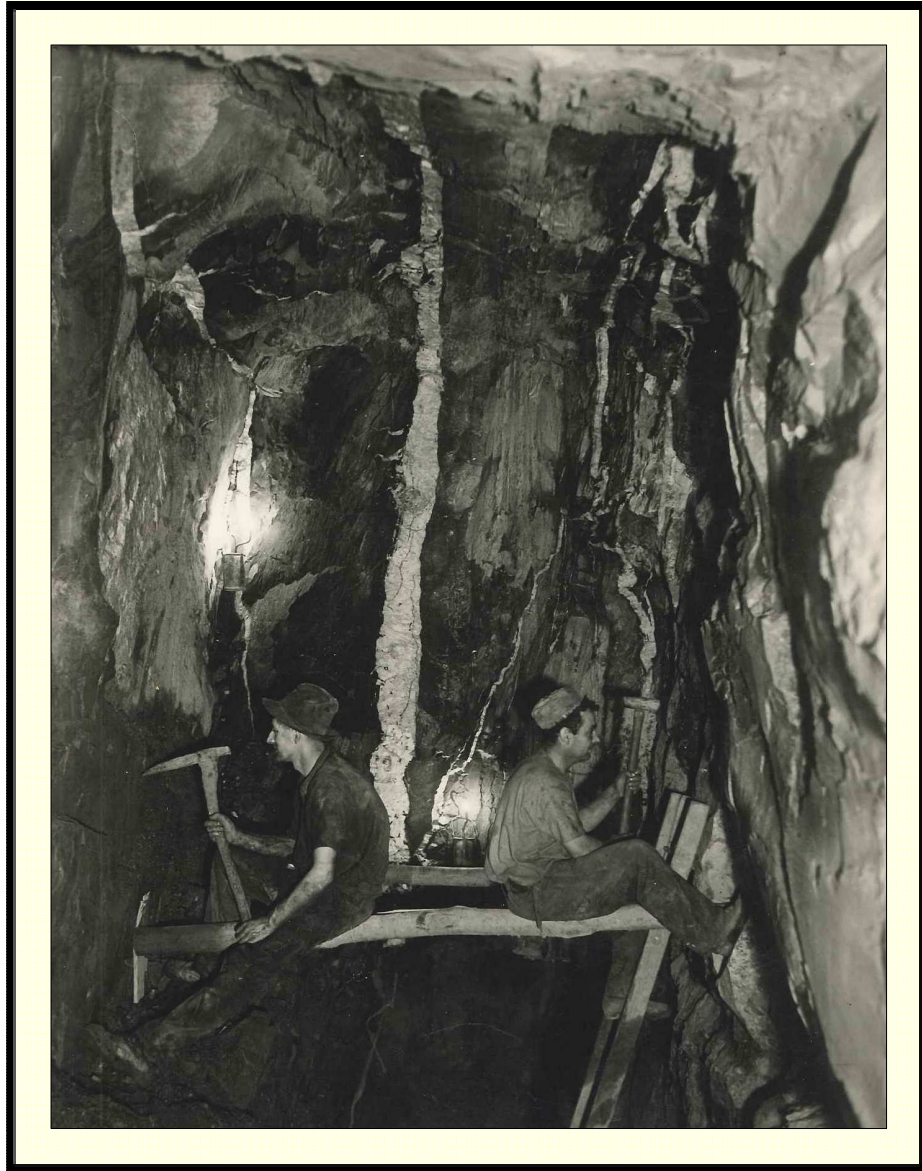


Ironbark Heritage Study 2010

Volume One



July 2010

Amanda Jean
*Mandy Jean Architect
and Heritage Consultant*

CONTENTS

The Ironbark Heritage Study

EXECUTIVE SUMMARY	6
Background	6
The Heritage Study an Overview	7
INTRODUCTION.....	13
Purpose	13
Study Area	14
Previous Studies - Background	16
The Current Ironbark Heritage Study.....	19
APPROACH AND METHODOLOGY.....	21
Preliminary Research.....	23
Establishing a Thematic Framework	24
Fieldwork	26
Public Consultation	27
Establishing a Threshold of Significance	27
Hermes Database.....	29
Review of Planning Controls and Policy.....	30
REVIEW OF THE THEMATIC HISTORY	31
Summary of Existing Thematic History	31
Analysis of Existing Thematic History	32
THEMATIC HISTORY.....	34
Shaping Victoria’s Environment.....	34
Peopling Victoria’s Places and Landscapes.....	39
Governing the People	42
Building Victoria’s Industries.....	51
Building Towns, Cities and the Garden State.....	56
Building Communities and Cultural Life	59
KEY FINDINGS.....	62
Levels of Significance: Heritage places and precincts	63
Comparative & Contextual Analysis.....	65
Application of Planning Controls.....	67
Places Requiring Further Assessment	67
RECOMMENDATIONS	68
Adoption of Study	68
Implementation of Study	68
Further work.....	68
List of Appendices	70

Volume Two – Citations

List of Illustrations

FIGURE 1 - IRONBARK HILL, MINER'S COTTAGES	6
FIGURE 2 - FORMER MINE MANAGERS RESIDENCE, LONG GULLY	8
FIGURE 3 - HOME DELIVERY GROCERY CART	12
FIGURE 4 - 1920'S BUNGALOW AT 9 TRUSCOTT STREET, IRONBARK HILL.....	13
FIGURE 5 - IRONBARK TREES BANNERMAN STREET.	17
FIGURE 6 - MINER'S COTTAGE, IRONBARK HILL.....	19
FIGURE 7 -MINER'S COTTAGE, WEST BENDIGO	20
FIGURE 8 - QUART MINERS ARMS HOTEL AND LONG GULLY CASH STORE	20
FIGURE 9 -ABOVE RIGHT: VIEWS OF BENDIGO	20
FIGURE 10 -INTER WAR BUNGALOW, IRONBARK	21
FIGURE 11 -DOCUMENT STRUCTURE.....	22
FIGURE 12 - 2 QUICK STREET, IRONBARK	23
FIGURE 13 -IRONBARK SCHOOL.....	27
FIGURE 14 -LONG GULLY SCHOOL	27
FIGURE 15 -IRONMONGER SHOP, IRONBARK.....	27
FIGURE 16 - FORMER MINER'S RESIDENCE AT 2 THOMAS STREET, IRONBARK, 2009.....	30
FIGURE 17 - COTTAGE IN IRONBARK, 2010.....	31
FIGURE 18 - MINER'S COTTAGE IN IRONBARK, 2010.....	34
FIGURE 19 - IRONBARK GULLY FROM ROAD TO BENDIGO	35
FIGURE 20 - ON BENDIGO CREEK.....	35
FIGURE 21 -PAINTING OF THE NEW CHUM LINE OF REEF	36
FIGURE 22 - LINES OF REEF	37
FIGURE 23 - GULLIES AND CREEKS	38
FIGURE 24 - THE FORMER HOME OF RICHARD POPE.....	39
FIGURE 25 - CHINESE ON THEIR WAY TO THE DIGGINGS	42
FIGURE 26 - GOLD MINING LEASE DOCUMENT.....	43
FIGURE 27 - MINE LEASE DOCUMENT.....	44
FIGURE 28 - CLAIMS AND LEASES	44
FIGURE 29 - MINERS AT CENTRAL NELL GWYNNE 1939.....	46
FIGURE 30 -KOCH'S PIONEER QUARTZ CRUSHING PLANT	48
FIGURE 31 -HENRY KOCH.....	48
FIGURE 32 - BENDIGO GOLDFIELD, MINE SHAFTS	50
FIGURE 33 - WORKERS AT TAYLOR ENGINEERING WORKS, LONG GULLY.....	51
FIGURE 34 - MINER'S AT WORK IN THE HERCULES	52
FIGURE 35 - THE MINES ON GARDEN GULLY REEF.....	53
FIGURE 36 -180 POPPET HEAD ON THE LEFT LOOKING TOWARDS NEW CHUM HILL 1875	55
FIGURE 37 - MINER'S COTTAGES	56
FIGURE 38 - THE WEARNE FAMILY OUTSIDE THEIR MINER'S COTTAGE.....	57
FIGURE 39 - FOUR ROEDER STREET, IRONBARK 2010.....	58
FIGURE 40 - BENDIGO HOME FOR THE ADULT BLIND, LONG GULLY.	59
FIGURE 41 - FORMER LONG GULLY POLICE STATION.....	60
FIGURE 42 - COTTAGE IN IRONBARK.....	62
FIGURE 43 - MINERS COTTAGES, NEW CHUM GULLY	69

List of Tables and Maps

TABLE 1 - HERITAGE COMMISSION CRITERIA WITH HERCON CRITERIA	28
TABLE 2 - VICTORIAN THEMES & THE THEMES SET OUT IN THE EAGLEHAWK AND BENDIGO HERITAGE STUDY 1993.	31
TABLE 3 - NEW THEMES FOR THE STUDY AREA	33
TABLE 4 – KEY FINDINGS	62
TABLE 5 – SUMMARY OF FINDINGS	63
MAP 1 - GEOLOGICAL MAP OF THE BENDIGO GOLDFIELDS.....	10
MAP 2 - STUDY AREA	14
MAP 3 – CONTOURS & FORMER MINES AND MINE SHAFTS INDICATED BY RED DOTS ..	15
MAP 4 - PROPOSED LONG GULLY PRECINCT	16
MAP 5 - EXISTING HERITAGE OVERLAYS.....	18
MAP 6 - PARISH MAP SHOWING LAND OWNERSHIP PATTERNS IN THE EARLY 20 TH	26
MAP 7 - SURVEY OF THE LONG GULLY AREA.	37
MAP 8 - THE CORNISH MINING WORLD HERITAGE SITE	40
MAP 9 - MAP OF HARZ MOUNTAIN REGION IN GERMANY	41
MAP 10 - SHOWING THE MINING LEASES, WEST BENDIGO.....	43
MAP 11 - DISTRIBUTION OF MINE SHAFTS AND STUDY AREA BOUNDARY.	47
MAP 12 - CARLISLE MINE AREA	54

EXECUTIVE SUMMARY



Figure 1 - Ironbark Hill, Miner's Cottages with Knipes Castle in the background (date unknown) – Courtesy of Bendigo Historical Society

Background

Cities are like jewels, visible treasures of human action and development. As social stories they mark territory. They become counterpoints in the landscape, signifiers of culture created by generations and generations of people, both in their single and collective existences. The city of Bendigo, perched on the edge of the great dry inland of Australia, was created by 15,000 miners, who rushed to the area in 1852 to seek their fortunes in the gold diggings. The Indigenous owners of the land, the Dja Dja Wurrung people, were pushed to the margins of society.

The areas within this study, such as Long Gully and Ironbark Gully, are some of the many historic gullies of Bendigo that became internationally renowned as gold mining sites in the 19th century. Consisting of a series of dry diggings that were scattered over about twenty square miles, the once thickly forested Bendigo Valley was literally torn up in every direction. The recent history of Long Gully and Ironbark Gully was created by the actions of thousands upon thousands of international migrants who came to the area during the 19th century.

The physical fabric of the place illustrates how a new culture with new building typologies from across the world was transplanted into a foreign land. During the 1850-1870s thousands of Cornish and German people arrived in the area, both individually and in tight community family groups. They were usually from the same rural villages, bringing with them the languages, traditions and knowledge of their former homelands. The voyages were long, arduous and risky, and for many they arrived via a second or third country such as the United States, South Africa, New Zealand and in some cases South Australia. They were unfamiliar

with the place, the geography, the language and customs of the Indigenous people, the British colonial authorities and arrived only with hope in the future. By 1877 the Bendigo region was the third biggest settlement after Melbourne and Ballarat with 35,000 residents and 9,150 dwellings.

The Heritage Study an Overview

The importance of the study area and its history is well known to the local Bendigo community and descendants of many hundreds of overseas migrant families, who worked in and lived near the deep quartz mines of the area. In recognition of the significant values of this area, the City of Greater Bendigo has commissioned the preparation of the *Ironbark Heritage Study*, a gap study to the *Eaglehawk and Bendigo Heritage Study* (1993). The aim of the study is to identify, assess and document places of cultural heritage significance in the Ironbark Hill, West Bendigo, and Long Gully areas of Bendigo, and to make recommendations for their future conservation and management.

The Study Area

The Ironbark and Long Gullies are distinct geographical locations within the City of Greater Bendigo. However they also share common thematic histories of deep lead quartz gold mining and working class mining settlement with other gullies of Bendigo. The area is distinguished from other gullies by its particular micro environment. The particular flora and fauna, physical geography and geology led to a different type of mining development, settlement pattern, mining immigrants and historic labour relations. The history of the area has left an abundance of local toponyms that is place names of local features, which record the tangible and intangible cultural heritage of the area.¹ These popular names are a rich source of imagery but are in danger of becoming lost.

The Bendigo goldfields were one of the world's great 19th century goldfields, attracting people from all over the world. The particular mines within the study area became internationally renowned gold mining sites in the 19th century. The study area had the heaviest concentration of deep quartz mines and the deepest shafts on the Bendigo field, if not the world at the time. They were the richest producing mines, operated by the largest company mines that were owned by some of the wealthiest mining magnates of the time. The mines were worked by experienced Cornish and German miners, although most of the German miners left the area by the late 19th century.

The mining magnates were colonialists of the most glorious kind. They funded scientific exploration into the hinterland of Australia. They commissioned elaborate displays of Bendigo's mining achievements and local Dja Dja Wurrung Indigenous artefacts which were sent to the Great Exhibitions of the world. They built ornate late baroque colonial style buildings of great elegance that compare well with the legacy of other colonial cities of the world.

Methodology

The report is a technical document and accordingly standard methodology for preparing a heritage study has been used as the basis for this study (See Appendix A). Other heritage methodologies used in the study include: *Victorian Framework for Historic Themes*, the Australian Heritage Commission criteria of significance, *HERCON*, *The Australia International Council on Monuments and Sites (ICOMOS)*, *Burra Charter: Charter for*

¹ Toponyms: The use of language to describe place names, related to flora, topography, history and stories.

Places of Cultural Significance and the *Victorian Planning Provisions Practice Notes: Applying the Heritage Overlay*. Reference to these methodologies is mandatory. The study also references the ‘significance grading system’ used in the *Eaglehawk and Bendigo Heritage Study* in order to ensure consistency between the two studies. Public consultation has been an important methodological tool of this study. It included a public forum, mail-outs to all residents in the study area, listening posts, bulletins, television, radio and newspaper articles, website information and meetings with residents, who spoke about their family histories and connections to the area.

Review of Thematic History

A key task in this study has been reviewing the *Environmental Thematic History* of Bendigo prepared by Graeme Butler & Associates in 1993. The major historic themes identified in the *Eaglehawk and Bendigo Heritage Study* loosely follow the nine main Victorian historic themes. It is a fact that the history of mining shaped and created Bendigo. Accordingly, the major themes of the 1993 heritage study mark out the development of the city by chronological phases of mining technologies such as alluvial mining, puddling and deep quartz mining. This method of approach to the analysis of urban form in Bendigo is challenged in the current study. Instead, the themes of trans-national migration, colonial expansion and changing public responses to the indigenous landscape are considered key agents for change in the Bendigo region.

Field Survey

A different way of interpreting the thematic history and spatial geography of the place is recommended. Following detailed field surveys it is clear that in Bendigo the history of mining and urban expansion developed very unevenly, in regard to time and space. The greatest agent for determining the rise and fall of mining and expansion is landscape. It was the gullies and ridges of Bendigo where the migrant miners, foundry workers and importantly their families came in their thousands that has played a critical role in the invention of urban form in Bendigo. The standard colonial geometric town grid does not dominate the character of Bendigo, which remains a city of loose open spaces.

The changing ecological consciousness of the community that first saw the transformation then reclamation of the natural landscape is critical to the uniqueness of Bendigo. The identity of Bendigo is bound to symbolic places where ideas, names, memories and images of gold mining and migration meet in the many mining gullies, creeks and hills. The genius loci or the spirit of place is a powerful undercurrent to the history of Long Gully, Ironbark Gully, the smaller Poor Mans Gully, Moonta and Happy Valley. This refers to the mood of a place that is perceived by the senses. It represents in cultural heritage terms the intangible qualities of material space. It is an important part of cultural mapping of an area where the community is engaged in telling their stories and emotive responses to the sounds, smell, movement and other aspects of the environment. This type of cultural mapping is sometimes described as the psycho-geography of a place.



Figure 2 - Former Mine Managers residence, Green Street, Long Gully 2010

Key Findings: New Historic Themes

The key finding of the field surveys, community engagement and additional research is that the majority of heritage places identified in the study area are working class cottages that provide evidence of a domesticated industrial mining landscape, built on Crown Land by transnational migrants and their descendants. The local community expressed strong attachment for the conservation of this cultural landscape.

New historic themes are therefore proposed for Long Gully and Ironbark and are set out in the third chapter of this study. The new themes highlight those places/buildings, which have a fragile ephemeral transnational theme, that stand for the persistent tension about the origins of Australia. These places, such as the former Cornish miners' cottages are sustained by threads of deep conservatism. They are progressively being swept away by the tide of more robust dynamic and evolving forces, such as the spread of 20th century suburbia. New suburbia houses a solid confident community that moves steadily and anonymously forwards, without the need to look back at Europe as homeland. The miner's cottage has become an incongruous folly, an ancient building type, set in a futuristic landscape amongst new suburban homes.

Key Findings: Fabric

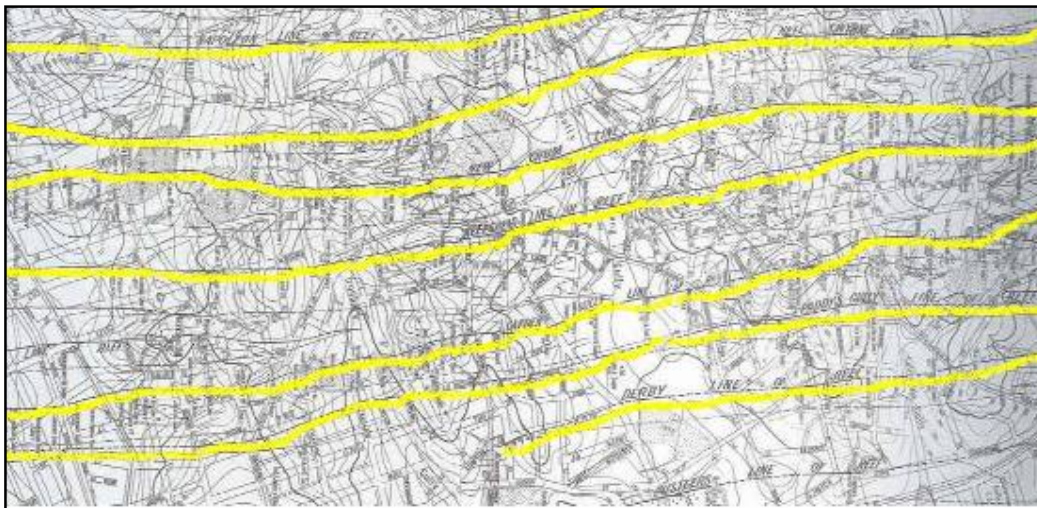
The study area is rich in authentic locations, sites and structures of surviving material culture of transnational homes of the Cornish and German emigrant miners, particularly early miner's cottages. There is also evidence of later changing patterns of intergenerational 'identity' formation. It is possible to see how the first settlers built make shift temporary homes, which later became transitional, relocatable, and also how their descendants began to identify with the area, making it their permanent home. It was the Cornish traditional mining labour practices that had a lasting impact on the cultural landscape of Ironbark and Long Gully area. The majority of Cornish miners, who worked in these mines, came from a very conservative tradition of rural based mining, which was founded on a strict hierarchical mining system. They were familiar with a structured mining workforce, low wages, sub-contracts and the 'Tribute' system of mining.² They were comfortable with the associated system of renting leased Crown land and only invested sparingly in their homes. This factor led to one of the highest concentrations of working class miners living within one location, being Long Gully/Ironbark area of Bendigo.

The entire study area provides many examples of the tension and conflict caused by different forms of government and private attitudes towards mining, colonial land tenure systems, leases, land ownership and use, government assisted accommodation and reclamation of contaminated mine lands. It represents themes associated with colonial land title laws that can be compared with similar practises administered by the British colonial rule in India.

² Tributing, is an ancient Cornish mining tradition, whereby miners formed Tribute parties, self employed groups, that leased a mine or part of it from a larger company in order to receive a percentage of the gold mined. They were contracted to pay for haulage and crushing ore, timber for propping new underground reefs and use of tools, despite the often irregular or non existent returns. The Cornish Tribute system was organised by the miners themselves. The practice was hierarchical, hereditary and in some view rudimentary.

Recommendations: Heritage Precincts

It is recommended that four new heritage precincts within the boundaries of the study area are protected via the application of a heritage overlay. The extent of these four historic precincts are formed by patterns of gold bearing lines of reef, which are clearly visible as narrow vertical streaks of open space that lie across the landscape. The former historic mine sites divide the locality into distinct historic mining settlements. Approximately 289 historic features have been identified in this cultural landscape. Many of these structures are miner's cottages, including 91 cottages that survive from the 1870s. Most of these buildings are considered of significant value to the above mentioned heritage precincts. Many of these cottages could be recommended for individual heritage listing, however it was concluded that the higher significant value relates to the heritage precinct, itself. The precincts have cultural significance for the collection of miner's cottages that survive in authentic, but random locations, the spatial relationship of the cottages to one another, and also the juxtaposition of the cottages to former mines. The clusters of miners' cottages reflect the internal groupings of mutually supporting families. The abrupt transition between tiny cottages and later Inter War bungalows reflect the longevity of original occupation and traditions, and the uneven play of fate in the lives of the miners.



Map 1 - Geological Map of the Bendigo Goldfields 1923, showing the lines of reef that cut across the gullies. H.S. White and H. Herman's. Taken from Bendigo's Gold Story by Birrell and Lerk.

Heritage Precincts: Levels of Significance

Each heritage precinct is made up of the physical material of the place including contributory places, building elements, materials, archaeological artefacts, spaces, special features, settings, use, views and associated meanings. These contributory places may have different levels of heritage value according to their ability to illustrate the main historic themes of the study area. Those contributory places that demonstrate strong linkages to more than one of the main historic '*mining*' themes are important elements that contribute to the significance of the precinct. They have been differentiated from other contributory places that do not have strong links with the main '*mining*' themes of the study area, and are defined as '*significant features*'.³ It is recognised that relative degrees of cultural significance may lead to different conservation actions at a place.

³ The definition of words used within the heritage study is in accordance with *Article 1. Definition of the Burra Charter* 1999.

For example, the small miners' cottages are identified as being significant features of the heritage precincts. These cottages belong to a particular vernacular building typology, easily recognisable by the rectangular form, dimensions and often massive chimneys. They show layers of alterations, slight changes and adjustments in design and material. The physical fabric and location of these early structures, which were hand built, often prefabricated and easily transportable from one gold field to another, constitutes a wonderful historic archive for the City of Greater Bendigo. They are an authentic source of material that breathes life into layers of cultural, social and industrial history. Built by transnational migrants, the first generation of settlers, they trace generations of occupants, who made their home in Australia. Later versions of 19th century cottages demonstrate how outsiders availed themselves of the benefits of claiming a Miners Right and Residency Area; a cheaper option to purchasing land, prior to entering the home ownership market. Some miner's cottage show evidence of a family's increasing intergenerational wealth created by self betterment and education. These cottages are strongly linked to historic themes of international migration, Cornish and German vernacular architecture, colonial land tenure systems, history of mining, labour patterns, and self improvement. The early miner's cottage is a major feature of the Victorian goldfields.

In contrast to the familiar vernacular style of the typical miner's cottage, there are other types of miners' dwellings that have a sophisticated architectural style. These places are also strongly associated with 'mining' themes, but are not so easily recognizable. The buildings demonstrate intergenerational change, adaptation to the Australian climate and response of an increasingly sophisticated labour force during periods of mining boom during the late 19th and early 20th century. Sometimes the buildings illustrate changing economic circumstances of families, which is reflective of a very hierarchical mining industry. A mine manager's house stands out in contrast to an engine driver's cottage. A mining engineer's cottage is more spacious than a waged or tribute miner's cottage. Other outstanding examples of dwellings are the speculative purchase and development of land by local miners, who entered the construction market. There are also examples of small cottages that were financed by private Sustentation Funds following mining accidents and others, which display quality architectural designs attributed to the local American Irish architect, R. A. Love or the German architect, W. C. Vahland.⁴

Other buildings have also been identified as contributing to the significance of the historic precincts, but do not necessarily have strong links with mining themes. These buildings provide good representative examples of changing attitudes and fashions of the descendants of Cornish mining émigrés during the mid 20th century. They are good examples of early government assisted housing programmes and housing commission estates built on reclaimed mine sites.

Relationship to Previous Studies and Recommendations

This Study finds that the recommended heritage precincts have previously been cited in one or other early heritage studies. For example the Lawrie Wilson & Associates heritage study (1977) recommended protection of Victoria Hill Precinct, roughly equivalent to the Ironbark Hill/Roeder Street heritage precinct. Although the precinct was omitted from the Graeme Butler heritage study (1993), approximately 152 sites within the study area were cited in the *Eaglehawk and Bendigo Geo-sites* list (1993) as having potential heritage significance, and required further work. Funding constraints were cited as the major reason for not completing the recommended further work at the time.

⁴ Sustentation funds operated on a similar basis to benevolent or friendly societies and included the Watson Sustentation Fund that was administered by the Bendigo Miners Association.

The Butler heritage study, (Dr. Peter Milne mining history and Bannear, D, *North Central Goldfields Project – Historic Mining Sites*, May 1993) made recommendations for the heritage protection of the former mine sites, Carlisle United, Moonta and Napoleon. These archaeological mine sites correspond to the recommended Garden Gully/Carlisle United heritage precinct and the Poor Man’s Gully/ Lazarus Street heritage precinct. The recommended Bannerman Street/Paddy’s Gully line Heritage Precinct identified in this study corresponds approximately to a Neighbourhood Character Overlay 1 (NCO1) area. This NCO1 was adopted into the Greater Bendigo planning scheme as recommended by the study, *City of Greater Bendigo Residential Character Study*, Planisphere, John Curtis Pty Ltd and City of Greater Bendigo, 2001. The recommended Lazarus Street/Poor Man’s Gully Heritage Precinct is largely incorporated within a Development Plan Overlay 3 (DPO3) which restricts the size of lots to 1,500 square metres and states that consideration of heritage values are required when assessing a planning permit.



Figure 3 - Mr. Collins standing next to the home delivery grocery cart that operated in many forms in the Ironbark, Long Gully area up until the 1970's - photo courtesy of Garran Wilkinson.



