NORTH CENTRAL GOLDFIELDS PROJECT

HISTORIC MINING SITES IN THE DUNOLLY MINING DIVISION

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1. INTRODUCTION

1.1 PROJECT AIMS

This report aims to assess historic mining sites surviving in the Dunolly Mining Division, an area designated, for purposes of administration, by the Mines Department last century. The whole of Victoria was sectioned into Mining Districts which, in turn, were divided into a number of Mining Divisions.

This report is the second in a series looking at historic mining sites in all Mining Divisions in the former Maryborough, Sandhurst and Castlemaine Mining Districts, which together comprise the area now referred to as the North Central Goldfields (see Figure 1). The long-term goal of the North Central Goldfields Project is to assess sites over the entire region and to determine which should be conserved, and by what means. This report is a progress report and thus recommendations made are conditional on the achievement of the final goal. The main focus will be on sites within Land Conservation Council-designated Historic Reserves, but the project will encompass historic mining sites on other types of public land and might also refer, for purposes of comparison, to sites situated on private land.

A complete copy of the Project Brief is included as Appendix A to this report.

1.2 BACKGROUND

The Dunolly Mining Division is one of the six Divisions that comprised the Maryborough Mining District, the other five being the St Arnaud, Korong, Maryborough, Avoca and Amherst Divisions (see Figure 1). Today, the Dunolly Mining Division roughly equates with the area of Bet Bet Shire, taking in the towns of Dunolly, Laanecoorie, Llanelly, Moliagul, Goldsborough, Tarnagulla and Bealiba.

Although gold discovery in the Maryborough Mining District was reported as early as 1848, the first officially recognised goldfield in the District was that at Korong (Wedderburn), which opened in May 1852. Later in 1852, diggers travelling from Korong discovered gold at Queens Gully, Moliagul, making it the first field in the Dunolly Division to be rushed. Other significant finds followed, towns grew up, shifted and vanished, and the region assumed its own shape and character.

By the late 1850s, the Division had acquired its reputation as nugget country, where a digger's perseverance and readiness to rush could eventually be rewarded with a lump of gold. Nuggets - sometimes 'nests' of nuggets - sparked rushes, and while these erratic, often isolated, finds could frustrate the digger, the lure of the nugget always held special appeal - the ultimate get-rich-quick scheme.

Although nuggets and large specimens (including the world's largest, the 'Welcome Stranger') dominated the Dunolly Division's reputation as an alluvial goldfield, other kinds of alluvial gold deposits were also worked to advantage. Cemented Pliocene gravels made up many of the small hills in the area, while buried stream beds known as deep leads threaded their way underground. The mining of these kinds of deposits required more commitment and hard work from miners than did the chancy quest for a nugget. They needed the stamina to stay put and dig deep, and miners commonly pooled their labour and resources to form working parties and companies. Deep-digging alluvial mining called for technology - often horse- or steam-powered - that was more elaborate and expensive (and certainly less portable) than the pick, shovel, tin dish and cradle of the diggers who rushed the rich and shallow, but relatively short-lived, nuggetty fields.

Although considered a more notable industry, in nineteenth-century terms of technological, social and economic progress, quartz mining played a relatively small part in the Division's mining history. With the exception of a few giants - notably Poverty Reef, Queens Birthday Reef, Sandstone and New Chum Reefs and Queens Reef - the majority of quartz reefs in the Division were only superficially rich.

The Division's 139 years of mining history illustrates the extreme changes, especially in social and land-use terms, borne by gold-rush districts, from the times of the early pastoralists through periods of intense population growth, social and economic development and land degredation. Local agriculture, commerce and industry provisioned, profited and flourished from the gold rushes, and the livelihood they offered were a consolation to weary diggers when the desire to make a home overtook the urge to rush.

2. RESEARCH METHODOLOGY

The methodology employed for the project closely follows the guidelines set out in the Department of Conservation and Environment (DCE) paper, *Requirements for Assessment of Features of Significance in Historic Reserves.* The first half (five weeks) of the project period was occupied in research of historical sources, and computer input of data collected. Among the sources consulted were: Mining Surveyors' Monthly, Quarterly and Annual Reports; Mines Department maps, plans and reports; photographs and illustrations; published local histories and other secondary sources; local newspapers; local knowledge; and existing conservation studies for the Bet Bet Shire and North Central Goldfields area.

All historical data collected was entered into a simple computerised database, organised by geographical locality because historical gold-mining references commonly pinpoint an activity or occurrence to a particular gully, creek, reef, flat or hill. These localities have been grouped (for the purpose of producing clear and readable site maps) according to which goldfield they are part of - Dunolly, Moliagul, Inkerman, Goldsborough, Jones' Creek, Cay's Diggings, Cochranes or Bealiba, Poseidon, or Halfway Diggings - and marked on modern 1:25000 topographic maps. For each locality, the database provides a chronology of activity, detailing gold discoveries, mining parties and machinery, settlement patterns, population levels, and gold production figures. The organisation of historical data in this manner enables the origins of surviving physical remains to be traced, according to their location, as an aid to precise interpretation and dating of sites. Conversely, the data can pinpoint the location of an important historic site, so that remains of that site can be located on the ground today. The historical database also provides a detailed overall picture of gold mining and other activities within the Dunolly Mining Division, allowing an historical overview of the Division as a whole (its developments, trends and characteristics) to be pieced together. The historical database, in its entirety, forms Part Three of this report.

Once historical research had been completed and the database compiled, fieldwork commenced. Areas and specific sites pinpointed as having been important mining localities were surveyed for surviving remains. If found, remains were described, measured and photographed. Time and budgetary constraints necessitated that recording be of a fairly basic standard. It is envisaged that more detailed site recording, including scale plans and drawings, will be undertaken when particular sites are shown - after comparison with similar sites within the Division and elsewhere - to be culturally significant. Ideally, this detailed site recording, and, where necessary, further historical research, will be a component of the conservation policies to be devised for significant sites.

As each area was visited, the results of site surveys were matched with their relevant historical data and arranged to form a site gazetteer. The gazetteer entry for each site surveyed also includes details of precise location, site interpretation, an assessment of the integrity and condition of surviving remains, and, where appropriate, a statement of cultural significance and recommendations concerning the site's conservation.

The site gazetteer forms Part Two of this report

3. HISTORICAL OVERVIEW

3.1 INTRODUCTION

References to some 290 locations in the Dunolly Mining Division were gleaned from historical sources. The amount of historical data collected for each location is directly proportional to the degree of mining activity undertaken in that place. Thus, the historical database entries for Queens Birthday Reef and Dunolly Deep Lead (respectively, the Division's richest reef and alluvial lead) yield many pages of information. Some localities, on the other hand, were only superficially rich and, of them, only a few sketchy details were ever recorded. The locality-specific contents of the historical database, together with a wider reading of more general sources (see Bibliography), were used to compile an historical overview, highlighting the major phases of development and the special characteristics of the Dunolly Mining Division. Above all the Division became famous for the size and numbers of gold nuggets unearthed. The unpredictability of nuggets, and a universal belief that not all the nuggets could have been found, has led to Division the retaining this reputation. The six mining phases indentified can be summarised as follows:

PHASE 1: 1852 to1858

The initial discovery of gold led to a series of large rushes to three types of auriferous ground: shallow alluvial, cemented gravel and quartz reefs. Most of the Division's major rushes occurred during this phase. The working of the different types of gold-bearing ground tended to be closely linked, the finding of surface gold, for instance, leading on to the discovery of an associated quartz reef or deep lead. During this early phase of mining, claims were generally abandoned once water-level had been reached, as most miners and mining parties could not afford to instal pumping and winding machinery, and it was still relatively easy to strike new ground with abundant gold above water-level. Shallow alluvial ground, initially worked by tin dish, tub and cradle, started to be re-worked by puddling machines during the later 1850s. In 1859, legislation governing mining claims and leases led to the formation of substantial mining companies, which could afford to introduce pumping and winding machinery and effectively mine at depth.

PHASE 2: 1859 to 1888

The status of the individual alluvial miner declined, as parties of working miners and co-operative and public companies prospected and successfully mined on a large scale. It was during this phase that the bulk of steam-powered machinery was installed. From a host of mining companies working deep leads, cement and quartz reefs, some giants emerged, which dominated the mining industry and economic development of the Division throughout this period. The arrival of the railway expanded the region's timber industry, providing a boost to sleeper and firewood production.

