



ATTACHMENT A

DESKTOP ASSESSMENT FOR A HISTORIC HERITAGE ASSESSMENT (HV NO. 4354)

BULGANA WIND FARM

**DESKTOP ASSESSMENT FOR A
HISTORIC HERITAGE ASSESSMENT
(HV No. 4354)**

**Sponsored by
Bulgana Wind Farm Pty Ltd**

1 September 2014

**Prepared by Cultural Heritage Advisors
Andrea Murphy & Dr Tom Rymer with contributions
by Karen Kapteinis and Louise Blake**

Archaeology  TARDIS

cultural heritage advisors

PO Box 776

Beaconsfield, VIC 3807

www.aatardis.com.au

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Sponsor:	Bulgana Wind Farm Pty Ltd (ABN 29 162 201 569)
Heritage Advisors:	Andrea Murphy & Dr Tom Rymer (Archaeology At Tardis Pty Ltd)
Authors:	Andrea Murphy & Dr Tom Rymer with contributions by Karen Kapteinis (Archaeology At Tardis Pty Ltd) and Louise Blake (Blake Hyland Group Pty Ltd)
Heritage Victoria Project Number	4354
Completed:	1 September 2014

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EXECUTIVE SUMMARY

This desktop assessment for a historic heritage assessment (HHA) was prepared in order to identify, assess and manage historic heritage, if present, at the Bulgana Wind Farm (hereafter referred to as the Activity Area) in compliance with the *Heritage Act 1995* and the *Planning and Environment Act 1987* (**Map 1**). Bulgana Wind Farm Pty Ltd commissioned this HHA.

All historic archaeological sites are protected under the *Heritage Act 1995* and extant historic places may require consideration for inclusion on the Northern Grampians Shire Planning Scheme Heritage Overlay under the *Planning and Environment Act 1987*. This assessment addresses both historic extant and archaeological sites in accordance with statutory requirements.

The site of the proposed Bulgana Wind farm covers approximately 7,524 hectares of private and public land located within the Bulgana, Joel Joel, South Joel, Congongella and Great Western districts, in central western Victoria. It lies approximately 11.7 kilometres north of Ararat, at its southern extent, and 11.2 kilometres east of Stawell, at its north-west extent. Great Western is the nearest significant sized settlement approximately two kilometres to the south-west of the site.

The proposed Bulgana Wind Farm comprises a maximum of 67 wind turbines and associated permanent and temporary infrastructure. Permanent infrastructure will include:

- Approximately 53 km of site access tracks,
- Creation and improvement of up to 9 access points from public roads,
- Permanent anemometry masts,
- Approximately 47 km of underground cabling,
- Approximately 11.4 km of overhead wires,
- A collector substation and connection of underground cables to overhead line,
- A terminal substation and connection to the existing SP Ausnet 220kV high voltage transmission line located at the northern end of the site.

Temporary infrastructure will include construction compounds, turbine component lay down areas, and a concrete batching plant/s.

The need for and location of borrow pits and dams for use during construction and for fire fighting purposes are also being considered. It is the intention of the proponent to only seek consent for these items after planning permit approval is given for the wind farm, at which stage more detailed geotechnical assessments and construction planning will be undertaken.

The following individuals and organisations were consulted during this assessment:

- Australian Heritage Database (AHD accessed 11 July 2013)
- Victorian Heritage Database (VHD accessed 11 July 2013)
- Northern Grampians Shire Planning Scheme Heritage Overlay (NGSPS accessed 11 July 2013)
- Northern Grampians Shire Planning Department (phone 14.8.2014)
- Stawell Historical Society (email 14.8.2014)

EXECUTIVE SUMMARY

DESKTOP ASSESSMENT (SECTION 2)

The desktop assessment reviewed the geology, landform and climate (**Section 2.1.1**); vegetation and fauna (**Section 2.1.2**), historical background (**Section 2.2**); existing site registrations, reports and published works (**Section 2.3.1**); heritage registers (**Section 2.3.2**). The relevant evidence is used to produce a site prediction model for the Activity Area (**Section 2.3.3**). The model predicted the most likely place-types in the Activity Area (see **Table 4**) and the areas in which they may occur (**Map 4**).

Desktop Assessment Historic Heritage Sensitivity Model (Table 4)

Period	Places & Location	Sensitivity
Pastoral Era (mid 19 th century)	Homesteads, staff quarters & outbuildings	Likely
	Shepherds huts & stockyards	Likely
Early Selection & Freehold (mid to late 19 th century)	Houses & sheds (close to roads), farming infrastructure (entire study area)	Likely
Closer Settlement (late 19 th century to 1950s)	Houses & sheds (close to roads), farming infrastructure (entire study area)	Likely

The desktop assessment has demonstrated that:

1. There are no registered historic places within the Activity Area.
2. The Activity Area has not been subject to previous ground surface survey.
3. It is reasonably possible that historic heritage places are present in the Activity Area.
4. There is potential for the project to impact unknown historic heritage places.
5. The most likely site types for the Activity Area are structural features and archaeological deposits associated with pastoral occupation dating from the mid 1800s (rare) to later land sales post 1880s (common).

LEGISLATIVE REQUIREMENTS (SECTION 3)

The legislative requirements for historic heritage at the local, state and federal government levels were presented.

MANAGEMENT RECOMMENDATIONS (SECTION 4)

Recommendation 1 Survey to be Conducted

A survey should be conducted to identify and record, if present, any historic heritage that is likely to be impacted by the wind farm. The survey should be conducted by a suitably qualified archaeologist.

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Maddison Miller – Heritage Victoria

ABBREVIATIONS

AAT	Archaeology at Tardis Pty Ltd
AHD	Australian Heritage Database
asl	Meters Above Sea Level
BP	Years Before Present (1950)
dGPS	Differential Global Positioning System
DTPLI	Department of Transport, Planning and Local Infrastructure
DSE	Department of Sustainability and Environment
HV	Heritage Victoria
Ka	Thousand years ago
LGM	Last Glacial Maximum
LV	Land Victoria
Ma	Million years ago
PGC	Primary Grid Coordinate
SLV	State Library of Victoria
VHD	Victorian Heritage Database
VHI	Victorian Heritage Inventory
VHR	Victorian Heritage Register

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

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1 INTRODUCTION

1.1 Principle Reason for the Work

This desktop assessment for a historic heritage assessment (HHA) was prepared in order to identify, assess and manage historic heritage, if present, at Bulgana Wind Farm (hereafter referred to as the Activity Area) in compliance with the *Heritage Act 1995* and the *Planning and Environment Act 1987* (**Map 1**). All historic archaeological sites are protected under the *Heritage Act 1995* and extant historic places may require consideration for inclusion on the Northern Grampians Shire Planning Scheme Heritage Overlay under the *Planning and Environment Act 1987*. This assessment addresses both historic extant and archaeological sites in accordance with statutory requirements.

1.2 Name of the Commissioning Agency

Bulgana Wind Farm Pty Ltd commissioned this HHA.

1.3 Aims and Objectives of the Study

This report identifies and assesses extant historic places and archaeological sites within the Activity Area in compliance with the *Heritage Act 1995* and the *Planning and Environment Act 1987* by conducting background research. A formal project brief was supplied by Bulgana Wind Farm Pty Ltd and standard heritage management practices were followed.

1.4 Individuals and Organisations Undertaking the Study

Andrea Murphy (Director) and Tom Rymer (Project Manager) from Archaeology At Tardis Pty Ltd (AAT) prepared this HHA along with contributions by Louise Blake (historian) and Karen Kapteinis (geomorphologist) (see **Sections 2.1.1 & 2.2**).

1.5 Individuals and Organisations Consulted during the Study

The following individuals and organisations were consulted during this assessment:

- Australian Heritage Database (AHD accessed 2013)
- Victorian Heritage Database (VHD accessed 2013)
- Northern Grampians Shire Planning Scheme Heritage Overlay (NGSPS accessed 2013)

1.6 Date and Location of the Survey

Part of a ground surface survey was conducted from 17 to 27 March 2014 but does not form part of this current report.

1.7 Location of the Activity Area

The Activity Area is located approximately 5km east of the township of Greater Western which is approximately 225km northwest of Melbourne (**Map 1**).

1.8 Description of the Activity Area

The site of the proposed Bulgana Wind farm covers approximately 7,524 hectares of private and public land located within the Bulgana, Joel Joel, South Joel, Congongella and Great Western districts, in central western Victoria. It lies approximately 11.7 kilometres north of Ararat, at its southern extent, and 11.2 kilometres east of Stawell, at its north-west extent. Great Western is the nearest significant sized settlement approximately two kilometres to the south-west of the site.

Large areas of the site are currently utilised for stock grazing (principally sheep) on improved dry-land pastures, with some cropping land in isolated locations. Much of the site has been cleared of native woodland and forest vegetation. Where vegetation does remain, it is limited in extent to small isolated clumps and linear windbreaks on private land, and linear strips along road reserves. Numerous indigenous scattered trees exist throughout the site and locality. Areas of revegetation are present on the site, and these comprise indigenous and non-indigenous native planted trees between approximately three and 15 years old.

The Activity Area supports a number of soil types, derived principally from sedimentary and granitic underlying geologies. The topography of the majority of the study area comprises gentle to steep sloping hills and ridgelines, and undulating plains dissected by numerous water courses and drainage lines. Named waterways include Concongella Creek, Allanvale Creek, Salt Creek, Surridge Creek, Six Mile Creek, Seven Mile Creek and Wattle Creek, with numerous drainage lines feeding these named waterways.

The road network that runs through the site and locality comprises a range of sealed and unsealed local roads including Allanvale Road, Tuckers Hill Road, Wattle Gully Road, Green Hill Lane, Stocks Road, Metcalfe Road, Salt Creek Road, Bulgana Road, Gibsons Road, Joel South Road, Thomas Road, Landsborough Road, Joel Forest Road, Wyndarra Road, Vances Crossing Road and Vineyard Road. To the south and west of the site runs the Western Highway between Melbourne and Adelaide. Other improvements on the site and in the locality comprise typical farm residences and infrastructure including houses, outbuildings, sheds, dams of varying size and depth, fences, private roads and dirt tracks. The entire site falls within the area of the North Grampians Shire Council and within the Wimmera catchment. With the exception of road reserves, the entire Activity Area is zoned Farm Zone (FZ). Road reserves are zoned Road Zone (RZ). An Environmental Significance Overlay – Schedule 1 (ESO1) currently covers most of the ridge lines on the site.

1.9 Owners and Occupiers

The land is not owned by Bulgana Wind Farm Pty Ltd. The name of owners and occupiers are shown in **Appendix 1**.

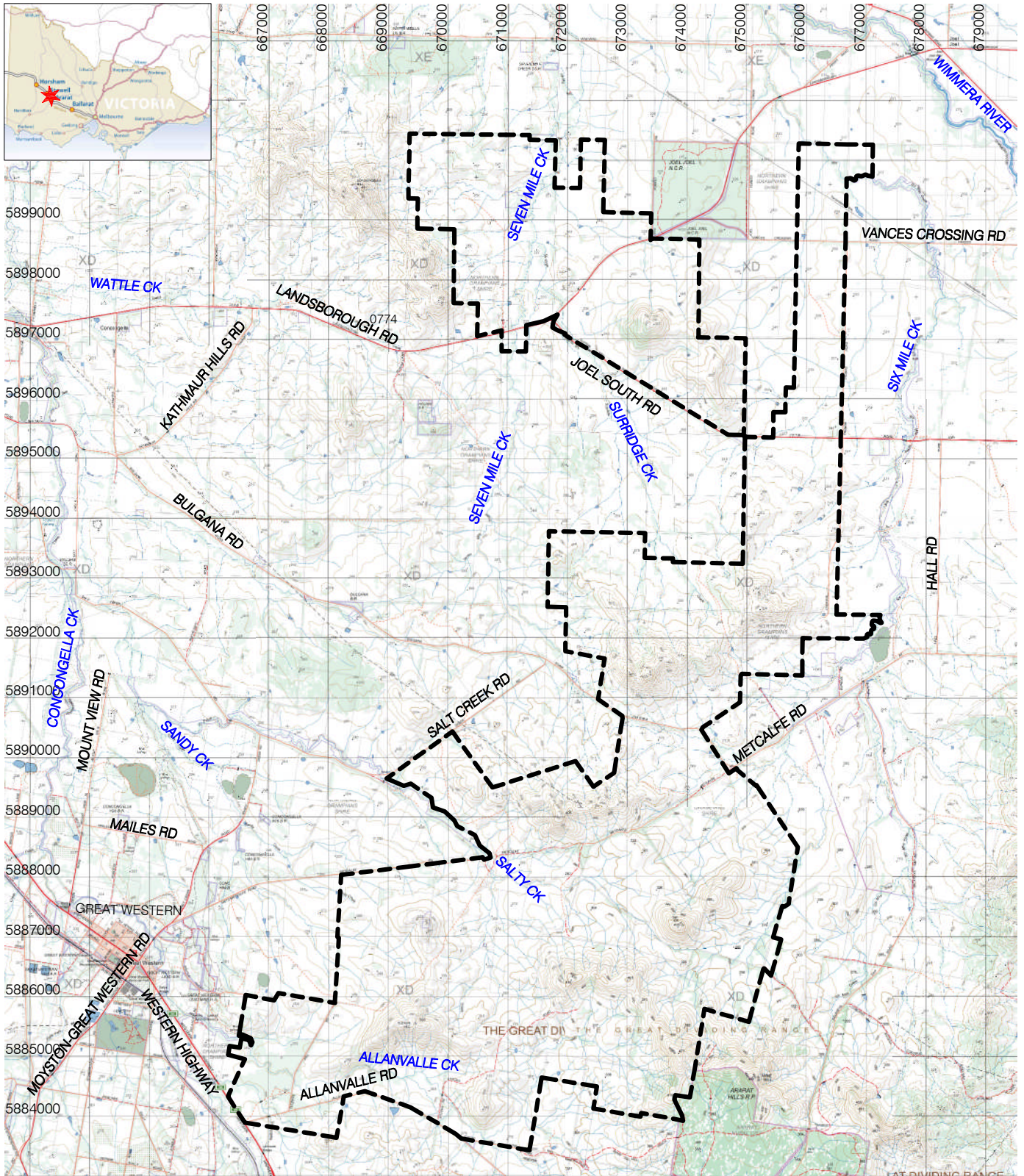
1.10 Project Description

The proposed Bulgana Wind Farm comprises a maximum of 67 wind turbines and associated permanent and temporary infrastructure. Permanent infrastructure will include:

- Approximately 53 km of site access tracks,
- Creation and improvement of up to 9 access points from public roads,
- Permanent anemometry masts,
- Approximately 47 km of underground cabling,
- Approximately 11.4 km of overhead wires,
- A collector substation and connection of underground cables to overhead line,
- A terminal substation and connection to the existing SP Ausnet 220kV high voltage transmission line located at the northern end of the site.



