboriginal cultural heritage. With the exception of human remains interred after the year 1843, the *State Archaeological and Aboriginal Relics Preservation Act 1972* provides blanket protection for all material relating to the past Aboriginal occupation of Australia, both before and after European occupation. This includes individual artefacts, scatters of stone tools, rock art sites, ancient camp sites, human burials, trees with slabs of bark removed (for the manufacture of canoes, shelters etc.) and ruins and archaeological deposits associated with Aboriginal missions or reserves. The Act also establishes administrative procedures for archaeological investigations and the mandatory reporting of the discovery of Aboriginal sites. Aboriginal Affairs Victoria (AAV) administers the *Archaeological and Aboriginal Relics Preservation Relics Act 1972*.

In 1987, Part 11A of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* was introduced by the Commonwealth Government to provide protection for Aboriginal cultural property in Victoria. Immediately after enactment, the Commonwealth delegated the powers and responsibilities set out in Part 11A to the Victorian Minister Responsible for Aboriginal Affairs. Currently, the Hon. Gavin Jennings MP holds this delegation, and the legislation is administered on a day-to-day basis by AAV.

Whereas the State Act provides legal protection for all the physical evidence of past Aboriginal occupation, the Commonwealth Act deals with Aboriginal cultural property in a wider sense. Such cultural property includes places, objects and folklore that “are of particular significance to Aboriginals in accordance with Aboriginal tradition”. Again, there is no cut-off date and the Act may apply to contemporary Aboriginal cultural property as well as ancient sites. The Commonwealth Act takes precedence over State cultural heritage legislation where there is conflict. In most cases, Aboriginal archaeological sites registered under the State Act will also be Aboriginal places subject to the provisions of the Commonwealth Act.

The Commonwealth Act prohibits anyone from defacing, damaging, interfering with or endangering an Aboriginal place unless the prior consent of the local Aboriginal community has been obtained in writing. If no reply from an Aboriginal community is received to any permit application within 30 days, then an application for a permit may be made to the State Minister Responsible for Aboriginal Affairs. This is provided for under Section 21U (5-6) of the 1987 Act. The Schedule to the Act lists local Aboriginal communities and each community’s area is defined in the Regulations so that the whole of Victoria is covered. Any applications to disturb, destroy, interfere with or endanger an Aboriginal place, object or archaeological site should be made to:

**Chief Executive Officer  
Ballarat & District Aboriginal Co-operative Ltd  
5 Market Street  
PO Box 643  
BALLARAT VIC 3350**

**Ph: (03) 5331 5344, 5331 5934  
Fax: (03) 5333 1637**

Applications to excavate or disturb an Aboriginal archaeological site for purposes of archaeological fieldwork, should be addressed in writing to:

**The Director  
Heritage Services Branch  
Aboriginal Affairs Victoria  
Department for Victorian Communities  
9<sup>th</sup> Floor  
1 Spring Street  
MELBOURNE  
Victoria 3000**

**(PO Box GPO 2392V  
MELBOURNE 3001)**



General enquires relating to Aboriginal archaeological sites should be forwarded to:

**The Site Registrar  
Heritage Services Branch  
Aboriginal Affairs Victoria  
Department for Victorian Communities  
9<sup>th</sup> Floor  
1 Spring Street  
MELBOURNE  
Victoria 3000**

**(PO Box GPO 2392V  
MELBOURNE 3001)**

**Ph: (03) 9208 3273  
Fax: (03) 9208 3292**

In addition, all Victorian planning schemes require, under Clause 15.11 Heritage, *Planning and Environmental Act 1987*, planning and responsible authorities to identify, conserve and protect places of Aboriginal and non-Aboriginal cultural heritage significance, including historical and archaeological sites and to take into account the requirements of the *Victorian Archaeological and Aboriginal Relics Preservation Act 1972*, the *Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and the views of local Aboriginal communities in providing for the conservation and enhancement of places, sites and objects of Aboriginal cultural heritage value. Such sites are included as a Heritage Overlay, which apply controls on potential development.

Aboriginal and non-Aboriginal sites occurring on Commonwealth land are protected under the *Australian Heritage Commission Act 1975* if included on the Commissions Register of the National Estate.

## **9.2 Native Title Issues**

With the introduction of the *Native Title Act 1993*, the acknowledgement of indigenous ownership of land was legislated, and since this date native title claims on un-alienated Crown Land have been lodged initially with the National Native Title Tribunal, and more recently to the Federal Court. Under this act, all freehold and Crown Lease land is exempted from any future claim (unless leasehold reverts to the Crown). Un-alienated Crown Land that potentially may be subject to claim includes all forms of water (to the low water mark) air above and subsoil below, and all land in which native title has not been extinguished under the act. Establishing native title within any area requires many conditions to be met. Essentially, claimants must be able to show that the area claimed has been continually occupied or in which direct links (physical, spiritual, traditional) have been maintained.

The status of Native Title claimants with interests in the study area region was discussed with Peter Lovett (Cultural Heritage Officer, BADAC) and details requested for inclusion into the report. Details were not provided at the time of report finalisation.



Further investigation in relation to Native Title issues should form part of any future investigation.

### **9.3 Historic Archaeological Sites**

Non-Aboriginal archaeological sites in Victoria are protected by the *Heritage Act 1995*. The following is a summary of the latest statutory obligations regarding non-Aboriginal historic archaeological sites:

1. All historical archaeological sites in Victoria (not included on the Heritage Register) are protected under Section 127 of the *Heritage Act 1995*. Under this section it is an offence to excavate, damage or disturb relics and sites whether they are included on the Heritage Inventory or not, unless a consent has been issued under Section 129.
2. Under Section 64 of the *Heritage Act 1995* it is an offence to damage, disturb, excavate or alter a place or object on the Heritage Register, unless a permit is granted under Section 67.
3. Under Section 132 of the *Heritage Act 1995* any person discovering or uncovering an archaeological relic is required to report the discovery to the Executive Director of the Heritage Council.
4. Schedule 5 of the Heritage (General) Regulations 2005 prescribes fees to undertake specified activities with respect to archaeological relics. These are currently \$225.00 for Consent to uncover or excavate a relic; \$420.00 for Consent to damage or disturb less than 50% of a relic or site \$635.00 for Consent to damage or disturb more than 50% of a relic or site. Fees for permits to carry out works etc to a registered place or object are detailed in Schedule 3 of the Regulations. These fees range in scale from \$100.00 to \$7,160.00, depending on the nature of the works involved and the cost of the proposed works.