PHASE 3: 1889 to 1902

An Australia-wide depression forced many miners to return to fossicking for a living. With no local capital available, several of the larger and more successful quartz mining companies were floated on the British market, attracting substantial new capital. The government also funded local prospecting associations. Quartz tailings were lucratively re-treated by the new process of cyaniding, which, due to the small capital outlay it required, was a venture within the reach of smaller mining parties.

PHASE 4: 1903 to 1920s

This phase marked the end of quartz mining as the dominant industry in the Division. The Government operated public crushing works so that small-scale quartz mining could continue. The slump in quartz mining led to a reduced demand for mining timber, causing the local timber industry to diversify into the distilling of eucalyptus oil. Also during this phase, the last of the Division's extraordinary nuggetty alluvial rushes took place, as well as the heyday of deep lead mining and the introduction of hydraulic sluicing dredges to work most of the richest alluvial flats and gullies.

PHASE 5: 1930s to 1970s

The Depression years saw a renewed influx of unskilled miners to the Division, in an attempt (promoted by the Government) to at least partially recreate the rich discoveries and economic vigour of the 1850s - or, at least, to make a living from gold. During the Depression and in the decades following, old goldfields were re-worked and some new ground prospected, but only rarely with success.

PHASE 6: 1970s to 1991

The popularity of metal detecting renewed interest in the old goldfields, particularly those like the Dunolly Division, whose reputation was built on nuggets.

3.2 HISTORICAL OVERVIEW - DUNOLLY MINING DIVISION

PHASE 1: 1853-1858 - Large alluvial rushes, beginnings of deep lead and quartz mining, and moves towards permanency

Shallow alluvial sinkings

The first reported discovery of alluvial gold in what was to become the Dunolly Mining Division occurred at Queens Gully, Moliagul, in late 1852. It was unearthed by a party of miners travelling south from the Korong (Wedderburn) goldfields [1]. Around the same time, another travelling party also had success. Mrs Lauder (née Elizabeth Anne Bright), one of the party's members, described the discovery:

> At Christmas 1852, we went with our bullock team to the station of Mr John Catto on the Loddon, looking for the best grass, and intent upon the chance of finding gold. We crossed the Loddon. While following the dray, my brother John found the first piece, which weighed 4 oz 1 dwt. The wheel of the dray had gone over it. We camped upon the creek close by, and named it Sandy Creek. Opposite our camp we found gold in quartz, and that reef afterwards became known as 'Poverty Reef'...[2]

Two other gullies - Long Gully and Surface Gully - were soon opened up. Their richness was to eventually influence the moving of the settlement from Commissioners Gully to where the township of Moliagul is today.[3] When Gold Commissioner Bull visited Moliagul in February 1853, he found:

> 500 people there and an encampment of 160 tents and stores...[and]...decided that an assistant Commissioner, a Camp and Police would immediately be placed at Moliagul. William Templeton, who was in charge of the camp at Commissioner's Gully, was responsible for issuing gold licences, collecting gold for escort to Melbourne, and administering the goldfield...[4]

After visiting the Moliagul diggings, Commissioner Bull continued his tour of inspection:

> I then proceeded eight miles easterly towards the Loddon and came on another diggings - about 100 men assembled. The same character of array exhibited itself. These diggings produced gold similar to Mt Alexander, but in less quantity. About 300 holes had been bottomed ..This first diggings at Sandy Creek was in the gully below Poverty Reef, on and below the site of the town, and was known as the 'Old Sandy Creek Lead'.[5]

By the following month, increasing numbers of men were heading towards the Sandy Creek diggings. Their searching eyes and picks soon opened up new areas, including Jones' Creek. As James Flett writes:

> The first official report on the field, early in March 1853, said that Moliagul was deserted for 'a sheet of water eight miles nearer the Loddon', and this was followed on the 26 March by another report saying the Moliagul Camp had been removed to Jones Creek, ten miles away. The first newspaper report of the new goldfield was early 1853. A number of names have come up in connection with the discovery, and of these perhaps the most likely prospector was G. H. Patterson, who claimed a reward for the discovery of Jones Creek, and 'near Jones Creek'... The place was gazetted for Petty Sessions on 29 October 1853, and named 'Beverly', a name which failed to stick. [6]

1 Carless 1983 p18
2 Flett 1979, p271
3 Tully, 1988, p.4
4 Carless 1983, p21
5 Flett 1979, p271
6 Flett, 1979, p.274

New goldfields were also discovered between Jones' Creek and Sandy Creek. In April, Ironbark Gully was being worked, and in mid-July, gold yields from Nuggetty Gully, which runs south-east from Sandy Creek towards Jones's Creek, generated one of the largest rushes ever to take place in the area. In August, there were reportedly 7000 men working there [1]

Whilst alluvial mining was flourishing in the northern part of the Division, gold was being dished in Burnt Creek, downstream from Moliagul. According to James Flett :

> Gold digging, it is said began in the Dunolly area in 1853, somewhere near the old Dunolly homestead of Arch. McDougall, the original settler about five miles north of the town today, at what is now called Inkerman. [2]

At about the same time the first throes of what was to become known as the Burnt Creek Goldfield were occurring two miles south of present-day Dunolly. The rush that developed there was rich, drawing many diggers from surrounding areas. The Government reacted to this, and in October 1853 shifted the Commissioner's Camp from Jones' Creek to the new gold goldfield.[3]

These discoveries at Inkerman and south of Dunolly instigated a series of rushes as diggers traced the gold bearing lead the length and breadth of Burnt Creek, from Moliagul to Dunolly and on to Bromley. The gold was deposited in the lead mainly in the form of nuggets, which occurred in a series of isolated but very rich patches. Because of this, the early rushes were spectacularly large in terms of diggers, yields and excitement, but soon exhausted themselves as the lead cut out again. Along with the stampeding miners went their canvas settlements. By the end of 1853 the diggers had shifted south from Inkerman to a site on Burnt Creek one mile south of the present township of Goldsborough.[4] Following on the heals of this move came the Hard Hill Rush, which blossomed into the largest rush yet seen in the Division, peaking in early 1854 with a population of 7,000. It ended suddenly when the auriferous lead was lost. As James Flett observed, this new rush destroyed any earlier mining settlements:

> The Hard Hill Rush, the richest that had occurred in the Dunolly area again drew the population of this locality south and stores and hotels were pulled down at the old locality and followed the rush.
>
> The new village of Hard Hill after a time met the same fate as the others, the same lead that appeared to be broken in places being picked up again further down the creek after the Hard Hill Rush had been thinned by rushes to other localities. The last resting place of this migratory band was a mile north of the later township of Dunolly (between the old and new Cemeteries), and here the township existed at the beginning of the Great Dunolly Rush, a long straggling street along the old track.[5]

Three miles to the south of the Hard Hill rush, a small population of miners continued working on the Burnt Creek diggings. By April 1854 their numbers had increased to 400, and when two large nuggets were unearthed in Quakers Gully, a rush occurred which doubled the number of miners on the field. It was during this rush that the Bet Bet Reef was discovered. By November 1854 the gold workings extended three miles and a Commissioners' Camp had been started at Bet Bet. This rush collapsed soon after and the Camp was broken up in December.[6]

The next development in alluvial mining came with the breaking of drought conditions which had prevailed in the Division since the first discovery of gold. Silted-up waterholes had often prevented the washing of nuggets from the matrix, leading miners to suddenly abandon potentially payable claims on news of a new rush where the waterholes were yet to be muddied. The ending of drought conditions in March 1855 saw a rush of 4000 men to old ground along Burnt Creek to process thousands of heaps of wash dirt which had been stacked there, and which, when washed, yielded wonderful returns of gold.[7]. This led to one of the Division's largest known rushes, known as the first Inkerman Rush, to:

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1 Flett 1979, p272
2 Flett, 1979, p.278
3 Flett 1979, p276
4 Flett 1956, p20
5 Flett 1956, p20
6 Flett 1979, p276
7 Carless 1983, p3

> a mile of rich, nuggetty ground, on the west side of the Burnt Creek from Three Grain Gully down. [1]

In April, 3000 diggers were reported to be doing well from surfacing operations, and by August there were 6000 at work. This first Inkerman Rush, downstream from Moliagul, was the first to bring to light the nuggets for which the Division is still famous. A Maryborough newspaper correspondent described the scene prior to the decline of the rush in September 1855:

> Our streets, long destitute of life have been for the last week crowded with eager multitudes, all wending their way to the new rush at Mt. Moliagul. I believe there are 16,000 there and every day seems to increase the number - a large street has been formed and public houses and stores rapidly erected. Sly-grog selling prevails to an alarming extent and if drunkenness and debauchery be taken as the criterion of a wealthy goldfield, Moliagul must undoubtedly be going ahead. Two coaches are already plying between it and Maryborough.[2]

By mid-September, the rush was declining, as the famous Fiery Creek rush, near Beaufort, had begun.