Temporary infrastructure will include construction compounds, turbine component lay down areas, and a concrete batching plant/s.

The need for and location of borrow pits and dams for use during construction and for fire fighting purposes are also being considered. It is the intention of the proponent to only seek consent for these items after planning permit approval is given for the wind farm, at which stage more detailed geotechnical assessments and construction planning will be undertaken.

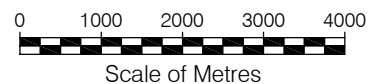


Topographic map used for Location Plan: 1:30,000 Number T7423-1-1-1, T7423-1-1-2, T7423-1-1-3, T7423-1-1-4, T7423-1-2-1, T7423-1-2-1, T7423-1-2-4, T7423-1-4-1

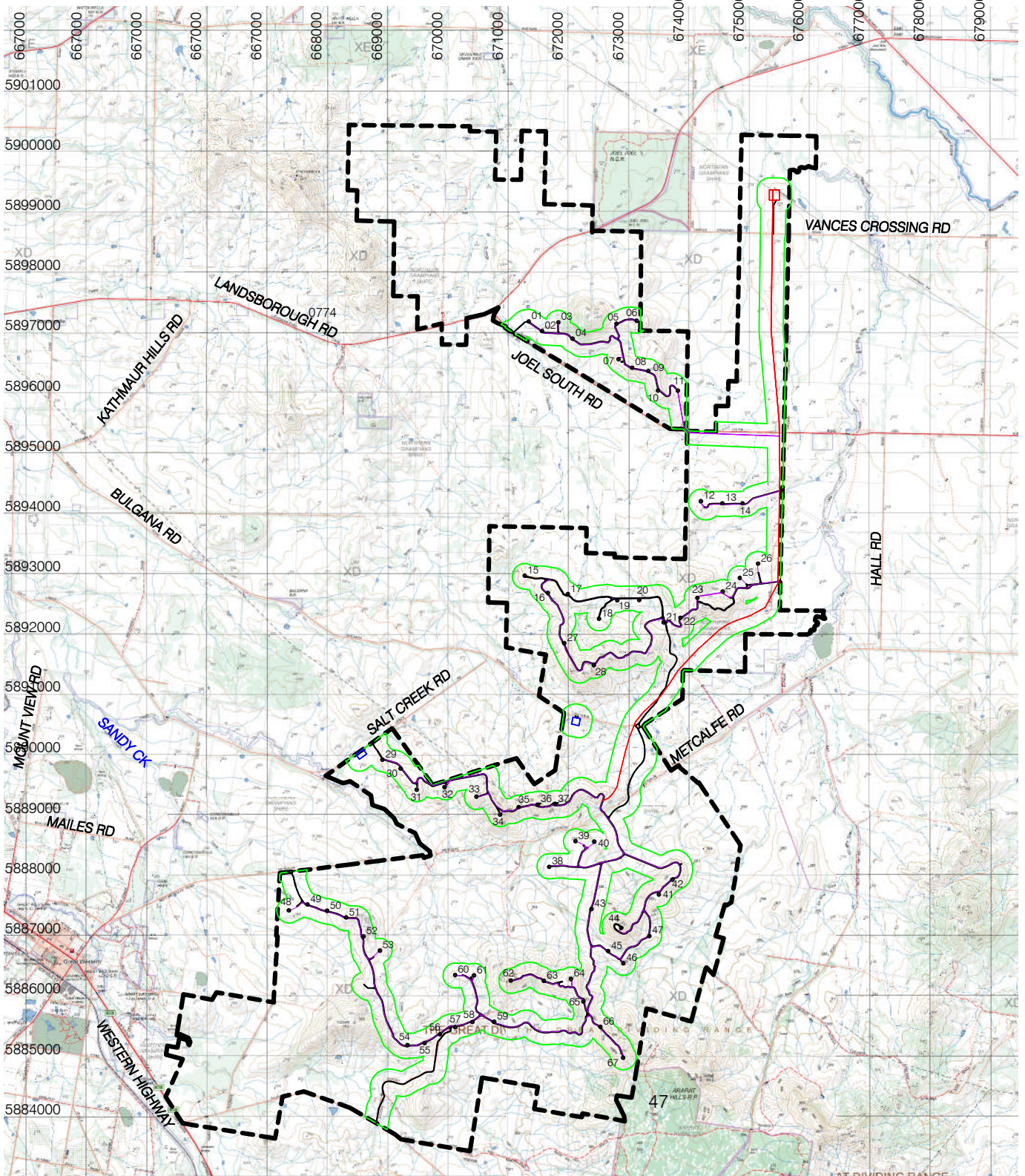
Legend:

-  Activity Area Location (Inset)
-  Activity Area Boundary
7,524 hectares (approx)

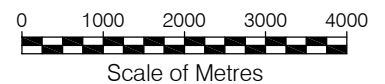
Parish: **Watta Wella, Joel Joel, Bulgana & Congongella**
 LGA: **Northern Grampians**



Map 1 Activity Area Location



Map Courtesy of DSE Website



Legend:

- Activity Area Boundary
7,524 hectares (approx)
- Roads
- Powerline
- Turbine
- Substation
- Temporary Construction Compound
- Cable
- Infrastructure Zone

Map 2 Activity Area Concept Plan



2 BACKGROUND INFORMATION – DESKTOP ASSESSMENT

2.1 Environmental Background

2.1.1 Geology, Landform & Climate

Geology

The oldest unit within the Activity Area is the Albion Formation, which was deposited in the Early Cambrian (542-513Ma BP) (Cayley & Taylor 2000). The unit is primarily comprised of >90% black mudstone, with interbedded minor siliceous siltstone and calcareous sandstone occurring mostly at the top of the unit (Squire & Wilson 2005; Cayley & Taylor 2000). The dominant geological unit within the Activity Area is the Warrak Formation (Cayley & Taylor 2000). These regional metamorphosed and faulted greenschist sediments are of Late Cambrian (501-488Ma BP) in age, and were originally deposited as turbidite fans in a deep marine environment (Cayley & Taylor 2000; VandenBerg et al 2000; Crawford et al 2003).

Substantial hydrothermal quartz veins are common between the folded beds of the Cambrian metasediments, having been intruded in liquid hydrothermal form before cooling and mineralising as milky white quartz with various *in situ* commercially viable ore bodies (Birch et al 1999; Cayley & Taylor 2001). These veins range in thickness from 0.1mm between thin-bedded country rock (Warrak Formation) sequences to up to 1m in fault-hosted veins (Cayley & Taylor 2001). Over time, with increasing regional metamorphism, saddle reefs develop between beds at the apex of the anticlines as silica (quartz) precipitation continues. Eventually the surface above the veins is removed by erosion, exposing the quartz (Ollier 1959; Butt 1985).

The Bulgana Diorite occupies a small area in the eastern part of the Activity Area, and was emplaced in the Early Devonian (416-398Ma BP) during a period of volcanism and regional igneous intrusion that had been triggered by the Benambran Orogeny (Cayley & Taylor 2000; Cayley & Taylor 2001). The Two Eyed Creek Granodiorite outcrops in the landscape as a low-relief basin feature surrounded by contact metamorphosed ridges (Cayley & Taylor 2001). Intruded in the Early Devonian (400-396Ma BP), it was part of the same igneous period that intruded the Bulgana Diorite (Cayley & Taylor 2001). The granodiorite is medium to coarse grained, with quartz and plagioclase feldspar dominating the matrix (Cayley & Taylor 2001).

The Paleocene to Eocene (~65-34Ma BP) age White Hills Gravel outcrops as erosional remnants of once extensive colluvial and alluvial palaeovalley deposits within the Activity Area, and is discontinuous across the landscape (Cayley & Taylor 2001; Phillips et al 2003). This unit is up to 30 metres thick in places, and is comprised of fine- to medium-grained, well- to moderately-sorted cross-bedded vein quartz sand and gravels with interbedded coarse- to very coarse-grained quartz conglomerate and clay (Cayley & Taylor 2001).

The Shepparton Formation typically outcrops as floodplain terrace features 1 to 10m above the modern stream channels, while the Holocene unnamed alluvium is represented by deposits immediately surrounding the stream, usually overlying the Shepparton

Formation (**Cayley & Taylor 2001**). The Shepparton Formation comprises largely of poorly sorted, clay-dominated alluvial sediments with red mottling (**Cayley & McDonald 1995**).

Colluvium deposits in the Activity Area are mostly unconsolidated and consist largely of poorly sorted clay, silt, angular sand, gravel and boulders originating from the parent material of the slopes (**Cayley & Taylor 2001**). Vein quartz pebbles are the most common material, and are usually set into a matrix of sand or clay (**Cayley & Taylor 2001**). The deposits usually form low-profile colluvial fans on the flanks of the slopes, although topography varies, particularly across deposits of differing ages (**Cayley & Taylor 2001**).

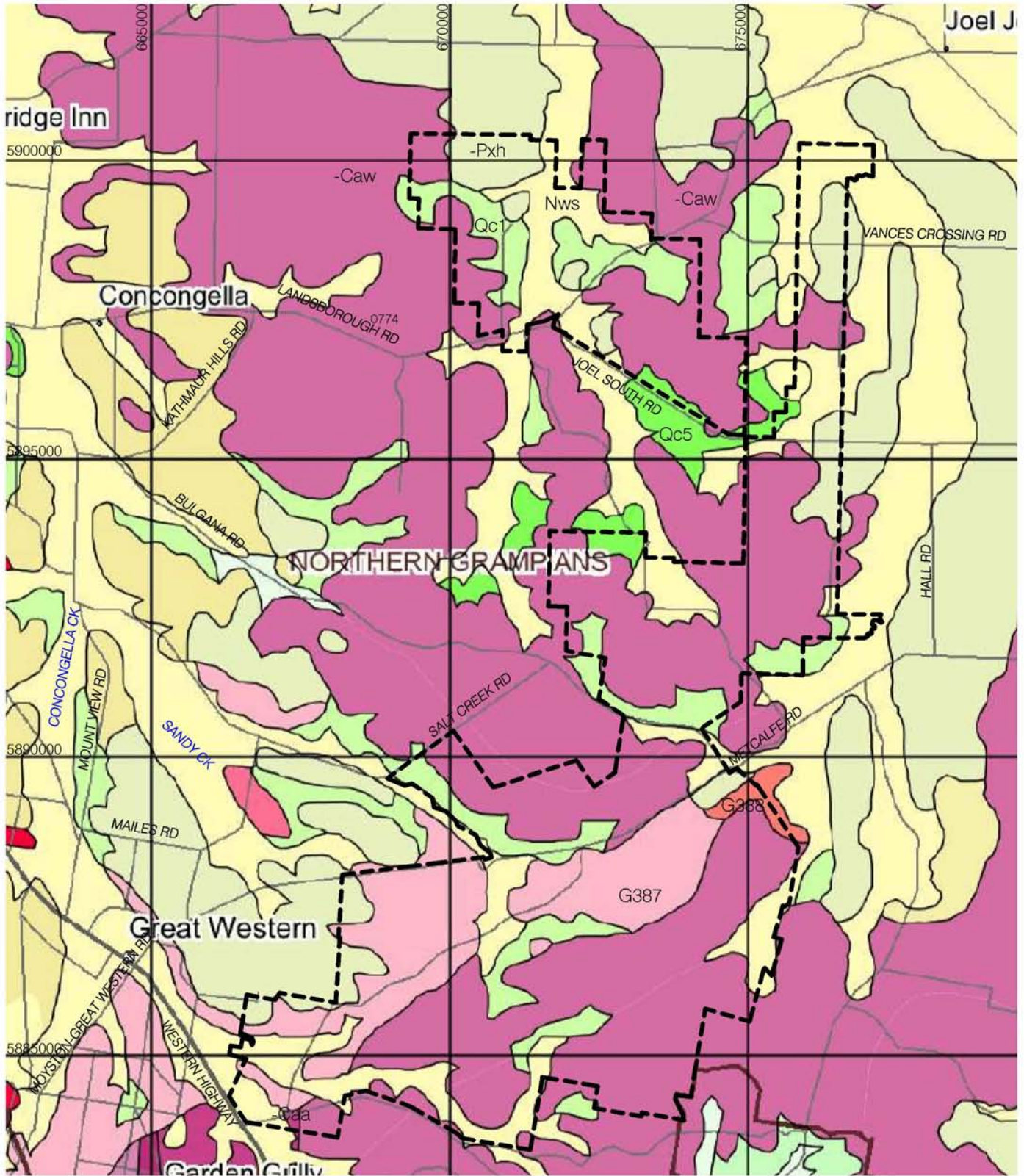
The geology of the Activity Area shows that quartz is ubiquitous throughout the majority of the Activity Area. Historically, gold prospectors would have investigated all parts of the Activity Area to search for gold.

Landform and Geomorphology

The Activity Area lies within the Western Uplands geomorphic division of Victoria, specifically within the Midland Hills of the Ararat area (**Joyce et al 2003; Cayley & Taylor 2001**). Relief of the landscape is relatively low, ranging between 400m and 100m, with the higher elevations denoting contact metamorphic aureoles surrounding igneous intrusions (**Cayley & Taylor 2001**). Several corridors and plains occupy the lower-relief areas within the Activity Area and adjacent to it, and these have largely been formed in response to the downcutting of streams since the Cretaceous (146-65Ma BP) (**Jenkin 1976; Cayley & Taylor 2001**). Regolith and soil thickness on these higher peaks and ridges are thin and rocky, due to the continuous downslope movement of colluvial material (**Cayley & Taylor 2001**). Thickness increases as elevation and slope gradient decrease, with soils and regolith in the valleys resulting from a combination of *in situ* weathering and transportation of upslope and upstream material (**Cayley & Taylor 2001**).