Figure 4 - 1920's Bungalow at 9 Truscott Street, Ironbark Hill, 2010

INTRODUCTION

Purpose

The City of Greater Bendigo commissioned Amanda Jean, heritage consultant, in October 2008 to undertake the *Ironbark Hill Heritage Study* (See Appendix B for Project Brief of Ironbark Hill Heritage Study). The *Ironbark Heritage Study* is a gap study within the context of the *Bendigo and Eaglehawk Heritage Study* (1993); the original study area was expanded in 2009 to its present boundaries. The main purpose of this Study is to identify, assess and document places of cultural heritage significance in the Ironbark, West Bendigo, and former Long Gully areas of Bendigo, and to make recommendations for their future conservation and management.

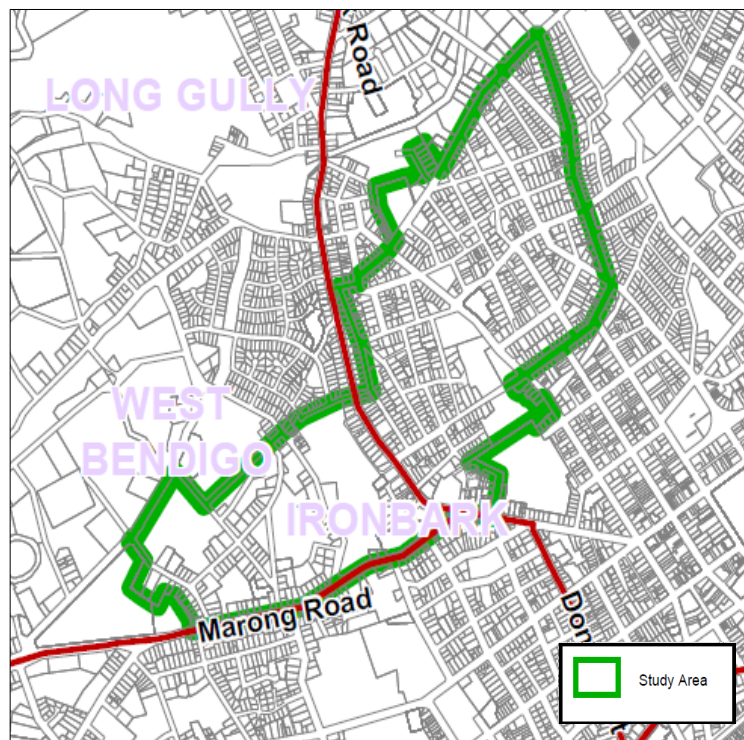
The study focuses on the homes of the former gold miners and blacksmiths. It proposes to raise local interest and respect for the vernacular building tradition of the typical miner's cottage. And show the connection of this building typology to an internationally highly respected building tradition that forms part of the irreplaceable vernacular heritage of the world.⁵

⁵ The AICOMOS Burra Charter is linked to a number of international charters of which the UNESCO ICOMOS *Charter on The Built Vernacular Heritage (1999)* is one. This charter sets out best practice heritage standards for the protection of vernacular architecture. It states that, '*The built vernacular heritage is important; it is the fundamental expression of the culture of a community, of its relationship with its territory and, at the same time, the expression of the world's cultural diversity. It would be unworthy of the heritage of man if care were not taken to conserve these traditional harmonies which constitute the core of man's own existence.*'

The objectives of the Study are to:

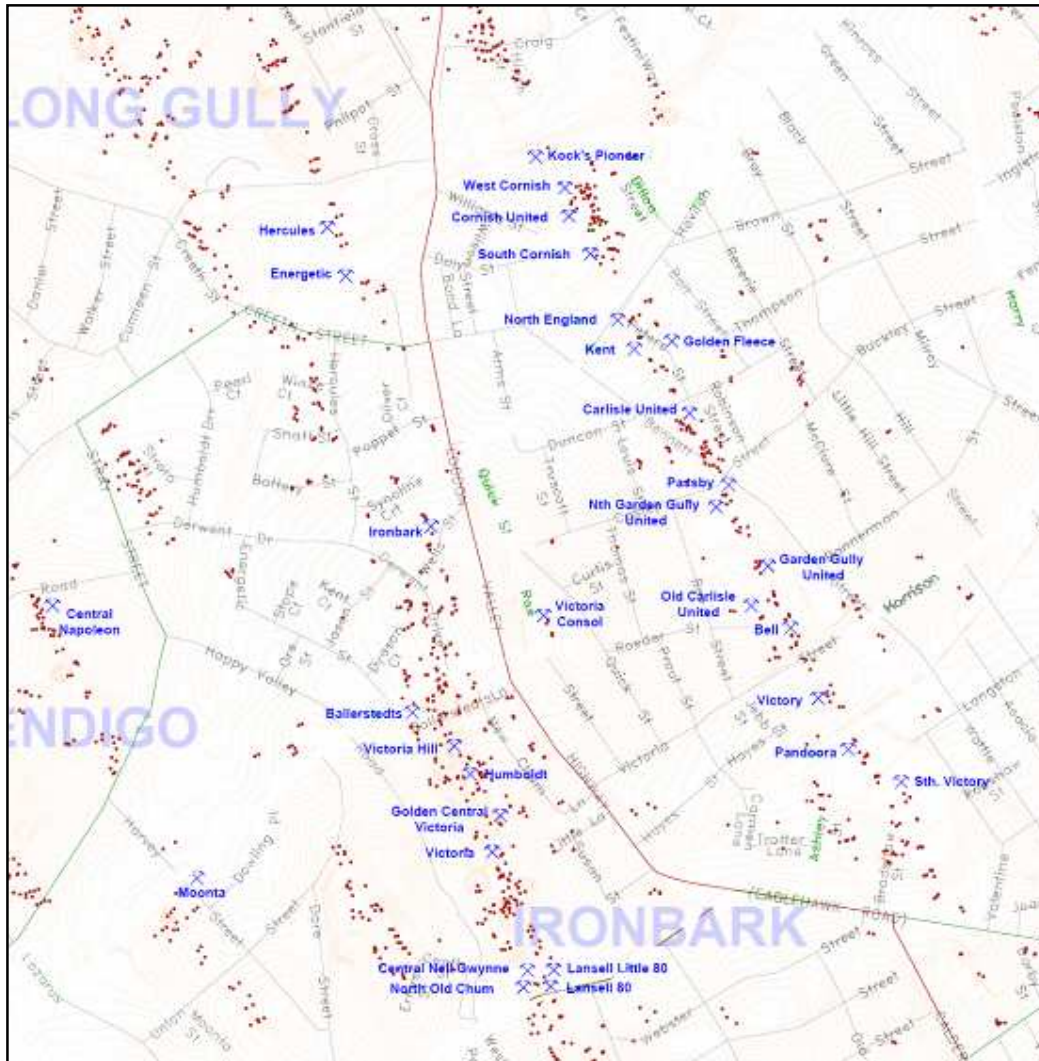
- Review the Thematic Environmental History of the study area that was prepared by historian, Chris McConville, mining and industrial historian, Dr. Peter Milne, and landscape historian, Francis Gilfedder, and forms part of the *Eaglehawk and Bendigo Heritage Study (1993)*.
- To identify major historic themes for the study area that tells the story of the industrial mining landscape and legacy of former miner's cottages.
- Identify, assess and document all sites within the study area that have potential cultural heritage significance and which represent the major historic themes of the study area, referencing the history of *Ironbark Hill* prepared by historian, Robyn Ballinger, in 2005.
- Review sites (within the study area) that were identified in the *Eaglehawk and Bendigo Geo-Sites list (1993)* compiled by the heritage consultants, Graeme Butler and Associate. In addition to places deemed of local heritage importance.
- Complete the heritage assessment of sites (within the study area) that were identified in the 1993 *Eaglehawk and Bendigo Heritage Study* but not incorporated within the heritage overlay of the Greater Bendigo Planning Scheme.
- Establish the threshold of local significance using the HERCON criteria for adopting local significance.
- Provide conservation and management recommendations for places identified as having local or state of cultural heritage significance.

Study Area



Map 2 - Study Area – Source: City of Greater Bendigo

The City of Greater Bendigo is located on the borders of where the Central Victorian dissected uplands meet the Murray Riverine Plain. It has a dry climatic area with stony gradational soils that spread over many rolling ridges and gullies, creeks, flats, hill tops, vantage points and undulating hills.⁶ The study area is a clearly defined micro locality within this general topography. It encompasses the hilly land between Long Gully and Ironbark Gully valleys which includes a small portion of the local government ward area of West Bendigo.



**Map 3 - Showing contours, former mines and mine shafts indicated by red dots –
Source: City of Greater Bendigo**

Historically, the study area was known as Ironbark and consisted of a series of hilly knolls located between two heavily wooded ephemeral creeks and their respective gullies, Long Gully and Ironbark Gully. The top of the valley rises from Specimen Hill in the west and splits into two wide creeks flowing on either side of the eroded hillocks, knolls and spurs of Moonta, Victoria Hill, Ironbark Hill, and Ironbark Ranges that extend eastwards to Redan and White Hills. The northern slopes of Long Gully are fed by the occasional waters of Sparrowhawk Gully, Derwent Gully, and to the south, by Poor Man's Gully and Happy Valley. The area includes vantage points like St Just's Point.

⁶ Cocherane G.W et al, *Introducing Victorian Geology*, Geological society of Australia Victoria, 1995.

The low land to the south of the Ironbark ranges is cut by the slow west-east flowing infrequent waters of Ironbark Gully which traces its course between the southern slopes of Victoria Hill, and north of New Chum Hill and then curves past Hustlers Ridge, towards Redan to join Long Gully and finally Bendigo Creek near White Hills.

In 1999, the historical boundaries of Long Gully were realigned and renamed. The land to the west of Eaglehawk Road was called West Bendigo, the land to the north of Long Gully creek was named after the creek, while the rest of the area to the east of Eaglehawk Road retained its historical name of Ironbark. The Study Area covers the southern part of the historic Long Gully Creek and is inclusive of the hilly northern section of the Ironbark Gully area, but not the southern side of the Creek.

Previous Studies - Background

Bendigo Conservation Study

The first heritage study of Bendigo and Eaglehawk was carried out in 1977 by Lawrie Wilson & Associates. The study recommended the heritage protection of the Long Gully Precinct and Victoria Hill Precinct.



Map 4 - Proposed Long Gully Precinct that was removed from the Eaglehawk and Bendigo Heritage Study 1993 – Source: Bendigo Urban Area Conservation Study 1977

The Eaglehawk and Bendigo Heritage Study

An extensive heritage study was undertaken in 1993 by the City of Bendigo and Borough of Eaglehawk, prior to local government amalgamation. Graeme Butler and Associates were commissioned to identify, evaluate and document the built and environmental history of the City of Bendigo and the Borough of Eaglehawk, including reference to the former 1977 heritage study. This resulted in a five volume heritage report, *The Eaglehawk and Bendigo Heritage Study* (Butler 1993). The initial survey identified some 4,000 sites of contributory importance, including about 1,540 sites of individual significance, twelve precincts with about 29 sub precincts.⁷ Only those sites listed as ‘A’ and ‘B’ grade (294 sites) were provided with individual citations. These places were included in the heritage overlay of the Greater Bendigo Planning Scheme as individual places of significance. Another 3,000 built sites were considered of local importance and ascribed the grades of ‘C’ and ‘D’ in the schedule set out

⁷ *Eaglehawk and Bendigo Heritage Study* (Graeme Butler et al) 1993, Vol 1

in Volume 4 of the Heritage Study. The majority of these sites are grouped within heritage precincts and listed within the Bendigo Planning Scheme, although, a small percentage of sites do not have heritage protection. Graeme Butler noted in the Heritage Study, (Volume One, pp.1-5), that, “it is evident that even after two heritage studies of the Bendigo area alone, much work is yet to be done and this study cannot be seen to be exhaustive.”

The study recommended the heritage protection of Long Gully Ironbark Precinct and associated mining sites. The 1977 heritage study precinct boundaries were revised.

The Eaglehawk and Bendigo Geo-Sites List

Given the extensive nature of the *Eaglehawk and Bendigo Heritage Study*, the budget was inadequate to cover a complete and thorough survey of all 4,000 identified potential heritage sites. Approximately 1,000 sites that were identified as being of local importance in the Bendigo and Eaglehawk area, and graded ‘C’ and ‘D’, but did not easily fall within recommended heritage precincts, were compiled into a separate schedule, known as *The Eaglehawk and Bendigo Geo-Sites list*. Places included on this list were excluded from the Heritage Study and were not included in the heritage overlay of the Greater Bendigo Planning Scheme.

About 120 sites within the current study area were identified as having heritage significance as promoted in *The Eaglehawk and Bendigo Geo-Sites list*. This list includes those places identified in the 1977 Long Gully heritage precinct, but which were excluded from the 1993 Long Gully Ironbark heritage precinct.

Ironbark Hill History

In 2005, historian, Robyn Ballinger, was commissioned by the City of Greater Bendigo to prepare a background history of Ironbark Hill, covering four streets, Roeder, Quick, Prout and Thomas Streets, an area which had been proposed as a heritage precinct in 1977 by Wilson, but which did not have heritage protection. This area, at the time, contained many sites of potential local significance that had been identified in the *Bendigo & Eaglehawk Geo-Sites list* (Butler 1993).

The draft history has been incorporated into the present study. The study re-affirmed the heritage significance of the Ironbark heritage precinct, previously identified in the 1977 heritage study.



Figure 5 - A row of the distinctive Ironbark trees at the entry of Bannerman Street, 2010. Ironbarks trees are a characteristic of the Ironbark, Long Gully and West Bendigo area.

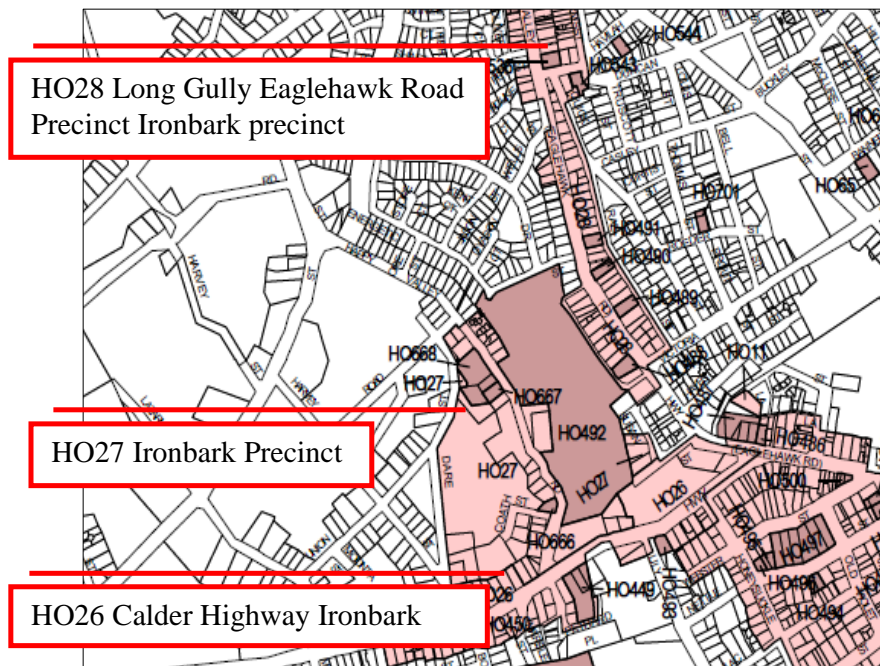
Future Uses for Former Mining Land Report

The City of Greater Bendigo initiated the *Future Uses for Former Mine Land 2007*, by Sinclair Knight Merz for the City of Greater Bendigo project to identify and consider future land use options for ten former mine sites within the Bendigo urban area which are currently vacant Crown Land. Of relevance to this study are the recommendations for Lazarus Street / Harvey Street / Happy Valley Road, West Bendigo. Recommendations included that the south-eastern corner of the site adjacent to existing residential areas in Harvey and Wells Streets could be used for residential purposes. This area has some constraints associated with heritage and ecological features. The area is now subject to a Development Plan Overlay (DPO 3) which restricts the size of residential allotments to 1,500 square metres.

Greater Bendigo Planning Scheme

In 2010, there are now 31 heritage precincts and 697 individual sites of significance listed within the schedules to the heritage overlay of the Greater Bendigo Planning Scheme. In Ironbark and former Long Gully area of West Bendigo there are three heritage precincts; HO26 Calder Highway heritage precinct, HO27 Ironbark heritage precinct, which includes Happy Valley Road and the adjacent mining sites of Victoria Hill and HO28, Long Gully Eaglehawk Road heritage precinct. Within these precincts are a number of individually listed heritage places. There are in addition, three individual heritage places that are isolated and not within a heritage precinct, they include, HO65, HO66 HO544. A further two individual heritage places HO716 and HO701 have recently been incorporated within the Bendigo Planning Scheme on an interim basis.

The Greater Bendigo Planning Scheme did not include all heritage places that had been recommended for planning protection by the previous heritage studies in the Long Gully (now West Bendigo) and Ironbark areas. These places are now the subject of the current study.



Map 5 - Existing Heritage Overlays – Source: City of Greater Bendigo

Current Heritage Status of Ironbark and Former Long Gully Area

Since 1977 the heritage places of Ironbark and Long Gully have been identified by the City of Greater Bendigo as special and important to the story of the creation and development of Bendigo. It has become evident that there are a number of gaps in the *Eaglehawk and Bendigo Heritage Study* (Butler 1993). There have been many reasons why these places have not been fully protected under the planning scheme and include the following:-

- The extent of site identification was limited in early Heritage Studies due to budget constraints.
- Some types of places were not considered important to the community at that time, for example early vernacular miners cottages or those buildings which represented the mid 20th century era are now becoming increasingly rare and are under threat of demolition in the 21st century.
- Greater focus on urban consolidation has meant that many former intact Miners Residency Areas and early cottages provide opportunities for intensive development. For example since 1993 nearly a third of the 120 sites identified on the provisional heritage list in Ironbark and Long Gully have been demolished (*Bendigo & Eaglehawk Geo-Sites list* Butler 1993).
- Many of these historic places are scattered throughout the area and do not form cohesive groups of sites. Large tracts of former mining lands have been reclaimed and developed for early Housing Commission developments in the 1950s and Aged Care facilities in the 1960s and 1970s.

The Current Ironbark Heritage Study

The study is a survey, assessment and review of all places of potential cultural heritage significance in the Ironbark and Long Gullies areas. It examines the past heritage studies and re-surveys the entire area again using the methodology for heritage studies as established by Heritage Victoria.



Figure 6 - Miner's Cottage, Ironbark Hill

Study Outcomes

- Identification of potential heritage precinct areas and contributory heritage places.
- All heritage places marked on base maps.
- The assessment and documentation of heritage places and precinct (s) of local and potential State significance.
- Recommendations for the type of statutory protection that will assist the future conservation of the heritage places and precinct (s).
- Identification of any further work required to be undertaken with regards to some types of places such as bridges, mining, archaeological, industrial sites, and trees.



Figure 7 –Above: Miner’s Cottage, West Bendigo

Figure 8 – Right: Quart Miners Arms Hotel and Long Gully Cash Store (date unknown) –Photograph by M Cook – Source: Bendigo Historical Society



Terminology

The terminology of the *Australian ICOMOS: Burra Charter for the conservation of places of cultural significance 1999* (The Burra Charter) is used throughout this study (See Appendix C for a Burra Charter Glossary).

Acknowledgements

The Study Team comprised the following; Emma Bryant (Co-ordinator of Policies and Processes, City of Greater Bendigo) -Project Manager, Mandy Jean- Heritage Consultant, researcher and principal author, Paige Byrne (Town Planner, City of Greater Bendigo)-project officer, town planning, community workshops and liaison, mapping, graphics, and data compilation, Graham Gregson (AIS and Asset Officer, City of Greater Bendigo)-mapping, Adrian Ryan, (Arboriculture Team Leader City of Greater Bendigo)- tree survey and identification. Prue Hawkey (Heritage Officer) Peter O’Brien and Geoff Neville (Town Planners, City of Greater Bendigo) and the City of Greater Bendigo Heritage Advisory Committee– steering and review. Acknowledgement is also given to the many people, who gave photographs, further history and other information, including amongst others: James Lerk, Ruth Hopkins, George Ellis, the Cornish Society of Bendigo and the German Society. Michele Matthews, (Archivist, Bendigo Regional Archive Centre).



Figure 9 – Above: Views of Bendigo 1905 – Photograph by Robert Scott – Source: State Library of Victoria



Figure 10 - Inter War Bungalow, Ironbark 2010

APPROACH AND METHODOLOGY

The history of our built environment, urban history, is very rich and complex. There are two basic approaches and methodologies to the analysis and assessment of the urban environment—the classic urbanist perspective—which emphasizes the history of settlement as physical places, focusing on the creation, function, and transformation of buildings, streets, walls, gates, and other types of infrastructure.⁸ The other approach - broadly speaking, the social history perspective - sees the settlement primarily as a populated, ever-changing site of human actions, ambitions, and conflicts. These two approaches are not mutually exclusive and do not differentiate between the privileged, mundane and anonymous buildings that define space. The aim of a Heritage Study is to highlight the interaction and intersection between these two models of urban history and identify particular places that are important to conserve as key elements in the make up of the culture and identity of a community.⁹

The reasons for nominating a place to a heritage register and providing legislative protection is our belief that in some way it is important enough to our society to pass on to future generations.¹⁰

The methodology used in the preparation of this Heritage Study follows the guidelines and brief set out by Heritage Victoria and includes reference to several important stages:-

1. **The Thematic Study:** The preparation of a thematic history and use of the *Victorian Framework for Historic Themes* for identification, analysis and determining levels of significance of places.
2. **A Field Survey:** A study of the morphology of the area, its urban form, building typologies, and background textures and landscapes in order to identify places that have historical and other associations to particular historic themes.

⁸ This approach to urban analysis is also known as the study of urban morphology- the analysis of the layout and configuration of urban form and the process that gives rise to them.

⁹ A discussion of these two approaches to cultural history of place presented in a reviewed by Christopher R. Friedrichs (University of British Columbia) on the book by Riitta Laitinen, Thomas V. Cohen, eds. *Cultural History of Early Modern European Streets*. Leiden Brill, 2009. Based on papers presented at the Stockholm conference of the European Association of Urban History in 2006.

¹⁰ Pearson, M., B. McGowan, *Mining Heritage Places Assessing Manual*, National Trust, AHC, 2000 p19.

3. **Assessment of Significance:** Creating lists of old places is not in itself usually a valid reason for recommending heritage protection. The place has to show physical evidence that reflects or demonstrates that historical value or theme. The *HERCON* criteria of significance based on the *Australian Heritage Commission (AHC)* criteria is used in conjunction with the methodology for heritage assessment established in *The Australia ICOMOS, The Burra Charter: Charter for Places of Cultural Significance, 1999*.
4. **Evaluation of Levels of Significance:** The value of significance of each place is then compared against other examples. In addition the strength of a places' association with historic themes is weighted. A common threshold of significance can then be established which is evaluated according to its local and state importance. Reference to the grading system used in the *Eaglehawk and Bendigo Heritage Study* has been incorporated into the assessment process in order to ensure consistency between the two studies. The evaluation process is in accordance to the recommendations made in the *Victorian Planning Provisions Practice Notes: Applying the Heritage Overlay*.

The layout of the report presents the results of the analysis of the study area in the following sequence:

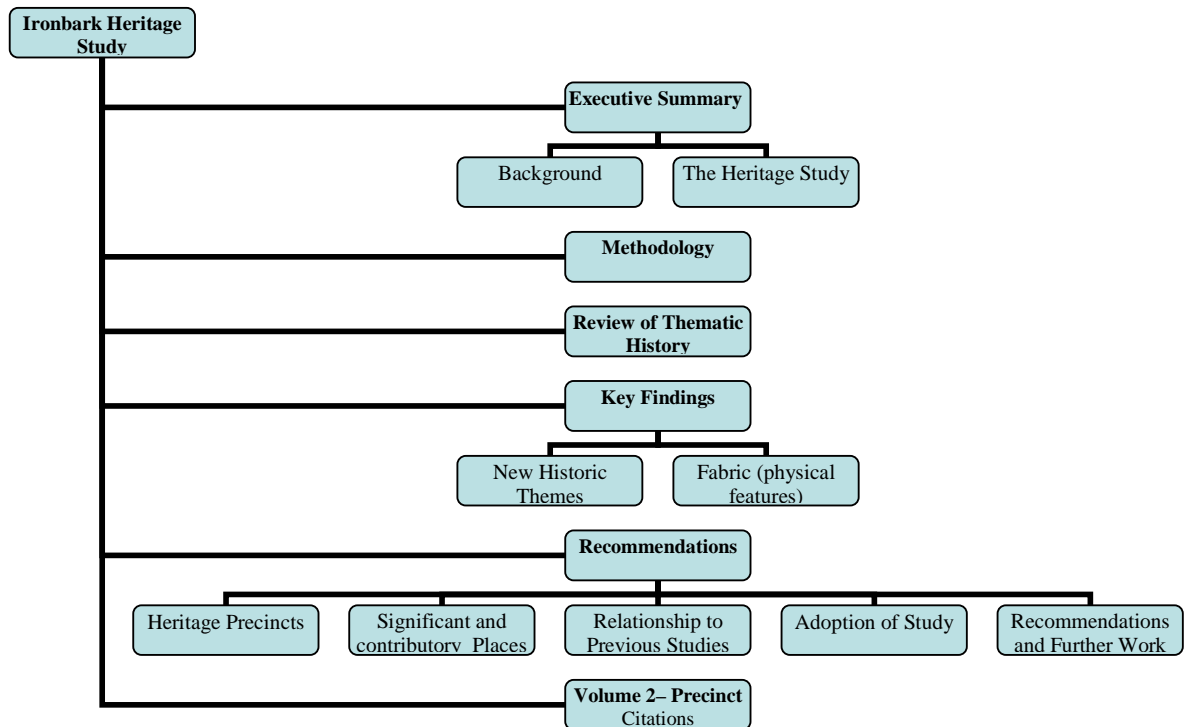


Figure 11 – Document Study Structure

- **Chapter 1.0.** Executive summary and background to the study.
- **Chapter 2.0** Methodology. This section describes the approach and methodology used in the preparation of the heritage study.
- **Chapter 3.0.** This section reviews the *Eaglehawk and Bendigo Heritage Study* thematic history in relation to the Long Gully and Ironbark areas and introduces several new themes that help in understanding the historical, social and political development of the area and identifying significant places.
- **Chapter 4.0.** This section summarises the key findings of the field survey, and provides summary lists of significant and contributory places and

recommended heritage precincts. It includes a description of the boundaries of precincts, the integrity, condition and rarity of places. It provides for comparative analysis of the range of different types of places and associated historic themes.