The Division didn't remain quiet for long, however. During the wet months of 1856, several miners who had stayed on, prospecting for the lost lead at the Hard Hill Diggings, hit the next nuggetty patch, further south towards Dunolly, and won small fortunes. This became known as the Old Lead and sparked the biggest rush ever to be experienced in the Dunolly Division. Flett vividly depicts the immensity of this rush:

> The rush depopulated half the digging towns in Victoria and it stemmed the rush to Rocky River in NSW, digging being at a standstill as Creswick, Daisy Hill, Castlemaine, and Maryborough emptied themselves of diggers. A great exodus set in from Bendigo ..It was Avoca that suffered the most from the Dunolly Rush. James Gearing, who was at the time running the first newspaper there, said that as the news of the Dunolly rush got about the effect was like an earthquake. Theatres, concert halls, hotels and stores...littered the ground, or were being hastily located on drays, as each one raced the other to be the first at the new El Dorado. In two days Avoca appeared utterly deserted... On August 21st it was estimated that there were 15,000 people at Dunolly and thousands more were arriving.[3]

The pinnacle of the Dunolly Rush came in September 1856, when it was variously estimated that there were between thirty to sixty thousand on the lead and crowded into the main street.[4] By October the number had declined to 20,000, as yields became poor and diggers departed to attend a very rich rush at Chinaman's Flat, Maryborough.[5].

As up to 40,000 people abandoned the district, those who stayed behind reacted in several ways. Some continued on as nomadic diggers, others began to settle down, began erecting houses and supplement their incomes from gold prospecting by growing vegetables, crops and raising livestock. Those who continued prospecting soon were successful. Wild Dog Hill near Dunooly was rushed in early November 1856, yielding well in patches and attracting a population of some three or four thousands. There were also rushes to other parts of the Division, in particular to Mosquito (Jones' Creek area), Italian Gully near Tarnagulla, and to Old Dunolly, now known as Goldsborough. According to Flett, the Old Dunolly rush was probably at the northern end of Bealiba or Queens Birthday Reef.[6] Gold was also found in February 1856, on a small hill about a half mile (1km) south-east of the Bealiba Run homestead.[7]. Diggers who worked this hill traced the lead down into the flat and, late in 1857, their efforts resulted in a large rush that created the town of Cochranes (later renamed Bealiba).

1 Flett 1979, p279
2 Flett 1856 p20
3 Flett 1956, p22
4 Flett 1956, p28
5 Flett 1956, p27
6 Flett 1956, p28
7 Flett, 1956

In 1857, ample water and newly prospected ground in Munster Gully sparked another rush to Inkerman. From Munster gully and surrounding ranges nuggets were traced down into Burnt Creek. A Melbourne daily paper reported this success on the 15th March:

> There were 3000 on Inkerman Rush at the time of the second rush there in 1857. The gold was from 9 to 20ft deep, the creek was running water and an ounce to the tub was being washed up. Nuggets from 2oz to 20oz had been found. The rush occurred south of the previous rush, and at the locality now known as Wattle Patch, but extended from there up and down the creek as far south as the Old Police Camp at Goldsborough. [1]

The second Inkerman rush peaked the next month. On 7th April the Melbourne Herald optimistically informed its readers:

> there are now 12,000 at Inkerman. On every tent a chimney is erected, and although to the casual observer this may seem of no importance, it is yet one of the surest indicators of the intention of the inhabitants' to winter here. The main street is already a mile in length and contains many buildings of a neat and substantial character. [2]

Despite all the newspaper's optimism, the fickle nature of the nuggets again proved itself, and by May the rush was over, and the bulk of the diggers departed. This time the town that had formed around the diggings did not completely disappear, and some miners stayed on confident that sooner or later they would get a nugget.[3] The efforts of those who persevered paid off, instigating minor rushes in 1858 and 1859 [4], and a large rush of 4,000 miners to Milkmaid Flat in 1861.

Many diggers departing the second Inkerman rush followed the Hard Hills rush to Sandy Creek, Tarnagulla. Here the European miners worked, along with a large population of Chinese miners, a new type of ground: early Tertiary beds of cemented gravel. These cemented gravels formed the tops of several adjoining hills, collectively referred to as the Hard Hills. In the following year, with the easy gold started to peter out on the Hard Hills, the Europeans drove the Chinese out of the Sandy Creek. Most of the displaced Chinese went to the Burnt Creek camp at Dunolly. The Old Lead was again rushed in October 1857 with the discovery of another of the Division's famed gold specimens:

> ...the Old Lead, which had produced a fairly continuous run of nuggets since the last rush, brought to light another larger than ever seen at Dunolly. The Dunolly nugget was 2952 ounces gross weight...and on being melted produced 1363 oz 18 dwts of gold .[5]

After this rush things quietened down, and by June 1858, the Chinese miners had the Old Lead and Burnt Creek diggings nearly to themselves. They then numbered around 2500[6], and their perseverance as alluvial miners was to help create and especially sustain, subsequent rushes.

Several smaller rushes occurred along Burnt Creek in 1858. There was another rush to Wild Dog in June and, in the direction of Moliagul, a rush of 2000 in August was caused by the appearance of nuggets in Sparks and Clodhoppers Gullies.[7] Further afield, gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Cays Diggings, after Robert Cay, owner of the Loddon Station, which covered the area.[8] The following year, in 1859, another new goldfield 'halfway' between Sandy Creek and Newbridge was opened up, and became known as the Tarnagulla diggings (later Halfway Diggings), after John Catto's Tarnagulla Station on the Loddon. The richness of this new goldfield, which attracted some 1,000 miners, became so well known that the nearby town of Sandy Creek changed its name to Tarnagulla. Like all rushes of this phase, it was soon over, and the bulk of the miners departed, leaving behind the persevering. In this case, those that remained to work the minor gullies and open the reefs were mainly Greeks and Italians. [9]

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1 Flett, 1956
2 Flett, 1956
3 Flett, 1956
4 Flett, 1956
5 Flett 1956, p71
6 Flett 1956, p73
7 Flett 1956, p73
8 Flett 1979, p273
9 Tully, 1985, p. 50

With the demise of the Halfway Rush in late 1859, things became tough for the individual miner (commonly referred to as a fossicker). No significant rushes were to occur until the early 1860s, perseverance and patience (the hallmark of the Chinese) was to be the order of the day until then.

Puddling machines

Others who stayed on in the district after the Dunolly Rush, moved past the stage of the individual miner, combining with others and taking on more ambitious operations. Often these called for machinery that involved greater capital outlay than the simple pan, cradle and windlass, requiring of the new 'generation' of miners a commitment to stay put and recoup their investment. These advances in alluvial mining took two main directions - puddling machines and deep lead mining.

Horse-driven puddling machines tended to be installed after a gully or flat had been rushed, 'worked-out' and deserted. Dogged miners knew that the end of a rush did not mean an end to a field's gold; rather, it meant that the gold was too widely dispersed to make a small miner's right claim (12ft [3.6m] square), payable. Puddling claims were larger, apparently averaging about 100yds (91m) square, and they could process all the surface soil, to bedrock, more quickly and economically than by hand-working alone. Thus, puddlers tended to concentrate in gullies where the surfacing yielded well. In these favoured localities, the puddling machines were situated at the heads and sides of a gully, where they and their dams would be protected from the main force of the winter floods that coursed down the gully's main channel. The operation of puddlers was also determined by the availability of water, so that the wetter months were their obvious peak season.

Able to process many tons of washdirt a day, the resultant sludge from puddling machines drastically accelerated the silting problem inherent in alluvial mining. By 1857, the sludge from puddling machines forced the town of Dunolly to start seriously considering matters other than mining as the:

> Burnt Creek waterholes became muddy and dirty, caused by the constant cradling, panning and puddling of the washdirt to obtain the gold. Near the course of the creek, holes were dug in the gravel and sand, and water allowed to seep into the depressions, the sand acting as a filter to clear the water...[after which] it was collected and sold to township residents by the water carriers.[1]

The Government responded to the sludge problem by passing laws which required machine operators to construct sludge channels to divert the damaging mass away from main creek channels. The operators were also required to employ men to keep their section of the sludge channel free.

In the winter of 1859, the Dunolly Division's first Mining Surveyor (responsible for reporting on, and controlling mining matters) stated that there were 189 puddling machines operating. At the beginning of 1860, nearly all mining activity in the Division was in abeyance until the rains fell again.[2] The drought's effect on puddling machines, combined with the cost of sludge clearance, was devastating and the use of puddling machines drastically declined. They returned with renewed vigor when the drought broke in the winter of1861.