The drainage system of the region has developed in response to the position of the Great Dividing Range in Victoria, with streams arranged in a dendritic pattern. The Activity Area lies on the northern slopes of the Dividing Range, near the watershed of the Murray and Otway Basins. Main streams within the Activity Area include; Concongella Creek, Allanvale Creek, Kirkella Creek, Six Mile Creek and Seven Mile Creek. All of these streams are tributaries of the Wimmera River, which flows from the east of the Activity Area to the north where it terminates at Lake Hindmarsh.

Running through the Activity Area are five tectonic faults, and all are related to the Stawell-Ararat Fault Zone, which lies on the western edge of the Stawell geological zone (**Gray et al 2003**). The movement of these faults and those further east ending at the Avoca Fault, have all contributed to the regional compression and subsequent chevron-folds of the St Arnaud Group (Albion & Warrak Formations). In three out of the five thrust faults (Wildcat, South and Concongella Faults), the hanging wall is located on the eastern side, while the Coongee Fault has its hanging wall on the western side of the fault (**Cayley & Taylor 2000; Cayley & Taylor 2001**). The Cattle Camp Fault stands apart from the other faults within the Activity Area, as it strikes northeast to southwest instead of north-northwest to south-southeast, and has its hanging wall on the northern side of the fault (**Phillips et al 2002**).



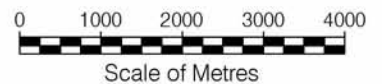
Map Courtesy of DSE Website

Legend:

 Activity Area Boundary
7,524 hectares (approx)

Qc1 Unnamed Colluvium
-Pxm White Hills Gravel
G387 Two Eyed Creek Granodiorite
-Caw Warrak Formation

Nws Shepparton Formation
Qc5 dissected colluvium
G388 Bulgana Diorite
-Caa Albion Formation



Map 3 Activity Area Geology



2.1.2 Vegetation and Fauna

Prior to European settlement the Activity Area was dominated by Grassy Woodland (EVC175) on the lower slopes of hills and Heathy Dry Forest (EVC20) on the exposed crests, middle and upper slopes of hills. In the northwest of the Activity Area and south of Vineyard Road there was some significant areas of Heathy Woodland (EVC48) and Box Ironbark Forest (EVC61) indicative of drier conditions and poorer soils, although they are also found at Joel South Road and Metcalfe Road in the central and southern parts of the Activity Area albeit in less significant proportions. Along the ephemeral drainage lines and intermittently flowing upper reaches of the named waterways, Alluvial Terraces Herb Rich Woodland (EVC67) dominated while lower down in the reaches Creekline Grassy Woodland (EVC68) prevails. Plains Woodland (EVC803) is only found in the northeast sector of the Activity Area at the middle to lower reaches of Salt Creek as it heads north to its confluence with the Wimmera River.

The original fauna of the Activity Area region would have been wide-ranging within different ecotones. The current highly modified habitat by European occupation has significantly reduced the number and diversity of native flora and fauna (eg see **Banfield 1955: 113**).

The resources available near the Activity Area in the past would have been abundant. However, it is likely that the surrounding region provided richer resources than that available within the Activity Area itself. The Activity Area would mainly had a wide variety of terrestrial resources, however, lakes and rivers outside the Activity Area following the developing watercourses downstream within the broad plains would have more abundant resources. This likely abundance is highlighted by **Banfield (1955: 113)** who reports that in the second half of the 1800s professional shooters plundered the fauna in the swamps around Ararat killing various species including turkeys, ducks, swans and geese in order to supply the Ballarat market. Apart from abundant bird life in the swamps there was also plentiful black-fish (**Banfield 1955: 113**). In the upper reaches of the Wimmera River there were many large waterholes (eg near Crowlands) (**Edmonds et al 1997: 21-22**).

2.2 Historical Background

The history and development of the Activity Area and surrounds are described below. The following Section is an edited version of a historic report (**Blake 2013**) prepared by the Blake Hyland Group Pty Ltd and commissioned for this project by AAT.

Early Exploration

The Bulgana Wind Farm Activity Area was not occupied by Europeans until the 1840s. Prior to that, members of the Henty family were the first of a number of Tasmanian squatters to take up land in Victoria. In June 1835, John Batman, one of the founders of the Port Phillip Association visited Port Phillip in June 1835 and acquired a large amount of land through a 'treaty' with the *Woi wurrung*, *Boon wurrung* and *Watha wurrung* clans. Following Batman's initial expedition surveyor John Helder Wedge visited Port Phillip to map the area claimed for the Port Phillip Association. While the treaty was later declared void by the Governor of New South Wales, members of the Port Phillip Association began flooding into the Port Phillip district, bringing with them sheep and cattle to graze on what seemed like an abundant supply of grazing land.

It was not until after Surveyor-General of New South Wales Major Thomas Mitchell's expedition in 1836 that the western district of Victoria became more widely known (**Kiddle 1983**: 35). Mitchell led an expedition from Sydney to follow the course of the Murray River to its junction with the Darling River, but when he got a glimpse of the good land south of the Murray River he ventured south-west. A few days after crossing and naming the Loddon River Mitchell "first obtained a complete view of a noble range of mountains, rising in the south to a stupendous height, and presenting as bold and picturesque an outline as ever painter imagined" (**Mitchell 1965**: 170). Mitchell was impressed with the country he had observed so far and noted that though it was "unencumbered by too much wood, it yet possessed enough for all purposes; its soil was exuberant, and its climate temperate; it was bounded on three sides by ocean; and it was traversed by mighty rivers, and watered by streams innumerable." He expected that it would "become eventually a portion of a great empire" (**Mitchell 1965**: 171). After camping on the Richardson River on 12 July, Mitchell took a smaller party of men with him to explore a noble mountain range he had observed, and to climb the summit from where he hoped to map the surrounding country. After spending an uncomfortable night on the summit Mitchell obtained views to the west and south but cloud cover prevented him from completing the rest of his survey. Before returning to the Richardson River, Mitchell and his party camped near the junction of Concongella Creek and the Wimmera River, but did not travel through the Activity Area. Mitchell later named the mountain range the Grampians and the highest peak Mount William (**Mitchell 1965**: 180). Travelling south to Portland Mitchell encountered the Henty family and told them about the good country he had observed on his travels. After exploring the Portland Bay region with members of the Henty family Mitchell travelled north-east via the Pyrenees Ranges.

Mitchell's reports would have attracted 'overlanders' transporting stock to Port Phillip, it was the official sanctioning of the Port Phillip settlement on 9 September 1836 that prompted many of the squatters to set out for the district (**Shaw 1996**: 63). By November 1836 there were 224 Europeans in Port Phillip, though this number did not include the few settlers at Geelong and Portland. By 1839 the population had increased to 5,822 and by 1840 the population amounted to 10,291 (**MacKellar 2008**: 20). By 1840 there were three groups of settlers in the Western District: the squatters who had arrived from Tasmania and moved west from Melbourne and Geelong; the 'overlanders' who had followed Mitchell's route to bring stock to the illegal squatters; and overseas arrivals, which included men of wealth and assisted immigrants (**MacKellar 2008**: 20). Squatters were charged a license fee of £10 for a 'run'. These runs were often quite large and were determined by the number of stock that could be grazed on them with minimal labour (**Dingle 1984**: 25). Before a hut was established at the head station the stock was distributed over the run and outstations established (**Kiddle 1983**: 56). With few fences, shepherds or hutkeepers were employed at these outstations to mind the sheep with the number of outstations varying depending on the size of the run and number of sheep. Accommodation at the outstations ranged from temporary shelters that could be moved from one place to another to bark huts, while the head stations were often wattle and daub or slab huts with thatched roofs. Head stations were located around three miles (approx. 5 kms) apart and natural features such as rivers and creeks were sometimes used as boundaries, as well as being an important source of water for stock (**Kiddle 1983**: 54-56). If present in the Activity Area, such historic heritage is most likely to be found at the Allanvale homestead. The Activity Area is located within the boundaries of the *Concongella*, *Allanvale* (or *Sinclair's*), and *Six Mile Creek* runs (**Figure 1**).

Squatting Runs

Allanvale Run (Figures 3 & 4)

John Allan first arrived in Victoria in 1839 from Tasmania and overlanded sheep to Adelaide. After a brief return to Tasmania Allan and his wife, Eliza returned to Victoria where Allan took up the *Allanvale* pastoral run, which he named after his father's property in Launceston. Allan built the station homestead on the Ararat side of what is now Great Western (**Kuehne 1980**: 2). The homestead burnt down in 1919 and was replaced by a Spanish colonial style building (*Horsham Times* 9 December 1919; 17 March 1942).

John Allan took up *Allanvale* at the same time as William Brow was seeking a grazing run for John Sinclair's sheep (**Sayers 1966**: 5). Brow contested Allan's claim to the land, which resulted in Sinclair being given the 80,000 acres that Allan had taken up. *Allanvale* passed to John Armstrong in 1854, and after his death in 1856 it passed to George Ewbank.

In 1860 Ewbank was granted the pre-emptive right section, which is located on the corner of the Western Highway and Allanvale Road. Advertisements in the *Argus* (eg.16 September 1858) suggest that George Ewbank tried to sell *Allanvale* in 1858, but the property was again advertised in 1862. Advertisements stated that the property then consisted of 50,000 acres "free of commons and diggings", with improvements including a house, woolshed, sheepwash, paddock of 300 acres and cultivation paddock of 28 acres, both of which were located on the pre-emptive right section. 20,000 mixed sheep and 1814 acres of purchased land were also included in the sale (*Argus* 15 November 1862). SJ Davidson held the run, which amounted to 40,000 acres including freehold land, until 1876 (**Sayers 1966**: 17). Like *Concongella* / *Glynwyllyn*, *Allanvale* was broken up by selection, but the pre-emptive right section remained part of the property and part of which is within the Activity Area boundary. Subsequent leaseholders were Samuel Williamson and Joseph Clarke, who held the property from 1876 to 1883, and Andrew Scott Jr. who held it from 1883 to 1890 (**Sayers 1966**: 17). Samuel Williamson and Joseph Clarke were among those who were granted the freehold to some of the allotments on the former *Allanvale* run under the 1869 Land Act. Some of these allotments are included in the Activity Area. William Kilpatrick acquired the freehold of *Allanvale* in 1902 and the property has remained in the ownership of the Kilpatrick family until today. The Activity Area south of Bulgana Road is currently owned by members of the Kilpatrick family.

Concongella Run (Figure 5)

After the loss of Allanvale, Allan was given 57,600 acres along the Concongella Creek, which became known as *Concongella*. After Eliza Allan's death in 1845 and the accumulation of debts by John Allan, Dr John Blundell acquired *Concongella* and held the licence until March 1858. The *Concongella* run was later consolidated with the Glynwyllyn run that was taken over by Alexander and Archibald McMillan (**Sayers 1996**: 6-7).

Six Mile Creek Run (Figure 6)

A map of the run dated 1850 stated that the run comprised 13,367 acres and was occupied by M Fallan. This map also marks the location of a hut and home station on Six Mile Creek (**Figure**). The pre-emptive right section was later granted to a William R Cole Baker. Like *Concongella* and *Allanvale*, *Six Mile Creek* was also broken up by selection in

the 1860s and 1870s. John Blades Hall is among those who selected land on the former *Six Mile Creek* run (Sayers 1966: 113). The Hall family owns land in the northern half of the Activity Area.

Woodlands Run

Further east of the Activity Area was the large *Woodlands* pastoral run owned by WJT Clarke. An undated plan of the Wimmera River and its tributaries marks the location of the stations associated with these runs (**Figure 2**).

From 1847 squatters were given more security of tenure with the Orders in Council of 1847 giving them the option of taking up a pre-emptive right on their land - a long term lease - at the end of which lease holders could purchase up to 640 acres of the run, which usually included a homestead and adjoining land (Nelson & Alves 2009: 29). In 1860 George Ewbank was granted the pre-emptive right section to *Allanvale*, which is located in the southwest corner of the Activity Area on the corner of the Western Highway and Allanvale Road. Pre-emptive right sections were also taken up on the *Concongella* and *Six Mile Creek* runs, but unlike *Allanvale* these are located outside the Activity Area (**Figure 3**).

Figure 1 Squatting Runs (Spreadborough & Anderson 1983)