In addition, Heritage Victoria requires that funds be made available by developers to ensure the responsible management of all significant artefacts that are recovered during an excavation. As a condition on any consent or permit, there will be a requirement that a specified sum of money is submitted to Heritage Victoria prior to the commencement of works. The funds will be used to ensure the cataloguing and conservation of any significant artefacts that are recovered. Any unexpended funds will be returned to the client, minus a 15% levy that is used for the management of all excavation projects in Victoria.

Written application to disturb such sites should be lodged as early as possible in the planning stages of any works program, and must be directed to:

**Mr Ray Tonkin**  
**The Director**  
**Heritage Victoria**  
**Department of Sustainability and Environment**  
**Level 7/8 Nicholson Street**  
**EAST MELBOURNE**  
**Victoria 3002**

**Ph: (03) 9637 9746**

Enquires relating to the *Heritage Act*, works, site management etc should be directed to:

**Jeremy Smith**  
**Heritage Victoria**  
**Department of Sustainability and Environment**  
**Level 7/8 Nicholson Street**  
**EAST MELBOURNE**  
**Victoria 3002**

**Ph: (03) 9637 9773**

General enquires relating to sites, the Heritage Inventory/Register, reports, permits or consents, including application procedures and fees should be directed to:

**Liz Kilpatrick**  
**Heritage Victoria**  
**Department of Sustainability and Environment**  
**Level 7/8 Nicholson Street**  
**EAST MELBOURNE**  
**Victoria 3001**

**Ph: (03) 9637 9285**

Heritage Victoria has also recently requested that the following statements relating to sites listed on the Heritage Inventory be included within consultant's reports.

All archaeological sites in Victoria are protected by the *Heritage Act 1995*. All known archaeological sites are listed in the Heritage Inventory. Regardless of whether they are listed in the Inventory, no one can knowingly excavate or disturb an archaeological site without the consent of the Executive Director.

Prior to the *Heritage Act*, sites were protected under the *Archaeological and Aboriginal Relics Preservation Act 1972*. Thus, since 1972 there has been protection in Victoria for archaeological sites. The protection was not about the preservation and conservation of all sites. Under the AARP there was provision for archaeological areas to be declared an archaeological area that was intended to protect and conserve an archaeological site (S15). Activities for the remainder of archaeological sites were controlled through the requirement to gain a permit (S22).

With the advent of the *Heritage Act*, archaeological sites continued to be protected in two ways. Sites that were considered to be of significance to the State were recommended to be placed on the Victorian Heritage Register (VHR). The VHR exists to protect and conserve places and objects. All other archaeological sites are protected through the requirement to gain consent from the Executive Director to disturb, destroy, or excavate an archaeological site.

Thus, the Victorian Heritage Register enables Heritage Victoria to preserve and conserve archaeological sites that are of significance to the State of Victoria while the Heritage

Inventory enables Heritage Victoria to record and monitor sites that are not considered to be of State significance or when the significance is unknown.

The two levels of protection enable two different principles to be followed in issuing consents and permits. The guiding principal for places on the Register is to protect and conserve as much of the fabric of the place and the relics/artefacts as is possible. Alternatively, for places listed in the Heritage Inventory, recording, excavating and monitoring are the usual methods of assessing and managing the heritage values of a site.

## **10 CULTURAL HERITAGE MANAGEMENT ISSUES AND RECOMMENDATIONS**

Appropriate cultural heritage management seeks to avoid any adverse impact to cultural heritage sites. An adverse impact is any activity that reduces the scientific or cultural significance of a site or archaeological area. Any activity that exposes or disturbs in any way the fabric or content of a site reduces its heritage value. Similarly, sites can be impacted if their context is reduced to a point where there are no other related reference features in the local landscape to provide context and therefore interpretation of a site. This is referred to as the level of cultural landscape integrity.

Best cultural heritage practise seeks to avoid any impact to cultural heritage sites and places by appropriate input into development design. As this is not always possible, a mitigation strategy must be developed by a consultant, in conjunction with all relevant stakeholders, to mitigate/reduce adverse impact to cultural heritage values. Typical mitigation measures may include partial excavation to further assess a site in terms of its content, extent and significance. If a site demonstrates higher significance levels (cultural or scientific) a complete salvage excavation may be required prior to any redevelopment. Some sites such as scarred trees, monuments etc can be relocated to an appropriate location. In other instances monitoring of initial ground disturbance activities (such as clear, grade, level) may be an adequate mitigation measure. Monitoring is appropriate when the risk to a significant site has been eliminated, though collection, identification, recording and assessment of possible exposed artefacts are still warranted.

The cultural heritage assessment of the study area has identified a number of management issues that will need to be addressed both prior to and during the development. These are outlined below.

### **10.1 Cultural Heritage Management Issues**

The management issues relating to the Aboriginal and historic cultural heritage identified during the preliminary study are discussed below. Due to the lack of archaeological survey, these issues are relatively general in nature.

#### **Aboriginal Cultural Heritage:**

The study area has not been subject to any previous archaeological survey and there are no previously recorded Aboriginal archaeological sites. Only three Aboriginal archaeological sites have been recorded within 7km of the study area. The lack of previous survey, combined with the potential for a variety of Aboriginal archaeological sites

types to occur in the different landforms (artefact scatters, stone quarries and scarred trees) indicates that the study area is likely to contain unrecorded Aboriginal archaeological sites. The background research and field reconnaissance inspection indicated that several areas of archaeological sensitivity occur within the study area, particularly around perennial creeks, hills and ridgelines and in all landforms where remnant native trees are located. For this reason, a suitably qualified archaeologist and Cultural Heritage Officer of the BADAC should conduct a systematic archaeological field survey of all locations to be impacted by the wind farm development. This survey should occur prior to any finalisation of the infrastructure layout to provide enough flexibility to alter the locations to avoid any Aboriginal sites that may be recorded in the vicinity. The cultural heritage assessment of the proposed turbine locations should:

- Conduct a systematic field survey of areas to be impacted by the proposed development.
- Record, assess the significance of, and register any previously unrecorded Aboriginal archaeological sites with the Site Registry at Heritage Services Branch, Aboriginal Affairs Victoria.
- Consult with the BADAC.
- Provide recommendations for the mitigation of impact to any Aboriginal archaeological sites that may be either directly or indirectly affected by the development.