Deep lead mining

After the Dunolly Rush ended in late 1857 some diggers continued working the Old Lead, tracing it into wet ground, where it became known as the Wet Lead.[3] These miners were embarking on a type of alluvial mining known as deep lead mining, which, as the name suggests, involved deep sinking to reach the gold on the beds of subterranean creeks, known as deep leads. Their success in finding nuggets, and lack of success in keeping the water in their shafts at bay with simple whims and windlasses, led, in 1858, to the erection of the first steam engine in the Dunolly Mining Division, by the Engine Enterprise Co., on Burnt Creek, to drain alluvial workings.[4] This company was not successful in obtaining payable washdirt, and despite the efforts of several companies in the 1860s, it was not until the late 1870s that deep lead mining was successful.

1 Carless 1983, pp 4-5
2 Mining Surveyors' Reports, January 1860
3 Flett 1956, p2
4 Flett, p73

Quartz mining

At the same time as the emphasis of alluvial mining in the Division was changing, from individual diggers to parties of working miners, quartz mining was also beginning to grow in importance. Inspirational to this branch of mining was the wealth of the Poverty Reef, Tarnagulla. Poverty Reef was the site of the Division's first crushing works, in 1856. Prior to this, quartz obtained from this and other reefs in the neighbourhood had been carted to crushing works at McCallums Creek, near Maryborough. Some of the crushings from Poverty Reef were spectacular: for instance, in September 1855, stone crushed from the reef yielded 92 ozs to the ton.[1] A diary kept by one of the Tarnagulla claimholders during 1856, shows that other reefs in the vicinity were also giving rich yields. It appears that during these early times of quartz crushing in the Division, quartz was burnt prior to pulverization:

> 11th - Harry and his mate got three tubs an ounce on Jim Crows. They began hauling quartz to the machine at Loddon.
> 25th - I went down this morning to the crushing machine at the Loddon to burn some of the quartz. With cutting wood, carting and burning the day drew to a close.
> 26th - We got wood and stacked another fire ... the machine is an 8 horse power engine. The quartz is first put through stampers, from thence conveyed by means of a shoot (supplied by a continuous flow of water) into a trough where two large rollers each weighing about 2 tons grind them to almost a fine gun powder and only when retorted the process is completed.
> 27th - Put another stack then returned to Sandy Creek.
> 1st - Went down to the Loddon to burn some quartz. The machine works pretty regular and is kept in motion night and day; the average quantity crushed in 48 hours about 5 tons.
> 2nd - completed our job, and returned in the evening. 5-1/2 of the first class quartz turned out about 6lbs 10-1/2 oz; the pieces look well. [2]

By 1859, yields from Poverty Reef alone were running at about 600 ozs per week and six crushing machines operated in the town of Tarnagulla. At this time:

> from a single crushing from the Prince of Wales Claim...two cakes of gold weighing 1,389 and 1,054 ounces were obtained, some of the stone producing the magnificent yield of 200 ounces to the ton... About this period the Gold Fields Commissioners visited Tarnagulla and they were shown a kiln of quartz valued at £40,000.[3]

Yields like these resulted in reefs being opened up around Dunolly, including the Perseverance, Monday Morning, Murphy's, Belgian, and Quaker's Reefs. Miners experimented with various technologies, before introducing steam-powered crushing batteries. Those working Bet Bet Reef were a case in point:

> When the Bet Bet Reef was first found there were no crushers available on the field. Some miners devised a new method of extracting the gold by melting quartz in a large furnace. Quartz was continually added to the boiling mixture, the excess drained out an overflow pipe. It was assumed that the gold, being heavy, would remain in the bottom. However, in the violently bubbling broth many flecks of gold found their way out the overflow and the process was abandoned.[4]

Meanwhile, on Windmill Reef, near Dunolly, claimholders erected an 80ft-high wooden windmill to drive a crushing battery. This was spectacularly unsuccessful: apparently the arms of the wheel, bearing sails, made only a single revolution, following which the stamps gave a convulsive rattle in their box, the machinery came to a dead stop, and the windmill never turned again. This unfortunate but innovative venture went down in history as 'Randle's Folly'.[5]

Despite several reefs being opened up and worked, it was Poverty Reef that continued to dominate the early history of the Division's quartz mining. It was on this reef that one of the first mining leases issued in the Division was taken up in August 1859 by the :

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1 Flett 1956, p20
2 Blake 1981
3 Clarke 1985, p4
4 Tully 1988, p27
5 *Dunolly and Bet Bet Shire Express*, May 17 1898.

> "The Sandy Creek Quartz Mining Co" - to King, Summers, Beynon, Alex Turball, and Thomas Baker, lease No. 16 in the Maryborough Mining District, Dunolly Division. [1]

This company, and another situated to the north, were also the first in the Division to seriously work reefs below the water level. The Mining Surveyor reported in Sept 1859 that Poverty Reef:

> continues its extraordinary success, a pumping and winding engine of 20-horse power is in the course of erection by Messrs Beynam and Co. on the north end; and on the south end the Poverty Reef Mining Co. are making preparations for the erection of machinery which is on its way from Melbourne. They have called for tenders for the engine-shaft on the reef [2]

At this early stage only one other company in the Division, the Specimen Hill Company at Tarnagulla, took up the challenge and erected an engine for the purpose of pumping and winding.[3] It was to be in the following mining phase (1861-late 1880s) which was to witness the widespread use of this technology.[4]

Moves towards permanency

With the alluvial mining population starting to stablise after the great Dunolly Rush, and with the opening-up of many of the Division's quartz reefs, the establishment of permanent towns took place. By the late 1850s, some settlements, such as the Moliagul Police Camp, Beverly (Jones' Creek Commissioner's Camp), and various canvas settlements formed along Burnt Creek had come and gone. Other places, such as Moliagul, Bromley and Old Dunolly (Goldsborough) continued, only to fade away in the twentieth century. Two towns - Tarnagulla and Dunolly - did prosper - the former because of the wealth of Poverty Reef, the latter because of its proximity to the richest alluvial deposits in the Burnt Creek Valley.

In 1857, the Government commenced to set Dunolly up as the Division's main administrative centre. In the early months of 1857, the town's first public buildings - courthouse, lock-up, gold office and police barracks - were erected at North Dunolly. These were portable structures, mainly constructed of galvanised iron. Later, in 1859, these buildings were removed and rebuilt in brick and stone in their current positions, at the rear of the south side of the main street. [5] In the town, brick buildings were replacing canvas and wooden shops, and on the outskirts of Dunolly, many of the diggers' tents were being upgraded to huts of wood and clay. The growth and permanence of Dunolly mirrored more than gold fever. As Flett puts it:

> Dunolly grew as the centre for the district, sold its merchandise through the wholesalers, brought its gold and was the rush town itself no more. Gold was still the source of its life, but the townsfolk set about building of a permanent place and to get from life other things that the constant rush for gold ignored...[6]

As the Dunolly Division became 'civilized' the calls came progressively louder for technological progress in the mining industry. One such advocate was the Division's Mining Surveyor. He favoured a more stable and sophisticated approach to alluvial mining, as one of his first reports, in August 1859, indicates:

> Individual alluvial mining is undoubtedly every day becoming a more and more precarious means of living. Very few are doing well at it, and the generality are scarcely earning a subsistence; and this in the midst of plenty, if efficient machinery were introduced to work our numerous shallow leads and gullies, and the surface on the slopes of the auriferous hills. [7]

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1 Flett, 1956
2 Mining Surveyors' Reports Sept 1859, p14
3 Mining Surveyors' Reports, Aug 1860
4 See Appendix C
5 Flett, 1956
6 Flett 1956, p 37
7 Mining Surveyors' Reports, August 1859

Revised mining regulations in 1859 made it possible for companies to lease sections of reef and alluvial ground. It is clear that the Mining Surveyor, like most of his contemporaries, viewed the demise of the individual miner as an inevitable and progressive step, and he gave his blessing to the first two alluvial companies to seek 25-acre leases:

> They have chosen, perhaps, the very best ground in this part of the division - shallow, originally rich, the gold general, the soil easy to wash, and plenty of watershed for reservoirs. The individual miner has worked it so long that it cannot pay him now, but machinery with suitable reservoirs of water will make it pay splendidly.[1]

However, his approval of this plan was premature. The application for these two leases of alluvial land at Moliagul - Lease No. 24, to work Surface Gully and Long Gully, and Lease No. 25, to work Biggs Gully - was bitterly and successfully opposed by individual miners working the area. Not surprisingly, they:

> forsaw all the best ground tied up in this way, and a Miners' Protection Association was the result, and the ambitious plans born of the Moliagul nuggets that at the time seemed so easy to find, and the lean times in Dunolly, came to nothing.[2]

As 1859 drew to an end, the Mining Surveyor reckoned there were 3,420 engaged in alluvial and 900 in quartz mining in the Division, and listed the machinery in use as 11 quartz crushing machines, four pumping and winding engines, 189 puddling machines and 15 horse whims. The Division's mining industry was well established, though the population engaged in both alluvial and quartz mining was temporarily decreasing, due to drought conditions.[3] The new mining regulations signalled that quartz mining was the way ahead: they meant larger companies, more capital, prospectuses to lure investment by shareholders, and the introduction of sophisticated pumping, winding, crushing and amlgamating machinery to tackle large-scale mining. It also ended a phase where shallow alluvial and quartz mining were bound together, for in the coming phase they were to become quite distinct professions: the former, the livelihood of aging and independent fossickers; the latter, the domain of more ambitious progressives and their employees. The year 1859 spelt the end of the era in which men rushed in their thousands to the Victorian goldfields to win fortune and emancipation, and saw a re-acceptance of the more conventional employee-employer roles.