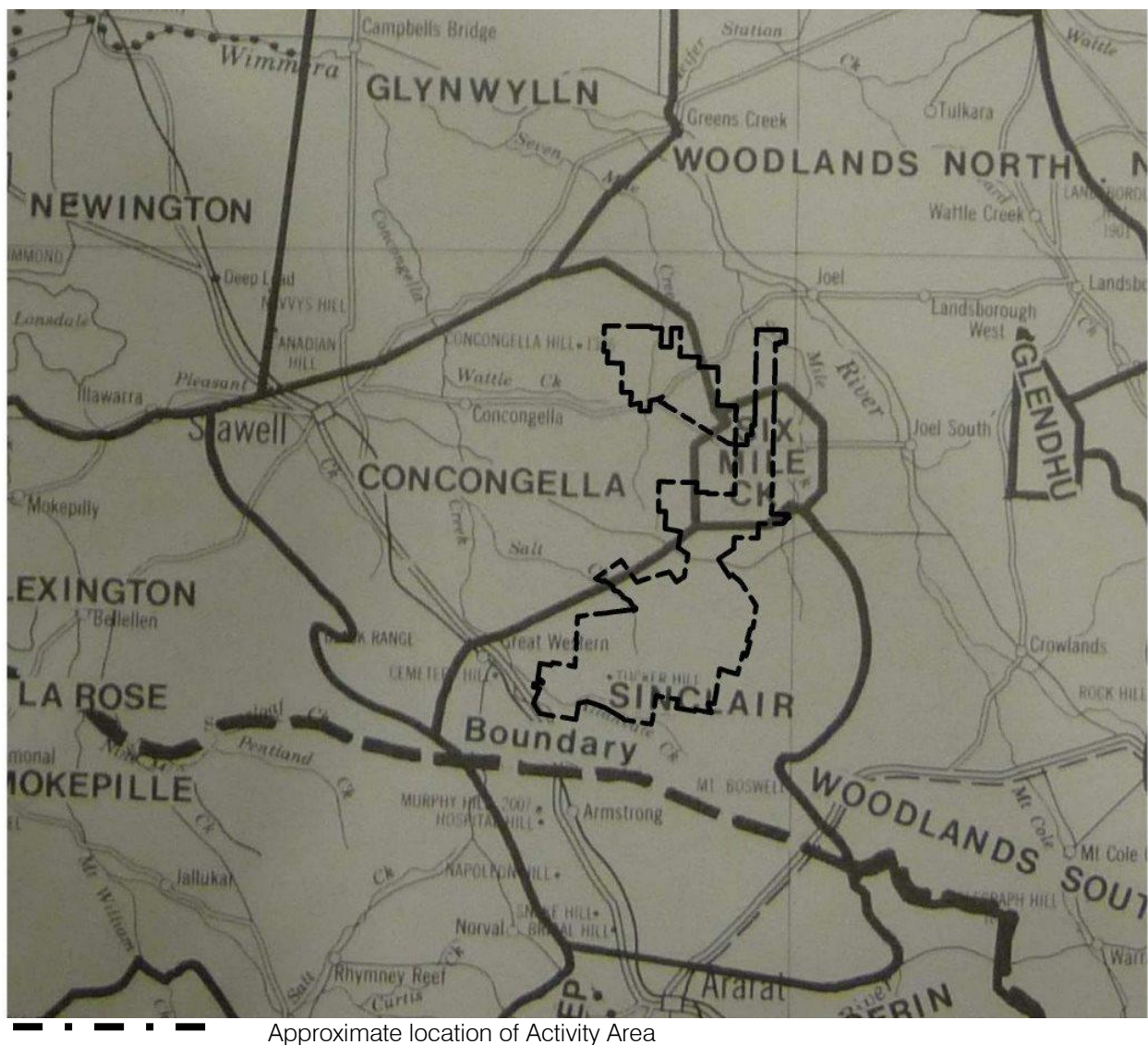
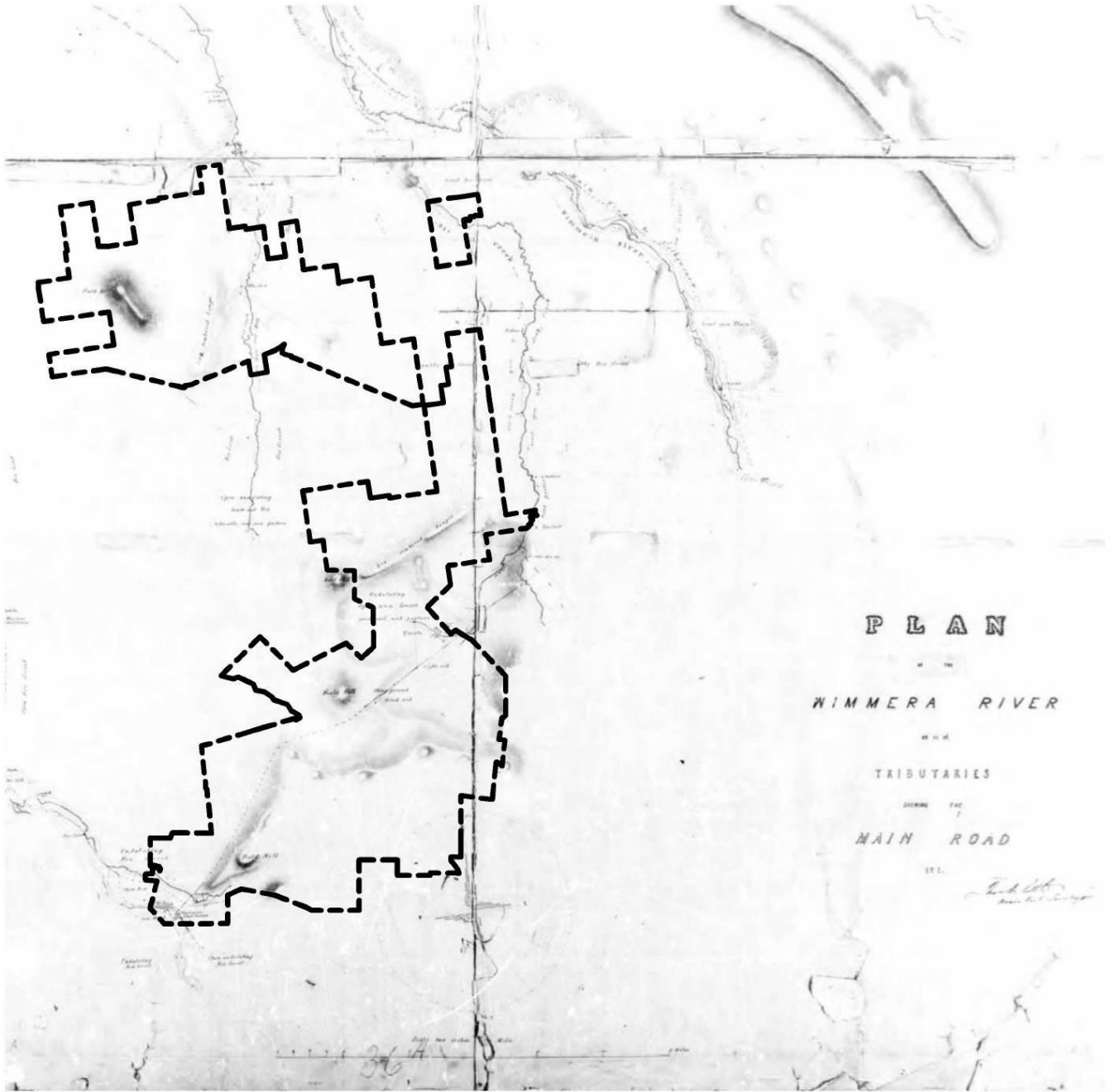


Figure 2 Runs on the Wimmera River & Its Tributaries (Blake 2013: Figure 2)



--- Approximate location of Activity Area

Figure 3 Allanvale Run (Blake 2013: Figure 6)

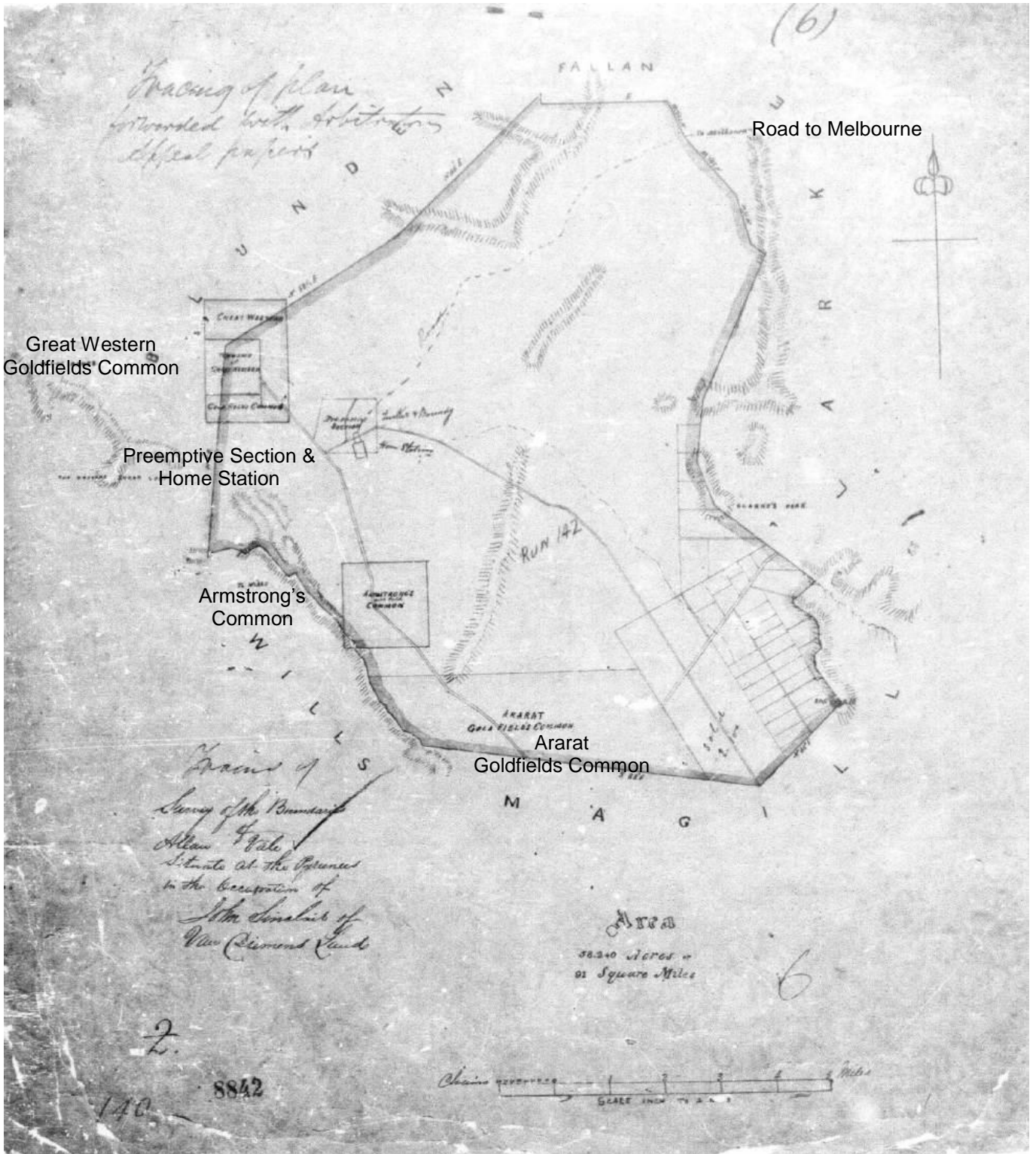


Figure 4 Allanvale Pre-Emptive Right (Blake 2013: Figure 3)

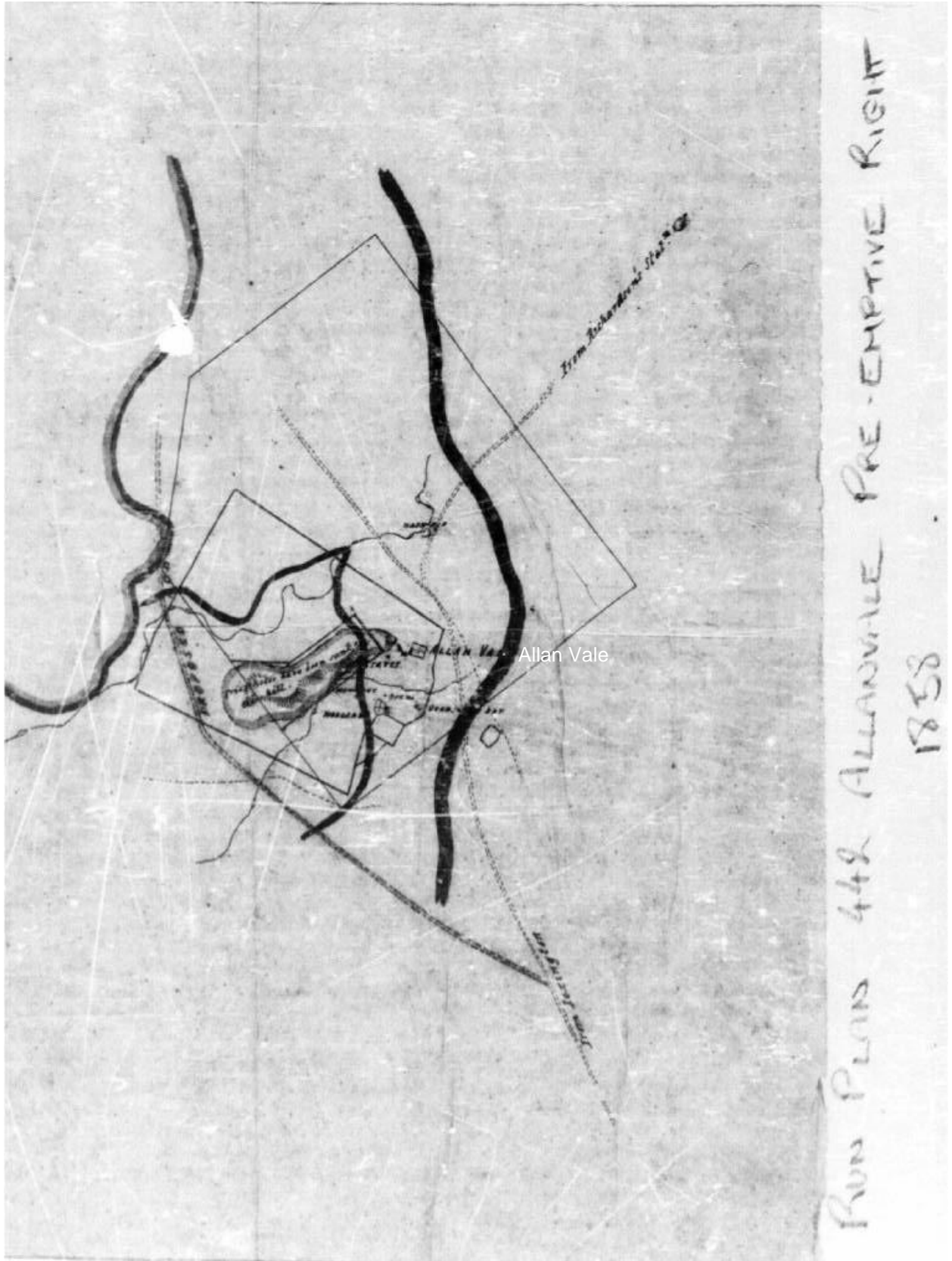


Figure 5 Concongella Run (Blake 2013: Figure 4)