Under relevant legislation, any Aboriginal archaeological sites that are to be disturbed or destroyed by the LWF development will require *Consent to Disturb* from the BADAC. Consent issued may have conditions attached and be subject to a processing fee by BADAC. The BADAC details are as follows

**Chief Executive Officer  
Ballarat & District Aboriginal Co-operative Ltd  
5 Market Street  
PO Box 643  
BALLARAT VIC 3250**

**Ph: (03) 5331 5344, 5331 5934  
Fax: (03) 5333 1637**

Prior to the LWF construction, additional sub-surface testing may also be required in areas identified as being sensitive for containing Aboriginal archaeological sites or where there is no ground surface visibility. A letter of support for the testing is required from the BADAC as part of an application for a Form C permit from Aboriginal Affairs Victoria. Sub-surface testing application permits are subject to additional fees from both BADAC and Aboriginal Affairs Victoria. A suitably qualified archaeologist and a representative from the BADAC community should conduct sub-surface testing. The extent and location of any sub-surface testing required can only be established once a ground surface survey is complete.

## **Historical Cultural Heritage:**

No historic sites were previously recorded within the study area and no sites were identified during the brief field inspection. However there is a possibility that buried archaeological deposits (cisterns, wells, bottle dumps, foundations) may be located in the study area. The historical background (Section 3) and the presence of sites within 7km of the study area (Section 4) indicate that some historic sites may remain unrecorded and would be located through archaeological field survey. These will likely mainly comprise sites related to the establishment of small farms during the closer settlement of the study area from the 1870s.

A suitably qualified archaeologist should conduct a cultural heritage assessment, including systematic archaeological field survey, of all locations to be impacted by the development. This survey should be conducted in a timely fashion to provide enough flexibility to mitigate any impact the development may have on recorded historic sites. The cultural heritage assessment should:

- Conduct a systematic field survey of areas to be impacted by the LWF development in accordance with Heritage Victoria guidelines.
- Record, assess the significance of, and register any previously unrecorded historic archaeological sites with Heritage Victoria.
- Consult with the Planning Departments of Pyrenees Shire and local historical societies.
- Provide recommendations for the mitigation of impact to any historic sites that are likely to be either directly or indirectly affected by the development.

Several historic site types, such as fences, hedges and windbreaks, that may be recorded in the study area do not contain any archaeological component. In this instance, Heritage Victoria will maintain a record of the site features on its Inventory, and the site will be D-listed. D-listing of a site means that the site is not afforded protection under The *Heritage Act 1995*. However, Heritage Victoria still requires that D-listed sites may also be suitable for inclusion as a Heritage Overlay.

If a site is listed on the Heritage Victoria Inventory (that is, the sites are not D-listed), each site is protected under The *Heritage Act 1995*. If listed on the inventory, Consent will be required from Heritage Victoria to disturb or destroy each site that will be impacted by the development. Heritage Victoria's contact details are:

**The Director  
Heritage Victoria  
Department of Sustainability and Environment  
Level 7/8 Nicholson Street  
EAST MELBOURNE  
Victoria 3002**

## 10.2 Specific Recommendations

Based on the findings of this report the following recommendations are made:

### **Aboriginal and Historic Cultural Heritage**

#### **General**

To avoid adverse impact to the majority of archaeological sites, ground disturbance activities should, if possible, avoid identified areas of high sensitivity/potential for archaeological sites; otherwise alternative mitigation strategies are required to manage cultural heritage values.

#### **Recommendation 1: Cultural Heritage Assessment**

Once the scope of the ground disturbance works of the wind farm development has been established, a ground surface archaeological survey for Aboriginal and historic archaeological sites should be undertaken of all areas that are to be impacted by the LWF development. This should include all areas that are likely to disturb surface and sub-surface soils, such as turbine locations, access and cable routes.

All archaeological sites (whether previously recorded or as yet undetected) are protected under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, *Archaeological and Aboriginal Relics Preservation Act 1972* and the *Heritage Act 1995*. To avoid breaching the obligations under these Acts, a comprehensive archaeological site survey should be undertaken in accordance with Aboriginal Affairs Victoria and Heritage Victoria guidelines prior to the wind farm development commencing.

The aims of the survey should be to refine areas of archaeological sensitivity and record any unrecorded cultural heritage sites which may be impacted by the development. The heritage consultant should assess the scientific significance of recorded sites and the Ballarat & District Aboriginal Co-operative Ltd (BADAC) will determine the cultural significance of Aboriginal sites. Recommendations should be formulated to provide mitigation/management measures to avoid/minimise adverse impact to any sites recorded within the LWF development area. Reporting of the results of the archaeological survey must be done in accordance with Aboriginal Affairs Victoria and Heritage Victoria guidelines.

#### **Recommendation 2: General Areas of Aboriginal and Historical Archaeological Sensitivity**

Several general areas of archaeological sensitivity for Aboriginal and historic sites have been broadly identified, details of which are provided in Section 7 and Figure 10. The archaeological survey proposed in Recommendation 1 would serve to further refine these sensitive areas as well as generating specific management recommendations.

### **Recommendation 3: Consultation**

During the survey of the areas to be impacted by the LWF development (see Recommendation 1), consultation regarding the project should be conducted with relevant interest groups concerning the Aboriginal and historic cultural heritage of the study area. This consultation will assist in identification of unrecorded/undocumented Aboriginal and/or historic sites that may be located in the study area. This consultation process will enable statements of cultural significance to be obtained, and ensure all relevant interest groups are given an opportunity for input into the project. The groups that should be included in heritage consultation are:

- Ballarat & District Aboriginal Co-operative Limited
- Native Title claimants
- Planning Department of the Pyrenees Shire
- Local historical societies

**Recommendation 4: Preliminary Consultation with Aboriginal Community**

Mr Peter Lovett, Cultural Heritage Officer with the Ballarat & District Aboriginal Co-operative Limited, has expressed the community desire that further cultural heritage assessment of the study area is conducted to clarify archaeologically sensitive areas and potential sites discussed in this investigation and further consultation on cultural heritage management issues as they arise.