PHASE 2: 1859-1888 - Mining cement, deep lead, quartz mining and other industries.

The Dunolly Mining Division was at an all-time low in 1860, but within a year or two its mining future was restored. The fortunes of the Division were restored in the 1860s on the backs of both alluvial and quartz mining, but it was the former that first instigated the turn-around and was to maintain the Division's buoyancy through future periods of frustration. The 1860s saw a colossal amount of prospecting, so much so that, by 1868, it was estimated that some sixteen square miles of auriferous ground had been worked within the Division.[4]

At the beginning of 1860, nearly all mining activity was in abeyance until the rains fell again. The drought's effect on the mining industry was devastating. The Mining Surveyor reported at this time that:

> almost entire want of water throughout the division has caused great depression both in alluvial and quartz mining during the month of January; nearly all the puddling machines are stopped, and only two out of the twelve crushing machines in the division are at work, and both these are entirely though scantily supplied by water pumped from Poverty Reef, and only one of them crushes for the public; consequently very little quartz is being crushed, and a great number of wages-men have been thrown out of employment.
>
> No new alluvial ground has been opened with the exception of a small rush that took place in the early part of the month within one mile and a half of Jones's Creek, and which is now nearly deserted...

1 Mining Surveyors' Reports, August 1859
2 Flett 1956, p74
3 Mining Surveyors' Reports, November 1859
4 Clarke 1985, p4

> With the exception of the Poverty Reef, Stony Reef, and Greek's Hill Companies, which are energetically at work, none of the others who have secured leased in the division have as yet commenced to make preparations. [1]

The Division's desperate position was not helped by the departure of more of its mining population, as word came of rich gold discoveries at Inglewood. The year 1860 marked the lowest point in Dunolly's fortunes:

> after the exodus to Inglewood rushes the population mustered only about 400 and the town street was a scene of deserted shops and the Town Council meetings frequently lapsed for want of a quorum.[2]

Despite the expectations of many in the mining industry, it was not quartz mining or large-scale mining companies which was to wrench the Division out of its depression; it was the individual miners who, with the breaking of the drought, discovered new gold deposits and rediscovered lost leads. Not only was the township of Dunolly saved by the resultant Burnt Creek Rush, but the town of Bromley was founded. What was known as the Burnt Creek Rush in fact encompassed a series of rushes, involving the working of shallow alluvial, deep lead and cemented gravels, taking place over a period of eight years.

Deep Lead mining

The Burnt Creek rush had two distinct alluvial faces: the working of the deep lead in the Burnt Creek valley, and shallow sinking and quarrying of older cemented gravels that formed the tops of the small hills around Dunolly. Sinkings on the deep lead kicked off the rush in 1861:

> It began with a digger named Chipps, who sank on Anderson's Hill... The lead was 60ft deep and was really wet and rather poor, but as though every digger in the district believed it rich, a great rush set in and the shops were set up. Another rush then started to the junction of Wild Dog and Burnt Creek Leads and another rush began at Warnecke's Flat and Dairy. The real lead on which the rush eventually based its existence began near Ah Wing's garden and became known as the Bullock's Flat Rush - the main rush.[3]

The rush to Burnt Creek was dominated by the Chinese, who outnumbered European diggers six to one. It was reported that they held all the 'fancy ground', and opened the lower end of the lead, known as Hong Kong Lead.[4] According to Flett, these rushes, which were:

> kept going by the persevering Chinese often when almost abandoned by the Europeans, undoubtedly saved Dunolly as a town... The town turned the corner in 1861. In the next two years it consolidated itself, and for three years following this it reaped a rich harvest for the re-discovery of old runs of gold...the continuations of the Wet Lead and Old Lead.[5]

The miners who chose to work the deep lead, now called the Hong Kong Lead, were initially successfully in tracing the auriferous gravels, south-east down the Burnt Creek valley towards Bromley. In February 1862, the rush on the Hong Kong lead was in full-swing. The Hong Kong Lead was 3 chains (60m) wide on the flat, and yields like 100oz for 30 loads were common.[6] Although the next few months brought new successes the lead was becoming difficult to trace, and shortly afterwards was lost altogether. By 1865 the Hong Kong lead had still not been traced, but two prospectors found gold near the Horse Pound on Timor Road, about two miles north from Gooseberry Hill.[7] This was the Pound Rush, which resulted, once the shallow ground had been exhausted, in the discovery of another auriferous deep lead near Pottery Hill.[8]

1 Mining Surveyors' Reports, January 1860
2 Flett 1956, p34
3 Flett, 1956
4 Flett 1979, p.277
5 Flett, 1956
6 Flett, 1956
7 Flett, 1979, p.282
8 Flett, 1956

The lead near Pottery Hill continued to be worked for many years, by Chinese, companies and individual miners. In March 1868, McHardy and party completed the erection of powerful machinery, and commenced work.[1] Six years later, in 1874, another company, the Prince of Wales, commenced sinking a shaft and erected a puddling machine, and put through a quantity of washdirt for a yield (including several nuggets varying from 14 to 8 ozs) of 256oz 4dwts.[2] This company was one of the last to work Pottery Hill, suspending operations in June 1877 and placing their mine on tribute.[3]

Despite success in deep lead mining to the north of Gooseberry Hill, those who looked for the once rich Hong Kong lead required more perseverance. In 1865 the quest to re-trace the lead was taken up by a group of local farmers:

> All companies - the Rising Sun, The Duke of Edinburgh, the Victoria and others -having failed to find the continuation of Hong Kong lead near Bromley. Peter McBride was one of the chief ones in this quest and great must have been the discussion and the geological speculation over the Lost Lead or Hong Kong, and the Bet Bet farmers took up the matter of the Deep Leads, forming a syndicate in November 1865, composed of Freemantle, Pike, Sewell, and Gemmill, who met at Grant's Bet Bet Hotel and, along with 16 others, agreed to £20 each to starting boring for leads in the Bet Bet valley.[4]

In spite of this syndicate's determination, it was not until August 1869 that the lead was rediscovered, to the south of the Duke of Edinburgh mine. The first lease in the area went to Richard James Scott of Timor in 1871, and his Great Caledonian Co. started work in September 1872.[5] Although extensive working was undertaken, it was ten years later, in 1882 , that the Mining Surveyor was able to make a favourable report of the company's operations:

> after long and persevering work the company struck a lead of gold, which is turning out very favourably. They are now about to erect puddling machines in connection with the steam machinery already erected.[6]

The Great Caledonian Company was then taken over by the Burnt Creek Co. which was to successfully work the lead until 1913.[7] During the time of their operations, the Burnt Creek Co. erected machinery on three different leases - known as Burnt Creek, Burnt Creek No. 1 and Burnt Creek No. 2 - as mining moved progressively south-east past Bromley.

Cemented Gravels

In April 1862, a different type of rush took place, to the hills west of Burnt Creek - Spillers Hill, Lady Barkly's Hill, Graveyard Hill (old burial ground), Slaughteryard Hill, Patchy Hill and Gooseberry Hill. Spillers Hill was the site of:

> the first concerted effort by experienced diggers to trace a lead in this strata [Pliocene beds of waterworn stone, cemented together] and the result was the weekly lists appearing in the Dunolly newspaper of nuggets and yields of claims that became famous. In 1863 the Blue Jacket Claim was getting sometimes upwards of 50 ounces per week, and the 'Blue Jacket' nuggets were famous... In the Blue Jacket the wash was seven feet thick and a regular ounce to the load was had for weeks and months. [8]

On Spillers Hill, the Chinese mining contingent was again very much in evidence. By December 1862, that hill had the distinction of being the only place in the Dunolly Division where steam machinery was employed for working alluvial ground.[9] The following year saw a rush to another of the hills, White Hill.