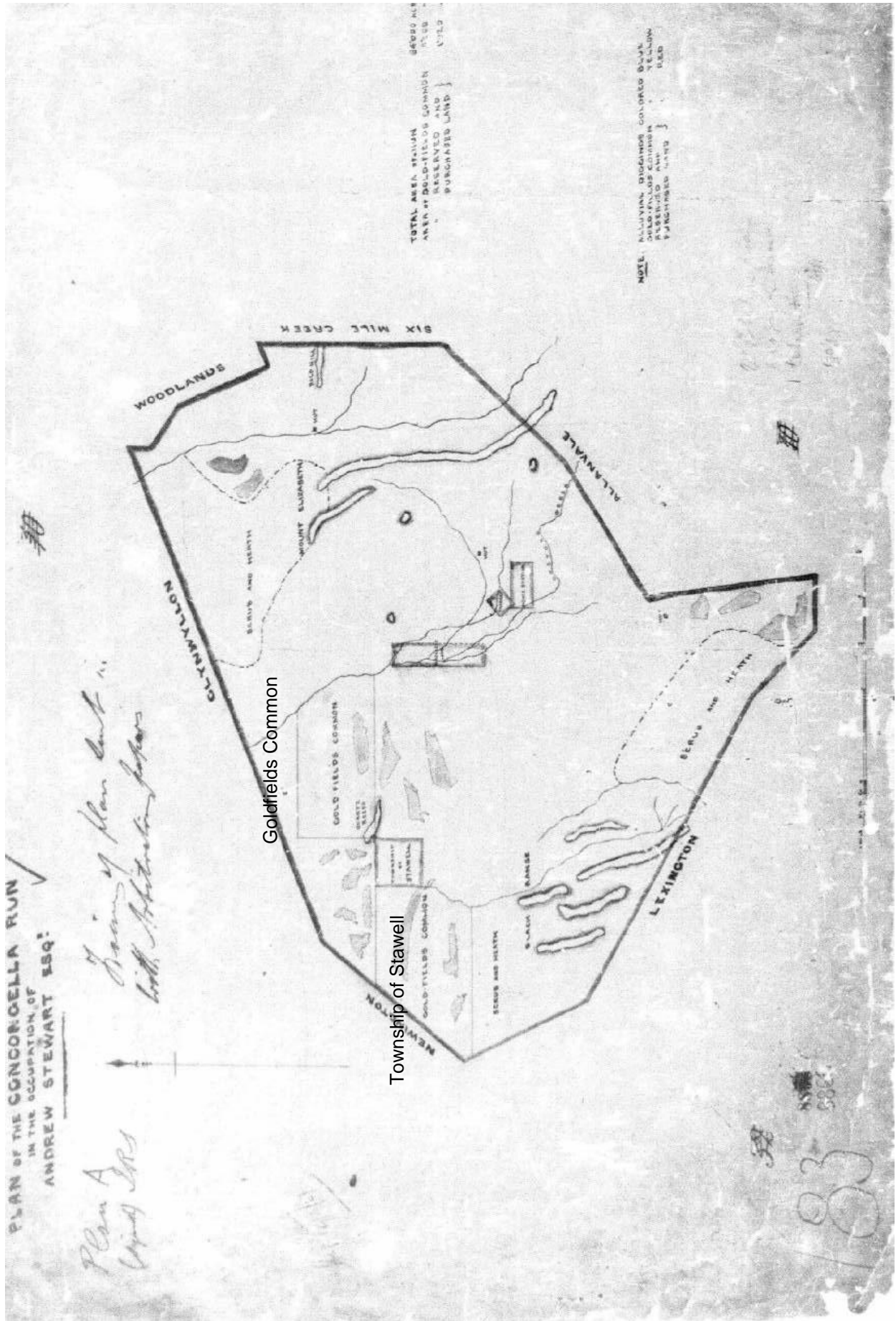
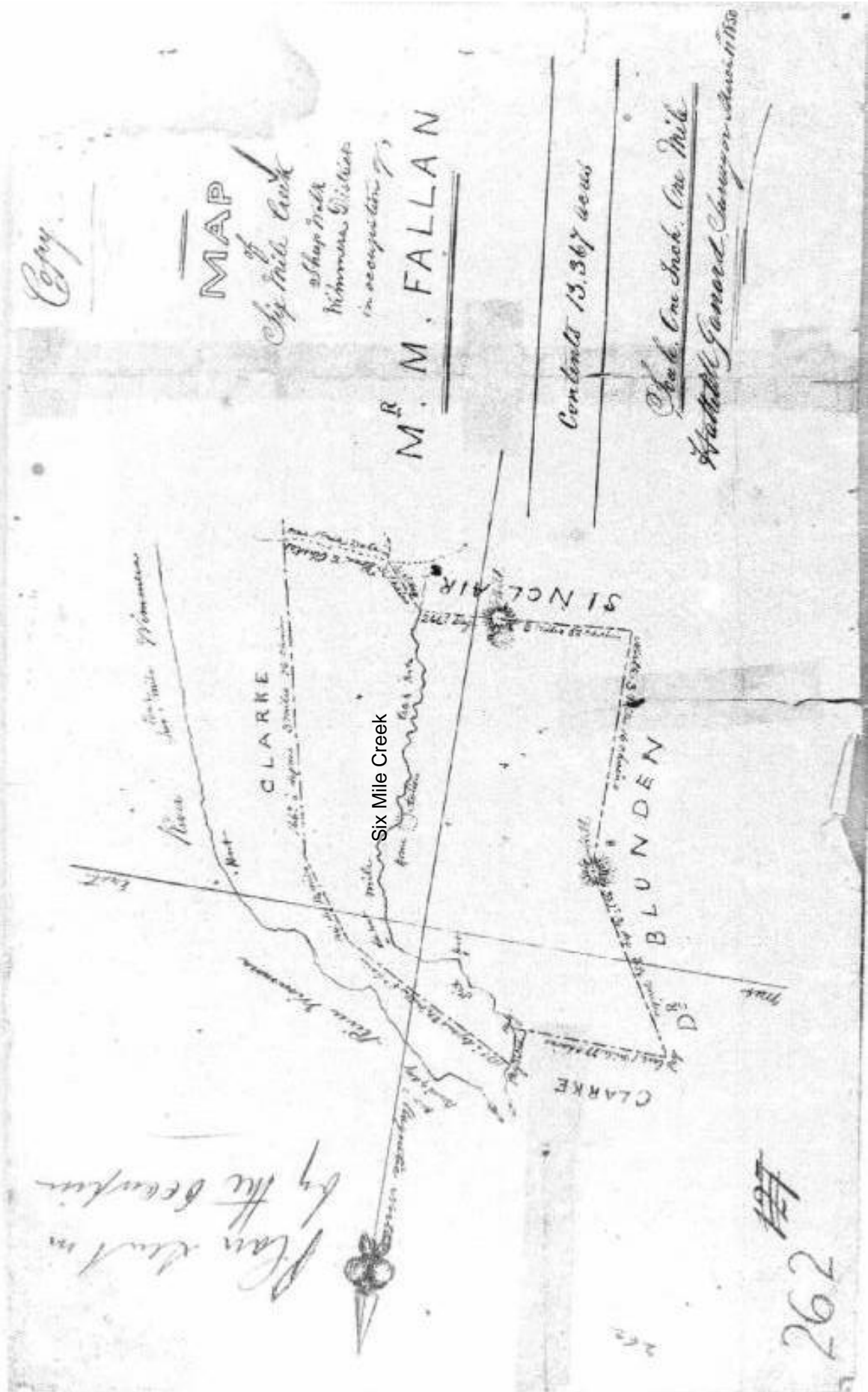


Figure 6 Six Mile Creek Run (Blake 2013: Figure 5)



Gold Rush

The 1850s was a period of significant change in the administration and development of Victoria, which in 1851 became a separate colony from New South Wales. Gold was also discovered in Victoria in 1851 and the subsequent goldrush led to an increase in the population and significant development throughout the colony. The 1850s also saw the survey of townships and the beginnings of official roads through the district, following the establishment of District Road Boards under the 1853 Roads Act. Great Western started out as a coach changing stop on the Concongella Creek, but it was not until a goldrush in 1858 that a township developed (**Sayers 1966**: 113). In 1853 a shepherd on the *Allanvale* station is said to have found gold at Pleasant Creek, which attracted some diggers from Avoca the following year, but it was not until 1856 that diggers began arriving in larger numbers and a township developed at what is now Stawell. Gold had been found between Allanvale Creek and Salt Creek in 1855, but it was not until 1858 that there was a rush to the diggings (**Taylor 1999**: 24). By June 1858 the township of Great Western had developed one mile west of the diggings, with a police camp, post office, chapel, reading room, and hotel. In August 1858 the population was estimated at 7,000. Cattle grazed on the *Concongella* and *Allanvale* runs provided milk and other dairy products for the diggers and their families, although pastoralists such as George Ewbank of *Allanvale* were unhappy with the wandering stock (**Kuehne 1980**: 7). Ewbank is said to have impounded stock and pulling down the miner's tents (**Taylor 1999**: 18). A boundary rider who had also impounded stock wandering onto the Lexington station was murdered (**Kuehne 1980**: 8). In order to provide much needed pasture for the wandering stock, goldfields commons were gazetted at Stawell and Great Western in 1860. An undated survey of the Allanvale run marks the location of the goldfields commons at Great Western, Ararat, and Armstrong (**Figure 4**). There were no goldfields commons located in the Activity Area. Where the Landsborough Road crosses the Concongella Creek land was taken up by settlers who made money in Stawell's mines, while others cut and carted timber or burnt charcoal for use in the mines (**Sayers 1966**: 113).

Among those who were lured to the district by gold was Frenchman, Jean Pierre Troutte who together with his wife, Marie arrived in Great Western in 1858. Troutte initially grew vegetables which he sold throughout the mining camps, but later established a vineyard known as St Peter's with his brother-in-law, Emile Blampied. Brothers Joseph and Henry Best also established vineyards in the district in the 1860s (**Kuehne 1980**: 22). By the mid 1870s there were at least 20 vigneron in the district (**Sayers 1966**: 130-131). The vineyards at Great Western were not affected by the phylloxera virus that attacked vineyards elsewhere in Victoria (**Taylor 1999**: 83). The industry led to a boom in the Great Western district which had declined since the goldrush. Meanwhile, the mining industry continued to be a major source of wealth and employment in Stawell (**Murray & White 1983**: 68).

Selection

The increase in Victoria's population caused by the goldrush also led to calls to 'unlock' the large pastoral estates for agricultural settlement. In the 1860s a series of Land Acts were introduced to break up the large pastoral estates for settlement. The most successful of the Land Acts was the 1869 Land Act. Selectors held the land under licence to the Crown for three years and in that time they had to undertake a range of improvements, including fencing, cultivation and construct a permanent residence (**Nelson & Alves 2009**:

32). At the end of the three years the selector could either buy the land outright or apply for a seven year lease, and continue paying rent towards the purchase price of £1 per acre.

There were rumours that many of the selections taken up in the district were held by agents or ‘dummies’ of the squatters, but a subsequent report in 1879 by the Crown Lands department found that most selectors were bonafide (**Sayers 1966**: 110-111).

In the 1870s the Great Western and Stawell district was also boosted by the extension of the railway network to Stawell in 1876, which included a station at Great Western. Although the railway line cut through Joseph Best’s vines, the wine cellars were now close to loading facilities. The railway line does not pass through the Activity Area (**Kuehne 1980**: 20).

Parish of Watta Wella (Figure 7)

The majority of the allotments in the Activity Area in the Parish of Watta Wella were granted to members of the Holden family. James Holden came to the region in 1866 and acquired land under the 1865 Land Act (**Sayers 1966**: 113). By 1887 he owned 5000 acres freehold and on licence as well as 1609 acres under lease to the Crown. Holden took over the selections when they were abandoned and is said to have paid rent until the improvement conditions were met. The property was known as *Overdale* and farmed merino sheep. It was still worked by members of the Holden family in the mid-1960s. Several members of the Holden family, including James, served as members of the Stawell Shire Council (**Sayers 1966**: 113). The Holden family still owns the *Overdale* property and land within the Activity Area.

Parish of Joel Joel (Figure 8)

A number of allotments in the Activity Area in the Parish of Joel Joel were acquired by James Blade Hall. John Blades Hall came into the district in the 1860s and took up land beyond the Bald Hills. When Hall died in 1891 he owned land in the parishes of Watta Wella and Joel Joel, but the structures associated with the property, such as the woolshed, houses (one with an underground cellar) were not located in the Activity Area (PROV, VPRS 28/P2, Unit 331, File 48/173). Members of the Hall family still farming land in the Activity Area (**Sayers 1966**: 113).

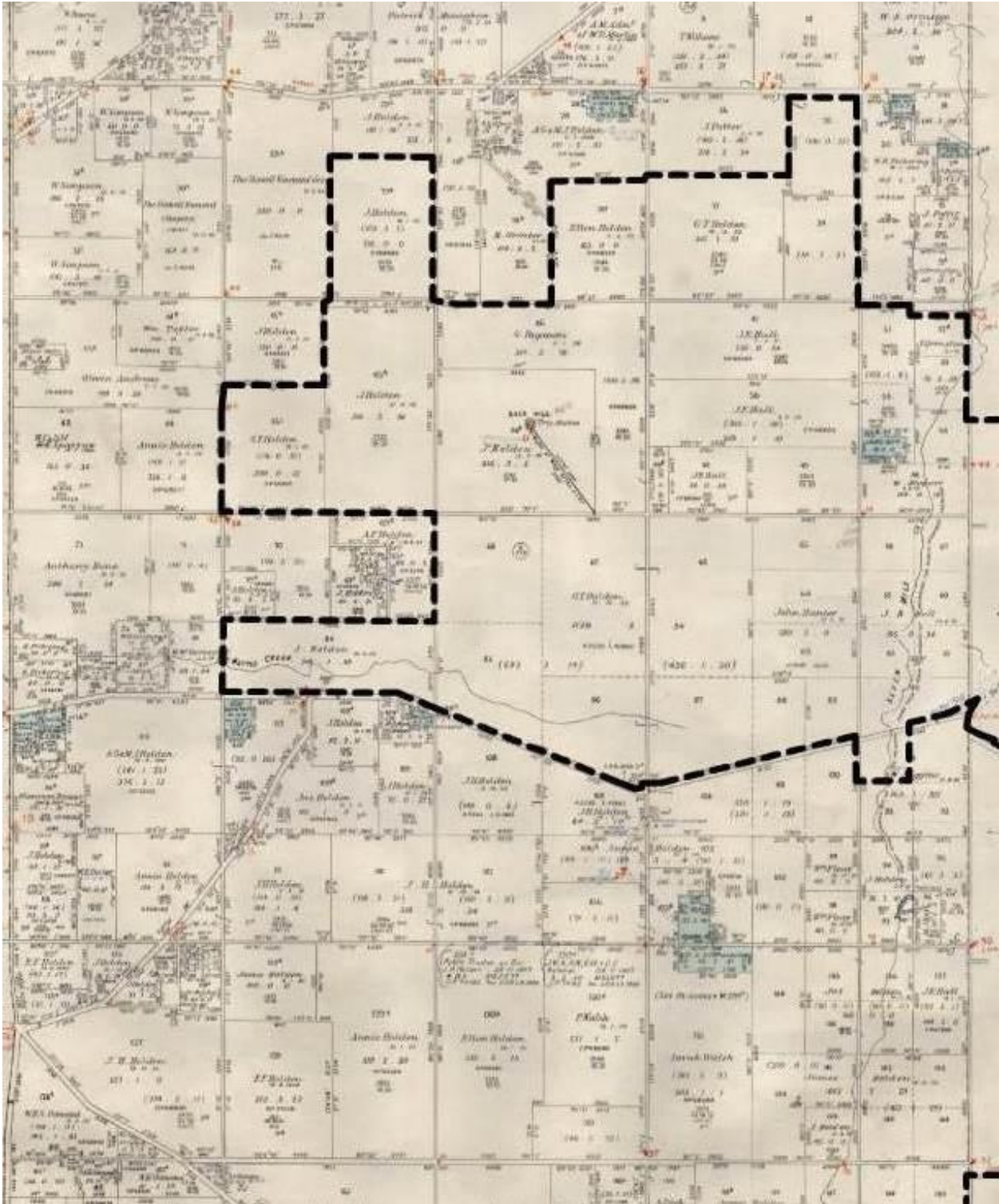
Parish of Concongella (Figure 9)

Some of the allotments that were acquired under the 1869 Land Act were acquired by Samuel Williamson and Joseph Clarke, who owned *Allanvale* from 1876 to 1883. Williamson was the manager of the National Bank in Stawell, while Clarke was a financier (**Sayers 1966**: 17).