- **Chapter 5.0.** This section makes recommendations about key strategies for ongoing and future planning and management of the identified places in order to conserve the significant heritage values.
- **Volume 2** This section provides statement of significance citations for the heritage precincts in accordance with the recommended HERCON guidelines and HERMES heritage database.

Preliminary Research

The study area developed at a time well before any survey of roads and allotments was undertaken, and was referred to in the rate books of the period 1857-1878 variously as Ironbark Ranges, Ironbark Hill, Ironbark Gully, Ironbark Gully Northern Bank, and Iron Bark Southern foot of the Redan and Comet Company. The whole area was also called Long Gully. Official documentation of the settlement was precarious, sometimes non-existent and changed continually. The ad hoc settlement of the area is reflected in the way data was gathered for the rating of blocks in the Ironbark Hill area - every year over the period 1857-1862 the property details between the gully and the hill are recorded in a completely different order, and in one year only a few of the occupiers of properties could even be found by the erstwhile valuator.¹¹ By 1863 the tents and framed tenements of the area were largely replaced by timber and in some cases stone and mud brick cottages, built for and mostly by miners themselves, on Crown Land, under the Miners Residency Area leases.



Figure 12 - 2 Quick Street, Ironbark 2010, remained a Miner's Right up until 1981

Most of the existing miners' cottages that form the focus of this study were built on a miner's right by the owner who had the option whether to have a street number recorded or not. The land on which these cottages are built was often not held in freehold title until well into the 20th century. Some buildings such as the cottages at 23 Bray and 24 Black Streets remained on Crown Land until the 21st century, others such as 4 Quick Street converted in 1979; 12

¹¹ Ballinger, Robyn, *Ironbark Hill Precinct Report*, City of Greater Bendigo, October 2005

Quick Street in 1981; 4 Roeder Street in 1958; 13 Roeder Street in 1984; 15 Roeder Street in 1983; 2 Prout Street in 1973; 6 Prout Street in 1931; 2 Thomas Street in 1958; 7 Thomas Street in 1977; 13 Victoria Street in 1958; 15 Victoria Street in 1930. Some of the early mining families who first lived in these cottages retained ownership until the 1920s, and in other cases, until the late 20th century.

The street numbering system in the area has changed three or four times during the last hundred years. These factors have made additional research into Sandhurst Rates and Sands & McDougal directories, voting rolls, cemetery records, parish maps, mining records and property information from Lands Title Office Victoria all the more essential. New references included access to the extensive research by Dr. Charles Fahey on Cornish mining population movements and statistics on the goldfields as well as public consultation with community groups, personal memories and the Cornish Society of Bendigo.¹²

Establishing a Thematic Framework

The ‘thematic history’ is the foundation to the Ironbark Heritage Study. A thematic history of the study area is about the study of agents, (i.e. various actions by people or governments), which are responsible for change in the urban landscape and the construction of identity. It aims to transcend the divide between these two perspectives of urban history, linking stories with place, giving weight to those places that have cultural significance and social value, beyond the mere personal. Agents that initiate change and re-shaped the landscape in the area can be categorised according to their social, technological, economic and ideological nature.

The ‘thematic history’ section of a heritage study is a structured way of looking at historical data of an area that focuses on the past and continuing human use and impact on the environment. It provides a social history of an area. It is a standard methodology used for all heritage studies in Australia. By looking at sources, documents, maps, photographs, diaries and other archives a narrative of the past can be established. The historic themes help to locate social history within local spaces and buildings. It also contextualises local places within larger issues that are connected to wider regional, state, national and international multilayered streams of events.

The many benefits underpinning all heritage assessments with a thematic history are summarised as follows:-

- A consistent organising principle and methodology to mapping, survey, identification, assessment and interpretation of places, sites, landscapes and objects that is a national standard;
- A comprehensive approach to listing places that illustrates the importance of intergenerational change;
- An approach to analysis of places which is neither chronological nor discursive, but multifarious; that includes both tangible and intangible heritage.
- The creation of a check list of themes that highlight absence as well as commonality and rarity across an area;
- A weighting system for valuing unusual or rare sub-themes of a particular area;
- The justification for assessment of historical significance so as to avoid criticism of ‘targeting’ certain places for heritage controls.

¹² Fahey, Charles, *From St Just to St Just Point, Cornish migration to Victoria*, Cornish Studies, 2nd Series Vol 15, University of Exeter, UK pp117-140 for survey of Cornish migration to Bendigo and Ironbark

A key task in this study is to review the first *Thematic Environmental History* of Bendigo prepared by Graeme Butler & Associates in 1993 in relation to Ironbark and Long Gully areas.¹³ The purpose of the review is summarised as follows:-

- a. To determine if the emphasis given to particular themes should be revised as a result of new findings arising from the detailed field work undertaken for the Study Area.
- b. To ensure that the cultural heritage assessment of the Study Area is up to date with the fundamental shift that has occurred in the methodology of cultural analysis since the Eaglehawk and Bendigo Heritage Study was completed over 20 years ago. The emergence of post colonial cultural theories in recent years is especially relevant to Bendigo, a city that emerged from out of no-where, inhabited by people from across the globe, who sought their luck in the gold rush of the 19th century. This resulted in the dispossession and transformation of home for displaced Indigenous people. Our nation-centred view of sovereign citizenship has moved in recent times towards a greater recognition of the themes of transnational migration. The notion of home, multiple homelands and displacement, as well as, the themes of colonial expansion, empire and post-colonial histories are important in urban planning.¹⁴

Victoria's *Framework of Historical Themes* was introduced in 2007 based on themes developed in the early 1990s by the Australian Heritage Council (AHC). The Eaglehawk and Bendigo Heritage Study references the earlier themes promoted by the AHC. Later changes to the nine major themes and sub-themes in Victoria have tended to focus on what is distinctive and different about the state's history and heritage. The consistent organising principle for the Victorian thematic framework is "activity". Each major theme focuses on 'doing' the activities that created Victoria's heritage places and cultural landscapes and includes the following major themes:-

1. SHAPING VICTORIA'S ENVIRONMENT
2. PEOPLING VICTORIA'S PLACES AND LANDSCAPE
3. CONNECTING VICTORIANS BY TRANSPORT AND COMMUNICATION
4. TRANSFORMING AND MANAGING LAND AND NATURAL RESOURCES
5. DEVELOPING LOCAL, NATIONAL AND REGIONAL ECONOMIES
6. BUILDING VICTORIANS INDUSTRIES AND WORKFORCE
7. TOWNS, CITIES AND GARDEN STATES
8. GOVERNING VICTORIANS
9. SHAPING CULTURE AND COMMUNITY LIFE

The themes cover broad historical processes and activities that link and overlap, creating a richly diverse and multi-layered cultural inheritance of the landscapes and places of Long Gully and Ironbark, the associated objects/collections and their stories. Some of these

¹³ *Eaglehawk and Bendigo Heritage Study*, Volume 2, 1993

¹⁴ Colonialism was a lucrative commercial enterprise bringing wealth and riches to Western nations. It involved seizing foreign lands for governments and settlement of people in a new location in order to secure, create and control markets. It has been equated with capitalism and is linked to imperialism, an ideological concept which upholds the legitimacy of economic and military control of one nation over another. Colonialism is one aspect of imperialism, which involves settlement of territories, exploitation of resources and government of indigenous inhabitants. Post colonial discourse has been inspired by cultural theorists, Homi Bhabha, Edward Said, Franz Fanon and others, see Bhabha, H, *Location of Culture*, Routledge, 1994, where the notion of national minorities, global migrants and questions of belonging and diaspora identities and transition are explored in the process of cultural production of nations.

Public Consultation

Public consultation has been an important methodological tool of this study. Following is an outline of the consultation process:

- Project Bulletin 1 (See Appendix D)
- Information and Listening Post Session at the Long Gully Neighborhood House.
- Distribution of a media release asking the community to share old photographs, drawings, paintings, streetscapes maps, documents or any other information about the Ironbark, Long Gully or West Bendigo area.

Below are three photographs of the area that the community contributed as part of the consultation process.

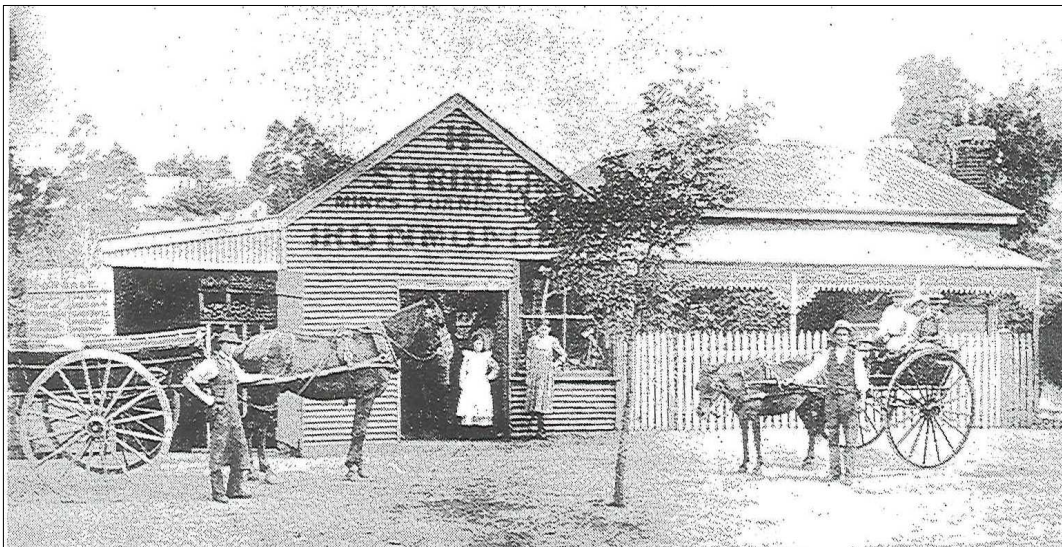


Figure 13 – Above Left, Ironbark School –Taken before the 1900 – Courtesy of John Cox

Figure 14 – Above Right, Long Gully School, Fourth Grade 1890 –Courtesy of Melinda Stroud

**Figure 15 – Above, H. Stringer Ironmonger Shop, Ironbark (1900) – Photographer taken by Robinson-
Courtesy of Stephen van der Werf**

Establishing a Threshold of Significance

Table 1 - Australian Heritage Commission criteria with Victoria Heritage HERCON criteria

Criteria	Australian Heritage Commission	Heritage Victoria/HERCON
Criterion A Process	The place's importance in the course, or pattern of Australia's natural or cultural history	Importance to the course, or pattern, of Victoria's cultural history
Criterion B Rarity	The place's possession of uncommon, rare or endangered aspects of Australia's natural or cultural history	Possession of uncommon, rare or endangered aspects of Victoria's cultural history
Criterion C- Research	The place's potential to yield information that will contribute to an understanding of Australia's natural or cultural history	Potential to yield information that will contribute to an understanding of Victoria's cultural history
Criterion D Characteristic values	The place's importance in demonstrating the principal characteristics of: A class of Australia's natural or cultural places or: A class of Australia's natural or cultural environments :	Importance in demonstrating the principal characteristics of a class of cultural places or objects.
Criterion E Aesthetic characteristics	The place's importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	Importance in exhibiting particular aesthetic characteristics and or in exhibiting richness, diversity or unusual integration of features
Criterion F Creative Technical Achievements	The place's importance in demonstrating a high degree of creative or technical achievement at a particular period	Importance in demonstrating a high degree of creative or technical achievement at a particular period.
Criterion G Social Values	The place's strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.	Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.
Criterion H Significant People	The place's special association with the life or works of a person, or group of persons, of importance in Australia's natural or cultural history	Special association with the life or works of a person, or group of persons, of importance in Victoria's history. (Indigenous heritage values are included here in Victoria taken from a European perspective. Indigenous heritage values are referenced in the Aboriginal Heritage Act 2007)
Criterion I Indigenous Traditions	The place's importance as part of Indigenous traditions	No special Indigenous heritage criterion, it is encompassed by the Aboriginal Heritage Act 2007

It is acknowledged that places vary in the extent to which they demonstrate key values and the relative importance of this association. To establish the threshold of significance both the nature and the degree of significance of a place have been identified. The 'thresholding' of significance takes into account the value of a place in the context of its geographical and social setting, and the strength of its association with the major themes of the study area. Typically this process assesses places of potential significance with reference to the criteria set out in the table above and measures their value. For example each place is evaluated according to the questions outlined below:

- What is the place's association with key themes identified in the environmental history? How is the strength of this association illustrated by the fabric, setting and stories attached to the place?
- What is the comparative rarity of the place and how well it is represented in the area and is it becoming endangered?
- What is degree to which the place can provide further information that contributes to a better understanding of the greater area? How do these stories contribute to the image and identity of Bendigo?
- How well does the place represent a specific typology of design, process? Does it possess characteristics that demonstrate a particular type of place and environment? Is this material evidence important in illustrating the richness and diversity of environment?
- Are the visual and aesthetic arrangements and features of the place valued or have been valued by a community? Does this place give us an appreciation of the culture of others?
- Does the place represent a specific architectural style or model of design that is valued for its innovation, achievements or ability to influence or demonstrate a way of life?
- Does the place have strong social, cultural spiritual or historic values to a contemporary group of people or community? How is this demonstrated?
- Is the place associated with the life or work of a person or group of people that have special importance in history of Bendigo?

Those places that did not meet the threshold of significance are places that:

- Do not have a strong connection to an important historic theme, or;
- Have been so altered that they no longer illustrate a strong connection to a particularly important historic theme.

Hermes Database

The Hermes Database is an electronic database that is used for the management and storage of all places of potential heritage significance. It is a single state repository of heritage information maintained by Heritage Victoria, now mandated for new studies. A citation has been prepared for each place and precinct of heritage significance which uses the HERCON criteria and layout that includes:- a history, description of the area and identification of significant fabric, contributory, contextual and non contributory fabric, a statement of

significance, photograph, plans, specific conservation management objectives and recommendations for statutory protection.

Review of Planning Controls and Policy

A brief review of the existing planning controls of the area and policies in the Bendigo Planning Scheme was undertaken to establish the constraints and opportunities for site owners that arise from statutory obligations and as a direct result of the nature and level of the site's heritage values.



Figure 16 - Former Miner's Residence at 2 Thomas Street, Ironbark, 2009.

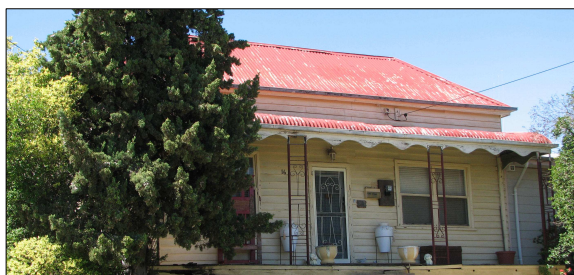


Figure 17 - Cottage in Ironbark, 2010

REVIEW OF THE THEMATIC HISTORY

Summary of Existing Thematic History

The environmental thematic history set out in Volume Two of the *Eaglehawk and Bendigo Heritage Study (1993)* was prepared by several historians, including Chris McConville, Dr. Peter Milne, a mining and industrial historian and Francis Gilfedder, a landscape historian. The history of Bendigo is described chronologically, divided into three distinct historic phases:-

- 1) To 1868 the Digging Fields
- 2) Mining Metropolis 1868-1888
- 3) Forest City 1889-1939

The major themes with regard to the development of Long Gully and Ironbark study area, as described in the Heritage Study Vol 2 (Butler 1993) are set out below (See Appendix E for summary of thematic history).

Table 2 - Relationship between the Victorian themes and the themes set out in the Eaglehawk and Bendigo Heritage Study 1993.

Victorian Themes	Periods of Influence, Eaglehawk and Bendigo Heritage Study		
Tracing The Evolution Of The Australian Environment	1851-1868: Mining and Public Works	1868s-1888 The Mining Metropolis	1889s-1939 The Forest City
Peopling Australia	The gold rush and diggers		
Developing Local, National And Regional Economies	Blacksmiths, iron foundries to support mines	Expanding businesses, brickyards, foundries, engineering firms, retail shops, development of outlying farms and agricultural businesses	Government employment/agricultural diversification
Building Settlements, Towns And Cities	Irregular settlements in gullies	Wealth created by quartz mining boom, architectural/construction boom, surveying streets and land sales, creating suburbs.	Consolidating the city, creation of wealthy late Victorian and Edwardian residential areas
Working	Small groups of miners & families	Large company mines	Diversification and strengthening of union organisations
Educating		Schools construction period	Expansion and diversification
Governing	Government camp	Public works programmes	
Developing Australia's Cultural Life		Establishment of clubs, theatres, community organisations & clubs	Expansion, celebrating traditions
Marking The Phases Of Life	Hotels	Churches, cemeteries and rituals	

Analysis of Existing Thematic History

The main *Victorian Historic Theme* listed above essentially belong to a colonizing process of place making that is: taking the land from the Indigenous people, settling communities and creating a new national identity. It includes intergenerational responses to past processes of inhabiting a foreign environment, the process of acclimatization, government control, forging identity, creating resources, where examples of ‘progress’ are rewarded. The major historic themes identify in the *Eaglehawk and Bendigo Heritage Study* loosely follow the *Victorian Historic Themes* and are roughly divided into mining, public works, shaping a town from the diggings, railways, industry, social life and urban networks.

Based on an interpretation of data collected from the field survey of Long Gully and Ironbark it is apparent that there are gaps in the existing *Environmental Thematic History* as summarized briefly above. For example the study area is rich in authentic locations, sites and structures of surviving material culture of transnational homes of the Cornish and German emigrant miners and there is evidence of later changing patterns of intergenerational ‘identity’ formation. The entire study area provides many examples of the tension and conflict caused by different forms of government and private attitudes towards land ownership and use, government assisted accommodation and housing and reclamation of mine contaminated lands. Against this shifting landscape of control, surveillance and ownership, the activities and efforts of the insurgent subaltern classes, the unemployed, sick and poor have been largely ignored.¹⁵

Places that have been identified as having potential heritage significance to the development of Bendigo can be categorized according to the following themes:

- **The landscape:** evidence of changing ecological consciousness of the community that first saw the transformation then reclamation of the natural landscape;
- **The dynamics of transnational migration:** material evidence of waves of migration that created different types of relationships between temporary, permanent and unintentionally permanent settlements; traces of the journeys left behind by many migrants to the area, who had often transversed second and third international goldfields such as California, Chile, New Zealand and South Australia before settling here, others moved on to other areas in Australia or returned home;
- **Intergenerational responses:** material evidence of shifting attitudes towards the meaning of “home” for different generations; sites that illustrate transitional homes and shifting social margins and boundaries associated with changing intergenerational responses to negotiating a new homeland and place in society that encompass new ways of thinking;
- **Transfer of cultural traditions and technologies:** examples of the “transplanting” of new building typologies with new materials and forms in the process of creating a new urban landscape; sites that show the development of new forms of infrastructure and plot structure, as well as uses of land and buildings;
- **Tension between government control and creation of wealth:** land form patterns of colonial government and mining company control over crown land leases,

¹⁵ The term ‘subaltern’ is used to signify the many different people who did not comprise the colonial elite. These people comprise the poor, impoverished, unemployed, the transient miners, the Indigenous groups, and the ostracised such as the Chinese, non-conformists, people who are hidden to history as there are few records about their lives.

resources, labour and creation of jobs that created a ‘fringe’ landscape, a landscape of resistance which is expressed in the geography of space.¹⁶

Table 3 - The following description of new themes for the study area should be read in conjunction with existing historic themes outlined in the *Eaglehawk and Bendigo Heritage Study 1993*.

	Victorian Historic Themes	Sub-Themes: Responses in, Ironbark, Long Gully and West Bendigo	Surviving Physical Fabric Cultural landscape and Significant & Contributory Elements – <i>degrees of rarity</i>
Natural factors	Shaping Victoria’s Environment	The Natural Landscape: Learning about geology for the benefit of improved mining returns. Environmental impact on the natural landscape.	Mine land reclamation, regeneration of Indigenous flora and fauna, creating parks.
Social factors	Peopling Victoria’s Places And Landscapes	Transnational Migration: International migration: a global society crossing boundaries, dispossession, intergenerational change.	Cornish and German communities, making homes and keeping traditions.
Social factors	Governing Victorians	Government and Surveillance: Colonial leasehold tenure systems and land administration	Different examples of home ownerships and Crown Lands.
Techno-logical factors	Transforming the land	Mining Wastelands: History of mining, Crown Land and government control of deep quartz mining and housing.	Former mine lands, mining leases, and Mining Residency Areas.
Economic factors	Building Victoria’s Industries And Workforce.	Mining labour force and technological achievements: Labour patterns Different types of skills, patterns of work	Housing the miners, the unemployed, the sick and aged and poor
Economic Factors	Building Towns, Cities And The Garden State	Buildings towns and cities: Housing patterns, changing aspirations and designs.	Progressive subdivisions, private housing institutional accommodation
Ideological factors	Building Communities.	New roads to self improvement: Philanthropy, spiritual revival and building connections to the landscape	Changing housing patterns, learning, re-planting, remembering and spiritual revival

¹⁶ The cultural theorist, Michael Foucault, drew attention to the importance of spatial organisation as an important aspect of social, economic and political strategies in various contexts such as control, surveillance and division of space. See Soja, E. *Postmodern Geography: the Reassertion of Space in Critical Social Theory* (London, Verso 1989)



Figure 18 - Miner's Cottage in Ironbark, 2010

THEMATIC HISTORY OF IRONBARK, LONG GULLY AND WEST BENDIGO

Shaping Victoria's Environment: The Natural Landscape of Ironbark Gully and Long Gully

Questions arising from this theme relate to the development of an 'ecological consciousness' in the new arrivals and how factors of intergenerational-change have influenced the destruction, transformation and reclamation of the natural landscape.

Box- Ironbark Forests: The city of Bendigo was once covered by dense Box-Ironbark forests and woodlands that supported a large and distinctive component of Australia's biodiversity.¹⁷ In 1850s the forests stretched from Stawell to Wodonga and Chiltern in north central Victoria, the area covered by most of the Victorian goldfields. One of the most distinctive features of Box-Ironbark ecosystems is the high proportion of wildlife dependant upon old eucalypts. The topography of the forests is mostly quite gentle with recognizable drainage lines or gullies throughout the forests. Major drainage lines contain permanent rivers and streams, more common are the dry ephemeral creeks with deep rich moist soils. Formally classified as Creepline Grassy Woodland or Alluvial Terraces, Herb Rich Woodlands in the Ecological Vegetation Classes (EVC),¹⁸ the gullies usually have distinctive ecosystems within these classifications. Because of the higher moisture levels they have different species with many more, larger and older trees than elsewhere. These areas are refuges for fauna from drought and fire and are where declining species gravitate.



¹⁷ Box-Ironbark and Woodlands Investigation Final Report, Environment Conservation Council, 2001, p26

¹⁸ Tzaros, Chris., *Wildlife of the Box-Ironbark Country*, CSIRO, 2005

Figure 19 - Right: Ironbark Gully from road to Bendigo (1881-1880) Gill, Samuel Thomas, State Library of Victoria

Figure 20 - Left: On Bendigo Creek (1818-1880) Gill, Samuel Thomas, State Library of Victoria

Traditional Lands: Prior to industrialisation of the landscape by gold mining and pre-European arrival, contemporary accounts describe the environment as superb, densely forested.¹⁹ The forests were occupied exclusively by the Dja Dja Wurrong people, who with their language, clan groups and intricate cultural cosmology lived off and managed the lands for thousands of years, harvesting the natural resources. The view of the new Europeans was that nature was for production and could be improved by engineering. This ideology proved calamitous for the Bendigo Creek and its many gullies.²⁰

City of Bendigo: Bendigo became a city that was built over a gold field. Mine sites are still an integral part of the landscape of the city centre and surrounding residential areas. The city itself is surrounded by extensive areas of Crown Land, made up of former gold mine sites and mining commons, now vast areas of regrowth forests and woodlands such as the Bendigo Regional and National Parks. Remnant fragments of regrowth Box-Ironbark forests are a defining visual characteristic of Bendigo. It has become a park-like city located within an indigenous landscape. The parklands contain Aboriginal cultural values, former mines sites as well as an unusually high number of bird species. The area has the only Victorian population of pink-tailed worm lizard, the rare Whipstick westringia, Williamson's and Ausfeld's wattle, sweet quandong, cane grasses, the McIvor spider orchid and includes key sites for the swift parrot and brush tailed phascogale. The Australian Indigenous traditional owners remain part of the community of the place and retain strong spiritual connections with the land.²¹

Transformation and Extinction: The natural vegetation as well as the many creeks and gullies in the Bendigo area were physically annihilated in the early 1850s. They were transformed first by alluvial mining, then, by the silt and sludge created by the horse drawn puddling machines and later by dumping millions of tons of ore brought to the surface for crushing and refining by deep quartz mining. Trees were felled in their thousands to line the mine shafts, to construct homes and as fuel for the furnaces.²² While mining and timber harvesting, primarily for mine props and furnaces and to a lesser extent farming have resulted in loss of about 83% of all Box-Ironbark forests, the 2% of land that is occupied by dry gullies has been disproportionately disturbed.²³ This has resulted in massive extinction of fauna and flora with many threatened and endangered plants, and fauna. Bendigo was once home to the prolific mallee fowl, blue bonnet and emu which have disappeared and the grey-crowned babbler, hooded robin, barking owl, regent honey eater and crested bell birds which are all now endangered.²⁴

Lines of gold bearing reef: Very soon after 1850 the gullies of Long Gully and Ironbark became associated with some of the most well known, richest and deepest gold bearing quartz gold reefs and mines at the centre of the Bendigo goldfields. The Bendigo goldfield is about 12 kilometres wide and extends 30 kilometres from north to south. It is made up of folded beds of sedimentary rock, eroded sandstone and shale ridges which formed anticline and syncline folds that run approximately 300 metres apart in parallel formation, north-south towards Eaglehawk. Gold was mined from about 38 north-south anticline lines of gold bearing reef that lay from Bendigo East to Kangaroo Flat. Gullies and dry creeks of the former alluvial mining areas, cut across the ridges in a west to easterly direction, flowing into

¹⁹ Griffith, T. And L. Robbins *Ecology and Empire*, p41

²⁰ Ibid.

²¹ Ibid p 121-123.