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1 Mining Surveyors' Reports, March 1868
2 Mining Surveyors' Reports, March 1875
3 Mining Surveyors' Reports, June 1877
4 Flett, 1956
5 Flett, 1956
6 Mining Surveyors' Reports, September 1882
7 Flett 1979, p.278
8 Flett, 1956
9 Mining Surveyors' Reports, December 1862

In November 1863, a large rush took place to Gooseberry Hill. Flett describes the beginnings of this new rush:

> The Union Co. which claimed to be the openers of...the Gooseberry Hill Rush sank 63 feet and immediately got 9 ounces of gold... The papers referred to this firstly as the 'South Dunolly Rush' and reports of the gold found under the gravel and cement, where every hole had gold, caused a great rush... The Gooseberry Hill Rush extended throughout the following years, despite swampings and the discovery of gold near the Pound in 1865...[1]

This large rush to Gooseberry Hill led to the emergence of another settlement, albeit only a canvas one:

> The hill...was covered in tents and a considerable sized township had been erected with more than one street... There were some thousands at Gooseberry early in 1865 and the sight of the great multitude of fires glowing on the hill as seen from Dunolly in the Autumn of 1865 was something to remember...[2]

Shallow alluvial sinking

In 1869, as the cement rushes along the Dunolly hilltops petered out, a nugget was unearthed at Moliagul, which was to rewrite the record books: it was named the Welcome Stranger:

> It weighed 210lbs gross and 2268 oz, 10 dwts, 14 grains of smelted gold have been obtained from it irrespective of a number of pieces of gold and specimens which have been given away by the finders. The finders are John Deason and Richard Oates, miners who have worked in this locality for about seven years and have a puddling machine there, and the nugget was found...about an inch below the surface on the western side of the gully slope, going from Black Reef down to a gully which is known as the Bulldog Gully or Black Lead. They estimate the size as about 21 inches in length and 10 inches in thickness, but unfortunately broke the nugget in three parts before they informed anyone of it. The spot where the nugget was found is about 50 yards west of the Bulldog Reef in which the quartz lode runs from one to four feet wide and has been worked to water at a depth of, say, 100 feet, and is about 200 yards east of the alluvial gully known as Black Lead, and where the depth of sinking is from there to 10 feet with a sandstone bottom. The nugget was found in some surfacing (of which from 10 inches to a foot is generally puddled) of loose, gravelly loam, resting on thick red clay, with a bottom of sandstone about 10 inches from the surface. The actual amount paid for the gold sent to the bank was £9534. [3]

In August of the same year, a rush to the Inkerman area took place. The gold that spurred the rush was found on Gipsy Flat, south of Burnt Creek. The rush uncovered some large nuggets (150, 76, 50 and 40 oz.), but became famous for the number of 'smaller' nuggets unearthed (sixteen from 20-35 oz and 111 nuggets from 10-19 oz). The town of Gypsy Flat was surveyed after 9000 miners arrived at the rush.[4] The Gipsy Flat rush was the only large alluvial rush to shallow ground to occur in the Division during Phase 2 (1861-late 1880s).[5]

Quartz mining

While alluvial mining was reviving the Division's fortunes, quartz mining continued to grow as an important branch of mining, and more and more reefs were opened up. In April 1862, it was estimated that there were 79 distinct auriferous quartz reefs in the Division, and, by 1868, 172 quartz reefs had been proved auriferous.[6] Only a few of these reefs emerged as being of major significance in terms of production or machinery erected: Poverty Reef (Tarnagulla), Watts Reef (Tarnagulla), Bealiba or Queens Birthday Reef (Goldsborough), Queens Reef (Moliagul), and the New Chum and Sandstone Reefs (Llanelly). The majority of reefs were the realm of parties of working miners or small companies. These small operators normally only had the capital to work their shafts with windlasses or horse-

1 Flett, 1956
2 Flett, 1956
3 Flett, 1956
4 Tully, 1988, p.8
5 See Appendix F
6 Clarke 1985, p4

powered whims, and were usually content to cart their quartz to public crushing works. Sometimes a company which possessed a crushing plant and was itself in hard times, would try and re-coup some of its capital outlay by crushing for others.

Some public crushing works were located in the main towns of Tarnagulla and Dunolly; others were located in bush. The Star Reef Company was operating a public crushing plant on the Star Reef, approximately 2km south-east of Llanelly, in 1867.[1] The company failed but, in June 1876, a Mr J. Watkins removed his crushing works from Llanelly to the reef. He proceeded to crush for the public and in 1885 the plant was purchased by the Kangaroo Company, which carted quartz to the battery from its mine several miles away.[2] The battery continued to crush quartz for other mines in the vicinity, and was still operating in this capacity in 1891.[3]

Another public crushing works was situated on the Bet Bet Reef as early as 1859. At that time, one of the three claimholders on the reef, Caithness and Co., brought a 30 horse-power Berdan crushing machine there from Inglewood. This milling plant was replaced by a battery in 1861, to which quartz was carted for crushing from reefs over a large part of the Division.[4]

The major reefs were constantly worked (though on varying scales) throughout the period 1860-88. The only complete halts to operations on a reef appear to have occurred in slack times, when the various claimholders might stop to discuss the amalgamation of their claims. Amalgamations were generally in response to one or both of two problems: excessive water or poor-yielding stone. Not only did such amalgamations combine adjoining ground, but also the equipment, plant and workforce of the amalgamating claimholders. They also gave adjoining claims the benefit of one another's work carried out to date; for instance, Claim A and Claim B's shafts could be connected by a drive, and one shaft used for pumping excess water whilst the other was mined. The larger mining companies that resulted from such amalgamations tended to have the largest and most complete pumping, winding and crushing plants in the Division, removing and re-erecting them from one part of their combined claims to another. All of them at some time or another went through lean times, which usually meant that mining was carried out by tributer.

Tarnagulla mines

The Dunolly Mining Division's richest reef was Poverty Reef at Tarnagulla. An incredible 13-1/2 tons or 324,000 oz was mined from an area 120m long and 120m deep at an average of 4 oz per ton.[5] By 1860, the reef's claimholders were already well on their way to making their fortunes. The reports of the Division's Mining Surveyor for this year focused on two main claims on the reef: Sandy Creek Quartz Mining Co. (usually referred to as Poverty Reef Mining Co.), and Benyon and Co. Both had pumping, winding and crushing machinery at work, and the latter's shaft, at 360ft (110m), was reported as the deepest shaft in the Division in April 1860.[6] In 1864, water entering the shafts proved too much for the existing pumping machinery and, by September, all mining was suspended while the claimholders commenced amalgamation talks.[7] A year later, the amalgamation was resolved and the Mining Surveyor made this comprehensive report of the new operations on the reef:

> The shareholders in the prospecting shaft, and five claims to the north and two to the south have amalgamated, which step has resulted in the foundation of the Victoria Company... The mine force employed consists of 45 miners... The machinery comprises one horizontal engine; cylinder 18 inch with stoke of 3 feet; two Cornish boilers, 24 feet by 6 feet 6 inches each; this drives the pumps and lifts, with Vivian patent friction winding gear. The pumps are 8 inches in diameter, and consist of both plunger and lift. There is besides one small winding engine, 10 inch cylinder. The engine with boiler is housed in a substantial brick building 30 feet by 30 feet, and covered with corrugated iron. There is one Clayton and Shuttleworth's portable engine for winding from No. 4 and No. 6 claims, and one of Roby's patent portable 10-hp engine for winding from No. 6 north. There are four crushing

1 Mining Surveyors' Reports, December 1867
2 Mining Surveyors' Reports, June 1885
3 *Dunolly and Burnt Creek Express*, 26/1/1891
4 Tully, 1988, p. 27
5 Tully 1988, p44
6 Mining Surveyors' Reports, April 1860
7 Mining Surveyors' Reports, September 1864

> plants on the ground, two of eighteen heads of stampers each, with engine of 25-hp, and tailings pumps, and two of twelve heads each. The amount of quartz crushed weekly is estimated to average 400 tons.[1]

Despite the amalgamation and new machinery, the Victoria Company was not particularly successful in the long-term and, by 1868, it was reported that the whole of the line of reef was being worked by five different parties of tributers.[2] A Mining Surveyor's report of March 1870 indicates that the working of the reef was barely payable, one of the tributing companies returning a yield of about 3 dwt to the ton.[3] As a consequence, operations along the reef ceased in 1874, while amalgamation of properties was again considered.[4] The company that emerged after ten years of negotiations was the United Poverty and Prince of Wales Company. In September 1884, the company was erecting machinery in preparation for recommencing work on Poverty Reef.[5] The United Poverty and Prince of Wales Company continued to operate into the 1890s, as will be seen in Phase 3 of this Historical Overview.