Parish of Bulgana (Figure 10)

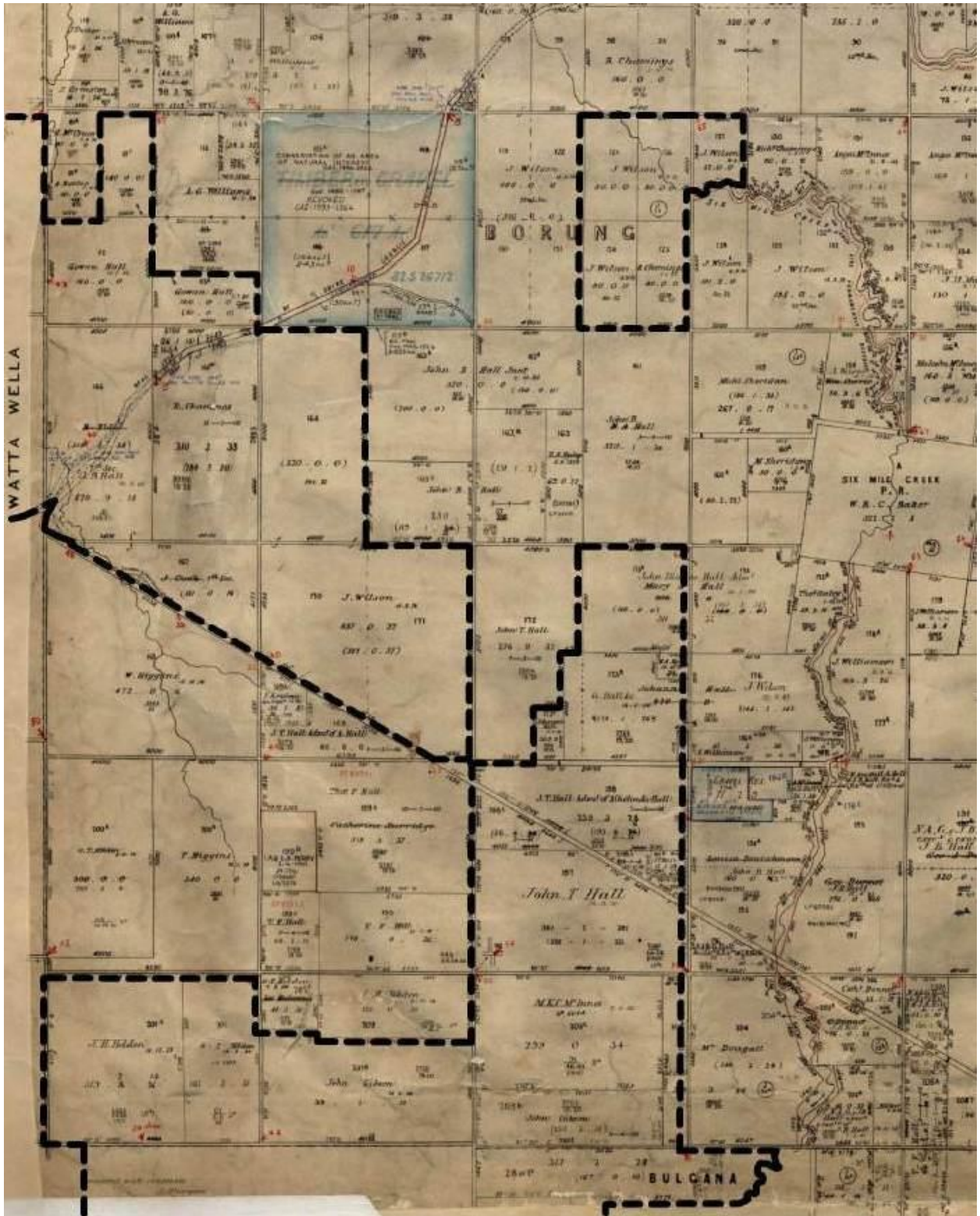
As in the Parish of Concongella some of the allotments in the Activity Area in the Parish of Bulgana were acquired by Joseph Clarke, who leased *Allanvale* from 1876 to 1883. Other allotments were acquired by small selectors including the Thomas family who still farm land in the Activity Area.

Figure 7 Parish of Watta Wella (Blake 2013: Figure 7)



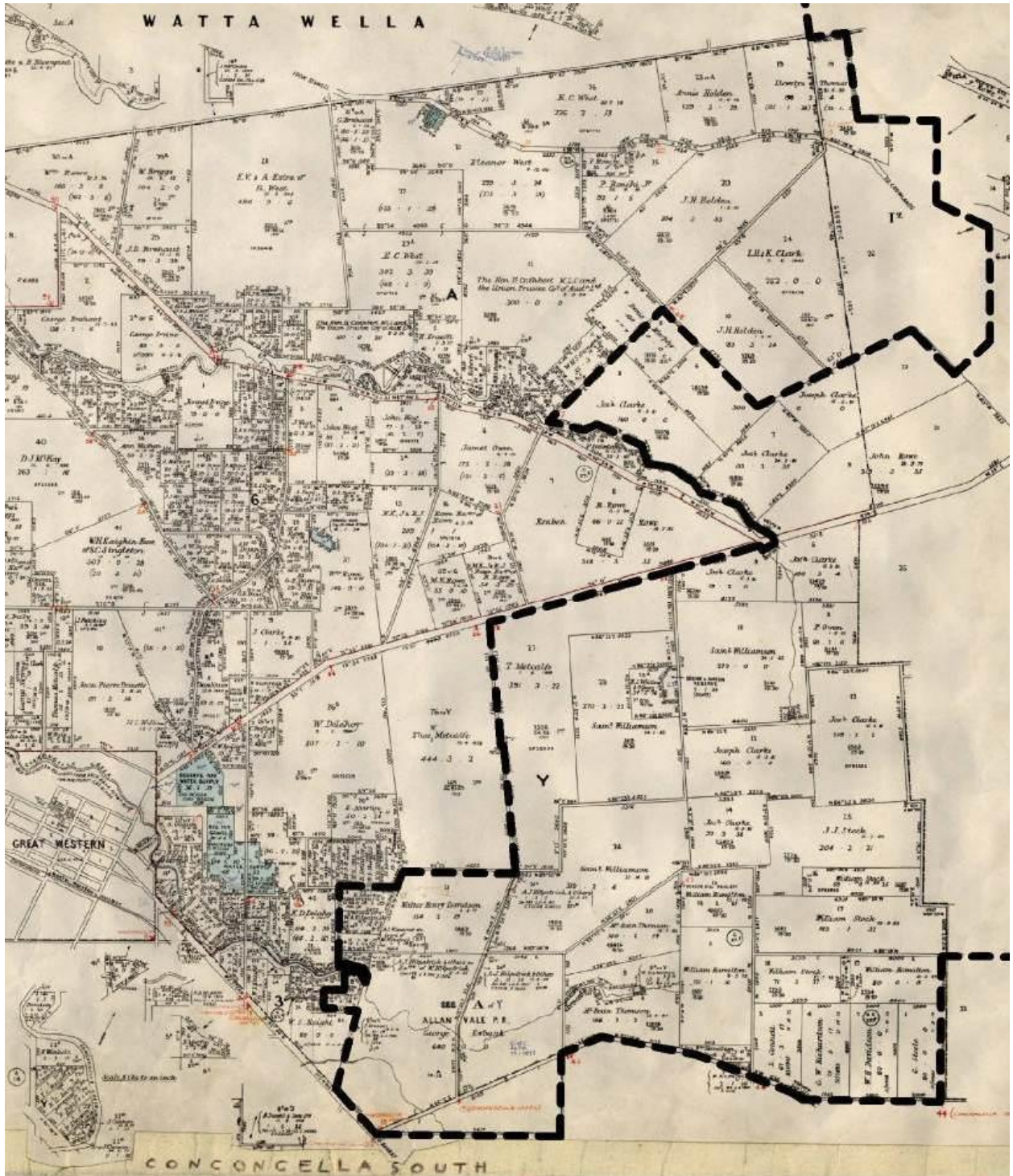
Approximate location of Activity Area

Figure 8 Parish of Joel Joel (Blake 2013: Figure 8)



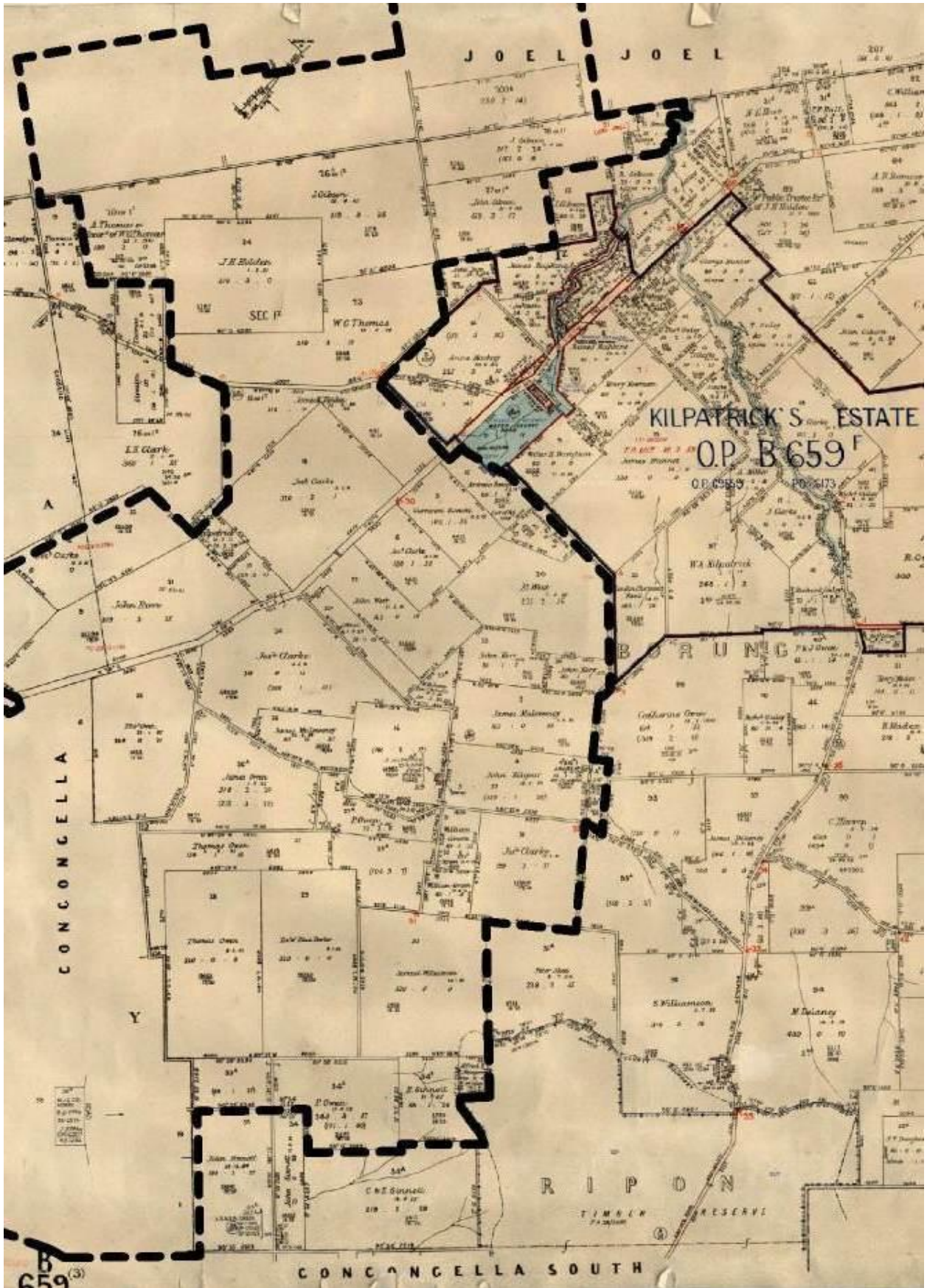
Approximate location of Activity Area

Figure 9 Parish of Concongella (Blake 2013: Figure 9)



Approximate location of Activity Area

Figure 10 Parish of Bulgana (Blake 2013: Figure 10)



Approximate location of Activity Area

Closer and Soldier Settlement

In the late nineteenth & early twentieth century's the pastoral industry experienced a number of significant changes that affected land settlement and use. One of the first was the 1893 Settlement on Lands Act that saw village settlements established in rural areas to provide relief from unemployment during the 1890s depression (Nelson & Alves 2009: 275). The 1893 Settlement on Lands Act was followed by the Land Act 1898 which enabled the Government to purchase large estates and subdivide them into smaller farming allotments, allowing more people to settle on the land (Nelson & Alves 2009: 285). Following WWI and WWII similar schemes were introduced to settle soldier settlers on the land. While the majority of land in the Activity Area was initially selected under the 1869 Land Act, some allotments in the Activity Area appear to have been acquired under the Closer and Soldier settlement schemes. Part of the Kilpatrick family's *Allanvale* property may have been subdivided for closer settlement. Despite this, landownership in the much of the Activity Area has been relatively stable with many of the original settling families such as the Kilpatrick's, Hall's, Holden's, Thomas' still owning land in the district including in the Activity Area. Sheep grazing remains the dominant pastoral activity with some cattle grazing and cropping.