**Recommendation 5: Discovery of Human Remains**

If any suspected human remains are discovered during the development, all works must cease in the immediate area, and the procedure outlined in Appendix 3 is to be adopted.

**Recommendation 6: Distribution of the Report**

The consultant will ensure that copies of this report will be sent to Heritage Victoria (Department of Sustainability and Environment), the Heritage Services Branch, Aboriginal Affairs Victoria (Department of Victorian Communities) and the Ballarat & District Aboriginal Co-operative Limited.



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APPENDIX 1 – SURVEY NOTIFICATIONS



# Heritage VICTORIA

Ref: PL-HE/01/0008 5

9 May, 2006

Tardis Enterprises Pty Ltd  
9 Berglund Road  
BEACONSFIELD UPPER VIC 3808

Level 7  
8 Nicholson Street  
East Melbourne 3002  
Telephone (03) 9637 9475  
Facsimile (03) 9637 9603  
[www.heritage.vic.gov.au](http://www.heritage.vic.gov.au)

Dear Sir/Madam

**RE: PROPOSED SURVEY  
LEXTON WIND FARM**

Thank you for forwarding a completed Notification of Survey Form, advising of your intent to conduct a survey for historical archaeological sites in the above area.

Should your survey reveal previously unrecorded sites I will be able to provide you with the appropriate Heritage Inventory numbers on receipt of completed Archaeology Site Record Forms.

Please quote project number **2749** in all following correspondence that relates to this survey. The final report will be lodged as report number **2749**. Please note that you are required to provide this office with two copies (one bound and one unbound) of any resulting report.

Should you have any queries or require any further assistance please call Jeremy Smith, Senior Archaeologist, on (03) 9637 9773.

Yours sincerely,

*RP* **RAY TONKIN  
EXECUTIVE DIRECTOR**



## Department for Victorian Communities

15 May 2006

Tardis Enterprises P/L  
9 Berglund Rd.  
BEACONSFIELD UPPER VIC 3808

1 Spring Street  
Melbourne Victoria 3000  
GPO 2392V  
Melbourne Victoria 3001  
Telephone: (03) 9208 3333  
Facsimile: (03) 9208 3680  
www.dvc.vic.gov.au

**IH/04/0001**  
**Project: 3547**

Dear Sir/Madam

### **PROPOSED SITE SURVEY: LEXTON WIND FARM**

Thank you for providing Aboriginal Affairs Victoria (AAV) with notice of your intended survey.

Please note that, under the terms of section 22(5)(b) of the *Archaeological and Aboriginal Relics Preservation Act 1972* and associated regulations, you are required to provide this office with:

- completed AAV record forms for any sites found during the survey; and
- two copies of any resultant project report (one of which may be provided in electronic format).

Please ensure that the project number shown at the top of this letter is quoted in any correspondence with AAV relating to this survey. The project number should also be added to any record forms resulting from the survey (in the "Reference in literature or report" space provided).

Blank record forms, and copies of the document *Guidelines for Conducting and Reporting upon Archaeological Surveys in Victoria*, are available on request.

Under the terms of the Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, specified local Aboriginal organisations hold responsibility for cultural heritage matters within their particular community boundaries. It is recommended that you contact the relevant organisation as soon as possible, to discuss your intended survey.

Further, if your survey includes Crown land (other than Crown land where native title has been extinguished), you are advised to consult with any parties who hold native title interests in the area. Advice on identifying and contacting groups with native title interests can be obtained from the National Native Title Tribunal (phone: 1800 640 501).

Information on Aboriginal community interests relating to your project area may also be obtained by contacting the Co-ordinator / Director / Manager for the relevant Regional Aboriginal Cultural Heritage Program (RACHP). The AAV web site at <http://www.dvc.vic.gov.au/aav.htm> includes maps and contact lists relating to local Aboriginal communities and the RACHP.

Please contact me on (ph) 03 9208 3275 if any further information is required.

Yours sincerely

  
f BINDI THOMAS  
Heritage Information Officer





**ABORIGINAL CULTURAL HERITAGE ASSESSMENT  
ARCHAEOLOGICAL SURVEY ATTRIBUTES**

Form D Ref.# \_\_\_\_\_

Project Name Lexton Wind Farm

Author/Consultant A. Murphy & T. Rymer

Survey Id. 3547 Survey Date \_\_\_\_\_

Ground Surface Visibility (%) \_\_\_\_\_ Study Area Survey Coverage(%) \_\_\_\_\_

Survey Spacing (m) \_\_\_\_\_ Transect Width (m) \_\_\_\_\_ Number in Crew \_\_\_\_\_

Survey Method	Survey Design	Sample	Survey Type
<input type="checkbox"/> Pedestrian <input type="checkbox"/> Vehicle <input type="checkbox"/> Mechanical <input type="checkbox"/> Auger	<input type="checkbox"/> Test Pit <input type="checkbox"/> Monitoring <input type="checkbox"/> Controlled Excavation	<input type="checkbox"/> Opportunistic <input type="checkbox"/> Random <input type="checkbox"/> Systematic <input type="checkbox"/> Stratified <input type="checkbox"/> Other	<input type="checkbox"/> Area <input type="checkbox"/> Transect <input type="checkbox"/> Locality <input type="checkbox"/> Haphazard <input type="checkbox"/> Other
			<input type="checkbox"/> Surface <input type="checkbox"/> Sub-surface <input checked="" type="checkbox"/> Other

**Disturbance**

- Logged
- Levelled
- Trenched
- Ploughed
- Grazed
- Heavy Machinery
- Track
- Road Reserve
- Fire Break
- Burned
- Deflated
- Burrowing
- Gully Erosion
- Sheet Erosion
- Alluvial Erosion
- Wave Action
- Alluvial Deposition
- Wind Deposition
- General Erosion
- General Aggradation
- Other

**Landform**

- Dune
- Lunette
- Plain
- Floodplain
- Hill (gentle/moderate)
- Mountain/Steep hill
- Other

**Vegetation**

- Closed forest
- Open forest
- Open woodland
- Mallee
- Scrub
- Heath
- Wetland/Swamp
- Grassland
- Barren/Unvegetated
- Other

Comments \_\_\_\_\_  
~~No survey conducted. Have recommended that areas to be impacted by the wind farm are to be subject to ground surface survey.~~



## APPENDIX 2 – GLOSSARY

## TYPES OF ABORIGINAL ARCHAEOLOGICAL SITES

**Artefact Scatter:** A surface scatter of stone artefacts is defined as being the occurrence of five (5) or more items of cultural material within an area of about 100 square metres (AAV 1993). Artefact scatters are often the only physical remains of places where Aborigines have camped, prepared and eaten meals and worked stone material.