To the north of Poverty Reef, on the outskirts of Tarnagulla, was Watts Reef, another productive reef which was worked over a long period. Watts Reef was first opened in the 1850s, but was not worked to any great depth until the late 1860s when two companies were sinking below the 180 foot level.[6] Apparently these sinkings met with no great success, as little further was heard of Watts Reef until 1878, when the Yorkshire Company was formed to work it. The company erected winding and pumping machinery and started work the following year.[7]

Although not as rich as the neighbouring Poverty Reef, yields from Watts Reef over the following decade did allow the Yorkshire Company to pay several dividends.[8] By the late 1880s, the company's activities on the reef were mainly confined to prospecting and no development of note appears to have occurred there until the early twentieth century.

Goldsborough Mines

After the Poverty Reef, the next richest reef in the Division was the Bealiba or Queens Birthday Reef. So great was the activity on this reef that it became the fifth and final site of the Old Dunolly settlement - that is, the township of Goldsborough.[9] Like Watts Reef, although it was first worked in the late 1850s, the Queens Birthday Reef did not prove payable until the early 1860s, when the Goldsborough Company commenced to work it. By the end of 1866, the company had won from the reef an impressive total of 1744 ounces of gold.[10] In October that year, the Queens Birthday Company took out an adjoining lease on the reef. It was 3 years before their mine showed a return, but perseverance and the installation of heavy machinery eventually paid off: in 1868 the Queens Birthday Company sank onto payable gold.

A large number of companies worked the Queens Birthday Reef between 1867 and 1890, seeking the same success as the Goldsborough and Queens Birthday Companies. Despite the number of mines worked, none equalled the performance of the Queens Birthday mine. During the middle years of the 1870s, when most of the other mines had suspended operations, the Queens Birthday continued, not just to work successfully, but to grow. In December 1876, the Mining Surveyor reported that:

> the mine presents very favourable appearance for permanency. Two pairs of Chilian mills for treating tailings are now on the ground, and will be erected forthwith; it is also contemplated to erect other machinery for the treatment of the tailings and pyrites.[11]

1 *Dickers Mining Record*, 24/11/1865, p243
2 Mining Surveyors' Reports, September 1868
3 Mining Surveyors' Reports, March 1870
4 Mining Surveyors' Reports, December 1874
5 Mining Surveyors' Reports, September 1884
6 Mining Surveyors' Reports, March 1870
7 Mining Surveyors' Reports, June 1879
8 Mining Surveyors' Reports, March 1883 & June 1885
9 Flett, 1956
10 Flett, 1956
11 Mining Surveyors' Reports, December 1876

By 1877, the Queens Birthday Company had taken over the Goldsborough Company's ground.[1] At the time of the take-over, the Goldsborough Company had paid dividends of £20,000 to its shareholders, and worked rich quartz down to the 300-foot level in its mine. In 1879, the Queens Birthday Company was considered one of Victoria's leading gold mines. The highest fortnightly yield from its mine was 1765 ounces, but yields of 1000 ounces were common. During the 1880s, plant and equipment costing £25,000 was installed at the mine, comprising:

> the usual pumping and winding gear on a massive scale, [and] a forty-head battery as well as a 12-stamper machine on the old Goldsborough Co.'s ground and another that the Queens Birthday Co. now owned on the old North Birthday Co.'s shaft of 18 stampers. They also had a Chilean mill, air compressors, patent concentrators, and reception and visitors' rooms. They also had a board room up above the battery.[2]

By 1887, nearly £250,000 had been paid to Queens Birthday Company shareholders, and the plant was crushing 2000 tons of stone per week. At that time, the company held 136 acres under lease.[3] Over the following two years, the company found the going harder, leading the mine to be floated on the English market.[4] Up to this point, the company had obtained 100,504 oz of gold from its two shafts.[5]

Llanelly mines

Two very rich lines of reef were responsible for establishing the town of Llanelly: the New Chum and Sandstone Reefs. In April 1863, a local correspondent referred to New Chum as '*the* reef of Tarnagulla'.[6] At that time, an engine with four batteries of stamps was put to work on the reef, offering crushing and pumping services to miners at 'the most liberal' terms.[7]

As was the case on the other significant reefs, amalgamation of claims occurred and, by 1867, a large portion of the reef was being worked by the Cambrian Company. This company was to obtain 36,000 ounces of gold from the reef, before ceasing operations in the 1870s.[8] In March 1871, the Company's mine was sold and two companies were formed to retreat the mine tailings:

> The Cambrian Co.'s mine and plant on New Chum line of reef, have recently been sold, and the purchasers have erected several of Carpenter's patent ore separators, which will be worked by one of the engines, for the purpose of washing quartz tailings. Two companies have been formed, known as the Victorian Pyrites and Auriferous Ores Companies; they have purchased all the tailings in the neighbourhood (several thousand tons), which is calculated to keep them profitably employed for the next three years.[9]

At least some of the pyrites obtained by these companies was shipped to England for treatment, where yields like 4oz 18gr of gold and 7dwts of silver per ton were realised.[10]

By December 1871, the Cambrian Company had been reorganised, and its two principal neighbours on New Chum Reef, the Prince of Wales and Extended Companies had amalgamated, suggesting hard times. From that point, mining on this reef was mainly limited to prospecting for new lodes and, despite all three companies amalgamating in 1874[11], the days of significant returns from New Chum Reef were over.

Llanelly's other main reef, running parallel to the New Chum, was the Sandstone Reef, which was worked by a number of companies from the late 1860s. The Victoria Company appears to have been the

1 Flett, 1956
2 Flett, 1956
3 Flett, 1956
4 Mining Surveyors' Reports, September 1889
5 Kitson, 1902-1906
6 *Dunolly and Burnt Creek Express*, 10 April 1863, p3
7 *Dunolly and Burnt Creek Express*, 10 April 1863, p3
8 Tully, 1988, p. 48
9 Mining Surveyors' Reports, March 1871
10 Mining Surveyors' Reports, June 1871
11 Mining Surveyors' Reports, June 1874

most successful of these, erecting powerful pumping and winding machinery in 1868.[1] The Victoria and the other mines on the reef struggled along into the 1870s, with varying success, but by the mid-1870s all had ceased operations.[2] In the 1890s, renewed capital from England allowed the reef to be worked again.

Moliagul

The main quartz field of the Moliagul area was Queens Reef, close by the site of the Division's first gold discovery. Queens Reef was worked during the late 1850s[3], and in 1860 a co-operative party, the Queens Company, was formed and equipped with a 25 horse-power engine and crushing plant.[4] The Queens Company appears to have continued to operate through the 1870s, though a lack of reports on its progress by the Division's Mining Surveyor, suggest that it did not meet with much success. A report in December 1872, however, suggested renewed vigour, perhaps even a change of luck:

> The Queen's Reef Co. are sinking a main shaft (present depth 120 feet)... They have nearly completed the erection of powerful pumping and winding machinery, and intend to put down a 10-inch plunger lift to drain the mine.[5]

But perhaps not. Through the middle years of the 1870s, the mine was either idle or being worked by tributers. By 1878, the Old Queens Company had been re-organised into the Queen's Reef Company, which set up an engine, boiler and twenty head of stamps on the reef. The new company prospected through sinking and cross-cutting, but met with little success, and, before long, Queens Reef was virtually abandoned.