2.3 Archaeological Background

2.3.1 Previous Archaeological and Heritage Studies

A search of the Heritage Victoria (HV) library database shows that there have been few historical heritage investigations in the Activity Area region (Milner & Churchward 1988; SHGHS 1990; Bannear 1994; Clark & Murphy 1999; Clark & Landberg 2002; Clark et al 2002; Murphy & Di Fazio 2003; Ellis & Dolling 2003). None of these indicate that the Activity Area has been subject to a ground surface survey.

One study found no historic heritage at all (Murphy & Di Fazio 2003). Milner and Churchward (1988) prepared a study that examined the principal mining machinery sites on the Victorian goldfields principally at Ararat and is not relevant to this investigation. Bannear (1994) conducted a survey of the Maryborough and Avoca Mining Divisions in the North Central Goldfields. Both of these studies are not relevant to this investigation.

Clark and Murphy (1999) conducted a survey for the Western Highway deviation around Armstrong. A total of six historic sites were recorded including H7423-0060 (Armstrong No.1), H7423-0061 (Armstrong No.2), H7423-0062 (Garden Gully Road Ruin Site), H7423-0063 (Garden Gully Road House Site No.1), H7423-0064 (Garden Gully Road House Site No.2), H7423-0065 (Armstrong Alluvial Gold Mining Area No.1) and Armstrong Alluvial Gold Mining Area No.2). All of the sites were considered to have local historical significance and potential for archaeological deposits. The mining sites were considered to be associated with alluvial gold mining in the 1850s and 1860s. The remaining places were house sites also dating from the 1850s and 1860s. One site previously identified in an LCC report but not listed on the HI and was reassessed having local significance.

Historic sites (H7423-0062, 7423-0071, 7523-0072 & 7423-0073) recorded in the Armstrong locality were subject to archaeological investigation for the Armstrong Western Highway deviation (Clark & Langberg 2002; Clark et al 2002; Ellis & Dolling 2003). Two sites (H7423-0071 & 7423-0072) associated with the Armstrong Hotel had significant

archaeological deposits. The hotel was occupied from the 1860s until 1923. At H7423-0062 a fireplace feature was exposed with some domestic and architectural artefacts that predated 1920. Monitoring was recommended for the Armstrong Hotel sites.

The Stawell and Hall's Gap Historical Societies (**SHGHS 1990**) conducted a historical survey of the Shire of Stawell. Their study area was divided into the Shire Ridings: Hall's Gap, Glenorchy, Great Western and Marnoo. Access to private land was limited and most investigations were restricted primarily to publically accessible land. In the Great Western Riding they identified various sites of significance including the Sisters Rocks, alluvial gold diggings, Seppelts Winery, the Allanvale Toll Gate, Allanvale cemetery, Allanvale Station, Salt Creek cemetery, the Anglican Church hall, Bests Winery, St Peters Vineyard, Great Western Gaol, shops, civic buildings and infrastructure, war memorials and various church buildings. Allansvale Homestead and Shearers quarters are located within the Activity Area.

Bannear (1996) conducted a survey of historic mining sites in the southwestern goldfields. One of the places recorded in the Stawell Mining Division was Great Western lead. If all the places identified in the study were included on the VHD then none are within the Activity Area.

Taylor (1999) prepared a thematic environmental history of the Northern Grampians Shire as part of a larger heritage study for the municipality. **Jacobs, Johnson, Rowe and Taylor (2004)** subsequently prepared the Northern Grampians Shire Heritage Study. Numerous places were identified within the municipality and recommended for inclusion on the Heritage Overlay. At the time the VHD was accessed none of the places recommended for inclusion seem to appear on the Heritage Overlay.

2.3.2 Heritage Registers

The following heritage databases were searched for places relating to the Activity Area (accessed 11 July 2013): the Australian Heritage Database (AHD) which includes places on the World Heritage List, the National Heritage List, the Commonwealth Heritage List and the Register of the National Estate; the Victorian Heritage Database (VHD) which includes the Registry (VHR) and Inventory (VHI) at HV; the Northern Grampians Shire Planning Scheme Heritage Overlay (NGSPSHO); and the National Trust of Victoria Register. There are no previously registered places on the VHR, VHI or the NGSPSHO within the Activity Area.

The nearest registered places are along the western boundary of the Western Highway between Great Western and Armstrong (eg H7423-0061 & H7423-0081) or along Salt Creek Road northeast of Great Western (H7423-0006 & 7423-0007) (**Table 1**). There are various places which are mentioned in various reports which are or are likely to be within the Activity Area. In particular Allanvale Station is mentioned in various reports (eg **SHGHS 1990**). Places associated with Seppelts Winery although registered on the VHR (H0338) and the NGSPSHO (HO1), are not within 1km of the Activity Area (~1.6km to the west)

Table 1 Registered Historic Places within 1.5km of the Activity Area (Map 4)

Place Name Registration No*	Location	Place Type Contents	Significance
Allanvale Toll Gate Site Hermes ID 191885 VHI H7423-0081	1301 Western Highway, Great Western, 3374 (Abuts boundary of Activity Area)	Exotic vegetation, scatter of brick, glass, bluestone & granite near a linear mound (9m x 2m) thought to represent the original location of the toll gate, toll operated from ~1867-1876	Not stated
McKay Family Homestead Hermes ID 191886 VHI H7423-0082	136 Allanvale Road, Great Western, 3374 (~120m from Activity Area)	Red brick, stone & concrete footings, plumbing & stumps, rubble filled concrete pits, water tanks, farm machinery & wooden outbuildings, linear rows of pine trees, an orchard & exotic garden vegetation	Not stated
Armstrong No.2 Hermes ID 6834 VHI H7423-0061	1301 Western Highway, Great Western, 3374, (~870m from Activity Area)	House ruin, foundations of double handmade mud brick, concrete slab, mounds of debris, circular brick cistern, square brick lined pit. Mature pines & peppercorns	Local historic
Great Western Lead Hermes ID 6801 VHI H7423-0027	Wattle Creek Road, Great Western, 3374 (~1.4km west of the Activity Area)	Narrow band of intensive sinkings (shafts & mounds) along an old cement lead	Local (NGSPSHO) Regional (VHI)
Salt Creek Mud Hut A Hermes ID 6780 VHI H7423-0006	731 Salt Creek Road, Great Western, 3374 (~1km west of the Activity Area)	Mud hut with granite footings visible in places	Not stated
Salt Creek Mud Hut B Hermes ID 6781 VHI H7423-0007	731 Salt Creek Road, Great Western, 3374 (~250m west of the Activity Area)	Hut site (c6m x 5m), glass, china, porcelain, bottles, bricks, pieces of granite	Not stated

2.3.3 Site Prediction Model

The desktop evidence has been used to formulate a historic heritage sensitivity model. This model predicts the likely historic heritage values that may be present in the Activity Area. The relevant information is presented in **Table 2** and shown in **Map 4**.

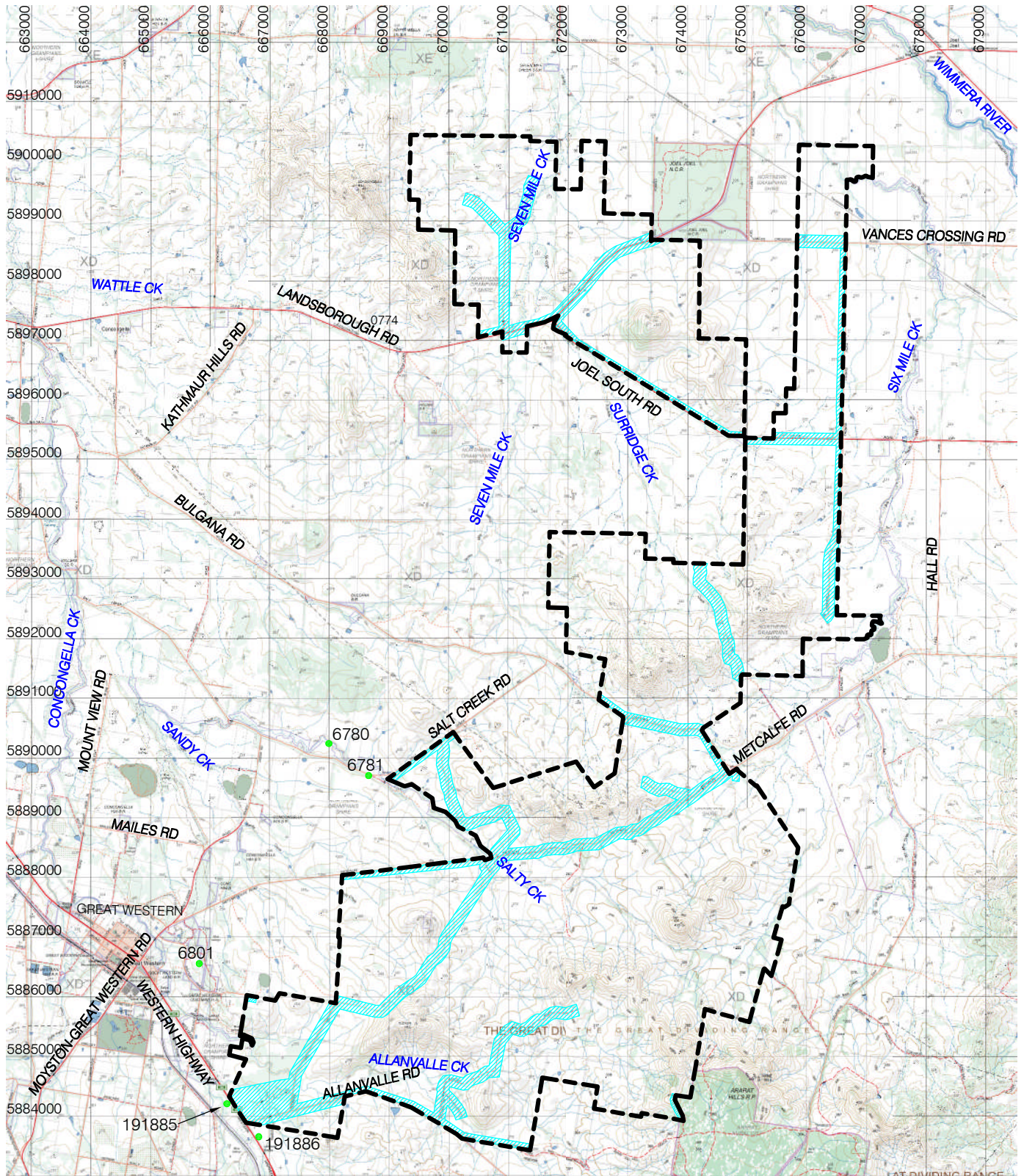
Table 2 Desktop Assessment Historic Heritage Sensitivity Model (Map 4)

Period	Places & Location	Sensitivity
Pastoral Era (mid 19 th century)	Homesteads, staff quarters & outbuildings	Likely
	Shepherds huts & stockyards	Likely
Early Selection & Freehold (mid to late 19 th century)	Houses & sheds (close to roads), farming infrastructure (entire study area)	Likely
Closer Settlement (late 19 th century to 1950s)	Houses & sheds (close to roads), farming infrastructure (entire study area)	Likely

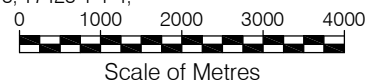
2.4 Conclusions

The desktop assessment has demonstrated that:




1. There are no registered historic places within the Activity Area.
2. The Activity Area has not been subject to previous ground surface survey.
3. It is reasonably possible that historic heritage places are present in the Activity Area.
4. There is potential for the project to impact unknown historic heritage places.
5. The most likely site types for the Activity Area are structural features and archaeological deposits associated with pastoral occupation dating from the mid 1800s (rare) to later land sales post 1880s (common).



Topographic map used for Location Plan: 1:30,000 Number T7423-1-1-1, T7423-1-1-2, T7423-1-1-3, T7423-1-1-4, T7423-1-2-1, T7423-1-2-1, T7423-1-2-4, T7423-1-4-1



Legend:

-  Activity Area Boundary
7,524 hectares (approx)
-  Areas of Historic Cultural Heritage Sensitivity
-  Hermes ID Number



Map 4 Predicted Areas of Historic Cultural Heritage Sensitivity



3 LEGISLATIVE REQUIREMENTS

Local Government

All Victorian municipalities are subject to land use planning controls governed by the *Planning and Environment Act 1987* which is administered by State and Local Government authorities. These planning controls include historic places which may be listed on the local planning scheme Heritage Overlay. Heritage Overlays include places of local significance and places included in the Victorian Heritage Register. The aim of the Heritage Overlay is to assist in protecting the heritage of municipalities. Municipal Councils are responsible for issuing planning permits for the development of heritage places under the *Planning and Environment Act 1987*.

The Northern Grampians Shire has a policy framework that requires planning to take into consideration heritage sites and to protect places and sites with significant cultural heritage value. These strategies provide for the conservation and enhancement of places which are of aesthetic, archaeological, scientific, architectural, cultural, scientific or social significance or otherwise of special cultural values. These criteria respond to those defined in *The Burra Charter (ICOMOS 1999)*, an internationally recognised and adopted charter for the identification and assessment of cultural heritage sites.

State Government

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:

- 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;
- 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;
- 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;
- 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:

The Director
Heritage Victoria
Department of Transport, Planning and Local Infrastructure
1 Spring Street
Melbourne VIC 3000
Ph: 03 9208 3333

Enquires relating to the *Heritage Act 1995*, works, site management *etc.* should be directed to:

Jeremy Smith
Senior Archaeologist
Heritage Victoria
Department of Transport, Planning and Local Infrastructure
1 Spring Street
Melbourne VIC 3000
Ph: (03) 9208 3516

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

Maddison Miller
Heritage Victoria
Department of Transport, Planning and Local Infrastructure
1 Spring Street
Melbourne VIC 3000
Ph: (03) 9208 3409

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 1995* 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 1995* archaeological sites continued to be protected in two ways. Sites, which 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 which are of significance to the State of Victoria while the Heritage Inventory enables Heritage Victoria to record and monitor sites which are not considered to be of State significance or where the significance is unknown. Heritage Victoria also registers sites under a 'D' listing, which accommodates sites of very low archaeological value though they may have local historic value. 'D' listed sites are typically those that have little structural or artefactual features such as earthen formations (i.e. dams, railway formations). Sites registered under this system do not require Consent prior to any proposed development, but apart from this are managed in the same way as Heritage Inventory sites. 'D' Listed sites therefore, may be subject to a variety of conditions prior to impact, such as detailed recorded, additional historic research and archaeological monitoring.