²² Dingle, Tony, 'Miners and their Cottages', *Nothing But Gold* Conference, October 2001, Bendigo, and also see *The Victorians, Setting*, Farifax, Syme & Weldon & Ass, 1984,

²³ Ibid p 29

²⁴ Op cit. 29-31

the Bendigo Creek, which spread out into the gravel plains of Epsom, a former shallow sea in the north, and thence into the Campase River, a north flowing tributary of the Murray River.



Figure 21 - Painting of the New Chum Line of Reef by Jack Hildebrand (date unknown) – Courtesy of Gwenn Hocking

A psycho-geographical landscape: This new historic theme is about the important role of landscape in the invention of urban forms in Bendigo, a city of loose open spaces where the standard colonial geometric town grid is not the dominant generator of form. The identity of Bendigo is bound to symbolic places where ideas, names, memories and images of gold mining and migration meet in the many gullies and creeks, now often channelized drains, river flats and hills of the city. Places like Poor Mans Gully, Moonta, Happy Valley, Paddy's Gully, California Gully, Golden Gully, Adelaide Gully, Maiden Gully, Long Gully, Ironbark Gully, Sparrowhawk Gully, Derwent Gully, Job's Gully, Eaglehawk Gully, Whitehorse Gully, Dead Horse Gully, Devonshire Gully, Pegleg Gully, Sailors Gully, Napoleon Fiddler's Gully and Wellington Gully as well as other creeks and river flats of the city, all have intangible and tangible meaning. This theme in particular relates to the area comprising Long Gully and Ironbark Gully and the smaller Poor Mans Gully, Moonta, Happy Valley, Paddy's Gully line that feed into these larger dry gullies.

Topography: Long Gully and Ironbark Gully are one of many historic gullies of Bendigo Creek that became an internationally renowned gold mining site in the 19th century. They lie immediately to the north, roughly parallel to Bendigo Creek, and south of California Gully. Historically, the study area was known in the early rates books simply as Long Gully and then Ironbark. It consisted of a series of hilly knolls located between two densely wooded ephemeral creeks and their gullies, Long Gully and Ironbark Gully. The top of the two valleys rise from Specimen Hill in the west and split into two wide creeks flowing on either side of the eroded hillocks, knolls and spurs of Moonta, Victoria Hill, Ironbark Hill, and Ironbark Ranges that extend eastwards to Redan and White Hills. The northern slopes of Long Gully are fed by the occasional waters of Sparrowhawk Gully, Derwent Gully, and to the south, by Poor Man's Gully and Happy Valley and in the east by a small creek in Paddy's

Gully line. The area includes several vantage points like St Just's Point. The low land to the south of the Ironbark ranges is cut by the slow west-east flowing infrequent waters of Ironbark Gully which traces its course between the southern slopes of Victoria Hill, and north of New Chum Hill and then curves past Hustlers Ridge, towards Redan to join Long Gully and finally Bendigo Creek near White Hills.



Map 7 - Survey of the Long Gully area in 1882 showing gullies, lots and mullock heaps – Courtesy of Norm Stimson, Department of Sustainability and Environment.

Geology: The Long Gully and Ironbark area are dissected by ten lines of gold bearing reef that include, starting from the head of Long Gully at Specimen Hill in the west and running parallel eastwards: Thistle, Lancashire, Napoleon, Nell Gwynne, New Chum, Sheepshead, Deborah, Garden Gully, the smaller Paddy Gully's, Derby's, Miller's to Hustlers line of reef in the extreme east, the point where Ironbark Gully and Long Gully merge together before entering Bendigo Creek.

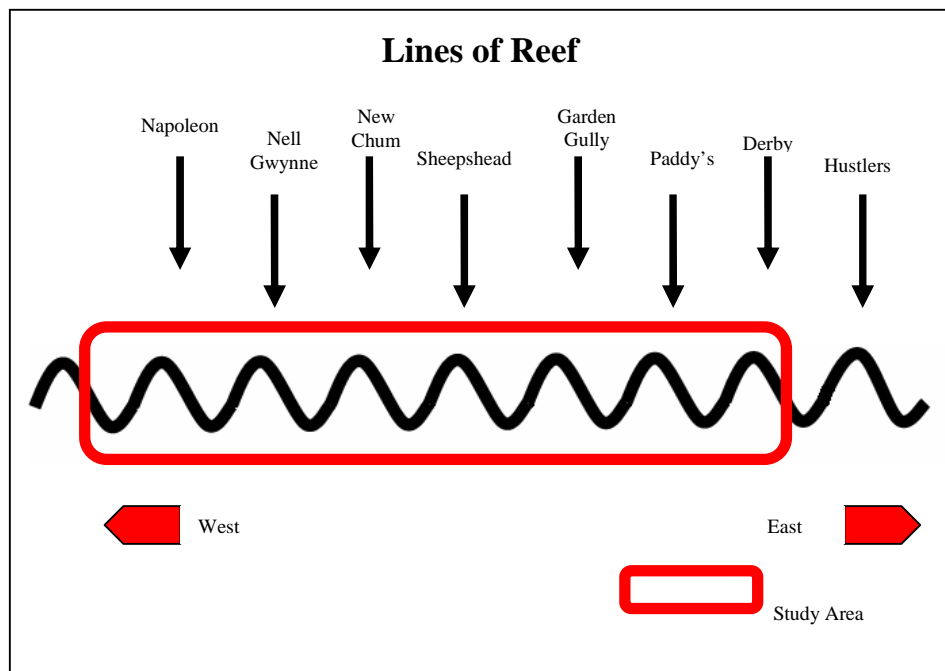


Figure 22 - Lines of Reef – Source: City of Greater Bendigo

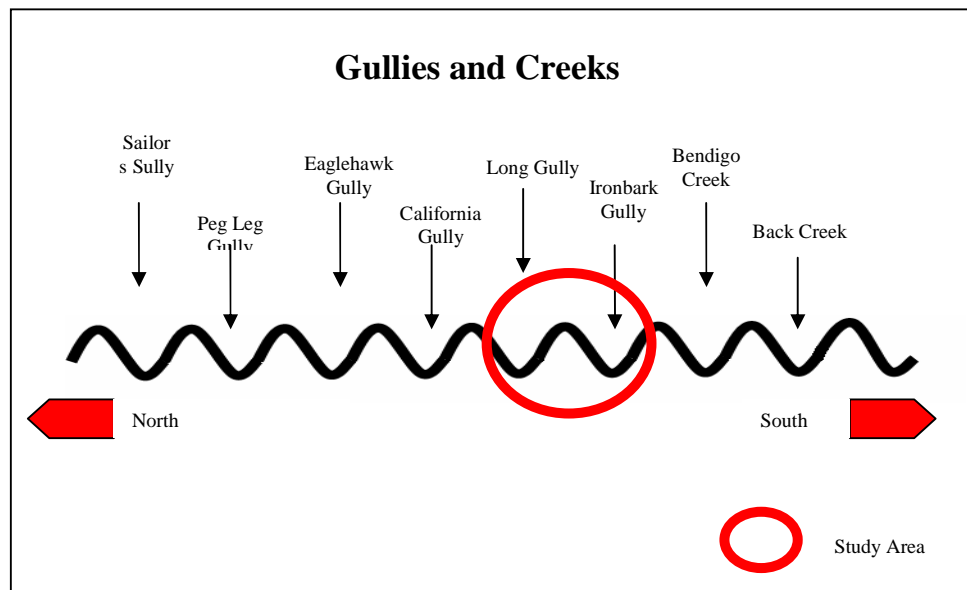


Figure 23 - Gullies and Creeks – Source: City of Greater Bendigo

Former mine sites: Within the inner city, Ironbark and Long Gully areas contain some of the highest proportion of former mine sites than any other inner suburban area. Whilst some former mine sites have been reclaimed for public housing and industrial development, other mine lands still lie vacant. These former mine sites still clearly demonstrate the impact of geology on the development of the place. The rigid pattern of gold bearing lines of reef is clearly visible as narrow vertical streaks of open space that lie across the landscape. They mark the historic mines such as the Carlisle United/Kentish mine, Victoria Hill, New Chum, Nell Gwynne, Moonta, Napoleon and Royal George mines that were strung along the anticlines of the gold bearing reefs: Garden Gully, the smaller Paddy Gully's, Sheepshead and Deborah, Nell Gwynne, New Chum, Lancashire and Napoleon, and which now divide the landscape into five distinct residential areas.

Long Gully and Ironbark gully cut across the deep quartz mining landscape, showing the affects of former alluvial mining through the run off from sludge dams and industrial pollution of former pyrite works. While there is little evidence of the first alluvial miners and puddlers, the former archaeological mine sites contain scattered fragments of structures parts of the technological processes associated with the most successful gold deep reef mines on the Bendigo field.

Reclaimed mines sites as urban parks: The former mine lands demonstrate the pattern of continuous attempts at reclamation, for example dust abatement through plantings of Spiny Rush, Pampas Grass and Peppercorn, Blue Gum and more recently Ironbark trees has taken place. They remain sites for regeneration of Indigenous plants, regrowth of Ironbark trees, a sanctuary for birds and small fauna as well as colonized areas of grasses. In addition remnant archaeological artefacts, disused engine houses, chimneys, mine shafts and machinery are also present. There has been no attempt to convert these areas into an exotic European park with exotic species as was the case in Ballarat and in other wealthy areas of Bendigo such as Quarry Hill. Protection and management of former gullies and disused mine sites for nature conservation has become an important priority for Box-Ironbark forests and woodlands to provide refuges for fauna and flora.

Miners Residence Areas: The five residential areas recreated by the lines of deep quartz mines comprises; Lazarus Street and Moonta area, Happy Valley Road settlement, the commercial centre of Eaglehawk Road, Ironbark Hill and Roeder Street and lastly Bannerman Street and Paddy's Gully, or Ironbark Ranges. Small working class miners' cottages located

on former Miners Residence Areas, were built beside the mines, located along the upper contours of the hills overlooking the polluted creeks, sludge dams and pyrite works. These remain important signifiers in the landscape. Many original Crown Land grants and miners cottages have survived. These large parcels of land throughout the area, show evidence of the way in which the miners lived, the rambling food production gardens and large mature trees that date to the early gold rush days. They also contain early examples of regrowth of Ironbark trees.



Figure 24 - The former home of Richard Pope (Mine Manager) located at 18 Daniel Street, Long Gully (just outside the study area) was burnt in the 2009 fires. (Courtesy of James Whitehead) George Ellis

Peopling Victoria's Places and Landscapes: International Migration: A Global Society Crossing Boundaries and Borders

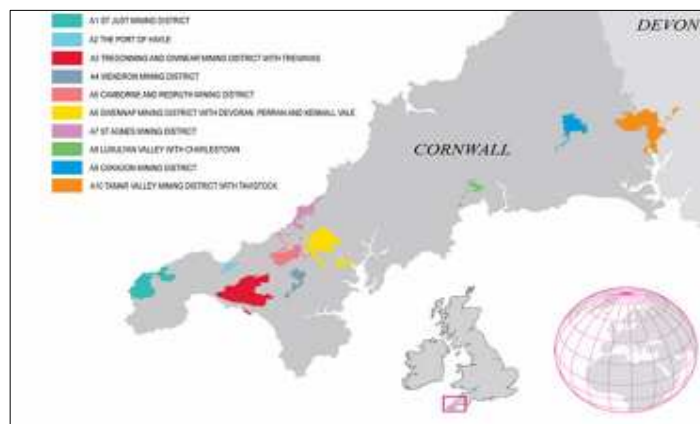
Cities are like jewels, visible treasures of human action and development, as social stories they mark territory, and become counterpoints in the landscape, signifiers of culture created by generations and generations of people, both in their single and collective existences. The history of Long Gully and Ironbark is dominated by the impact of international migration of people to the area. The physical fabric of the place illustrates how a new culture, who came from across the world, transplanted new building typologies into a foreign land. The theme investigates the massive international migration to the area in the space of a few decades. Who came, why did they leave their homelands, did they stay, and did they bring traditional technologies and customs? How did they respond to the new environment? Was there intergenerational stability? How did successive generations acclimatize and develop new customs and outlook? What happened to the displaced Indigenous people, who had managed and harvested the natural environment for thousands of years before?

Migrants: The story of colonization in Australia is a history of immigration. The first wave of Europeans arriving in Australia was after the Napoleonic Wars, when the English government solution to overcrowding on the massive three deck prison hulks moored in the Thames estuary was transportation of convicts to the colony of New South Wales, Tasmania and Western Australia. Half a century later, Bendigo became part of the next destination of a mass movement of old world people. They came to the new world as mainly economic and political refugees, who sought better wages, conditions, life styles in so called new world places as far afield as the Americas, Australia, New Zealand, Asia and South Africa. People arrived in Australia individually and in tight community family groups, usually from the same rural villages, bringing with them the traditions and knowledge of their homelands. The voyages were long, arduous and risky, and for many they arrived via a second or third country such as California, South Africa, New Zealand or South Australia. They were unfamiliar with the place, the geography, the language and customs of the Indigenous people, the British colonial authorities and arrived only with hope in the future.

Migration: This historical process should be viewed against the background of the mid 19th century social political and mining conditions in Europe, England, Ireland and China. It relates the study area to an international context. It cuts across the global reach of the British Empire having its beginning in social unrest following the Great Irish Famine of 1848, the failure of the potato crop caused by the new, unfamiliar fungus, *phytophthora infestans*, which first struck Europe in mid-1845, and resulted in a catastrophe in Ireland that killed about one million people. The crisis prompted the opening up of the country to foreign grain, and prompted mass long-distance migration on an unprecedented scale. Indeed, without such migration the crisis would have been even worse (Ó Gráda and O'Rourke, 1997).²⁵ Subsistence crop failures stretched from Andalusia in Spain to Prussia, and grain prices everywhere were affected. Connections between the local and the global, between the economic and the political, and between the rural and the industrial, made the crisis a multi-layered one. The 'massive real shock' of a harvest failure led to the British banking crisis of 1847 and gave rise to 'commercial distress and financial panic'. The price increases led to panic, popular unrest, and privation throughout Europe.

The 1840s are primarily associated with '1848', the 'Year of Revolutions' and demands for unification, nationalism and democratization of large areas of Europe leading to groups of political refugees such as the Swiss –Italians migrants who arrived early to the Victorian goldfields particularly Ballarat to Bendigo region. Hardship and distress was not evenly spread in Europe, climatic changes, industrial revolution and the impact of colonization on Europe disproportionately affected rural, agricultural and mining communities, but for others it provided opportunities for the accumulation of vast wealth.

Famine driven rural migration: Ireland in the 1840s and 1850s was a classic case of a famine-driven wave of mass-emigration. In 1855 one quarter of the native Irish men and women lived abroad. In Ireland between 1750 and 1850 a growing part of the rural population was either no longer able to fall back on an (even small) family holding, or else became landless.²⁶ As in Ireland, Scottish collective memory of the famine is closely related with transatlantic mass migration. Mainly as a result of mass clearances and manifold schemes of assisted passage across the Atlantic and to Australia, some Scottish regions between 1841 and 1861 lost one third to one half of their population.



Map 8 - The distribution of the areas which together comprise the Cornish Mining World Heritage Site. Cornish miners migrated from these areas to the Bendigo Goldfields. Cornish Mining World Heritage.

²⁵ Eiriksson, A. (1997). 'Food supply and food riots', in C. Ó Gráda (ed.), *Famine 150: Commemorative Lecture Series*, Dublin, pp. 67-93. And Eiriksson, A. and Ó Gráda, C. (2006) 'Bankrupt landlords and the Irish famine', in C. Ó Gráda, *Ireland's Great Famine*, pp. 48-62.

²⁶ The European subsistence crisis of 1845-1850: a comparative Perspective. IEHC 2006 Helsinki Session 123 Eric VANHAUTE, Ghent University Richard PAPING, University of Groningen Cormac Ó GRÁDA, University College Dublin

Migration by deep lead and reef miners: Colonisation caused a crisis following importation to Europe of cheap ores from South America and other places. It compounded the problems faced by the collapse in the summer of 1866 of the Cornish copper and tin mining industry led to mass exodus of Cornish miners and their families to mining fields around the world. Cornish migrants were mainly from rural mining and farming backgrounds, arriving in two periods. Mainly single young men are associated with the first wave of migrants in the early 1850s to the copper mines of South Australia and following large family groups, often collections of families all from one village arriving in the mid 1860s-1870s to the deep lead mines of Clunes, Ballarat, Creswick, Talbot, Maryborough, Stawell, Maldon, Chiltern and Bendigo, which was the biggest deep reef mining centre in Victoria.²⁷

In Germany and Prussia, from 1825 the lead and silver mines of the Harz Mountain region were also in crisis. The hardships were accentuated by political unrest, religious persecution and rising food prices. German mines declined drastically in the mid 19th century leaving thousands unemployed in north Germany. This initiated migration of specialist miners and their families to the New World. Many of the German quartz reefers who came to work the Long Gully and Ironbark mines came from the German mines of the Harz region. The German miners, who established early mining claims in the immediate vicinity are associated with Ironbark Hill settlement such as Carl Roeder (Harz miner), Carl Schier (Harz miner), C. Schroeder, F. Schilling, Carl Weber, H. Waswo and others like Christopher Ballerstedt mined nearby on Victoria Hill. He is regarded as the patriarch of quartz mining development in Bendigo. The Cornish and German skilled miners imported their traditional mining technologies and vernacular housing structures, but it was the Cornish traditional mining labour practices, tributing system that had a lasting impact on the cultural landscape of Ironbark and Long Gully area.



Map 9 - Map of Harz Mountain region in Germany. Many of the German miners that came to work in the Long Gully and Ironbark area were from the Harz region. www.Googlemaps.com

In China, the Taiping Rebellion centred in Nanjing and southern provinces brought famine, drought and unrest leaving millions dead from 1850 to 1873.²⁸ Political and social restrictions on Chinese miners who came to Bendigo ensured they kept to low technology mining, alluvial mining and re-working the discarded ore bodies and mullocks heaps.

²⁷ Fahey, Charles, *From St Just to St Just Point, Cornish migration to Victoria*, Cornish Studies, 2nd Series Vol 15, University of Exeter, UK pp 117-140 for survey of Cornish migration to Bendigo and Ironbark based on Rates Book information 1865-192

²⁸ Spencer, Jonathan D., *The Search for Modern China (Second Edition) Norton and Company, 2000*

Establishing Home: The simultaneous juxtaposition of the gold rush coming at the time of immense social upheaval in Europe and unprecedented long distance migration of family groups, resulted in a domesticated mining cultural landscape in central Victoria.²⁹ It was to the gullies and ridges of Bendigo that migrant miners, foundry workers and importantly their families came in their thousands. They arrived in Australia in ships from across the world from places such as Ireland, Cornwall, Devon, Wales, Germany, northern Italy, California and China. They travelled inland by whatever means possible to the central Victorian goldfields and changed the shape of the landscape for ever. The population explosion caused largely by family migration to Bendigo was immediate. The Indigenous people of the area were vastly outnumbered. Both the ecological devastation resulting from mining and demands for farmlands pushed them to the margins of society.

The development of new forms of infrastructure, plot structure, mining, land uses and buildings in Long Gully and Ironbark were influenced by the rapid migration of large communities of Cornish miners and their families and to a lesser extent communities of German and Chinese miners within a very short period of time from the late 1850s to late 1870s. The cheap rents afforded by the Miners Residency Areas system of home ownership, the large families of the miners and availability of work in nearby company mines until 1950s encouraged intergenerational stability and expansion into the 20th century.



Figure 25 - Chinese on their way to the diggings (date unknown) - Charles Lyall, Source: State Library of South Australia

²⁹ Fahey, Charles, *From St Just to St Just Point, Cornish migration to Victoria*, Cornish Studies, 2nd Series Vol 15, University of Exeter, UK pp 117-140 for survey of Cornish migration to Bendigo and Ironbark based on Rates Book information 1865-192

Governing the People

Nineteenth century gold mining had a profound impact on central Victoria. It became one of the world's great 19th century goldfields, attracting people from all over the world.³⁰ Bendigo and the other large provincial town, Ballarat, were created by the golden age of mining. The effects of British legislative practices towards mining regulations, land laws and revenue policies on the landscape of Ironbark and Long Gully are central to this theme. Forms of colonial authority introduced a new landscape of signifiers, consisting of measurements of entitlements and regulations controlling resources that required a new bureaucracy to prepare land surveys, mining claims, mining maps, mining and residential leases, deeds and registries. Similar to other places within the British Empire a new grammar of law was created through which land rights were expressed.³¹ It impacted upon the development of Bendigo, government control and manipulation of land uses, building lots, sales and building formation and resulted in new social, cultural and legal entities and class structures in the society.

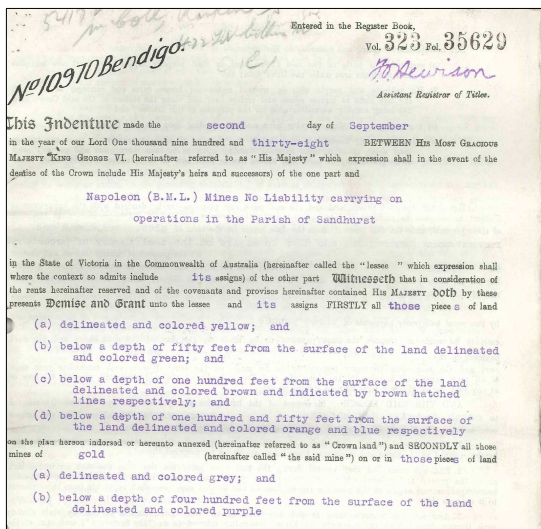


Figure 26 - Above: Gold Mining Lease Document 1939 – Courtesy of Bendigo Historical Society
Map 10 - Above Right: Showing the mining leases Union and Harvey Street, West Bendigo 1939 – Courtesy of Bendigo Historical Society



Mining Law: When Australia was claimed for the British Crown on the basis of terra nullius (vacant land without sovereign) in accordance with an ancient English law all gold and silver deposits became possessions of the Crown. The colonial government was unable to enforce this law; instead they sought to regulate the massive gold rushes of the 19th century through a licensing system for mining on Crown Land.³² Gold won from the Victorian gold fields mainly found its way to England where it bankrolled a spectacular period of world trade, British imperial expansion and industrial and commercial wealth. Banking gold became a commercial enterprise for the British Empire and together with the sale of Crown Land for private freehold title helped raise the cash for its colonial expenses in Australia.³³

Raising Revenue: The impact of mining transformed the landscape and coupled with private ownership and sale of freehold title at low prices it shaped towns, creating cultural

³⁰ Birrell, RW and J. A. Lerk, *Bendigo's Gold Story*, pub J.A & E.R.S. Lark, 2001, p. 1

³¹ See *Landscape and Politics* edited by Mark Dorrain and Gilliam Rose, Black Dog publisher, 2003 p 80

³² Jean, M., *Miners Cottages of the Goldfields of Mount Alexander*. Mount Alexander Shire 2008

³³ Cannon M., *Life in the Cities*, first pub Thomas Nelson, 1975 p. 17

institutions and re-defining the identity of the community; and more than anything else, displacing the Indigenous population.³⁴ Private ownership of small parcels of land, which could later be re-sold at considerable profits, accelerated the rate of change. The English Municipal Reform Act of 1835 set the pattern of local government, leaving adoption of sanitation and building acts to municipal councils, elected solely by property owners and a voluntary system of enforcement. It influenced the development of a class structured society and inhibited the implementation for a broad vision of town planning.³⁵

Mining Claims and Leases: To bring order to the chaos of the early gold rushes, the Victorian goldfields became heavily controlled by colonial governments. In 1852 Gold Commissioners were appointed on every field to implement the gold licensing system, oversee the diggings and collect licensing fees. Initially during the alluvial gold rush, the gold licence of 30 shillings a month entitled a miner to dig a claim eight or twelve foot square.³⁶ While the chances of winning a lot of riches were slim, the diggings could accommodate thousands of hopeful miners. After the Eureka rebellion in 1854, when miners took up arms in protest over the licensing system, government control over mining regulations was slowly reformed with the introduction of the 'Miners Right'. The reform of the system introduced new Mining Boards, mining wardens replaced the commissioners and specialized police constabulary replaced the military police. New courts of mines were established as well as small easily transportable prefabricated police stations sent to particular fields, servicing large central gaols.

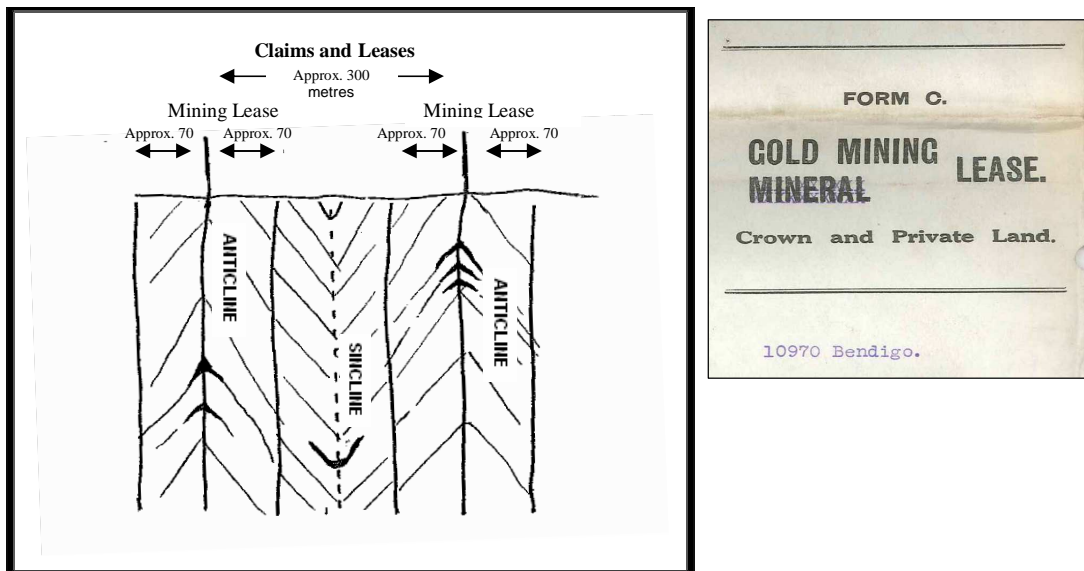


Figure 27 – Above Right: Mine Lease document 1939 – Courtesy of Bendigo Historical Society.