**Burials:** burial sites may occur in association with campsites, in mounds or shell middens or in specific burial grounds that lack any other cultural material. Softer ground was chosen for burials, and any sandy area can be expected to contain burials. Burial sites can contain one or a number of individuals. Burial sites and cemeteries are a common archaeological site type in the san country adjoining the Murray River, though are a rare feature in the southern part of Victoria.

**Ceremonial Site:** An area used as a meeting place where large groups gathered for feasts, ceremonies or settlement of disputes, but they are difficult or impossible to identify from material evidence. In some instances they are mentioned in historical sources, or may be known to Aboriginal people through oral tradition. These sites will be highly significant to Aboriginal communities.

**Contact Site:** These are sites relating to the period of first contact between Aboriginal and European people. These sites may be associated with conflict between Aborigines and settlers, mission stations or reserves, or historic camping places. The artefact assemblage of contact sites will often include artefacts manufactured from glass.

**Grinding Grooves:** These sites generally occur on sandstone outcrops and to a lesser extent granite outcrops and result from the sharpening of ground stone hatchets/axe heads. Grinding grooves are often located on prominent hilltops.

**Hearth:** Usually a sub-surface feature found eroding out of a river or creek bank or in a sand dune - it indicates a place where Aboriginal people cooked food. The remains of a hearth are usually identifiable by the presence of charcoal and sometimes clay balls (like brick fragments) and hearth stones. Remains of burnt bone or shell are sometimes preserved within hearth.

**In Situ:** Refers to cultural material that is discovered as being undisturbed and considered to be in its original context. That is, material which, when identified is considered to be in the same location when the site was abandoned.

**Isolated Artefact Occurrence:** An isolated artefact is defined as being the occurrence of four (4) or less items of cultural material within an area of about 100 metres (AAV 1993). It/they can be evidence of an ephemeral (or one off) activity location, the results of an artefact being lost or discarded during travel or evidence of an artefact scatter which is otherwise obscured by poor ground surface visibility.

**Midden Sites:** 'Midden' is a term borrowed from the Danish. It originally applied to the accumulations of shell and other food remains left by Mesolithic inhabitants of that country. Australian midden sites are an accumulation of hearth and food debris, which has built up a deposit on the ground surface over a length of time. Middens are generally comprised of charcoal and either freshwater or coastal shell species, depending on the site's location. Midden sites may also contain stone artefacts, and the food refuse of other native animals such as mammals. Their thick deposit of burnt shells and dark grey/black deposit can distinguish midden sites within the landscape. Coastal shell middens are often found in close association with rock platforms. Freshwater shell middens are found in close proximity to areas that provided freshwater mussels.

**Mound Sites:** Mound sites are accumulation of hearth (fire place) debris, which has over time built a thick deposit on the ground's surface. Mounds are generally comprised of charcoal; burnt clay balls and burnt food refuse such as native animal bones. Mound sites may also contain stone artefacts. On rare occasions mound sites may also contain human burial remains. Mound sites can be distinguished in the landscape by their characteristic dark grey/black deposit and height above the surrounding land. Mounds that have been utilised over long periods can obtain dimensions of over 100 metres in length and 1 metre in height. Mound sites are generally situated close to major streams, and large water bodies. In times of flood, mound sites often become marooned, and provide dry land points from which surrounding resources could have been exploited.

**Rock Shelter/Cave:** These are sites that are located within a rock shelter/overhang or caves. The archaeological deposits within such sites can vary considerably but are often predominantly lithic. Depending on their location, the archaeological deposit may also include midden deposits of shellfish, fish or terrestrial fauna. Due to the often undisturbed deposits at these sites, they are potentially very valuable sites and are generally considered of high scientific significance. Instances where rock shelter sites also possess art work on the stone walls are considered as rock shelter/art site combined.

**Rock Wells:** Rock Wells are natural cavities in rock outcrops that hold water. They are characterised by relatively narrow openings that limit evaporation. These water sources were commonly known to Aboriginal people and were kept clean and maintained by them. Since they are natural features, they are difficult to identify as Aboriginal sites. The most reliable indicator is the existence of a strong local oral tradition of Aboriginal use.

**Scarred Tree:** Scars on trees may be the result of removal of strips of bark by Aborigines for the manufacture of utensils, canoes or for shelter; or resulting from small notches chopped into the bark to provide tow and hand holds for climbers after possums, koalas and/or views of the surrounding area. A scar made by humans as opposed to naturally made by branches falling off, etc is distinguished by the following criteria: symmetry and rounded ends, scar does not extend to the ground, some regrowth has occurred around the edges of the scar, and no holes or knots present in the heartwood.

**Stone Arrangements:** These sites are specifically patterned rocks located on the ground's surface. It is often difficult to identify these sites within the field and even more difficult to define their function unless Aboriginal oral tradition exists.

## ABORIGINAL ARTEFACT TYPES

**Artefact:** Any product made by human hands or caused to be made through human actions.

**Anvil:** A portable flat stone, usually a river pebble, which has been used as a base for working stone. Anvils that have been used frequently have a small circular depression in the centre where cores were held while being struck. An anvil is often a multifunctional tool used also as a grindstone and hammer stone.

**Axe:** A stone artefact that has been ground on one or more sides to produce a sharp edge.

**Backed Blade (Geometric Microlith):** A blade has been abruptly retouched along one or more margins opposite an acute (sharp) edge. Backed pieces include backed blades and geometric microliths. Flakes that have been backed along one lateral margin and that come to a point at their distal end; they have a length of less than 80mm and are asymmetrical around the longitudinal axis. They are thought to have been hafted onto wooden handles to produce

composite cutting tools or spears. Backed blades are a feature of the “Australian Small Tool Tradition”, dating from between 5,000 and 1,000 years ago in southern Australia (Mulvaney 1975).