The two levels of protection enable two different principles in issuing consents and permits to be followed. 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. While 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.

Consultation with Heritage Victoria, Department of Planning and Community Development, should occur at least 4 months prior to lodgement of a permit application to disturb or destroy a historic archaeological site. In the event of a site or relic being uncovered or discovered during works, any works that would damage the relic object or place should cease and either the consulting archaeologist or Heritage Victoria be notified.

Australian Government

Nationally significant heritage places are primarily registered and protected under the *Environment Protection and Biodiversity Conservation Act 1999* which is administered by the Australian Government Department of the Environment, Water, Heritage and the Arts. Other Australian Government Acts dealing with historic cultural heritage include the *Historic Shipwrecks Act 1976*, *Protection of Movable Cultural Heritage Act 1986* and the *Australian Heritage Council Act 2003*. The Australian Heritage Council (AHC) is the principal adviser to the Australian Government on heritage matters and assesses nominated places and recommends to the Minister whether or not a nominated place is appropriate for listing on the Australian Heritage Database (AHD). The Minister rejects or approves the nominated place. The AHD comprises heritage places from the World Heritage List (WHL), Commonwealth Heritage List (CHL), the Natural Heritage List (NHL) and the Register of the National Estate (RNE).

While places listed can be under private, state or institutional ownership only the Commonwealth is legislatively restricted in the activities it can take out in relation to listed places.

4 MANAGEMENT RECOMMENDATIONS

Recommendation 1 Survey to be Conducted

A survey should be conducted to identify and record, if present, any historic heritage that is likely to be impacted by the wind farm. The survey should be conducted by a suitably qualified archaeologist.

APPENDIX 1 – HV NOTICE, CADASTRE & LANDOWNERS

Archaeology.Admin@dtpli.vic.gov.au <Archaeology.Admin@dtpli.vic.gov.au>
To: Tom Rymmer <trymer@tardisenterprises.com.au>

Tue, Jul 23, 2013 at 2:34 PM

Dear Tom,

Thank you for forwarding the completed Archaeological Survey Notification form regarding the above location. Archaeology Report number 4354 has been allocated for this project. This report is required within 1 year of the date of completion of the survey. Please ensure that the Archaeology Report number is referenced in the report.

In accordance with Section 131(1)(b) of the Heritage Act 1995, all site documentation collected during an archaeological survey, including those commissioned for Aboriginal cultural heritage investigations, must be provided to this office. Site documentation includes any required Heritage Inventory Site Cards, and an Archaeology Report. This information is essential in the appropriate management of Victoria's historical archaeological resource.

A report must be submitted even in cases where no historical archaeological sites or relics have been located during the course of the survey.

Heritage Victoria's Guidelines for Conducting Historical Archaeological Surveys provides details on the statutory processes and required documentation. Any incomplete or inaccurate documentation will be returned for appropriate completion.

Please note that letters will no longer be provided in response to the submission of Archaeological Survey Notifications and Archaeological Reports to Heritage Victoria. This email may be used as confirmation of the receipt of the above Archaeological Survey Notification.

Kind regards

Maddison Miller

Heritage Victoria
Department of Transport, Planning and Local Infrastructure
1 Spring Street, Melbourne, VIC 3000

www.dtpli.vic.gov.au | www.heritage.vic.gov.au
T: 03 9208 3409 | Email: maddison.miller@dtpli.vic.gov.au

Name	Land Parcel
Garry Gibson	8411/020
Cindy Bibby	8411/019
Colin Hall	8155/207, 8312/374, 3043/539, 5460/926, 7054/688, 8271/611, 8312/342, 8312/372, 8312/373, 8764/525, 3994/755
Philip Hall	5591/183
George Holden	4932/375, 6291/042
Julian Kaye	10285/980, 10735/476, 10735/477, 2963/552, 6034/717, 624/622,
Julian & Patricia Kaye	3074/608, 9854/658
Allan & Thelma Rosenow	8967/876
Kevin Thomas	2283/465, 3333/509, 6593/422, 8666/581
Kevin & Margaret Thomas	2831/116
Allanvale Super Pty Ltd	10110/382, 10110/383, 11400/993, 11400/994
James & Margaret Kilpatrick	10110/395
James Kilpatrick	10110/387, 10110/388
William, John & James Kilpatrick	10110/397, 10110/398, 10110/399, 10110/400, 10110/401, 10110/402, 10110/403, 10110/404, 10110/405, 10110/406, 10550/725, General Law Land Book 887 Number 571

APPENDIX 2 - GLOSSARY

Alluvium: Sedimentary unconsolidated deposits laid down through the action of running water. Usually found in or near rivers and floodplains. It is usually applied to coarser sediments such as sands and gravels, but sometimes to finer particles such as silt and clay.

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 above.

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

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.

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

Igneous: Rocks that have formed through the crystallisation of magma.

Intrusion: The act of an intrusive igneous rock rising up through the Earth's crust and breaking through the lower levels of the bedrock.

Pisolith: Hard, iron-cemented spherical particles of sediment (usually sand). These range in size from 3mm to 6mm.

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

Regolith: An incoherent mantle of varying thickness that lies above fresh rock. This is usually the decomposed, weathered and broken up derivative of the fresh bedrock. The soil profile lies above this layer.

Sand Sheet: A thin, continuous deposit of sand with no large topographic features on the surface.

Scoria: Pyroclastic volcanic rock containing numerous gas pockets and spaces. Colour ranges from red-brown to black.

Sensitivity: Based on collated existing data and place inspection an area or specific place may contain sensitivity for extant or archaeological deposits. Background research will present the most likely place types, contents and state of preservation.

Visibility: Refers to the degree to which the surface of the ground can be observed. It is generally expressed in terms of the percentage of the ground's surface visible for an observer on foot (Bird 1992). For example 10% visibility equates to 10cm² per 1 m² 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	50 – 70%	Good
0 – 10%	Very Poor	70 – 90%	Very Good
10 – 30%	Poor	90 – 100%	Excellent
30 – 50%	Fair		

Weathering: The process by which fresh rock degrades/breaks down at or near the surface. This process modifies rock chemically, organically, and/or physically, whereby a mantle of waste known as regolith will remain *in situ* until it is eroded away.

APPENDIX 3 – SUMMARY CVs

TOM RYMER

cultural heritage advisor

Tom Rymer is a cultural heritage advisor with over fifteen years experience in major international archaeological research projects as well as commercial indigenous and non-indigenous cultural heritage projects. He has expertise in research, survey, archaeological excavation, artefact analysis and technical report production.

QUALIFICATIONS & AFFILIATIONS

EXPERIENCE PROFILE

QUALIFICATIONS

Doctor of Philosophy
(Archaeology)
La Trobe University, 2005

AFFILIATIONS

Australian Society of
Historic Archaeology

Australian Association of
Consulting Archaeologists

Australian Archaeological
Association

Australia ICOMOS

MAJOR INTERNATIONAL PROJECTS

- British Excavations at Jerablus-*Tahtani*, Syria
- Siouскиou-*Laona* Settlement Project, Cyprus
- Australian-Cyprus Expedition at Marki-*Alonia*
- Marki *Davari* Cemetery, Cyprus
- Queensland University Alambra-*Mouttes* Project, Cyprus

AUSTRALIAN RESEARCH PROJECTS

- Henry's No 1 Mill, Otways
- Burghley, Tasmania

HISTORIC CONSULTANCY PROJECTS

- Peshurst Wind Farm Historic Cultural Heritage
- Peshurst Wind Farm Transmission Line & Terminal Station
- Stockyard Hill Wind Farm
- Dundonnell Wind Farm
- Horseshoe Bend Precinct Structure Plan
- Toolern Precinct Structure Plan
- Maintop Farm, Settlers Run Estate, Cranbourne South
- The Former Wright House, Cardinia Lakes
- Bass Highway House Site, Bass
- Burvilles Road, Horseshoe Bend
- Budd's Station, Wallan
- Wallan Railway Station
- Exford Estate, Melton
- Hunter Street, Hobart
- Bendigo Mining Historic Project

ANDREA MURPHY

director

Andrea Murphy is the owner and director of Archaeology At Tardis Pty Ltd which has been in operation in Victoria for over 13 years. Andrea has more than 23 years industry experience and has qualifications in both indigenous and non-indigenous cultural heritage. She has managed a wide variety of heritage projects including EES and EIS heritage studies, major indigenous and historic archaeological excavations, desktop assessments, place surveys, monitoring and production of place management strategies.

QUALIFICATIONS & AWARDS

AREAS OF EXPERTISE

QUALIFICATIONS

Bachelor of Arts
(Prehistory)
La Trobe University

Master of Arts
(Historic Archaeology)
La Trobe University

AFFILIATIONS

Australian Society of
Historic Archaeology

Australian Association of
Consulting Archaeologists

Australian Anthropological
and Archaeological
Association

Historic Gardens Society

National Trust

Royal Historical Society

AWARDS

Winner of the 2003
UNESCO Asia-Pacific
Cultural Heritage
Conservation Award

- Residential subdivisions
- Industrial subdivisions
- Wind farms
- Transmission powerlines
- Gas infrastructure
- Water infrastructure
- Waterway rehabilitation works
- Freeway, highway and road infrastructure
- Rail infrastructure including urban and regional fast rail
- Optical fibre cable routes
- Local government advisor and project manager
- Defence advisor and project manager
- Parks Advisor and project manager

REFERENCES

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- Cayley RA & DH Taylor 2001 *Ararat 1:100,000 Map Area Geological Report*. Geological Survey of Victoria. Report 115.
- Clark V & W Dolling, A Ellis, V Langberg, A Stevens 2002 Historical Sites At Armstrong in Western Victoria: Victorian Heritage Inventory Sites H7423-0071, H7423-0072, H7423-0073 & H7423-0062: A Report on Archaeological Investigations. Prepared by Dr Vincent Clark & Associates Pty Ltd for VicRoads. HV Report 1715b.
- Clark V & V Langberg 2002 Interim Report, Archaeological Test Excavations of Three Historical Sites at Armstrong, Western Highway, Results and Interim Recommendations. Prepared by Dr Vincent Clark & Associates Pty Ltd for VicRoads. HV Report 1594.
- Clark V & A Murphy 1999 Western Highway Armstrong Deviation, Highway Realignment Archaeology and Heritage Study. Prepared by Dr Vincent Clark & Associates Pty Ltd for VicRoads. ACHRIS Report 1470. HV Report 852.
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Duddy IR	2003	Chapter 9, Mesozoic: A Time of Change in Tectonic Regime. In Birch WD (ed) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division), Special Publication 23: 240-287.
Edwards J & KE Wohlt, KR Slater, A Olshina, DF Hutchinson	1998	Heathcote and Parts of Woodend and Echuca 1:100,000 Geological Map Report 108. Geological Survey of Victoria.
Ellis A & W Dolling	2003	Historical Sites At Armstrong in Western Victoria: Victorian Heritage Inventory Sites H7423-0062, H7423-0071, H7423-0072 & H7423-0073, Volume I: A Report on the Material Culture. Prepared by Dr Vincent Clark & Associates Pty Ltd for VicRoads. HV Report 1715b.
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Gibson G & A Brown	2003	Chapter 20: Earthquakes: Linking Today's Tectonics with Geological History and Structure. In WD Birch (ed) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 23: 594-603.
Gray DR & CE Willman, DA Foster	2006	Crust Restoration for the Western Lachlan Orogen using the Strain-Reversal, Area-Balancing Technique: Implications for Crustal Components and Original Thicknesses. <i>Australian Journal of Earth Sciences</i> 53(2): 329-341.
Holdgate GR & SJ Gallagher	2003	Chapter 10: Tertiary: A Period of Transition to Marine Basin Environments. In WD Birch (ed) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 23: 289-335.
Jacobs W & V Johnson, D Rowe, P Taylor	2004	Northern Grampians – Shire of Northern Grampians – Stage 2 Heritage Study.
Jenkins JJ	1976	Chapter 10: Geomorphology. In Douglas JG & JA Ferguson (eds) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 5: 329-348.
Joyce EB & JA Webb, PG Dahlhaus, KG Grimes, SM Hill, A Kotsonis, J Martin, MM Mitchell, JL Neilson, ML Orr, JA Peterson, NJ Rosengren, JN Rowan, RK Rowe, I Sargeant, T Stone, BL Smith, S White (with material by the late JJ Jenkin).	2003	Chapter 18: Geomorphology: The Evolution of Victorian Landscapes. In WD Burch (ed) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 23: 533-561.
Lawrence CR	1988	Chapter 9: Quaternary: Murray Basin. In Douglas JG & JA Ferguson (eds) <i>Geology of Victoria</i> . Geological Society of Australia (Victoria): 352-363.
Lawrence CR & PG Macumber, PR Kenley, ED Gill, JJ Jenkin, JL Neilson, RM McLennan	1976	Chapter 9: Quaternary. In Douglas JG & JA Ferguson (eds) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 5: 275-325.
Milner P & MS Churchward	1988	The Principal Mining Machinery Sites on the Victorian Goldfields: 1851-1918, 1. Ararat. HV Report 201.

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SHGHS	1990	Historical Survey, Shire of Stawell. Prepared by Stawell & Hall's Gap Historical Societies. HV Report 195.
Taylor P	1999	Northern Grampians Shire Heritage Study, Part 1: Thematic Environmental History. Prepared for Northern Grampians Shire.
VandenBerg AHM & CE Willman, S Maher, BA Simons, RA Cayley, DH Taylor, V Morand, DH Moore, A Radojkovic	2000	<i>The Tasman Fold Belt System in Victoria</i> . Geological Survey of Victoria Special Publication, pp134-154.
White S & MM Mitchell	2003	Chapter 19: Palaeoclimates: The Influence of Continental Drift and Latitude Change on Climate. In Birch WD (ed) <i>Geology of Victoria</i> . Geological Society of Australia (Victorian Division). Special Publication 23: 563-571.
Willman CE & AHM VandenBerg, VJ Morand	2002	Evolution of the Southeastern Lachlan Fold Belt in Victoria. <i>Australian Journal of Earth Sciences</i> 49: 271-289.