Figure 28 – Above Left: Claims and leases: Section diagram shows two anticline and one syncline and the approximate dimensions of mining leases – Source: Drawn from an illustration in 'Bendigo's Gold Story' R. Birrell and J. Lerk P.13

By 1866 there were three types of leases; alluvial ground, worked from a shaft of 1-30 acres, surface puddling machines between 1-30 acres and quartz mining of not more than 50-200 yards across and 600 yards along a reef. However, there were variations in the way mining

³⁴ Cannon M., *Life in the Cities*, first pub Thomas Nelson, 1975 p. 18

³⁵ Cannon M., *Life in the Cities*, first pub Thomas Nelson, 1975 p. 20

³⁶ Dingle, T. *Op.Cit.* p. 40

regulations administered by local Mining Boards.³⁷ In Bendigo even when large company mines dominated the field. They did so by mining hundreds of small individual claims. Most quartz leases in Long Gully and Ironbark were small, only 80 yards wide by 150 yards long until the 1880s.³⁸ In consequence Long Gully and Ironbark had the highest concentration of shafts managed by the richest quartz company mines in Bendigo. William Nicholas in one of his letters on 'The Golden Quartz Reefs of Australia', contributed to the *London Mining Journal* in 1884 wrote that 'The number of shafts sunk on the reef from its outcrop to the Ironbark Gully gave it more the appearance of shallow alluvial mining than of vein mining,'³⁹

The licensing system helped to maintain a subsistence form of mining over a long period of time. It encouraged a transitory population of miners, favouring for a while the humble miner, primitive methods of extraction and sustenance workers, who co-existed with larger mining companies that later dominated the industry with machinery, capital and large workforces.⁴⁰ For example subsistence miners, unemployed sustenance workers were able to live and work in Moonta area alongside the successful Moonta mine. Chinese miners reworked the large ore bodies and mullock heaps discarded by the ore crushing batteries and pyrites works in Long Gully. By the middle of the 20th century the Long Gully Ironbark area had become a disadvantaged area where active government involvement in creating jobs for the unemployed, caring for the sick and housing the poor continued.

Miners Residency Areas on Crown Land: By the end of the nineteenth century a third of all Bendigo's residences were on Miners' Rights, and one half of all miners in the city had their homes on this form of leasehold. The Miner's Right was enacted in 1855 in response to the 1854 Eureka rebellion and, for the sum of £1 per year, gave the holder the right to dig for gold, to vote at parliamentary elections, and to reside on land claimed for mining purposes. By 1857 the residence could be quarter of an acre, incorporating room for a garden. After 1865, the residence area could be registered and sold together with any improvements (house, garden, sheds, fencing) on it. The government made successive attempts to encourage conversion of residence areas to freehold title, and in 1884 all those who had held a Residence Area continuously for at least two and a half years were entitled to apply for the exclusive right to purchase the land. There was a deliberate resistance to the conversion of these residential rights into Torrens title ownership in the area as it was cheaper to pay the annual rent to the Crown than purchase the properties.

Most of the miners' cottages that form the focus of this study were built on a miner's right. For example the rates books between 1866 and 1882 indicate that most occupiers of homes in the Ironbark Hill area in that period listed their occupations as miners and many of the houses were built on Miners' Residence Areas. The land on which these cottages are built was not held freehold until the following years: 4 Quick Street 1979; 12 Quick Street 1981; 4 Roeder Street 1958; 13 Roeder Street 1984; 15 Roeder Street 1983; 2 Prout Street 1973; 6 Prout Street 1931?; 2 Thomas Street 1958; 7 Thomas Street 1977; 13 Victoria Street 1958; 15 Victoria Street 1930. Family members of some of the mining families who first lived in these cottages retained ownership of their Miners Rights until the 1920s; others were still living on Crown Land at the beginning of the 21st century.

Transforming the Land - History of Mining: Bendigo gold field commenced in 1851 and continued over the next 153 years through times of boom, decline, revival and

³⁷ Op cit p 14. In 1858 an Act was passed that established Mining Boards, each Board having ten miners elected by those holding miner's rights. Each Board controlled the size of claims and determined bye-laws on mining. The lease could only be granted by the Minister of Mines on recommendation of the Warden in each mining district.

³⁸ Birrell, R.W. and J. A. Lerk, *Bendigo's Gold Story*, pub J.A & E.R.S. Lark, 2001, p.

³⁹ Ballinger, Robyn, *History of Ironbark Hill* 2005, City of Greater Bendigo

⁴⁰ Dingle, Tony, *Miner's Cottages*, in *Australian Economic History Review*, Blackwell Publishing, 2010 and also see Dingle, op.cit p.89

stagnation. The last underground mine closed in 1954 with continued production locally. It produced the largest amount of gold of any field in Eastern Australia and retains the largest evidence of its mining past within the inner city area.

The greatest influence on shaping the rise and fall of mining was the landscape. Landscape is the backdrop to gold mining in Bendigo. Mining was totally dependent on the geology and mineralogical resources of the area, without which no mining could have occurred. The particular geology of the area and the knowledge base of miners about that geology influenced the expansion of mining over a hundred years. The history of mining shaped and created Bendigo. It left a chaotic industrial landscape which was in a state of perpetual flux with seemingly random, scattered, small and often very isolated settlements of people across a wide area.⁴¹

Alluvial gold production was dominant in the first ten years of the field to 1860 and is estimated to account for up to four million ounces or almost one fifth of the total gold won from the Bendigo Goldfield.⁴² Early alluvial gold finds brought diggers in a rush to the Ironbark Hill area from the early 1850s. One story of the earliest reefers in the area was of two boys, who discovered the Victoria Reef near Ironbark Gully and sold their claim to Christopher Ballerstedt. The 'eccentric German' Ballerstedt, an old soldier of Blucher's army, with his son Theodore, brought a puddler for £60 after seeing specimens on the surface at the end of 1853. He soon had a half-ton of gold at the Bendigo treasury.⁴³ Ballerstedt, with his son Theodore owned a claim above New Chum Gully in Victoria Hill. In 1857 Ballerstedt formally purchased the Fortuna site which he had been working from 1855⁴⁴



Figure 29 - Miners at Central Nell Gwynne, main of body and stopes at the 265m level. Photo c. 1939 – Source: Bendigo's Gold Mining Revival 1929-1954 P. 37 J. Lerk

⁴¹ Eaglehawk and Bendigo Heritage Study, Vol 2, Thematic History 1993

⁴² Bendigo Mining website history

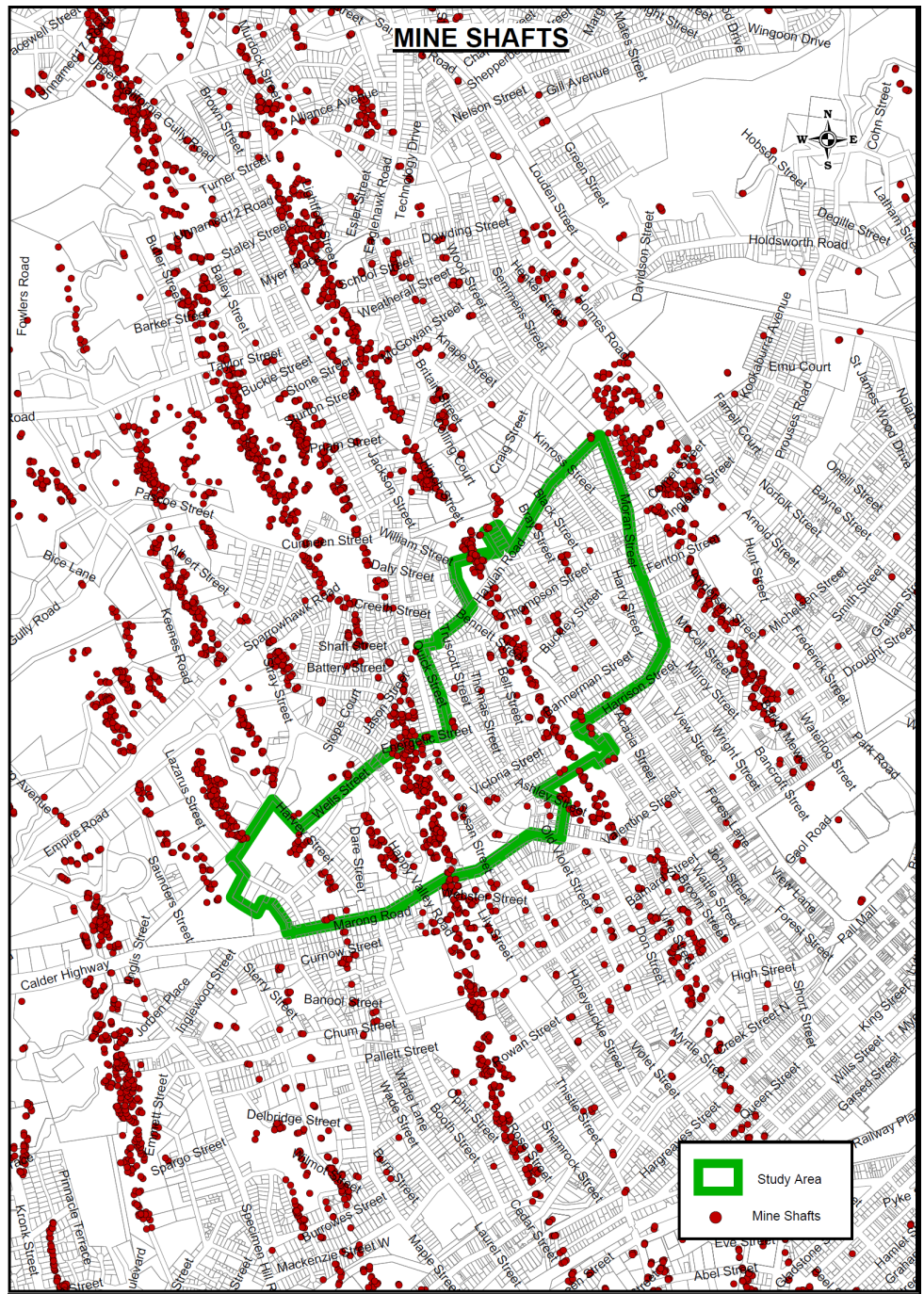
www.bmnl.com.au/safety_environment/community_relations/gold_mining/bendigo_goldfield_history.htm

⁴³ Ibid

⁴⁴ Fortuna Bendigo, Heritage Management Plan – Godden Mackay Logan Department of Defence July 2009

<http://www.fortunavilla.net.au/inc/pdf/Fortuna%20Bendigo%20HMP,%20Final%20Report,%20July%202009.pdf>

The Ironbark and Long Gully areas are particularly important in the historic development of deep lead mines of Victoria. Bendigo Goldfield represented the largest concentration of deep shafts anywhere in the world at the time. Ironbark and Long Gully areas had the heaviest concentration of deep quartz mines and the deepest shafts on the Bendigo field, as well as the wealthiest mines operated by the largest company mines and managed by some of the richest mining magnates of the time such as C. Ballerstedt, J.B. Watson, Joseph Bell, William Hunter and George Lansell.⁴⁵



Map 11 - Distribution of mine shafts and study area boundary, City of Greater Bendigo 2010.

⁴⁵ Bendigo Mining op.cit.

The close association of all types of reefs with the anticline axis was recognised early in the development of the field. This early breakthrough in the predictability of ore gave mine management and investors confidence in the practice of deep shaft sinking on productive anticlines as the main exploration tool. Deep, often speculative, shaft sinking remained the pre-eminent exploration tool throughout the early productive life of the field (1851 to 1954). By the 1870s the geological structure of the field was better understood and quartz miners realized they could work better at depth by forming companies.⁴⁶ As technology and mine administration improved, so did the confidence of investors. Larger steam plants and winding engines were installed so the mines could be worked at greater depth and also control ground water inflow.⁴⁷

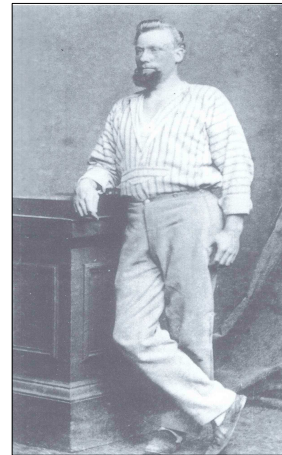
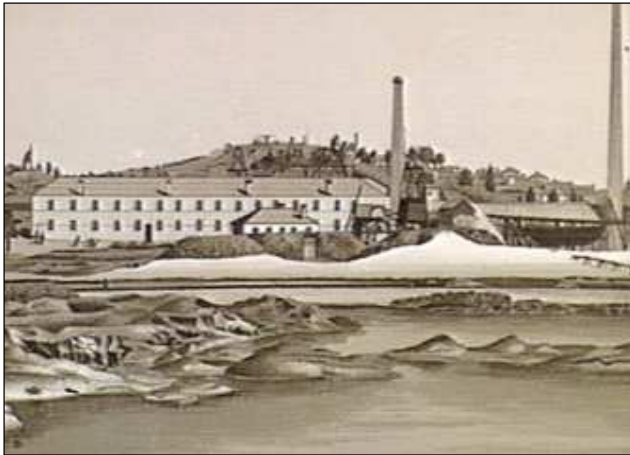


Figure 30 above left – Koch's Pioneer Quartz Crushing Plant 1881– Source: State Library of Victoria
Figure 31 above right – Henry Koch (date unknown) –Courtesy of Bendigo Historical Society and James Lerk

These mines followed the reef lines which themselves cut across the gullies and creek beds of Bendigo. Throughout the mining history of the Bendigo Goldfield in excess of 5,000 shafts were sunk (90 km of shaft sinking in total). At least 140 shafts exceeded 300 m in depth, 67 exceeded 600 m, and 11 were over 1,000 m deep.⁴⁸ The hills were cleared of trees for mine props and stressed gullies soon became silted and polluted, by the late 1870s most shafts had exhausted gold at depths of 500 feet. The boom soon burst, but some mines particularly those in the Long Gully and Ironbark areas continued to operate by digging deeper into the reefs. The introduction of mechanized drilling allowed shafts to reach depths of 1000 feet and by the next decade mining was at 2,000 feet, necessitating huge changes to surface plant, winding wheels, steel head frames and a shift in labour patterns.⁴⁹ By the 20th century mines were reaching depths of 3,000 feet below the surface.

Despite this amount of shaft sinking the vast majority of the field is tested to depths of less than 200 m due to the physical and technical constraints on mining and exploration in the 19th Century. Throughout the mining history of Bendigo there were a number of logistical and technical factors which severely constrained exploration and the profitable mining of gold.⁵⁰ Without a willingness by governments to make substantial changes to the pattern of mining leases, labour and research, mining began to decline from the early years of the twentieth century. From 1910, water pumping from the deepest mines to prevent flooding of

⁴⁶ Ibid p.22

⁴⁷ Robyn Ballinger op.cit

⁴⁸ Bendigo Mining op.cit.

⁴⁹ Fahey C. op.cit.p.69

⁵⁰ Bendigo Mining op.cit.

lower levels became problematic, and the outbreak of World War One, 1914, saw a further decline of mining activity.⁵¹

The geological understanding of the field peaked in the period from 1900 to 1920 with a concentrated effort by government and company geologists to document the styles and controls of mineralised reefs. Papers by Rickard 1892, Cundy, 1916 and Pabst, 1919 were instrumental in developing the geological understanding of the field. In 1917 Bendigo Amalgamated Goldfield Ltd was formed from the amalgamation of 35 companies with operations on the Garden Gully, Sheepshead, Deborah and Derby lines of reef hoping to increase profits of these existing operations through economies of scale however it closed shortly afterwards in 1923. The 1930's saw an attempt at large scale production by Bendigo Mines Ltd (a precursor to Western Mining Company) which undertook an extensive programme of development on the Nell Gwynne, Napoleon and Carshalton lines of reef. The Deborah line however proved profitable closing in 1954 ending over one hundred years of successful mining in Bendigo with the total production of gold of about 22 million ounces. The extent of the mining in Bendigo over this period is attested to by the fact that between 1938 and 1954 an estimated 500 shafts had been capped with concrete and a further 5,000 filled in.⁵²

The response to mining resulted in the physical transformation of the land by alluvial mining, puddling, open cut mining, later deep quartz mining and associated cyanide, pyrites and crushing ore plants that turned the once heavily wooded Box –Ironbark forests into a polluted wasteland.

A detailed description of the mines in the area is provided in the Vol 4 of the *Eaglehawk and Bendigo Heritage Study, 1993* written by Dr. Peter Milne, a mining and industrial historian. The following is a summary taken from this history:

The areas of Victoria Hill & New Chum Hill comprised the mines of Adventure & Advance, Ballerstedt, Central Nell Gwynne, Great Central Victoria, Lansell's 180, New Chum Syncline battery (began as the Little 180 Crushing Battery then became Bendigo Crushing Company later taken over by the New Chum Syncline), Old Chum Rae, Victoria Quartz mines. The area contains all the extant central sites on the New Chum and Nell Gwynne lines of reef and includes several key vantage points and one of the most comprehensive collections of mining artefacts which spans the entire period of mining on Bendigo from the earliest reef workings through to the 1950s. All sites are currently open space.

The Eastern Victorian Consols mine (associated with Victoria Hill) was sunk on the Sheepshead Reef in 1865 on Rae's Hill (Ironbark Hill) in 1865 and was still in operation as the Ironbark South mine in 1940. The site is now vacant Crown Land.

North of Ironbark Creek along the Garden Gully Reef is the Victory & Pandora Shaft, Victory Shaft, Bells, Old Carlisle, North Garden Gully United, Pass-by, Golden Fleece, Central Garden Gully/North/Kent, Watson's Kentish/Carlisle United and Carlisle mines. The Carlisle became Bendigo's biggest gold producer. The mine is now known officially as the Carlisle North Garden Gully and Pass-by United has not the fame which justly belongs to it, because its marvellous riches were not given to the general public, but to one lucky man John Boyd Watson. The dividends paid by the Garden Gully United made it famous throughout the

⁵¹ Robyn Ballinger op.cit.

⁵² Eaglehawk and Bendigo Heritage Study, 1993, Butler, Significant Mining Areas and Sites Report, Vol 3 pp.123-235 and also see Bendigo mining op.cit. and David Bannear, *Historic Mining Sites in the Sandhurst, Eaglehawk and Raywood Mining Divisions*, DCNR North West Area, 1993, James Lerk, *Bendigo's mining history, 1851-1954*, Bendigo Trust, 1991

mining world. The Carlise United site was continuously occupied from 1860s onwards through to 1927 and is now representative of the 1890s mining revival on the Garden Gully line. Garden Gully United the site was continuously occupied between 1857 and 1921. The company which operated this site was the most successful in Bendigo. Unity was continuously occupied between 1870-1921. Victory and Pandora Amalgamated was continuously occupied between 1857 and 1914.

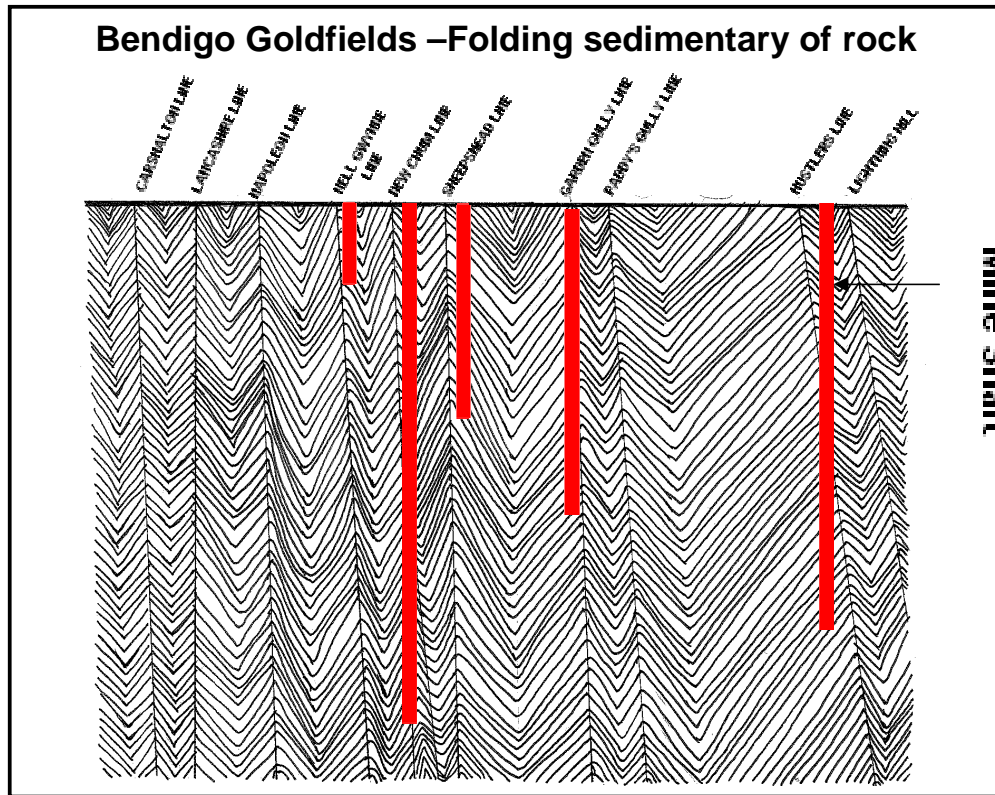


Figure 32 - Bendigo Goldfield, Mine Shafts Source – City of Greater Bendigo

To the east running parallel with Moran Street, the Hustler's line was discovered in 1853 by an African named Jonathan Harris. Harris found gold on the northern slope of Mac's or Hustler's Hill in the lease held later by the Great Extended Hustler's Company. In 1854, J. Hustler, Jonathan Latham and John Watson (1828-1889) bought Harris's ground (12 foot by 12 foot), and purchased several of the adjacent claims. These, by amalgamation, became the famous Great Extended Hustler's mine. Rich gold started at the surface - the first crushing yielded 26 ounces to the ton - and was worked down the northern slope of the hill to Ironbark Gully. John Boyd Watson's initial quartz-mining venture was the Old Chum Claim on New Chum Hill. Watson erected a crushing battery and in partnership with others floated the Cornish United Company in Paddy's Gully (running parallel to Duncan and McClure Streets) and in the late 1860s secured an interest in the adjoining Golden Fleece, Kent and Garden Gully claims. Later buying and amalgamating them under one lease as the Kentish Mine which he owned until 1889. It produced huge amounts of gold in 1871-80, one reef alone yielding about thirteen tons of gold valued at some £1,500,000. This became the nucleus of Kentish Mine, which Watson owned, see above.⁵³ It produced huge amounts of gold in 1871-80, one reef alone yielding about thirteen tons of gold valued at some £1,500,000. He became one of the wealthiest men in Australia owning properties in Melbourne, NSW and Queensland. He contributed to the fund enabling Earnest Giles to explore central Australia in 1873-74, reaching the Murchison and Ashburton Rives in the Pilbara by 1875.

⁵³ Dingle, T., *The Victorians: Setting*, pub. Farifax, Syme & Weldon, Ass. 1984, p89

The eastern boundary of the study area borders the Hustlers Reef which comprised in this area the mining companies of Hustlers Reef, Lansell's Comet, United Hustlers and Redan. These mines are located just outside the study area, near the corner of Kinross and Havilah Streets. The area contains the central group of mines of the reef and is the site of one of the earliest and most innovative companies in Bendigo. The site is currently open space.

Building Victoria's Industries: Mining Workforce and Related Industries

Gold mining in Victoria played a role in the global capitalist economy of the 19th century. The gold rush to the Victorian fields was of world significance, coming after the collapse of the Cornish tin and copper mines and mines of the Harz region in Germany. The importation of industrial mining methods from Cornwall, Germany, California and China shaped Australia and has continued to influence the development of mining in Australia in the 20th century. Between 1870s-1900, the Bendigo Goldfield represented the largest concentration of deep shafts anywhere in the world.⁵⁴ The goldfields became the engine room of the colony.⁵⁵ It stimulated industry in the wider area and the economy of a nation. The quartz mining was reliant upon the manufacture, innovation and expansion of the metal trades, blacksmiths, metal foundries and engineering manufacturers producing steam machinery, rock borers and drills, air compressors, gears, sand and water pumping gear, cartage, winding wheels, crushing batteries and the like. Long Gully and Ironbark areas were the location of some of the earliest and largest blacksmiths and foundries in Bendigo and included, Gretex and Moffat in Long Gully, W. Kidd in Ironbark; and in 1872 Osborne & Co., and Taylor Horsfield foundry in Long Gully in 1883.⁵⁶ During the early 20th century these industries were restructured and the skills base shifted to the large government Railway workshops at North Bendigo that manufactured railway locomotives and carriages for the Victorian Railways.

The way in which the mining license system was administered by the Mining Board had far reaching impact on the ability of mines in Long Gully and Ironbark areas to properly invest in equipment and technology. This left them unable to rationalise mining operations and stay afloat in the 20th century. The under capitalisation of the quartz mines of Long Gully and Ironbark had a long lasting impact on the living conditions of the mine workers and the quality of the environment.



Figure 33 - Workers at Taylor Engineering Works, Long Gully (date unknown) – Courtesy of Bendigo Historical Society

⁵⁴ Eaglehawk and Bendigo Heritage Study, 1993, Butler, Significant Mining Areas and Sites Report, Vol 3

⁵⁵ Dingle, T., p 89

⁵⁶ Leach p 51

By the late 1860s, successful reef mining industry necessitated sinking much deeper shafts making production dependent upon highly capitalised mines with massive machinery and a large work force. The depths of mineralisation at Bendigo placed some of the field at the leading edge of mining technology. The depths involved in exploration and mining at Bendigo placed technical constraints on a company's ability to explore and mine at ever increasing depths. The restrictive mining regulations did not assist the exploitation of the field and resulted in a proliferation of leases and mine shafts, not all of which were successful. This caused an unnecessary drain on the resources of the mining companies, limited geological knowledge, restricted the exploration potential and increased the cost of exploration. Companies could only continue to explore for new gold resources by continuing to deepen shafts, an expensive and time consuming form of exploration. These factors in turn dramatically increased the exploration risks faced by each company. At times the field supported as many as 1,300 separate companies with thousands of small mining leases.⁵⁷

Mining was highly speculative and very competitive leading to a practice where dividends were paid to share holders at the cost of investment in the mines. The need to raise capital for investment and incorporate innovative equipment was a constant source of worry, and only the most intrepid mine operator survived. Company mines, single mine owners of rich quartz mines and thousands of shareholders who sought generous dividends, ensured that capital expenditure on the mines was kept at a minimal. In consequence, above ground structures were all relatively cheaply constructed apart from the brick chimneys. Large areas of land were used for tailings dams, sand heaps and spoiling, and employment and safety practises were basic.

It also meant that several batteries and engine machine houses had to be constructed, where one could have serviced several mine shafts. In these circumstances, mine management were loathed to sink counter ventilation shafts to ensure adequate air for miners working underground; increasing the chances of dust borne lung disease.