**Blade:** A long parallel sided flake from a specially prepared core. Blade flakes are twice as long as they are wide.

**Bipolar:** A core or a flake, which, presumably, has been struck on an anvil. This is the core from which the flake has been struck has been rotated before the flake has been struck off. Bifacial platforms tend to indicate that the flake has come off a heavily worked core.

**Broad Platform:** This is a term used to describe the shape of the platform on a flake.. A broad platform is wider than the body of a flake. Broad platform flakes are produced when flakes are struck off back from the edge of the platform on a core.

**Bulb of Percussion:** This is the conchoidal protuberance (percussion rings) formed under the point of impact when a flake is struck off the core.

**Burin:** A truncated flake (truncated wither by snapping or retouch) whose resulting flat end is used as a platform from which to strike a single flake from one of its corners, forming a triangular scar that runs down the margin of the original flake. This forms a chisel-like working edge.

**Core:** An artefact from which flakes have been detached using a hammer stone. Core types include blade, single platform, multiplatform and bipolar forms. These artefacts exhibit a series of negative flake scars, each of which represents the removal of a flake.

**Core Types:**

*Unidirectional Cores* - These cores have scars originating from a single platform, and all the flakes struck from the core have been struck in the same direction from that platform.

*Bidirectional Cores* - These cores have two platforms, one opposite the other; flakes have been struck from each of the platforms, and thus from opposite directions.

*Bifacial Cores* - These kinds of core have a single platform, but the flakes struck from it have been detached from two core faces.

*Multidirectional Cores* - These cores have two or more platforms and there is no clear pattern, either in the orientation of the platforms or in the orientation of the scars resulting from the striking of flakes from those platforms.

*Bipolar Cores* - Nodules or cobbles that are flaked using an anvil. The resulting artefacts exhibit crushing on both their proximal and distal margins, and often their lateral margins, where they have been rotated.

**Cortex:** Original or natural (unflaked) surface of a stone.

**Complete Flake:** an artefact exhibiting a ventral surface (where the flake was originally connected to the core), dorsal surface (the surface that used to be part of the exterior of the core), platform, termination and bulb of percussion.

**Flaked Piece/Waste Flake/Debitage:** A piece of stone with definite flake surfaces that cannot be classified as a flake or core. These artefact types are generally refuse materials discarded during the working of stone material.

**Broken Flake:** Defined by the part of the flake remaining, ie. proximal (where the platform is present), medial (where neither the platform or termination is present), or distal (where the termination is present).

**Focal Platform:** This is a term used to describe the shape of the platform on a flake. A focal platform is narrower than the body of the flake. Focal platform flakes are produced when flakes are struck off near the edge of the platform on a core.

**Geometric Microlith:** Artefacts less than 80mm in maximum dimension which are backed at one or other end, sometimes at both ends, and sometimes on one lateral margin as well, the result being a form that is symmetrical around its transverse axis.

**Hammerstone:** A cobble or cobble fragment exhibiting pitting and abrasion as a result of percussion.

**Implement:** A general term for tools, weapons, etc, made by people.

**Lithic:** Anything made of stone.

**Microlith:** Small (1-3cm long) stone tools with evidence of retouch. Includes 'Bondi Points', segment, scrapers, backed blades, triangle and trapezoid.

**Mortar:** The lower stone associated with grinding plants for food and medicine and/or ochre for painting. These stones are usually large and flat, and when well used show deep grooves from repeated grinding.

**Notched Tool:** flakes that exhibit a small area of retouch forming a concave edge on their lateral or distal margins.

**Pestle:** The "upper stone" used to grind plants for food and medicine and/or ochre for painting. A pestle stone often doubles as a hammer stone and/or anvil.

**Piercer:** Artefacts with projections that have been created by retouch and extend up to 15mm beyond the body of the flake.

**Primary Flake:** The first flakes struck off a core in order to create a platform from which other flakes can then be struck.

**Secondary Flaking/Retouch:** Secondary working of a stone artefact after its manufacture. This was often done to resharpen stone tools after use, or in the production of formal tool types such as blade flakes and scrapers.

**Scraper:** A tool used for scraping. A flake with one or more margins of continuous retouch.

**Thumbnail Scraper:** A small flake with a convex scraper edge, shaped like a thumbnail and located opposite the flake's platform.

## OTHER TERMS

**Archaeological Site:** A place/location of either Aboriginal or non-Aboriginal origin. Aboriginal archaeological sites have been formed prior to the European settlement of Australia, and may be in any of the forms outlined in section 1.

**Post-Contact Aboriginal Site:** Also referred to as Historic Aboriginal Site. These areas/sites/places/localities indicate contact has been made with European culture during the period of initial European settlement (e.g. glass in tool assemblages, massacre sites), or where activities culturally significant to Aboriginal people has occurred (camping, employment, travel routes).

**BP:** Before Present. The 'Present' is defined as 1950.

**Cultural Heritage:** Something that is inherited or passed down because it is appreciated and cherished. Categories of cultural heritage include: built structures and their surrounds, gardens, trees; cultural landscapes; sites; areas; precincts; cemeteries; ruins and archaeological sites; shipwrecks; sites of important events; commemorative sites; contents of buildings and significant relics, objects, artefacts and collections of objects.

**Cultural Landscape Integrity:** The level of which the local landscape reflects the environment in which pre-contact Aboriginal people or early European settlers lived. The integrity includes all relevant aspects such as level and type of vegetation cover, hydrology, landforms and structures. A site located in a landscape of high cultural integrity has greater heritage value as it remains in context, and is therefore able to impart a greater level of information to the broader community.

**Ethnography:** The scientific description of living cultures.

**Historic Archaeological Site:** These are places where non-Aboriginal activities have occurred, and which little extant (standing) features remain. The bulk of evidence for historic occupation/utilisation is comprised of remains (artefacts, foundations, etc) that are located on the ground's surface or in a sub-surface context. The primary heritage value of an archaeological site is scientific.

**Historic Site:** Sites/Areas that contain extant (standing) remains of pre-1950 non-Aboriginal occupation. Historic sites may or may not also contain archaeological remains (Aboriginal and/or historic).

**Holocene, Recent or Postglacial Period:** The time from the end of the Pleistocene Ice Age (c. 10,300 BP) to the present day.

**Horizon:** A term used to describe a layer of archaeological material that is *in situ*.

**Heritage Place/Site:** An area or region of land that represents a particular focus of past human activity, or that represents a concentration of *in situ* cultural material. A place includes any structures, buildings or works upon or integral with the land, and any artefacts or other physical relic associated with the land, or it may have no visible evidence of human activity, being rather the site of a past event of importance or the embodiment of a particular belief or legend. Examples might range from an Aboriginal ceremonial ground, a pioneer's house and contents, a shop, the remains of an early whaling station or a recent fish farm, Captain Cook's landing place, a 40,000 year old Aboriginal campsite or a 1990s brick-veneer house, a shipwreck, an industrial or mining landscape, a bus stop, a Macassan trepanger campsite or the Surfer's Paradise Caravan Park, a garbage dump, the local war memorial, a garden, an Aboriginal rock painting or a band rotunda.

**Potential:** Based on collated existing data and site inspection of an area or specific site may contain the potential for extant or archaeological deposits. Background research will present the most likely site types, contents and state of preservation. Relative levels of potential are described as Low (10-30% probability), Moderate (40-60% probability) and High (70% and above probability).

**Obtrusiveness:** Refers to how conspicuous a site is within a particular landscape, and thus the possibility of positive identification within a field environment. Some site types are more conspicuous than other. Thus a surface stone artefact scatter is generally not obtrusive, especially in area of low ground surface visibility, while a scarred tree is (Bird 1992).

**Ordovician:** The geological time period dating from 439-510 million years ago.

**Pleistocene:** The geological period corresponding with the last or Great Ice Age. The onset of the Pleistocene is marked by an increasingly cold climate, by the appearance of Calambrian mollusca and Villafranchian fauns with elephant, ox, and horse species, and by changes in foraminifera. The oldest form of man had evolved by the Early Pleistocene, and in archaeological terms the cultures classed as Palaeolithic all fall within this period. The date for the start of the Pleistocene is not well established, and estimates vary from 3.5 to 1.3 million years ago. The period ends with the final but gradual retreat of the ice sheets, which reached their present conditions around 10,300 BP.

**Silurian:** A geological time period from 408 to 439 million years ago.

**Stratigraphy:** Layering.

**Visibility:** Refers to the degree to which the surface of the ground can be observed. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land use practices, such as ploughing or grading. It is generally expressed in terms of the percentage of the visible ground surface for an observer on foot (Bird 1992). For example 10% visibility equates to 10 cm<sup>2</sup> per 1 m<sup>2</sup> of ground surface that is not covered by vegetation or soil deposit. The following applies to descriptions of ground surface visibility within this report.

0%	No Visible Ground Surface
0-10%	Very Poor
10-30%	Poor
30-50%	Fair
50-70%	Good
70-90%	Very Good
90-100%	Excellent

**Raw Material:** Organic or inorganic matter that has not been processed by people.

**Slope Wash:** A term used to describe a specific process of re-deposition of cultural material. Cultural material (most often stone artefacts) that is situated on any sloping land is vulnerable to the affects of slope wash. The term relates to the downward movement of cultural material primarily due to erosion of their original context. This downward movement is most often caused by clearing of vegetation that exposes the ground surface to the affects of water erosion. The result is that cultural material will move down the slope over a period of time. How far material may move is dependent on the gradient and the intensity of the erosion.

**Use Wear:** Tiny flakes or chips that have been broken off the edges of a stone artefact during use.

## MARITIME

**Barque:** Vessel with aftermost mast fore-and-aft rigged and remaining (usually two) masts square-rigged.

**Brig (Brigantine):** Two masted square-rigged vessel, with additional lower fore-and-aft sail on gaff and boon to mainmast.

**Cutter:** Boat belonging to ship of war, fitted for rowing and sailing, small one masted vessel rigged like a sloop, but with running bowsprit.

**Ketch:** Two masted fore-and-aft rigged sailing boat with mizzen-mast, stepped forward of rudder.

**Steamer Screw:** Vessel propelled by steam - screw, revolving shaft with twisted blades projecting from ship, and propelling it by acting on screw principle.

## REFERENCES

- |                             |      |   |
|-----------------------------|------|---|
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APPENDIX 3 – ADVICE ON THE DISCOVERY OF HUMAN REMAINS

## Advice about the Discovery of Human Remains

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Treatment of Any Suspected Aboriginal Remains Discovered in the Course of Development Work:

### 1. Legal Requirements

The **Coroner's Act 1985** requires anyone who discovers the remains of a "person whose identity is unknown" to report the discovery directly to the State Coroner's Office or to Victoria Police. A person who fails to report the discovery of such remains is liable to a \$10,000 fine. The **Coroner's Act 1985** does not differentiate between treatment of Aboriginal and non-Aboriginal remains. The majority of burials found during development work are therefore likely to be subject to this reporting requirement.

In addition, Part IIA of the **Aboriginal and Torres Strait Islander Heritage Protection Act 1984** requires anyone who discovers suspected Aboriginal remains in Victoria to report the discovery to the responsible Minister. The Director, Aboriginal Affairs Victoria, holds delegated authority to receive and investigate such reports.

It should be noted that the **Aboriginal and Torres Strait Islander Heritage Protection Act 1984** is subordinate to the **Coroner's Act 1985** regarding the discovery of human remains. In the first instance, therefore, the location at which the remains are found should be treated as a possible crime scene and the developer and/or contractor should not make any assumptions about the age or ethnicity of the burial.

Victoria Police Standing Orders require that an archaeologist from Heritage Services Branch, Aboriginal Affairs Victoria, should be in attendance when suspected Aboriginal remains have been reported (Police Headquarters and the State Coroner's Office hold after hours contact numbers for Heritage Branch staff). In cases where it is believed that the remains are Aboriginal, the Police will now usually invite representatives of the local Aboriginal community to be present when remains are being assessed. This is because Aboriginal people usually have particular concerns about the treatment of Aboriginal burials and associated materials.