Capital investment meant that the mine shafts could be sunk deeper than ever before, penetrating through the water table. This in turn resulted in the need for additional money to pump water from underground into a series of storage dams that were later used for ore crushing and ore dressing. Though inflow rates were low, costs associated with pumping or bailing water were a major factor in profitability. Some mines closed prematurely when neighbouring, interconnected mines stopped dewatering forcing the remaining operations to cope with unmanageable inflow rates.⁵⁸ A ready source of water encouraged the establishment of nearby specialised crushing ore treatment plants and pyrites works. Some of the biggest in Bendigo were located in Sparrowhawk, Derwent and Long Gullies such as the Koch's Pioneer.

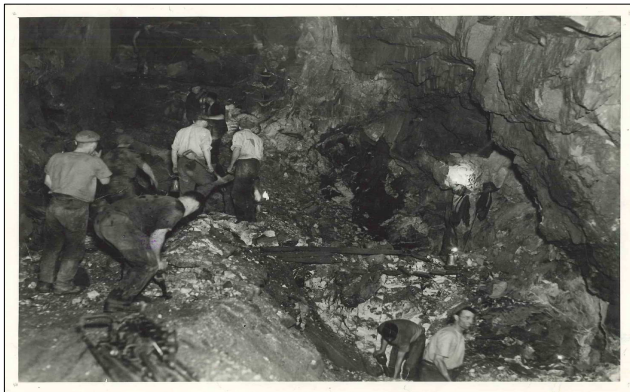


Figure 34 - Miner's at work in the Hercules Mine, the conditions were oppressive and equipment basic and minimal (date unknown) – Courtesy of Bendigo Historical Society.

⁵⁷ Eaglehawk and Bendigo Heritage Study, 1993, Butler, Significant Mining Areas and Sites Report, Vol 3

⁵⁸ Ibid

Despite innovations in mining equipment and explosives, the general lack of sufficient capital expenditure was debilitating for the mining operations in deep shafts. It resulted in high mortality rates amongst miners due to poor ventilation and accidents down the deep mining leads. There was an exceeding high incidence of tuberculosis, phthisis, bronchial problems, pneumonia, amongst the population.

Ventilation was a major constraint in the very deep mines of Bendigo. Air was introduced only by natural ventilation down the shaft. Raises or winzes connecting adjacent levels were required to increase air circulation and research suggests that air quality deteriorated to such an extent that lower level development was restricted to within 100m of the shaft.⁵⁹ In 1906 the Dr Walter Summons released his findings on the adequacy of ventilation in the Bendigo mines presenting a stark picture of men sickening and dying in the prime of life through being forced to labour in ill-ventilated shafts where no real attempt was being made to disperse the treacherous fog of quartz-dust. At the bottom of the 4,200 ft shaft of the Victoria Quartz the water welling about the men's ankles had a temperature of 114 degrees. However, of the evils resulting from bad ventilation that of heat and humidity was far the lesser. The killer was the silica-dust from drilling and blasting. A dust-counting machine placed three feet away from a percussion rock-drill operating in Lansell's 180 mine without the water jet as required by regulation, gave a dust count of 700,000 particles per cubic centimetre. The rate of increase in temperature with depth (1oF for every 90 ft of depth) is moderate to high at Bendigo and this temperature increase combined with poor ventilation was a major constraint in the deepest mines. Groundwater and air temperatures of 45oC were recorded at depths of 1,300 m.⁶⁰

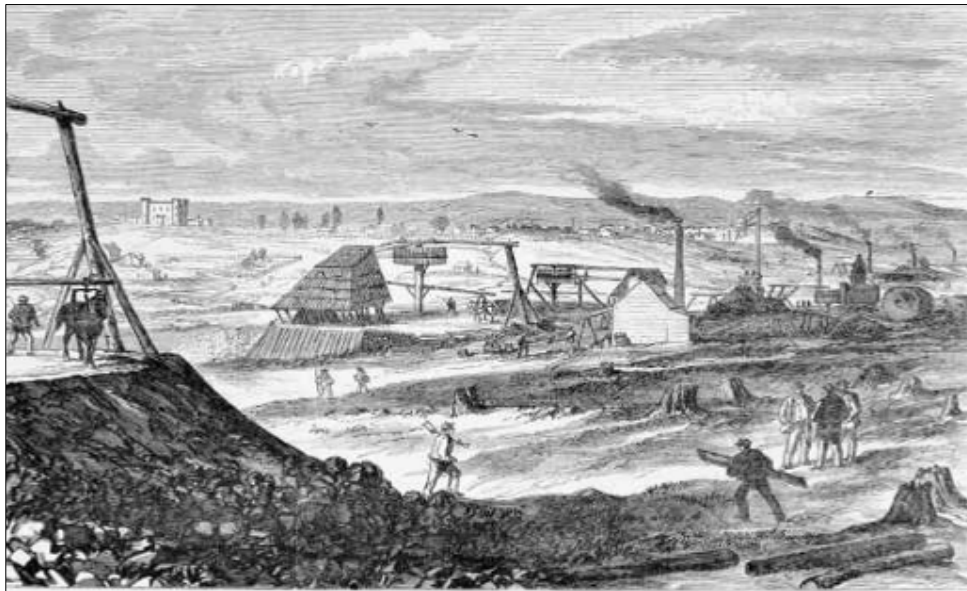


Figure 35 - The Mines on Garden Gully Reef 1871 - engraving - State Library of Victoria

Mineralisation within the Bendigo Goldfield is characterised by erratically distributed coarse gold. This makes it difficult to determine grade using a small sample charge assay technique such as fire assay. In consequence mining essentially involved continuous bulk sampling with individual parcels of ore treated separately through stamp batteries to give a running check on grade. It meant that large crushing ore plants and works were sited close to the mines and

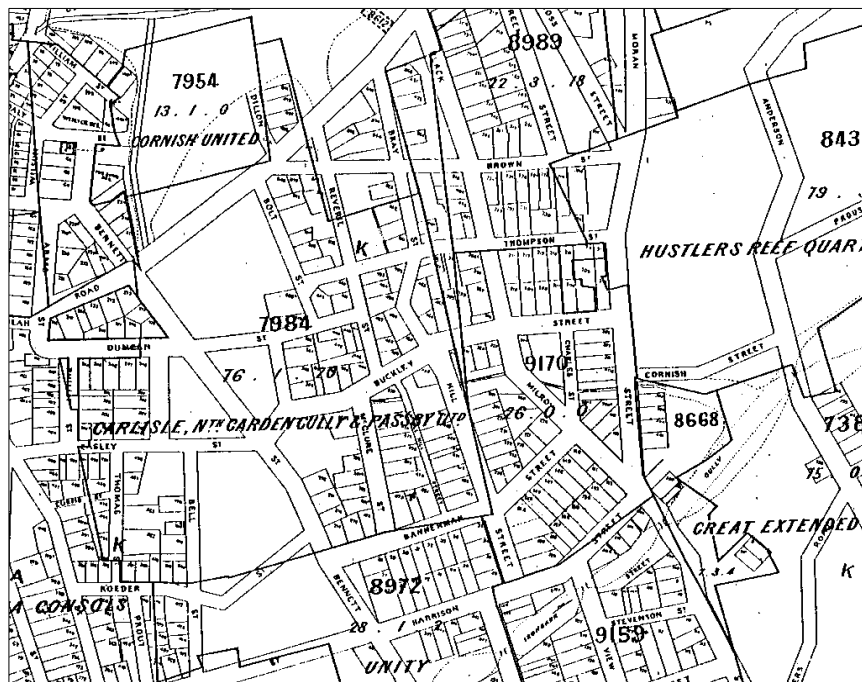
⁵⁹ Eaglehawk and Bendigo Heritage Study, 1993, Butler, Significant Mining Areas and Sites Report, Vol 3

⁶⁰ Bendigo Mining

resulted in an expansive mining landscape of large dusty mullock heaps and tailing dams, interspersed with the homes of the miners.

Operations in the mines were often intermittent, necessitating miners to work in several different mines each year and left a population that was either unemployed or under employed for most times of the year. It ensured the introduction of the tribute labour system for mining, favoured by the Cornish miners. A Cornish mining system, whereby miners formed Tribute parties in order to lease a mine or part of it, receiving a percentage of the ore mined. From these irregular and often non-existent returns, Tribute parties had to pay for haulage, crushing, timber and use of tools. And encouraged mine managers only to employ Cornish miners who were willing to work under this system.

The very high numbers of Cornish miners employed in the area had an important influence on the area in a number of ways. The transfer and consolidation of Cornish mining tradition in Long Gully/Ironbark area ensured the continuation of a culture of largely working class miners who lived on low wages, on Crown Land in Miners Residency Areas at the discretion of the mine owners, in small basic timber cottages in the Long Gully/Ironbark areas. Despite the large presence of German miners, some of the biggest mine owners appeared to favour the employment of Cornish miners. For example George Lansell preferred to employ Cornish miners in his New Chum mines on Victoria Hill. Similarly, Watson employed over 200 Cornish miners in his Kent/Carlisle United mine on Garden Gully reef in Ironbark. The majority of Cornish miners, who worked in these mines, came from a very conservative tradition of rural based mining, which was based on a strict hierarchical mining system. They were familiar and comfortable with a structured mining workforce, low wages, sub-contract and tribute system of mining, with associated system of renting leased Crown land and only investing sparingly in their homes.



Map 12 - Carlisle Mine Area (date unknown) – Courtesy of Bruce Jewell

In consequence, living within an easy walking distance from the greatest number of places of potential employment became an important consideration for miners. This factor led to company mining and one of the highest concentrations of working miners living within one location, Long Gully/Ironbark area of Bendigo. By the beginning of the 20th century almost

99% of residents in the area were either miners or worked in the related trades such as carter, engine driver, blacksmiths, and mine manager or alternatively, they were listed in the rates books as miner's widows.

The Tributing system was inefficient and subject to abuse by mine owners. The chronic oversupply of miners ensured that the Tributing system continued despite the fact that miners often failed to even receive subsistence wages. The labour pattern had a long term disabling impact on the ability of the miners to fight effectively for better working conditions. The waged miners rarely participated in the wealth generated by the mines. There was no investment in local infrastructure and community buildings remained modest, built by the miners themselves. These factors, together with the nature of the reef area created large areas of mining and contaminated industrial lands across Long Gully/Ironbark areas that became physical barriers that separated early residential areas into small isolated pockets of scattered miners' cottages from the rest of the growing suburbs of Bendigo. This together with other associated low socio-economic factors, such as poor living conditions, low wages and excessively high mortality rates amongst miners, handicapped the development of the area for a long time.

The accumulative of such poor conditions created a high percentage of widows with large families to look after in nearby mining settlements. They tended to continue to live in the cheapest possible way on leased Crown Land in basic houses, which were not upgraded, often built as compensation from the mine owners, and generally they resisted converting to Torrens Titles because it was cheaper to pay the annual rent to the Crown.

Spatial barriers created by large areas of mining and contaminated wastelands separated the small pockets of scattered mining settlements from the rest of Bendigo further stigmatising the area as a working class suburb for most of the twentieth century. After the major decline in mining in the early to mid 2^{0th} century, these large areas of mining wastelands of sand heaps, old sludge dams and cyanide tailing dams remained undeveloped, 'a dry slum'.⁶¹ Attempts at dust mitigation by planting of peppercorn trees was minimal, the land remained a source of dust and contamination until the 1950s and 1960s when some parcels of land were cleaned up for low cost housing and state government commission housing.⁶²

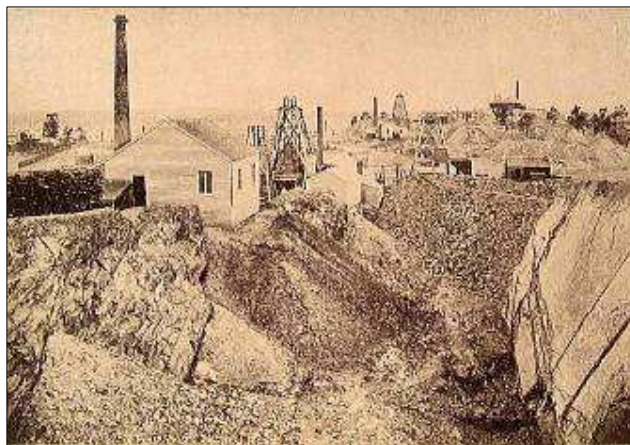


Figure 36 – 180 Poppet head on the left looking towards New Chum Hill (South) 1875 -Photograph by N J Caire - State Library of Victoria

⁶¹ Ellis, G. E., *A Brief History and Reminiscence of Long Gully*, City of Greater Bendigo, 2000, p 47. See also Ruth Hopkins *Where Now Cousin Jack*, the Australian Bicentennial authority 1988 and *Cousin Jack Man for the Times. A History of Cornish People in Victoria*, private publication 1994.

⁶² Public Records Office Victoria *Public Housing* history with files VF 174

Company mining altered the social structure and suburban pattern of development in Bendigo. A new class of wealthy mine investors, many being ordinary shop keepers of Bendigo and mine owners built their homes in prestigious non polluted areas such as Barkly Terrace and Quarry Hill, where roads were sealed, sandstone gutters laid and avenues of street trees planted. And in the mining areas, the working class miner lived in segregated low cost housing areas. These areas remained un-surveyed, the miner's cottages sited largely on a system of irregular pedestrian pathways and un-serviced by city transport, sewerage, electricity well into the 20th century. The character of the cultural landscape remained impermanent, on edge, underdeveloped and in partial transition for a hundred years, with the majority of land under Crown Land until the mid 20th century when all mining ceased.

Building Towns, Cities and the Garden State

Bendigo is a town where it is still possible to see evidence of the dynamic process of 19th century mass international migration, the amalgamation and mixing between many different cultures in a new strange environment. It is possible to identify traces of the early stages of migrant culture such as the small Cornish miners' cottages and also see the majestic buildings designed in the northern Baroque style by German migrant architects. There is evidence in Ironbark of how European migrants first expressed themselves in the new Australian environment; and how they slowly adapted to the new place. The small miners cottages illustrate how migrants' set up home in another country, the building technologies, the room layouts, the furnishings and how these were gradually adapted, integrated and negotiated between the influence of Australia, the English colonial system of government and place of origin. This is because mining landscape still provides the most visually cognitive order and rationale to the city of Bendigo than any other planning imperative. In part this is because large areas of mine land such as those found in Long Gully and Ironbark, California Gully, Eaglehawk, Golden Square, extensive industrial sites were abandoned and have been left untouched by planning, subdivisions, land sales and road surveys and because many of the early Miners Residency Areas survived for over a hundred years from the early 1860s to early 21st century.



Figure 37 - Miner's Cottages (date unknown) – Courtesy of Bendigo Historical Society

However, in the town surveyor's and architect's imagination, the early mining city of Bendigo (Sandhurst) was subject to disorder, chaos and potential social disruption, resulting from haphazard mine lands, the sludge and waste, flooding, interspersed with irregular transportable houses erected on temporary Crown Land leases and makeshift roads across the many gullies of Bendigo Creek. Larritt drew inspiration from the European romantic planning ideals expressed in the many squares and crescents of Georgian London and imported them into the design of Bendigo city centre and White Hills. Despite plans to bring order to chaos

and impose rationality to a fragmented town the government town surveyor, Larritt, 'landscape' still remains the single most important defining factor in the identity and legibility of Bendigo city. There have been other systematic urban planning incursions into disused mine lands throughout the history of the town. For example surveyors such as Green sought clarity and coherence amongst the detritus of mining waste lands through establishment of new suburbs along the principles of wide straight streets in Ironbark. By 1871, allotments in Eaglehawk Road and Rae, Quick and Victoria Streets, had been surveyed as well Green and Bannerman Streets in the eastern section. Most streets in the area are named after local resident miners, Rae, Thomas, Prout and Hayes, Duncan, Black, Bray, Roeder.

During the mid 20th century based on modernist planning principles many of the former mullock heaps and sludge dams became synonymous with the uniformity, tight inward looking Raeburn styled neighbourhood units and zoning in Long Gully and West Bendigo.



Figure 38 - The Wearne family outside their Miner's Cottage – (date unknown) – Courtesy of Bendigo Historical Society

Much of the former mine land now remains reserved as open space and collectively forms one of the most comprehensive collections of mining artefacts which spans the entire period of mining in Bendigo from the earliest reef workings from 1853 through to the 1950s. It is one of the few domesticated mining landscape left in Australia. The physical framework of the early mining settlements that co existed beside the mine sites remains largely intact. The existing pattern of roads follows the original pathway system cut by miners walking to work. While, the current road names remind us of the individual miner who walked the tracks to work. Only the original quarter acre blocks, the Miners Residency Area, have most often been subsequently subdivided and developed with in-fill housing of the 1950s/60s, with some recent development.

The miner's cottages of Bendigo in general are outstanding remnants of early migrant buildings that show the way the new arrivals responded to the landscape in the 'new' environment and in particular illustrate how a vernacular expression from a different world based on long traditions of use of local materials, were interpreted in the new Australian environment.⁶³

⁶³ Vernacular building is a way of expression that carries messages from one generation to another and a message of belonging to a culture. CIAV, The ICOMOS Finnish National Committee. 2009.

Domestic Buildings: It was the large company reef mining, starting from the 1860s, and the opportunity of paid, although often intermittent employment, that encouraged people to settle and make homes, providing impetus for the formation and development of the communities in Long Gully and Ironbark Hill. By 1863 the tents and framed tenements of the area were largely replaced by timber and in some cases stone and mud brick cottages, built for and mostly by miners themselves, on Crown Land, under the Miners Residency Area leases. For most of the next 30 years, almost without exception, all the residences in the area provided homes for miners or carters, mine engine drivers and their families, who worked the mines of Long Gully, Garden Gully, Iron Bark Gully, and Victoria Hill, places within walking distance of their homes. A few other occupations were recorded in the rate books by the late 19th and early century such as wallpaper hangers, blacksmiths and carpenters, but the majority of residents were listed as miners. Even by 1912 over 90% of residents listed in the rates books were recorded themselves as miners or widows of former miners. By 1918, the situation had substantially changed and less than 30-40% of the residents of the area were miners.

From 1862 the rate books note with increasing regularity the same family names indicating a permanent settlement of miners and their families. The same family names reoccur each year in the rates books upwards of 40-50 years, a record of the extraordinary numbers of early miner's death and increasing numbers of widows left to look after the children in the area. One miner who settled in the area in 1862 was Carl Roeder who, by 1871, was described in the rate books as a 'mine manager'. The *Annals of Bendigo* recorded his death in 1891 and noted his interests in the Victoria Reef.⁶⁴



Figure 39 - Left: Four Roeder Street, Ironbark 2010, is a good example of an existing former Miner's Residence in the study area.

The Miners Cottage: The cultural landscape of the Ironbark Hill area today is scattered with timber miner cottages that are an important component of Bendigo's landscape. The existing houses at the aforementioned addresses all evidence a square-edged weatherboard double gabled cottage with skillion, originally built on a quarter acre block. Charles Fahey and Tony Dingle both note that the architecture of the miner's cottage reflects Cornish design with their simple style and building fabric made of locally manufactured or found materials. The cottages in the Ironbark Hill area conform to this description provided by Dingle:

⁶⁴ Mackay, George, editor, *Annals of Bendigo Volume Two 1868-1920*

The miner's cottage is aesthetically pleasing. It is simple, largely unadorned...Its proportions are elegant and its modest height settles it comfortably into its wider landscape. They do not all look alike but it is possible to identify general characteristics. With only minor variations, the basic building block consists of an oblong, tent shaped box, 3 metres by 7 or thereabouts, clad with weatherboards and with a central door flanked by two windows on the long side of the building facing the street. Abutting the gable end is a substantial brick chimney. Extra space was created by building a skillion roof running off the rear of the building, or one or more new units could be placed parallel to the existing one to provide more rooms. This gave the distinctive zig zag roofline of the miner's cottage. Typically each gable would sport its own chimney...The cottage on its own piece of land was the miner's castle, more secure and comfortable than a tent; it was importantly beyond the influence of mine owners.

The Ironbark Hill cottages were first built as two rooms under a gabled roof and a skillion. Cottages are basically intact with some chimneys removed and additions made in later years. Many of the cottages are skewed at an angle on the block and do not face squarely to the road, thus evidencing their construction before the survey of streets. Most cottages are believed to have been erected in the mid-1860s, replacing earlier, less substantial structures such as tents or slab huts. Additions to these homes were made from the early-late 1870s reflecting the mining boom at this time and the provision of ongoing mining work, as well as the addition to family numbers. Charles Fahey has observed that it is not only the cottages that hint at the former landscape but also the fabric of the entire area which remains relatively intact. Few cottages have been removed – instead, the original quarter acre blocks have been subdivided and in-fill housing has been erected during the periods of the 1880s, the 1920s-30s, and the 1980s.

The Ironbark Hill area is one of the few remaining residential areas that provide physical evidence of the domestic housing characteristic of the central goldfields' working class communities – the same workers who made possible the establishment of the grand mine owners' mansions and the substantial public buildings that are so admired in Bendigo today. These working class miners' cottages are under threat, not because of structural issues, but because of their very simplicity and humble origins.

Building Communities and Cultural Life: New Roads to Self Improvement

The theme introduces concepts of self improvement and traces the development of private philanthropy such as establishment of homes for the blind and mining company managed sustenance funds and government housing programmes in an attempt by the communities of Ironbark and Long Gully to better themselves and their families.



Figure 40 - Bendigo Home for the Adult Blind, Bennett Street Long Gully, approximate date 1920 – Courtesy of State Library of Victoria.

The 19th century witnessed the development of ‘fringe’ areas of European and North American cities. The term “fringe,” as used here, refers to where the urban and rural landscapes meet and clash. The fringe is thus a border, boundary and transitional place where conflict and contest “in terms of land uses, social and economic classes, and political power” are played out. In Long Gully and Ironbark it took the form of tension created between different land uses, industrialized mine sites and housing, private title and Miners Rights. As implementation of official land regulations remained far from meeting its own criteria of efficacy, the area became a place where governments tried and failed to assert its surveillance and authority. It is against the background of Government attempts at reorganisation of the administration of crown land, used initially as powerful mechanism for environmental and social engineering that the area became a ‘fringe’ landscape.

It became less scrutinized than other parts of the colonial landscape of Bendigo and occupants of the land created two distinct landscapes, even on adjacent lands. To the west of the area are a group of unemployed sustenance workers homes made of local mud brick, occupied by their families, who lived under rights of adverse possession rather than Miners Residency rights. While the rest of Ironbark was fragmented into occupants of former Miners Residency Areas, large parcels of undeveloped crown land, many of whom resisted government attempts at converting their properties to ‘Torrens’ titles until their removal from their homes in the late 20th century, and others who had purchased private title as early as 1870s. Interspersed between the two, are rows of government housing commission homes, aged care facilities, homes for those with disabilities and the blind, all built on crown land, former mine sites.

Little research has been undertaken to find concrete examples of the benevolence of mining magnates similar to the practice in south Australia in the mining communities of Burra and Moonta, where the owners built cottages for their employees, introduced compulsory medical benefits schemes at lowly weekly rates and paid half wages to disable men and at Moonta in 1873 introduced minimum wage of 2 pounds a week ⁶⁵ In Bendigo, George Lansell, set up a fund to support widows and orphans left penniless by men killed in his mines. The Watson Sustentation Fund, providing assistance for permanently invalidated local miners, was instituted by his J.B Watson’s son, John Boyd, wealthy owner of Labassa in Melbourne, on his father's death after a mining accident in one of his mines, in late 1889. The “Watson Sustentation Fund”, was a scheme to compensate injured miners in honour of his father and records exist of the construction of a house in Ironbark for the widow of one of the miners killed in the shaft of the Kent Mine. ⁶⁶

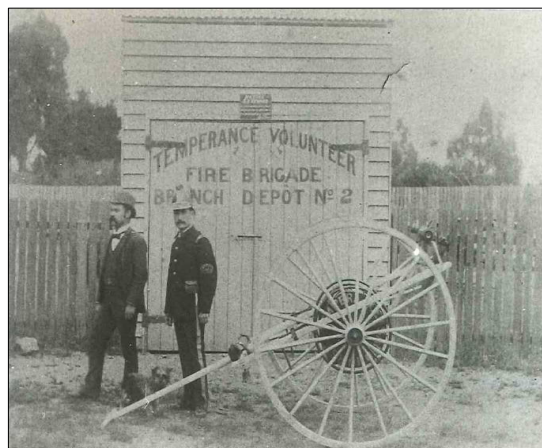


Figure 41 - Former Long Gully Police Station (date unknown) – Courtesy of George Ellis.

⁶⁵ Cannon, M., *Life in the Cities*, Melbourne, 1975 p 252

⁶⁶ Australian Dictionary of Biography on line <http://adbonline.anu.edu.au/biogs/A060390b.htm?hilite=Watson>

The timber church at Union Street provides evidence of the widespread interest in non conformist evangelical religious movements in Australia associated with Cornish migration to the area. As the name 'Moonta' suggests, the area was worked by miners from the Moonta mines of South Australia. Located on the western coast of the Yorke Peninsula in South Australia, the population of the copper mines settlement at Moonta, Kadina and Wallaroo in the 1880s was about 20,000. Most came from Cornwall in south-west England. Here Cornish culture and Cornish religion of Methodism, Wesleyan Methodist, Primitive Methodist and Bible Christian – and the Cornish tradition of frequent 'Revivals' reigned. There were two important revival periods that are relevant to the history of this area, the 1875 Moonta mission 'Revival' in South Australia, a corresponding 'Revival' in Bendigo and the 1883, Loddon River 'Revival' around Bendigo as well as a 1994 revival in Bendigo. These events may have influenced the establishment of the revivalist form of the Moonta Mission in Lazarus Street in the 1880s and 1890s.⁶⁷

See Appendix F for the Victoria's Framework of Historical Themes of interest for Long Gully and Ironbark.

⁶⁷ Piggin, Stuart, the History of Revivals in Australia, chapter 8, vol 1, Studies in Australian Christianity and also 'Two Great Australian Awakenings: Moonta Mines 1875 and Loddon River 1883' Australian Pentecostal Pastors, 2006



Figure 42 -Cottage in Ironbark

KEY FINDINGS

Introduction

This chapter provides a description of the key findings of the Study. It includes:

- a summary list of places and precincts considered to be of local or state significance, and potential significance and no significance and previous heritage assessment and key historic themes
- levels of significance:
- rarity, authenticity, integrity and condition and representativeness comparative & contextual analysis: boundaries and curtilage assessment

Table 4 – Key Findings

KEY FINDINGS AND RECOMMENDATIONS - SUMMARY

ASSESSMENT FINDINGS	TOTAL
Contributory Buildings/Places in Study Area	289
Local Significance - Precincts	4
Already in Heritage Overlay	5
Heritage Victoria Places	0
Not Significant within Precincts	94
Sites identified for further work in the Bendigo Eaglehawk Heritage Study -Geo	152

Table 5 – Summary of Findings

Assessment Findings	Comments	Total
Proposed Heritage Precincts	Lazarus Street/ Poor Man's Gully heritage precinct Roeder Street/ Ironbark Hill heritage precinct Carlisle United/Garden Gully heritage precinct Bannerman Street/Paddy's Gully heritage precinct	4
Existing Heritage precincts	Eaglehawk Road, HO 27, Victoria Hill etc	
Existing VHR places and /or Crown Land historic places	Victoria Hill HO	
Precinct 1 -Lazarus Street/ Poor Man's Gully heritage precinct		
Contributory places	Main historic theme is development of a fringe landscape in Poor Man's Gully area along the creek line of Long Gully by unemployed miners and sustenance workers, who worked over the mullock heaps and ore bodies and built mud brick homes based on German technology.	20
Non-contributory places		6
Precinct 2 -Roeder Street/ Ironbark Hill heritage precinct		
Contributory places	Main historic theme is development of early mining settlement by German and Cornish miners, and associated workers, black smiths, carters, timber getters, carpenters, exclusively company miner workers settlement, some of whom became wealthy miners, extensive use of residency areas leases. Some speculative development by Jewel, Bell and Truscott, mine managers and successful miners.	104
Non-contributory places		41
Precinct 3 – Carlisle United/Garden Gully heritage precinct		
Contributory places	Main historic theme is development of some of the wealthiest and deepest quartz mines owned by JB Watson, a mining landscape progressively reclaimed during the 20 th century including government housing commission development as well as few miners cottages associated with Crown Land.	28
Non-contributory places		2
Precinct 4 - Bannerman Street/Paddy's Gully heritage precinct		
Contributory places	Main historic theme is development of early mining settlement by Cornish miners on Miners Residency areas who worked nearby mines, some early purchase of land by wealthy mine investors e.g. Watson and Bannerman for speculative development/ sustantation funds. Later subdivision of streets. Higher proportion of 20 th century suburban development.	137
Non- contributory	The proposed boundaries of this precinct generally correspond to existing NCO	47

Levels of Significance: Heritage places and precincts

The findings of the study have been prepared with reference to the methodology of assessment set out in the existing *Eaglehawk and Bendigo Heritage Study* as well as Heritage Victoria guidelines.

In accordance with Heritage Victoria guidelines, heritage places are assessed as being of either Local or State significance. A place of local significance is one that is significant to the City Greater Bendigo, while a place of State significance is one that

is significant to the State of Victoria. The Heritage Victoria standard brief notes that a place of local significance may include ‘those places that are important to a particular community or locality’. It is also important to note that: A place may have value to both local and State-wide communities. The two categories are not ‘hierarchical’ with one being more important than the other; rather they simply identify the community to which the place is most important.⁶⁸

Grading System: With reference to the *Eaglehawk and Bendigo Heritage Study* each heritage place has been assessed according to a grade system where ‘a’ is state level, ‘b’ individual heritage significance, ‘c’ individually contributory and ‘d’ contributory within a heritage precincts.⁶⁹ A similar approach has been taken in this study to the ‘thresholding’ of significance. Each heritage precinct recommended for legislative protection and conservation is of local heritage significance to the City of Bendigo. The significant heritage values of each precinct are made of a number of elements, buildings, roads and other features that demonstrate historic themes of the area.

Some historic themes are of more importance than others in contributing to the heritage values of the area. The level of physical evidence that illustrate these historic themes may vary. Although the majority of heritage places are residential houses that provide evidence of a domesticated industrial mining landscape built on Crown Land by trans-national migrants. A few historic themes have no surviving fabric. In addition, the quality of surviving fabric may also vary. It is for these reasons that particular places in the proposed precincts have been identified and assessed according to whether they have *contributory value* for their strong links to the major historic themes of mining, equivalent to a ‘c’ grade and represent key features in the precinct; or whether they are simply of a *contributory value*, equivalent to a ‘d’ grade; or alternatively have no associations with historic themes and are accordingly listed as being non-significant places.

Rarity, Authenticity, Integrity & Condition: The *Eaglehawk and Bendigo Heritage Study* (Butler 1993) stated that Bendigo has the greatest collection of surviving miner’s cottages than any other gold field in Victoria. Many of these buildings remain unrecorded. There are 91 remaining miner’s cottages surviving from the 1870s in the four heritage precinct of the study area. With few exceptions, all of these buildings are identified as being significant contributory elements in the heritage precinct. Many of the miner’s cottages could also be recommended for individual heritage listing. However, an added value of these structures is the significance of this collection of miner’s cottages, surviving in authentic but scattered locations, the spatial relationship of each cottage to one another and juxtaposition of sites to former mines, all with common but strong associations to trans-national historic themes. The clusters of cottages reflect internal grouping of mutually supporting families. The abrupt transition between tiny cottages and large Inter War bungalows reflects the longevity of original occupation and traditions, and the uneven play of fate in the lives of the miners.

The small miner’s cottages which show layers of alterations, slight changes and adjustments in design and material are an archive, an authentic source that breathes layers of cultural, social and industrial history. Built by trans-national migrants they trace generations of occupants, who made their home in Australia. Later versions of 19th century cottages also demonstrates how outsiders availed themselves of the benefits of claiming a Mines Residency Area, a cheaper option to purchasing land, prior to entering the home ownership market. Some miner’s cottage show evidence of a family’s increasing intergenerational wealth created by self betterment and education.

⁶⁸ Quoted from the *Strathfieldsaye & McIvor Heritage Study* prepared by Context P/L 2009.

⁶⁹ See Vol 1 *Eaglehawk and Bendigo Heritage Study*

Representative Values: A third of the identified contributory places are not miners cottages, but nevertheless have special values to the history of mining within the relevant precincts either for example they represent homes of an expanding mine labour force during periods of boom during the late 19th and 20th century or demonstrate different economic circumstances of families in a very hierarchical structured mining industry. A mine manager's house stands out in contrast to an engine driver and mine engineer's cottage, which is itself more spacious than a waged or tribute miner's cottage. Other outstanding examples are the speculative purchase and development of land by local miners, who made it rich, the construction of homes paid by the private Sustentation Funds and examples of quality architectural design such as those buildings by the local American Irish architect, RJ Love and other architects.

Comparative & Contextual Analysis: Boundaries and Curtilage Assessment

In *Chapter 3, Thematic History* of this study, the idea that the identity of Bendigo was bound to symbolic places, where remembrance of the past, names, memories and images of gold mining and migration all meet in the many gullies and creeks of the city was presented. It was to the gullies and ridges of Bendigo that migrant miners, foundry workers and importantly their families came in their thousands. Places like Poor Mans Gully, Moonta, Happy Valley, Paddy's Gully, California Gully, Golden Gully, Adelaide Gully, Maiden Gully, Long Gully, Ironbark Gully, Sparrowhawk Gully, Derwent Gully, Job's Gully, Eaglehawk Gully, Whitehorse Gully, Dead Horse Gully, Devonshire Gully, Pegleg Gully, Sailors Gully, Napoleon Fiddler's Gully and Wellington Gully as well as other creeks and river flats of the city, all have intangible and tangible meaning. Each of these and many other gullies of Bendigo have their own unique story and associated surviving mining fabric and miners cottages.

The boundaries of this study area comprising Long Gully and Ironbark Gully and the smaller Poor Mans Gully, Moonta, Happy Valley, Paddy's Gully that feed these dry gullies has a unique history. But the particular history is also dependant on its geological conditions and mining history. The following list identifies some geological and mining factors that in combination distinguish this area and its surviving buildings and landscapes from other mining gullies of Bendigo.

- Bendigo goldfields became one of the world's great 19th century goldfields, attracting people from all over the world. The particular mines within the study area became an internationally renowned gold mining site in the 19th century.
- Bendigo Goldfield represented the largest concentration of deep shafts anywhere in the world at the time. Ironbark and Long Gully areas had the heaviest concentration of deep quartz mines and the deepest shafts on the Bendigo field, as well as the wealthiest mines operated by the largest company mines and managed by some of the richest mining magnates of the time such as C. Ballerstedt, J.B. Watson, Joseph Bell and George Lansell.
- Long Gully and Ironbark areas were the location of some of the earliest blacksmiths and foundries and also the biggest in Bendigo.
- The history of Long Gully and Ironbark is dominated by the impact of international migration of people to the area. The physical fabric of the place illustrates how a new culture, who came from across the world, transplanted new building typologies into a foreign land. All built on Crown Land reserved for mining under the Miner's Rights'.
- The Cornish and German skilled miners imported their traditional mining technologies and vernacular housing structures, but it was the Cornish traditional

mining labour practices, tributing system that had a lasting impact on the cultural landscape of Ironbark and Long Gully area.

- The development of new forms of infrastructure, plot structure, mining, land uses and buildings in Long Gully and Ironbark occurred within a very short period of time from the late 1850s to late 1870s.
- By the end of the nineteenth century a third of all Bendigo's residences were on Miners' Rights, and one half of all miners in the city had their homes on this form of leasehold. In Ironbark and Long Gully this was almost 80%. By 1888s all inhabitants of the area remained associated with mining. The high proportion of miner residents in the study area continued into the early 20th century, only declining after the First World War.
- There were a very high number of Cornish miners employed in this area in comparison to other areas of Bendigo. The transfer and consolidation of Cornish mining tradition in Long Gully/Ironbark area ensured the continuation of a culture of largely working class miners who lived on low wages, on Crown Land in Miners Residency Areas at the discretion of the mine owners, in small basic timber cottages in the Long Gully/Ironbark areas. Despite the large presence of German miners, some of the biggest mine owners appeared to favour the employment of Cornish miners.
- The majority of Cornish miners, who worked in these mines, came from a very conservative tradition of rural based mining, which was based on a strict hierarchical mining system. They were familiar and comfortable with a structured mining workforce, low wages, sub-contract and tribute system of mining, with associated system of renting leased Crown land and only investing sparingly in their homes.
- This factor led to one of the highest concentrations of working miners living within one location, Long Gully/Ironbark area of Bendigo. By the beginning of the 20th century almost 99% of residents in the area were either miners or worked in the related trades such as carter, engine driver, blacksmiths, mine manager or alternatively, they were listed in the rates books as miner's widows.
- The Cornish waged miners in this area rarely participated in the wealth generated by the mines. There was no investment in local infrastructure and community buildings remained modest, built by the miners themselves.
- These factors, together with the nature of the reef area created large areas of mining and contaminated industrial lands across Long Gully/Ironbark areas that became physical barriers that separated early residential areas into small isolated pockets of scattered miners' cottages from the rest of the growing suburbs of Bendigo.
- Within the inner city, Ironbark and Long Gully areas contain some of the highest proportion of former mines sites than any other inner suburban area. The rigid pattern of gold bearing lines of reef is still clearly visible as narrow vertical streaks of open space that lie across the landscape.
- The spatial barriers created by large areas of mining and contaminated wastelands separated the small pockets of scattered mining settlements from the rest of Bendigo further stigmatising the area as a working class suburb for most of the twentieth century
- Certain important factors together with availability of work in nearby company mines until 1950s, encouraged intergenerational stability and expansion of the community into the 20th century.
- After the major decline in mining in the early to mid 20th century, these large areas of mining wastelands of sand heaps, old sludge dams and cyanide tailing dams remained un-developed, 'a dry slum'.
- The company mining of the deep quartz leads in the 1870s altered the social structure and suburban pattern of development in Bendigo. A new class of wealthy mine investors emerged with fine villas contrasting with the segregated low cost housing areas of the working class miner.

- The character of the area remained depressed until the 1950s and 1960s, when some parcels of contaminated mine lands was cleaned up for low cost housing and state government commission housing. Different patterns of government release of Crown Land and attempts at reclamation are evident throughout the area.
- The character of the cultural landscape of the study area remained impermanent, on edge, underdeveloped and in partial transition for a hundred years, with the majority of land under Crown Land until the mid 20th century when all mining ceased.

Application of Planning Controls

Places of local significance: Precincts. The Study has identified four precincts of local significance.

Post-contact archaeological places: The Study has identified post-contact archaeological places of local significance. Eight archaeological places are recommended for inclusion in an HO.

Places of no significance: Approximately 96 places have been assessed and found not to meet the threshold for local significance when assessed against the HERCON criteria. Typically, they are recent development and new subdivision lots.

Planning Controls and Policy

Municipal Strategic Statement: Clause 21.08 of the Municipal Strategic Statement (MSS) contains the primary strategic policy in relation to heritage, although it also mentioned in passing in some other sections such as Cl. 21.06 – Housing.

Local Policy: There is a local policy in relation to Heritage at Cl.22.06. At a minimum, this requires updating to include this Study as a Reference Document. The review of the policy has also identified a number of issues in relation to particular local policy recognizing the special historic significance of the miners cottage, a building typology which show layers of alterations, slight changes and adjustments in design and material, but which represents the most authentic evidence of the impact of international migration during the 19th century gold rush and colonial expansion to the creation of the city of Bendigo.

Places Requiring Further Assessment

The Study has not identified places that require further assessment.

RECOMMENDATIONS

Introduction

This section provides key recommendations, which are considered to be fundamental to the achievement of an effective Heritage Study. They are:

- The adoption of the *Ironbark Heritage Study 2010* by the City of Greater Bendigo
- The implementation of the *Ironbark Heritage Study 2010* by the City of Greater Bendigo.

Adoption of Study

It is recommended that the City of Greater Bendigo formally adopts the *Ironbark Heritage Study 2010* which comprises:

- Section 1 – Chapters 1-5 inclusive of Key Findings and Recommendations (this report)
- Section 2 – Heritage precinct citations and lists of significant/contributory heritage sites to the precinct and lists of non significant places.

Implementation of Study

The study recommends that the City of Greater Bendigo implement the findings of the Ironbark Heritage study through the actions outlined below.

Preparation of a Planning Scheme amendment to:

1. Include the four (4) recommended heritage precincts into the Heritage Overlay of the Greater Bendigo Planning Scheme.
2. Undertake the preparation of an Incorporated Plan that implements the key findings of the study including permit exemptions for non-significant dwellings.
3. Review Clause 22.06 of the Greater Bendigo Planning Scheme to include:
 - Recognition of the special historical significance of the miner's cottage as a building typology important to the City of Greater Bendigo character and sense of place.
 - The Ironbark Heritage Study as a reference document.

Further work

It is recommended that further work be undertaken as follows:

1. Develop a general Council *Policy on Demolition* of historic buildings that applies to the whole of the City of Greater Bendigo; with the purpose of providing clarity around the existing procedure in relation to demolition.

2. Work with the Department of Sustainability and Environment (Crown Land Asset Services) to undertake a review of the status of all former historic mine sites on Crown Land within the study area.
3. Review the recommendations of the *Future Use for Former Mine Land* report in light of the findings of the Ironbark Heritage Study for the following sites:
 - Site 8 – Lazarus /Happy Valley Road, West Bendigo
 - Site 10 – Central Nell Gwynne, Happy Valley Road, Ironbark
4. Preparation of *Cultural Landscape Management Plan* which sets out the appropriate management for the regeneration of box Ironbark flora and fauna for the following areas/sites:
 - The former historic mine sites within the study area.
 - Ironbark Gully and Long Gully
5. Preparation of an *Interpretation Policy* for the study area.
6. Preparation of *Heritage Design Guidelines* that provide assistance for subdivision and higher density development within the Ironbark Heritage Study area (to be included as a reference document within Clause 22.06 of the Greater Bendigo Planning Scheme).

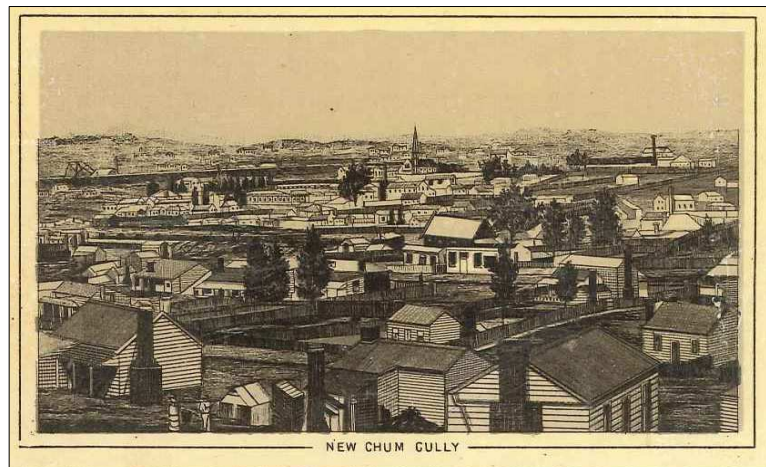


Figure 43 - Miners Cottages, New Chum Gully (date unknown) – Courtesy of Bendigo Historical Society

List of Appendices

- A. Standard methodology for undertaking a heritage study in Victoria**
- B. Ironbark Heritage Study - Project Brief**
- C. Burra Charter Glossary of Terms**
- D. Ironbark Heritage Study - Project Bulletin**
- E. Summary of the Eaglehawk and Bendigo Thematic History**
- F. Summary of the Victoria Themes**

Appendix A

STANDARD METHODOLOGY FOR UNDERTAKING A HERITAGE STUDY IN VICTORIA

The heritage study is to be prepared in accordance with the *Australia ICOMOS Burra Charter, 1999* and its Guidelines. All terminology shall be consistent with the Burra Charter.

The values to be used in the identification and assessment of places are historic, scientific, aesthetic, social and spiritual values (as articulated in the Burra Charter). Where a place of potential cultural heritage significance is identified, a coherent and coordinated assessment against the HERCON criteria is required. Thresholds applied in the assessment of places shall include 'State Significance' and 'Local Significance'. Local significance includes those places that are important to a particular community or locality.

The consultant is required to use Heritage Victoria's *Victoria Framework of Historical Themes* in preparing the study.

The consultant is to refer to the *Guidelines for Thematic Environmental Histories* in preparing the Thematic Environmental History.

The consultant is to refer to Heritage Victoria's *Guidelines for Assessing Landscapes with Cultural Heritage Significance* when assessing cultural landscapes.

Statements of Significance are to be prepared using the Heritage Victoria format of 'What is Significant?'; 'How is it significant?' and 'Why is it significant?'. Details are provided at.

Opportunities are to be provided for local communities, community groups (such as historical societies) and interested individuals to assist with the identification of potential places of significance details strategies for community engagement.



Project Brief Ironbark Hill Heritage Study

1. Introduction

The City of Greater Bendigo was formed in 1994 following the amalgamation of the former Shires of Marong, McIvor, Strathfieldsaye and Huntly, the Borough of Eaglehawk and the City of Bendigo. A small part of the former Shire of Metcalfe also covers the southernmost part of the municipality.

Since amalgamation, it has been acknowledged that the municipality's heritage resources are one of its main assets, although the extent of any previous formal investigation, and consequent protection under a Heritage Overlay, has been limited.

In 2005 Robyn Ballinger was commissioned by the City of Greater Bendigo to undertake the Ironbark Hill Precinct Report. This report provided a history of the Ironbark Hill area and found that the study of the Ironbark Hill area over the years provides a fascinating insight into a changing landscape built on gold.

In 1993 Graeme Butler and Associates undertook the Bendigo and Eaglehawk Heritage Study. The initial survey carried out for this study successfully identified some 4000 sites of contributory importance including 1540 sites of individual significance. The available budget was found to fall very short, given the extensive nature of the work involved with creating individual citations and adoption into the planning scheme. As such, this study found that Bendigo has an enormous amount of heritage assets and that the study itself was far from exhaustive.

The Bendigo and Eaglehawk Heritage Study provides an initial survey of the Bendigo/Eaglehawk area. This will provide a good basis for the Ironbark Hill Heritage Study.

The final Ironbark Hill Heritage Study will enable an informed and coordinated approach to be taken towards the integration of appropriate heritage controls into the Greater Bendigo Planning Scheme. This brief details the objectives and principles for the project.

2. Project objectives

The objective of the project is to assess, document and make recommendations for the conservation and management of places identified as being of cultural significance to the locality, the municipality, or the State, including appropriate Planning Scheme Overlays and controls.

3. Study and Reference Areas

The Study Area covers Ironbark settlement and is located along the syncline between Garden Gully and Sheepshead reef lines and is quite distinctive from many other areas. It has its own unique physical geography and geology that influenced the mining settlement that was wedged between and serviced, two intensely mined areas (see appendix I for plan of Study Area).

4. Required Outputs

This project will provide a clear framework for the future protection of places of cultural significance within the Ironbark Hill study area. The Study will address the project objectives and have the following outcomes:

- The assessment and documentation of heritage places and precinct (s) of local and potential State significance to a standard that will satisfy the requirements for a Planning Scheme amendment, and be in accord with the VPP: Practice Note: *Applying the Heritage Overlay* ;
- recommendations for the type of statutory protection that will assist the future conservation of the heritage places and precinct;
- identify any further work required to be undertaken with regards to some types of places such as bridges, mining, archaeological, industrial sites, and trees.

5. Study Process

The methodology undertaken by the consultant will need to be addressed as part of the response to the brief; however it is expected to include the following elements:

- The heritage study is to be undertaken and reported in accordance with the *Australia ICOMOS Burra Charter, 1999* and its Guidelines. All terminology will be consistent with the Burra Charter.
- It is envisaged that the project will need to be undertaken in several clearly defined tasks (see below).

6. Tasks

Preparation of Project Plan

The consultant shall complete the pro-forma Project Plan for approval by the project manager, Statutory Planning Manager and Director of Planning and Development. This Plan will set out an agreed timetable; payment schedule with related milestones; suggestions as to meeting dates and completion details. The consultant will seek the approval of the Project manager for any amendments to the milestones and completion dates.

Research and assessment for places of Post-Contact cultural significance

The consultant shall research and assess those places identified to be of potential cultural significance and considered worthy of future conservation.

If the place is not considered to be worthy of future conservation, further research and assessment of significance is not required.

Assessment of cultural significance

Research and limited comparative analysis will be required to substantiate the significance of each place of potential cultural significance that is considered worthy of future conservation. These places will be assessed against the criteria of the former Australian Heritage Commission.

The thresholds applied in the assessment of significance shall be State Significance and Local Significance. Local Significance includes those places that are important to a particular community or locality.

The significant elements of each place should be identified. This will usually occur as a brief mention in the Statement of Significance. If the place is a heritage area (e.g. a precinct, landscape, complex, multiple properties etc), the significant elements of the area shall be clearly identified by one or more of the following means:

- in the Statement of Significance;
- on a map or plan;
- in a table to be included in the documentation for the heritage place.

Places of potential State significance shall undergo limited analysis on a broader (i.e. Statewide) comparative basis.

HERMES database

The documentation for all identified places shall be entered into the HERMES database. In all cases, sources of information, both documentary and oral, shall be fully documented. See appendix 2 for HERMES requirements.

Mapping

All identified places of cultural significance must be marked with a polygon on a Planning Scheme base map(s) to be provided to the client.

Recommendations for Statutory Protection

The consultant shall produce and complete a table as set out below. This will be logically arranged in alphabetical order by locality and address:

NAME OF HERITAGE PLACE & LOCALITY	RECOMMENDED FOR VICTORIAN HERITAGE REGISTER	RECOMMENDED FOR HERITAGE INVENTORY	RECOMMENDED FOR PLANNING SCHEME (IDENTIFY OVERLAY)	OTHER RECOMMENDATION
-----------------------------------	---	------------------------------------	--	----------------------

ON				

Draft Schedule to the Heritage Overlay

For those places recommended for a Heritage Overlay, the consultant shall complete a draft Schedule to the Heritage Overlay. The drafting of the Schedule shall accord with the requirements of the VPP Practice Note – *Applying the Heritage Overlay*.

Draft local planning requirements for heritage areas

Where heritage areas are identified (eg precincts, landscapes, complexes, multiple properties etc), the boundaries of each area shall be identified on a map(s) for potential inclusion by the council in a local planning policy or schedule to an Overlay. All significant places and contributory elements within the heritage area shall be shown on this map(s).

Specific objectives and policies for the conservation of the area and significant elements within the area shall be provided in a format which is suitable for ultimate inclusion in either a local heritage policy in Clause 22 of the planning scheme or in a schedule to an Overlay.

Outputs

The consultant shall supply the client with: -

- 3 paper copies (including 1 unbound) of a final report in A4 vertical format, a digital copy of the final report (in Microsoft Word format) and background documentation (in Microsoft Word format) which includes:
 - Name of the client.
 - Names of all the practitioners engaged in the task and the work they undertook.
 - Date.
 - Summary and contents page.
 - The table of places recommended for statutory protection.
 - A citation, photograph and brief Statement of Significance for each site that is recommended for individual heritage protection.
 - The draft Schedule to the Heritage Overlay.
 - The draft local planning requirements for heritage areas.
 - Any limitations of the study (for example - limitations in terms of the types of places identified; geographic limitations; access limitations etc). This should be clearly organised so that the client is fully informed of any further work which may be required as part of any future heritage study review or further investigation.
 - The study brief.

All terminology shall be consistent with the *Australia ICOMOS Burra Charter, 1999*.

- Planning Scheme base map(s) showing the location of all identified places of cultural significance (marked with a polygon) which are recommended for statutory protection.

Resources

A number of documents and resources have been identified which should assist in the compilation of the data and an understanding of the issues. These include:

- Bendigo and Eaglehawk Heritage Study by Graeme Butler and Associates 1993
- Ironbark Hill Precinct Report by Robyn Ballinger 2005
- Former Mining Land Report 2007
- GIS Map base - cadastral, aerial photographs and planning zoning maps
- Greater Bendigo Planning Scheme and Council planning policies

7. Quotation for Project

A response to the Project Brief should address the following issues:

- A statement as to the consultant's understanding of the Brief
- A description of the tasks to be undertaken
- A project timetable
- A total fee for the project and a breakdown by staff time and charges per hour.

8. Timing

The Ironbark Hill Heritage Study will be completed within 12 weeks from the date of inception.

9. Further information

For further information about this project please contact:

Emma Bryant
Coordinator Policies and Processes
Ph: (03) 5434 6017
Email: e.bryant@bendigo.vic.gov.au

Appendix C

The Burra Charter 1999

The Australia ICOMOS Charter for Places of Cultural Significance

Article 1. Definitions

For the purposes of this Charter:

1.1 *Place* means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

1.2 *Cultural significance* means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the *place* itself, its *fabric, setting, use, associations, meanings, records, related places* and *related objects*.

Places may have a range of values for different individuals or groups. The term cultural significance is synonymous with heritage significance and cultural heritage value. Cultural significance may change as a result of the continuing history of the place. Understanding of cultural significance may change as a result of new information.