### 2. Aboriginal Affairs Victoria - Suggested Procedure to be Followed if Suspected Human Remains are Discovered

- If suspected human remains are discovered during development, work in the area must cease and the Police or State Coroner's Office must be informed of the discovery without delay. **The State Coroner's Office can be contacted at any time on ph. (03) 9684 4444.**
- If there are reasonable grounds to suspect that the remains are Aboriginal, the discovery should also be reported to Aboriginal Affairs Victoria on ph. (03) 9616 7777. Aboriginal Affairs Victoria will ensure that the local Aboriginal community is informed about the circumstances of the discovery.
- Do not touch or otherwise interfere with the remains, other than to safeguard them from further disturbance.
- Do not contact the media.

APPENDIX 4 – CONSERVATION PRINCIPLES OF THE BURRA CHARTER

**The Burra Charter**  
The Australia ICOMOS charter  
for the conservation of places  
of cultural significance

<b>1.4</b>	<i>Conservation</i> means all the processes of looking after a <i>place</i> so as to retain its <i>cultural significance</i> .	
<b>Conservation Principles</b>		
<b>Article 2</b>	<b>Conservation and management</b>	
<b>2.1</b>	<i>Places of cultural significance</i> should be conserved.	
<b>2.2</b>	The aim of <i>conservation</i> is to retain the <i>cultural significance</i> of a <i>place</i> .	
<b>2.3</b>	<i>Conservation</i> is an integral part of good management of <i>places of cultural significance</i> .	
<b>2.4</b>	<i>Places of cultural significance</i> should be safeguarded and not put at risk or left in a vulnerable state.	
<b>Article 3</b>	<b>Cautious approach</b>	
<b>3.1</b>	<i>Conservation</i> is based on a respect for the existing <i>fabric, use, associations</i> and <i>meanings</i> . It requires a cautious approach of changing as much as necessary but as little as possible.	The traces of additions, alterations and earlier treatments to the fabric of a place are evidence of its history and uses which may be part of its significance. Conservation action should assist and not impede their understanding.
<b>3.2</b>	Changes to a <i>place</i> should not distort the physical or other evidence it provides, nor be based on conjecture.	
<b>Article 4</b>	<b>Knowledge, skills and techniques</b>	
<b>4.1</b>	<i>Conservation</i> should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the <i>place</i> .	
<b>4.2</b>	Traditional techniques and materials are preferred for the <i>conservation</i> of significant <i>fabric</i> . In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.	The use of modern materials and techniques must be supported by firm scientific evidence or by a body of experience.
<b>Article 5</b>	<b>Values</b>	
<b>5.1</b>	<i>Conservation</i> of a <i>place</i> should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.	Conservation of places with natural significance is explained in the Australian Natural Heritage Charter. This Charter defines natural significance to mean the importance of ecosystems, biological diversity and geodiversity for their existence value, or for present or future generations in terms of their scientific, social, aesthetic and life-support value.
<b>5.2</b>	Relative degrees of <i>cultural significance</i> may lead to different <i>conservation</i> actions at a place.	A cautious approach is needed, as understanding of cultural significance may change. This article should not be used to

		justify actions which do not retain cultural significance.
<b>Article 6</b>	<b>Burra Charter Process</b>	
<b>6.1</b>	The <i>cultural significance</i> of a <i>place</i> and other issues affecting its future are best understood by a sequence of collecting and analysing information before making decisions. Understanding cultural significance comes first, then development of policy and finally management of the place in accordance with the policy.	The Burra Charter process, or sequence of investigations, decisions and actions, is illustrated in the accompanying flowchart.
<b>6.2</b>	The policy for managing a <i>place</i> must be based on an understanding of its <i>cultural significance</i> .	
<b>6.3</b>	Policy development should also include consideration of other factors affecting the future of a <i>place</i> such as the owner's needs, resources, external constraints and its physical condition.	
<b>Article 7</b>	<b>Use</b>	
<b>7.1</b>	Where the <i>use</i> of a <i>place</i> is of <i>cultural significance</i> it should be retained.	
<b>7.2</b>	A <i>place</i> should have a <i>compatible use</i> .	The policy should identify a use or combination of uses or constraints on uses that retain the cultural significance of the place. New use of a place should involve minimal change, to significant fabric and use; should respect associations and meanings; and where appropriate should provide for continuation of practices which contribute to the cultural significance of the place.
<b>Article 8</b>	<b>Setting</b>	
	<i>Conservation</i> requires the retention of an appropriate visual <i>setting</i> and other relationships that contribute to the <i>cultural significance</i> of the <i>place</i> .  New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.	Aspects of the visual setting may include use, siting, bulk, form, scale, character, colour, texture and materials.  Other relationships, such as historical connections, may contribute to interpretation, appreciation, enjoyment or experience of the place.
<b>Article 9</b>	<b>Location</b>	
<b>9.1</b>	The physical location of a <i>place</i> is part of its <i>cultural significance</i> . A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.	
<b>9.2</b>	Some buildings, works or other components of <i>places</i> were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have	

	significant links with their present location, removal may be appropriate.	
<b>9.3</b>	If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate <i>use</i> . Such action should not be to the detriment of any <i>place</i> of <i>cultural significance</i> .	
<b>Article 10</b>	<b>Contents</b>	
	Contents, fixtures and objects which contribute to the <i>cultural significance</i> of a <i>place</i> should be retained at that place. Their removal is unacceptable unless it is: the sole means of ensuring their security and <i>preservation</i> ; on a temporary basis for treatment or exhibition; for cultural reasons; for health and safety; or to protect the place. Such contents, fixtures and objects should be returned where circumstances permit and it is culturally appropriate.	
<b>Article 11</b>	<b>Related places and objects</b>	
	The contribution which <i>related places</i> and <i>related objects</i> make to the <i>cultural significance</i> of the <i>place</i> should be retained.	
<b>Article 12</b>	<b>Participation</b>	
	<i>Conservation, interpretation</i> and management of a <i>place</i> should provide for the participation of people for whom the place has special <i>associations</i> and <i>meanings</i> , or who have social, spiritual or other cultural responsibilities for the place.	
<b>Article 13</b>	<b>Co-existence of cultural values</b>	
	Co-existence of cultural values should be recognised, respected and encouraged, especially in cases where they conflict.	For some places, conflicting cultural values may affect policy development and management decisions. In this article, the term cultural values refers to those beliefs which are important to a cultural group, including but not limited to political, religious, spiritual and moral beliefs. This is broader than values associated with cultural significance.