1.3 *Fabric* means all the physical material of the *place* including components, fixtures, contents, and objects. Fabric includes building interiors and subsurface remains, as well as excavated material. Fabric may define spaces and these may be important elements of the significance of the place.

1.4 *Conservation* means all the processes of looking after a *place* so as to retain its *cultural significance*.

1.5 *Maintenance* means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves restoration or reconstruction. The distinctions referred to, for example in relation to roof gutters, are maintenance — regular inspection and cleaning of gutters; • repair involving restoration — returning of dislodged gutters; • repair involving reconstruction — replacing decayed gutters.

1.6 *Preservation* means maintaining the *fabric* of a *place* in its existing state and retarding deterioration. New material may include recycled material salvaged from other places. This should not be to the detriment of any place of cultural significance.

1.7 *Adaptation* means modifying a *place* to suit the existing use or a proposed use.

1.8 *Use* means the functions of a place, as well as the activities and practices that may occur at the place.

1.9 *Compatible use* means a use which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

1.10 *Setting* means the area around a *place*, which may include the visual catchment.

1.11 *Related place* means a place that contributes to the *cultural significance* of

another place. It is recognised that all places and their components change over time at varying rates.

1.7 *Restoration* means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

1.8 *Reconstruction* means returning a *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material into the *fabric*.

1.14 *Related object* means an object that contributes to the *cultural significance* of a *place* but is not at the place.

1.15 *Associations* mean the special connections that exist between people and a *place*. Associations may include social or spiritual values and cultural responsibilities for a place.

1.16 *Meanings* denote what a *place* signifies, indicates, evokes or expresses. Meanings generally relate to intangible aspects such as symbolic qualities and memories.

1.17 *Interpretation* means all the ways of presenting the *cultural significance* of a *place*. Interpretation may be a combination of the treatment of the fabric (e.g. maintenance, restoration, reconstruction); the use of and activities at the place; and the use of introduced explanatory material. Conservation Principles

IRONBARK-WEST BENDIGO MINERS COTTAGE HERITAGE STUDY

April 2009

INTRODUCTION

Bendigo's heritage is rich with many different stories to tell about people, places, ideas and events. These stories connect people to important traditions, and enable each of us to experience a little of others' lives. By sharing these stories we can understand each other and ensure that heritage remains as a living entity for current and future generations.



Biggest Family Album. Multimedia No. MM004316

Men dressed as debutantes for a fund raising project for the Ironbark Tennis Club. Circa: 1930.

BACKGROUND

The history of Ironbark and West Bendigo is unique. The Bendigo Goldfield represented the largest concentration of deep shafts anywhere in the world at the time. The Ironbark and Long Gully areas had the heaviest concentration of deep quartz mines and shafts on the Bendigo field, as well as the wealthiest mines, operated by the largest companies. It also had one of the highest concentrations of working class miners, their families, and their cottages. A high percentage of these were skilled Cornish and German miners, who had come from Europe and America via South Australia in large affiliated groups. Bendigo experienced one of the great migration streams of the nineteenth century.

IRONBARK-WEST BENDIGO HERITAGE STUDY

In recognition of the important history of the Ironbark and West Bendigo area, the City of Greater Bendigo is now carrying out a heritage gap study. We would like to work in partnership with you through community consultation to help tell the stories of your area.

To find out more you are invited to attend
 Information and Listening Post Session
 Long Gully Neighbourhood Centre, 2 Humboldt Drive, Long Gully
 Tuesday 5 May 2009 - 6.00 p.m. - 8.00 p.m.

Address:
 195-229 Lyttleton Terrace
 PO Box 733, Bendigo Vic 3552

T: (03) 5434 6000
 TTY: (03) 5434 6460
 F: (03) 5434 6200
 E: requests@bendigo.vic.gov.au
 W: www.bendigo.vic.gov.au

**Ironbark - West Bendigo Miners' Cottage Heritage Study
2009**

REQUEST for HISTORICAL INFORMATION and/or SITE IDENTIFICATION

As local residents, or interested historians, your knowledge of the study area will be invaluable to this project. If you have any information regarding places (eg buildings, ruins, mining sites, stone walls etc) in your area that you think have heritage significance, please complete the form below and return it to Council by folding and mailing to the address on the other side. No stamp is required.

Name of Place	
Previous or Other Name/s	
Address <u>Street Number</u> (or distance from nearest street) + <u>Street Name</u>	(or attach a map)
Current use of Place	
Former Use/s	
Name of Architect or Builder (if known)	
Former Owner (if known)	
Current Owner (if known)	
History/Description (please use another sheet of paper and enclose within this form if there is not enough space)	
What do you think is important about the place?	
Are historical or recent photographs available? (Could Council arrange to copy them?)	(please attach photocopies)
Contact Details (In case we need some clarification or further information it would be helpful if you could please provide your details so that we can contact you.)	
Name	
Address and/or email (please indicate preferred contact method)	
Phone no	

Please feel free to copy this form and fill it in for as many other places as you can think of. You are also welcome to copy and circulate this form to other people you know who might be able to provide us with information.

For more information about this project please contact:
Amanda Jean, Heritage Advisor, City of Greater Bendigo, Mon & Tues only, Phone: 5434 6355
Email: a.jean@bendigo.vic.gov.au

Appendix E

Summary of Thematic History from the Eaglehawk and Bendigo heritage study

1851-1868: Mining and Public Works

The Digging Fields: The Creation of a Mining Landscape

The gullies and creeks within the watershed of Bendigo Creek were the areas that alluvial miners first worked. The most important alluvial mining localities on the east of Bendigo Creek were Kangaroo Gully, Tipperary Gully, Adelaide Gully, Golden Gully, Spring Gully and Spring Creek and Bendigo Flat; and on the west the most populated mining gullies included New Chum Gully, Ironbark Gully, Long Gully, Sparrowhawk, Derwent Gullies, American and California Gullies, Job's Gully, Eaglehawk and Whitehorse Gullies. These gullies were in turn connected to Devonshire Gully, Pegleg Gully, Sailors Gully, Napoleon Fiddler's and Wellington Gullies, which flowed towards Myers Flat. ¹ Miners moved from site to site at a moments notice and so it was always difficult to keep track of punters.²

Ironbark Gully and Long Gully were thickly forested gullies and were well known to alluvial miners from the earliest days of the rush. Gold finds by Shanahan & Glen & Thompson in 1852 paralleled with many others finds across the Bendigo field gullies.³ At Ironbark, J. Harris & party discovered the famous Hustler's Reef in 1853 between Iron Bark and Commissioner's Gullies. ⁴ Gold was discovered in Victoria Reef in 1853, the leases quickly purchased by C. Ballerstedt. It became one of the earliest areas where quartz mining was established in 1855 with early but unsuccessful open cut mines replaced later by more successful deep shafts that operated from 1861. The mines at first were small and worked by local miners who lived in the area, but later large company mines, who employed large work forces, dominated the area.

The Diggers.

By mid 1852 more than 4,000 diggers were arriving each week on the Bendigo field. Within the space of a few years over 40,000 miners had arrived. By 1861 the entire Sandhurst (Bendigo) mining district had 41,000 people spread through a score of small mining settlements. The temporary transitional nature of the fields resulted in haphazard settlements and roads. Other times, lack of water drove the miners on, leaving behind a wasteland. Many of the gullies attracted different ethnic groups. Irishtown was located in Back Creek, Tipperary Gully and Sheepshead Gully. The Germans were often neighbours. The Cornish were located at Harvey Town, St Just Point and around Eaglehawk. The Chinese in Emu Point White Hills, Ironbark and Kangaroo Flat. The first phase of mining, consisted of scattered alluvial diggings left its mark on the present town, mainly in the form of place names, silted channelised creeks and dispersed irregular settlements.

¹ Eaglehawk and Bendigo Study: Environmental History, Vol 2, 1993, Chris McConville, p 2-6.

² Ibid p 6

³ Ibid Vol 3 p 23

⁴ Mining Chronology Vol 3

Ironbark was in particular noted for its large Chinese, numbering 400-500 in 1868, with several Chinese villages. Some archaeological remains survive in Thunder and Finn Streets towards Epsom and White Hills. There was a large German and Cornish digger population. Many of the early miners in the area came from South Australia, including a large number of German miners. They came with skills and experience and included C. Ballerstedt and his son, Carl Roeder, Carl Mueller among others.

Industries Began As Ancillary to Alluvial Mining

More extensively than elsewhere, Bendigo miners used puddling machines. By mid 1854 there were 1,500 machines. By the end of 1850s miners were experimenting with open cut mining powered by steam mills (in 1861 over 140 steam engines were recorded) as well as ore crushers. Supporting the miners were small iron foundries. By 1867 the dominance of the alluvial miner was drawing to a close. Statistics dating from 1868 recorded that there were 4,000 alluvial miners and 3,000 quartz miners in Bendigo. By the end of the 1860s, the success of the deep shafts had grown on Hustlers Reef and Victoria Reef with associated small crushing works.

By the late 1860s the successful reef mining industry necessitated sinking much deeper shafts making production dependent upon highly capitalised mines with massive machinery and a large work force. The earliest successful ore crusher was Ballerstedt's works in Long Gully, where he employed a large workforce. William Rae found large quantities of gold from his open cut mine on Victoria Hill, where he later built a 35 head battery in Happy Valley.⁵ Kock's Long Gully pyrites treatment works opened in 1869 and he later pioneered the use of the diamond drill in the Kock's Long Gully Pioneer Gold Mine. Many small blacksmithies and large iron foundries serviced the local mines. The earliest foundry was Wellington Ironbark foundry-Swallainger Briggs & Delaney engineers now Central Foundry and nearby W. Gradling blacksmith.⁶ In Long Gully to the north on Eaglehawk Road was Horsfield, engineers and Dennis, blacksmiths.

Shaping of Towns from Diggings.

The character of Bendigo began to change gradually from a diggings town when in 1854 the main centre was surveyed by government surveyor, Richard Larritt. A large government camp was established. By the end of 1860s there were a few grand shops and public buildings and over 484 residences. Large mining settlements had built up early in Epsom and White Hills but these communities shrank as mining declined. Some settlement formed at road junctions and around water, but the primary factor governing settlement was mining. The most populous area was Eaglehawk area with nearly 500 houses. Most houses were canvas, slab and mud, timber, with very few brick buildings in 1861. Early shops were portable that spread along Camp Street, later Pall Mall, View and Mitchell Streets.

In Long Gully and Ironbark areas, when quartz mining expanded into these gullies, they took on the character of small villages. There were many small hotels and hostelrys such as Gold Mines Hotel located along the main roads such as Mt Korong (then Alley Street) and the British & American Hotel, Ironbark Hotel, Fifeshire Arms, Danaher's and Quartz Miner's Hotels, Manchester Arms, Silver Mines and Rose of Australia Hotels, all in Eaglehawk Road servicing the community, along with suppliers, such as butchers operated by specialized

⁵ Ellis, G. E., *A Brief History and Reminiscence of Long Gully*, City of Greater Bendigo, 2000, p 45

⁶ Eaglehawk and Bendigo Thematic History Vol 2 p 24

German butchers, grocers, boot makers, watchmakers and confectionery shops. Many of the shops had residences attached. Added to this were civic buildings such as the post office, St Matthews Anglican Church, Long Gully Wesleyan Church, as well as the Oddfellows Hall, the local Mechanic Institute and the Hopetoun Brass Band Practice Hall.⁷ A large government school was built at Long Gully in 1878 with the smaller Rae's School located on Victoria Hill.

Domestic Buildings

The framework of the government survey laid the pattern to much of Bendigo. Between 1851 and 1865 the accommodation on the mining fields underwent a major change from temporary canvas tents to small wooden cottages and large chimneys, typical of the miner's cottage of the goldfields. Small local hotels offered accommodation on each gully. There were some large houses by 1861 in the most heavily populated gullies such as California Gully, Ironbark Gully and Spring Gully.

In 1861 there were 96 houses in Long Gully; the majority were still one room huts (53). In the wider area there were 131 one room huts/tents, 95 two room structures and 60 three room structures. In Ironbark there were 260 residences in all with 71 one room tent/huts, 83 two room structures and 85 three room structures. Individual houses began to emerge in the 1860s replacing tents. Nonetheless miners and their families continued to live in small wooden cottages that had first been settled in the 1850s.⁸

Public Works, Roads, Railway, Waterworks and Sanitation.

Through the heart of Bendigo ran two transport corridors, the railway line and the main road from Melbourne. The railway was opened in 1862 along which many small private contractors developed brick yards. The construction capacity of these brickyards intensified as surveyors started marking out streets in 1854 and the sale of building allotments began. Gardens and public reserves were set out in the centre. Early public works included the construction of schools. Massive problems were caused by mining with resultant sludge, silt and flooding contaminating the water supplies. Lack of water, severe drought, wind blown contaminated dust caused severe outbreak of diseases, blindness, cholera, typhoid which was a major problem. Efforts concentrated on closing public nuisances and sanitising the town and the establishment of hospitals and asylums. Flood control mitigation was introduced in the city centre along Bendigo Creek. In 1877 the Coliban Water system piped water to Bendigo.

By the end of 1850s Long Gully roads was reputed to be the worst in the area. No public works were carried out, the majority of roads were unsurveyed apart from the construction of the main Mount Korong, Eaglehawk Road. Public baths were created in Long Gully. Contaminated water remained an issue, as gullies were dammed to contain silt from crushing plants. Lines of gas mains were extended to Long Gully, California Gully and Eaglehawk in early 1860s. Almost all lands remained Crown Land within the study area with very few building lots sold.

Law and Order and Politics

Miners protested about the licensing system, holding a Monster Meeting in 1853 and 1854 just prior to the Eureka rebellion in Ballarat. Miners unions were formed in 1870s. Industrial conflicts occurred in 1872, 74 and 79 by which time organized working class had spread to those employed in bakeries and other factories. In 1862 Bendigo (then known as Sandhurst)

⁷ Eaglehawk and Bendigo Thematic History Vol 2 p 23

⁸ Eaglehawk and Bendigo Thematic History Vol 2 p 24

incorporated Long Gully, Ironbark and Quarry Hill under the Municipal Amendment Act. There was continuous agitation for changes to the mining laws and regulations.

Social Life

Social life centred around the hotels, theatres, churches, baths and band halls. Hotels appeared quickly on the goldfields, along with sporting clubs, band halls and churches.

1868s-1888: The Mining Metropolis

Mining and Investors:

Mining remained the key industry with half the Bendigo workforce. Quartz mining pioneered in the 1850s dominated the field. A new capitalized mining economy began to change the face of Bendigo. Above ground massive machinery and earth mounds indicated the location of capitalised mines. A new mining exchange and professional officers serviced the mining investors. By the end of the 1860s more than 140 registered mining companies were at work. These included successful quartz mines on the Hustler, and Garden Gully, New Chum, Sheepshead and Carshalton line of reefs. The boom of the late 1860s and early 1870s was over by 1873 but until the early 1890s mining remained central to the Bendigo economy. The town was untidy, disordered, brash and with conflicting land uses right in the heart of the city.⁹

Large scale mining became more feasible than small claims which were amalgamated. The principles gullies of the 1850s and 1860s were still the workplaces of the great numbers of miners in the 1870s. The largest concentrations were at Ironbark (490) Long Gully, Maiden and Denmark Gullies (480) and on the Bendigo Flat (450) and Victoria and New Chum (490). The New Chum and Nell Gwyne lines of reef are central elements to the Victoria Hill mining and residential precinct inclusive of Happy Valley Road, Marong Road (Calder Highway) precinct and the development, both urban and mining, arose from them. The mines include Adventure & Advance, Ballerstedt, Central Nell Gwynn, Great Central Victoria, Lansell's 180, New Chum Syncline, Old Chum, William Rae Mine and Victoria Quartz Mine, all included in the public park, Victoria Hill Area.¹⁰

Industries

Mining remained a key industry with half the workforce of Bendigo employed in mines up to 1880s. By the end of the 1860s more than 140 companies were at work in Bendigo. One in three had steam powered equipment. For years mines on the Garden Gully line of reef and Hustler's line of reef proved exceedingly rich. JB Watson was credited with taking 13 tons of gold on the Garden Gully line of reef leases which he consolidated into the Kentish Mine. He amassed a fortune and became one of the richest men in the colony.¹¹

Suburban Expansion

⁹ Ibid p 30

¹⁰ Ibid Vol 2 p. 34

¹¹ Ibid p 31

With capitalised works, the floating population of diggers diminished. Company mining altered the social structure of Bendigo. It established a new class of investors. Mining created distinctly working class areas which were separated from the wealthy, socially if not geographically. The 1850s ethnic groups were overlaid by new social divisions of wealth and power.¹² The buildings associated with mining that have survived are usually those of a financial character. A wider range of housing appeared during the 1870-80s. On some hills an elite suburbia emerged. The pattern of segregation often being a product of topography and the differences between high and low land marked the division between the wealthy mine stockbrokers and underground mine workers. The elite found on hill tops and the cottages in low lying gullies. Public streets were planted with trees. Some mine investors and owners built alongside their mines eg Lazarus and Lansell. Pall Mall became Bendigo's premier street attracting business away from View Street. During the 1870s and 1880s it was reshaped and rich mining returns were spent on upgrading frontages along the street.

Eaglehawk Road is characterised by mainly Victorian and Edwardian era housing with the Long Gully commercial sites including Truscott's much altered store in Havilah Road and his two storey grand residence beside it, built in 1900.¹³ A band of wealthy houses can be identified running in an arc from Golden Square around the hills to the immediate north-west of the city centre and around government camp. The cachet of this locale was sustained for years. These enclaves were reinforced in later decades as mining declined. The wealth and expansiveness of houses vanished towards the north and west through Eaglehawk.¹⁴ For the most part the gullies and roads to the west of View Hill were lined with small weatherboard cottages. These were the characteristic goldfields residences built with only occasional decoration. Generally, they were built without any architectural advice to simple floor plans with a few brick and stone houses.

Mining Residences

The reef mines created their own class of wealthy investors. The wealthiest mine owners added an extravagant layer of housing to parts of Bendigo. Beneath these exceedingly rich men was an echelon of mining investors who speculated successfully. The mining districts were still spread out across several reefs. And in the gullies near to the quartz reefs the miners and mine managers, now earning a wage were able to take up a wider range of housing. In the early 1870s companies built up a paid work force and mining became the staple form of male employment in Bendigo. Through the 1870s and 1880s a wider range of houses changed the appearance of parts of Bendigo.

William Rae was a prominent reef mining figure in the Long Gully and Ironbark precinct with two landmark houses linked to him, inclusive of Bon Accord (fire damaged) and Mycumbene (fire damaged and demolished). Apart from Coath's cottage in Happy Valley Road, most of the more modest miner's cottages have been demolished in this area following bush fire damaged.¹⁵ Other well known investors were R. Lazarus and George Lansell, both of whom massed a fortune. Associated with these men were other mining investors who took part in

¹² Ibid p 34

¹³ Ibid Vol 3 Heritage Precinct

¹⁴ Ibid p 34

¹⁵ Ibid Vol 2 p. 34

other aspects of commercial life. Eg Darnton Watson, who lived in Iron Bark, a dealer in hay and corn but made more money from mining, also Henry Kock from Long Gully and Truscott.¹⁶

Social Life: Public Land

The scattered mining settlements were marked by small hotels, line of shops and clusters of cottages. Some of the open space between houses and mines were levelled for sports fields. The early rough hotels of the 1850s alluvial gullies were rebuilt during the 1870s with elaborate additions to hotels in central areas.¹⁷ During the quartz mining boom a new style of public reserves and gardens of Bendigo emerged. Amongst the waste and haphazard public land uses of alluvial mining street plantings and parks were progressively developed over the next 3 decades. Lake Weeroona was created from 1875 out of the swamps in lower Long gully and Ironbark areas, with ferneries and cascades later added to main parks.

1889-1939: The Forest City

The Digging Fields

At the beginning of the 20th century mines were still a major employer in Bendigo but the self-image of Bendigo was changing to one of a garden city with a fine climate.¹⁸ In 1917 the majority of surviving mines were amalgamated with operations ceasing in 1923. Mining revived in 1933-4 and Central Deborah Mine started production in 1939. The quartz mining town functioned with a labour force living close to the mine head.

Industrialisation of Mining

The capitalised mining boom rose and fell in a cycle like that of the digging rushes of the 1850s. A sudden find attracted a rush of investors who put money into new leases. Many mines sunk proved uneconomic, investors withdrew, returned after rumours of new wealth and over the decades a small number of profitable companies survived from hundreds formed in the excitement of the richest discovers. Industries depended more directly on agricultural production. The further decline in mining consolidated a new level of segregation in housing. During times of depression fossickers and sustenance miners returned to the mine lands.

Industries

Other industries apart from mining began to employ workers. Traditional manufacturing industries of the 19th century such as black smithing, brick making, tanners, coach building, engineering, confectioneries, cordial manufacturers, flour milling and foundries declined.¹⁹ Increasingly, local primary industries converting foodstuff to marketable commodities, bakeries, milling and breweries, jam factories, meat freezing and textiles. Growth occurs in motor vehicles, electrical engineering and railway workshop trades. Few of the black smiths and foundries that dominated in the 19th century survive. Transitional industries that absorbed

¹⁶ Ibid p 32

¹⁷ Ibid p 47

¹⁸ Ibid 48

¹⁹ Vol 4 p 1 appendix 1

the unemployed miners included many government assisted industries such as the railways, the Bendigo North Railway Workshops, the State Electricity commission, SEC, the State Waters and Rivers Commission and the Ordinance factory.

Shaping of Towns from Diggings: Private Housing

Bendigo was still a scattered metropolis. With the decline in mining residential areas could become consolidated. By the 1890s architects who had reaped lucrative public contracts in the 1870s and 1880s turned to working for private clients bringing their own international style to Bendigo. Quarry Hill was consolidated as an enclave of the wealthy. Boasting of its gardens, fine climate Bendigonians could point to an increasing range of quality of private architect designed residences.²⁰ At the other end of the social scale, differences did exist. The Royal Commission on Housing was informed that there were only a few areas of small tenements, especially the Chinese areas. The poorest areas were found in Long Gully and Eaglehawk.

Public Works, Railway, Waterworks and Health

Bendigo began to present itself as the *Sanatorium of the South* a pleasant, healthy resort.²¹ It became a city within a park. Journeys to work were short and trips to the centre of the city were often by cab. There were more than 150 cabs and 200 horses servicing Bendigo in the 1880s. Over the following decades a system of tramways began to bring Bendigo closer to a metropolis. In 1890s battery powered tramway connected the railway station to Ironbark and Eaglehawk.

Social Life

The 1906 Licensing Reduction Inquiries paid special attention to goldfields towns with many small hotels being de-licensed. By the 1920s the Licensing Reduction Board had closed nearly all the small hotels in the area. Many were converted into residences.

²⁰ Ibid 49

²¹ Ibid p 49

Appendix F

The *Victoria's Framework of Historical Themes* of interest for Long Gully and Ironbark are:-

Victoria's Framework of Historical Themes

1. Shaping Victoria's environment. The theme includes the evolution of the environment from a scientific point of view and Aboriginal people's traditions about how the land and its features were created. This theme also traces how our understanding and appreciation of the environment has changed over time:

- 1.1 Tracing climate and topographical change
- 1.2 Tracing the emergence of Victoria's plants and animals
- 1.3 *Understanding scientifically diverse environments*
- 1.4 Creation stories and defining country
- 1.5 Exploring, surveying and mapping
- 1.6 Living with natural processes
- 1.7 Appreciating and protecting Victoria's natural wonders

2. Peopling Victoria's places and landscapes. This theme examines the people who occupied Victoria over tens of thousands of years and the waves of immigration since European settlement:

- 2.1 *Living as Victoria's original inhabitants*
- 2.2 Adapting to diverse environments
- 2.3 *Arriving in a new land*
- 2.4 *Migrating and making a home*
- 2.5 *Maintaining distinctive cultures*
- 2.6 Promoting settlement
- 2.7 Fighting for identity

3. Connecting Victorians by transport and communications. This theme traces how early pathways often followed Aboriginal lines of travel and were later formalised as road and rail networks:

- 3.1 *Establishing pathways*
- 3.2 Travelling by water
- 3.3 Linking Victorians by rail
- 3.4 Linking Victorians by road in the twentieth century
- 3.5 Travelling by tram
- 3.6 Linking Victorians by air
- 3.7 Establishing and maintaining communications

4. Transforming the land. This theme explores how occupation and use of the land, and exploitation of its natural resources, have transformed Victoria and shaped its diverse cultural landscapes:

- 4.1 Living off the land
- 4.2 Living from the sea
- 4.3 Grazing and raising livestock
- 4.4 Farming
- 4.5 *Gold mining*
- 4.6 *Exploiting other mineral, forest and water resources*
- 4.7 *Transforming the land and waterways*

5. Building Victoria's industries and workforce. This theme explores how secondary and tertiary industries were developed in Victoria and examines the experiences of those who have worked in them:

- 5.1 Processing raw materials
- 5.2 *Developing a manufacturing capacity*
- 5.3 *Marketing and retailing*
- 5.4 *Exhibiting Victoria's innovation and products*
- 5.5 *Banking and finance*
- 5.6 *Entertaining and socialising*
- 5.7 *Working*

6. Building towns, cities and the garden state

This theme focuses on the development of Victoria's cities, towns and suburbs, including the application of innovative planning ideas which contributed to Victoria's identity as the 'garden state':

- 6.1 Establishing Melbourne Town, Port Phillip District
- 6.2 Creating Melbourne
- 6.3 Shaping the suburbs
- 6.4 Making regional centres
- 6.5 Living in country towns
- 6.6 Marking significant phases in development of Victoria's settlements, towns and cities

6.7 Making homes for Victorians

6.8 Living on the fringes

7. Governing Victorians. This theme focuses on the role of the State and its institutions in shaping the life of its citizens in all facets of life:

7.1 Developing institutions of self-government and democracy

7.2 Struggling for political rights

7.3 Maintaining law and order

7.4 Defending Victoria and Australia

7.5 Protecting Victoria's heritage

8. Building community life. This theme covers the ways Victorians have built community life and institutions in a variety of forms and expressions:

8.1 Maintaining spiritual life

8.2 Educating people

8.3 Providing health and welfare services

8.4 Forming community organisations

8.5 Preserving traditions and commemorating

8.6 Marking the phases of life

9. Shaping cultural and creative life. This theme displays Victoria's cultural life in its many facets:

9.1 Participating in sport and recreation

9.2 Nurturing a vibrant arts scene

9.3 Achieving distinction in the arts

9.4 Creating popular culture

9.5 Advancing knowledge in science and technology

VOLUME TWO – CITATIONS