Other industries

During the 1860s and 1870s, mining gave rise to a number other industries in the Division. The largest of these was agriculture. Gold deposits in some areas had been so depleted that the individual miner, supporting a family, could not depend on the fruits of his mining to survive. Many of those who wanted to stay put in the district became small farmers, to supplement (or replace) their gold earnings. Douthat explains how the Colonial Government helped to establish the small farmers of the Waanyarra area:

> The 1869 Land Act allowed for ordinary, less wealthy people to select and buy land... Commons were established to allow controlled grazing of Crown Land for a fee. Jones' Creek Goldfields Common was about 410 acres and took in part of Grassy Flat, where a dam was built for stock water... Waanyarra's settlers had relatively small holdings and operated 'mixed' farms mostly intent on self sufficiency. Fruit, vegetables, eggs, chickens and a pig or two, a house cow and a goat, kept the families going for most of the year. Some settlers had cows and operated successful dairies. Sheep were not kept to a great degree until farms expanded.[6]

The timber industry was the other major growth industry in the Division during this period. Timber, both milled and cut, was in demand for use in underground workings, buildings, firewood for boilers, and construction of puddling machines, windlasses and whims. Huge contracts were also let for sleeper-cutting, when the railways entered the area. Bealiba was, for many years, an important centre for the delivery of railway sleepers.[7]

By the 1860s, several sawmills were operating in the Division. These included the sawmills of Hargreaves at Murphys Creek and Hammond and Co. at Grassy Flat, Waanyarra. At Hammond's, bullock drays hauled the huge logs to the sawmill.[8]

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1 Mining Surveyors' Reports, June 1868
2 Mining Surveyors' Reports, June 1874
3 Tully, 1988, p.6
4 Mining Surveyors' Reports, April 1860
5 Mining Surveyors' Reports, December 1872
6 Douthat 1989, p16
7 McConville (1987), p28
8 Douthat 1989, p17

Other industries that emerged to meet the needs of the mines included foundries, blacksmith shops, and wheelwrights.

PHASE 3: 1888-1902 - cyaniding, English mining companies/new plant and alluvial prospecting

By the end of the 1880s, the Division's major quartz mines had effectively ceased operations, although some continued to prospect their ground or have it worked on tribute. This decline in mining activity coincided with an Australia-wide depression. To revive their fortunes, the larger companies sent entrepreneurs to England to raise the capital necessary for further prospecting and development. Three companies were successful in their quest for funds: Queens Birthday Co. ,Goldsborough; Sandstone Co., Llanelly; and Poverty Reef Co., Tarnagulla.

Queens Birthday Co.

In 1890, the working capital of the Queens Birthday Company (£35,000) was subscribed in London[1], and in July 1892, it was announced that the Queens Birthday United Gold-mining Co., with a capital of £159,000, had been successfully floated. Within two months the mine was re-equipped and re-opened.[2]

As in the preceeding phase, a key strategy of mining companies during Phase 3 was amalgamation. In February 1894, the new London-based company had control of the whole Queens Birthday/Bealiba Reef, as well as ground on some neighbouring reefs:

> Since the mines and plants of the Queens Birthday and North Birthday Companies and Belgium, Perseverance, and other properties were amalgamated and taken over by the New Queen's Birthday London Company, active operations have been carried out at several points.[3]

Despite expectations, the new company failed to make headway and the mine was abandoned for a time, while the New Birthday Company was formed. Further development of the mine took place, as detailed in this January 1898 report:

> new winding shaft and spider delivered and placed in position. The poppet heads are up, also engine and winding gear are in position, and building in the course of erection. The blacksmith's shop is already erected. The foundation for boiler and chimney are in, and the boiler in position, ready for building on.[4]

Still, the mine's returns failed to pay for the company's outlay. Gold-bearing stone was struck, but not enough to ensure the New Birthday Company's success.

Great Sandstone Company

The Sandstone Reef, near Llanelly, was also worked during Phase 3 with English capital. The company was floated in 1891, and £10,000 raised for the purpose of buying efficient pumping, winding and crushing machinery.[5] Three years later, in April 1894, the *Dunolly and Bet Bet Shire Express* attacked the company for squandering its capital on the wrong type of machinery:

> There is no doubt that the Cornish pump should have been put in the first instance instead of spending a vast amount of money on pumps which have proved complete failures and have had to be removed at great cost to the company. Unfortunately, the trouble did not end here. The directors were persuaded by the Otis Co. to get one of their Ball Mill

1 *Dunolly & Bet Bet Shire Express*, supplement, 1.4.1890
2 *Dunolly & Bet Bet Shire Express*, 23.9.1892
3 *Dunolly & Bet Bet Shire Express*, 16.2.1894
4 *Dunolly and Bet Bet Shire Express*, 11.1.1898
5 *Dunolly and Bet Bet Shire Express*, 27/2/1891

> crushers. Subsequent results have proved this likewise to be a failure... The Company are now on the right track. They are putting in a Cornish lift and have purchased a battery.[1]

Despite the local press's approval of the company's new direction, little payable stone was obtained and the reef was abandoned.

Poverty Co.

The Division's richest reef, Poverty Reef at Tarnagulla, was also re-worked unsuccessfully during this period by the Bendigo Consols Company, formed in England with a capital of £120,000:

> for the purpose of acquiring Victorian mining properties. One of the properties purchased by the company is the Prince of Wales and Old Poverty Mine, Tarnagulla from which about 10-1/2 tons of gold have been taken in the past.[2]

Cyaniding

On a less grand scale, but probably of more importance to the local miners at this time, was the introduction of new processes, involving the use of cyanide and chlorine, for recovering minute particles of gold from the vast mounds of tailings discarded along the Division's reefs after the quartz crushing process. These retrieval processes were first employed in the Division in 1896, when the Victorian Government ruled:

> that a company which had patented the technique would no longer have the right to royalities of ten per cent on all gold won by this method.[3]

One of the earliest uses of the cyanide treatment process was carried out on tailing heaps from Poverty Reef. Claims are made locally that:

> This was the first time that this process was successfully undertaken on a large scale in Australia. Some hundreds of thousands of tons of sand were treated during the eight years that this company were at work, and the results obtained were remarkable. As much as 28 dwt of gold per ton of sand was recovered.[4]

Yields like these led to the growth of tailings re-treatment into a major mining enterprise that easily outshone the viability of mining in the Division at that time. The relative simplicity and inexpensiveness of the cyaniding process meant it could be undertaken by small- as well as large-time operators. In the vicinities of the Division's richest quartz mines:

> men rushed to buy up heaps of tailings and worked over old claims using cyanide. Many turned to a...mechanical roller with which they could crush the tailings before sinking rock into a cyanide bath.[5]

Some small operators continued reworking the Division's quartz tailings by methods similar to these, up to the 1940s.

Alluvial mining

Alluvial mining does not feature largely in historical records of the Dunolly Mining Division for this period. In deep lead mining, the Burnt Creek Company still dominated the scene. In 1891, the Burnt Creek Co., No Liability was formed[6] and worked the Burnt Creek No. 1 lease. The *Dunolly and Bet Bet Shire Express* published the following details of the company's operations, in January 1896:

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1 The Tarnagulla and Llanelly Courier, 7/4/1894
2 *Dunolly and Bet Bet Shire Express*, 10/9/1895
3 McConville, 1987, p15
4 Clarke 1985, p5
5 McConville,1987, p. 15
6 *Dunolly and Bet Bet Shire Express*, 7.1.1896

> Area of leasehold: private property, 540 acres; Crown lands, 27 acres; no. of men employed, 80. Gold won during 1895 - 2739 oz. Gold won since inception of the present Company - 14,265 oz; value about £57,000.[1]

During the next two years the company shifted operations to another lease further down the lead, now known as Burnt Creek No. 2. The Burnt Creek Company spent the remainder of the 1890s developing the new lease, for which toil it was to be rewarded early in the new century.

The depression of the late 1880s and early 1890s, as one might expect, instigated a surge in small-scale alluvial prospecting, as the unemployed swelled the ranks of the Divisions' remaining alluvial miners. Their efforts, however, produced few rushes of any note during this period. Probably the most important was towards the Loddon, where a quantity of nuggets was found in 1894. Tully writes that:

> the gold was in patches and the lead was lost, the area being abandoned. In 1896 another rush started but of fifty claims only two found gold. It was abandoned again. The following year a digger hit good gold and a large, rich, nuggetty rush started. It was christened the Slip-Up, as many indeed had slipped up by not realising how close they had come to digging such rich ground.[2]

The Slip-Up rush was to instigate a series of rushes to the general area of the Loddon during the next phase, which were to culminate in 1906, in the discovery of the Poseidon field. The rush that followed is considered by some to have been the last of Victoria's great alluvial rushes - the end of an era.[3]

PHASE 4: 1903-1920s - Government batteries, the last great gold rush, dredging and end of deep lead mining

The quartz mining industry of the Division entered a new stage in this period. No longer did any giants dominate the scene; instead, the small-time operators kept things going. They were aided by the Victorian Government's installation of four government batteries - Dunolly (1898), Waanyarra (1902), Moliagul (1910), and Tarnagulla (1915) - making efficient quartz treatment facilities accessible to small miners. Cyaniding re-treatment also continued, and at least one of the government batteries, at Tarnagulla, treated tailings by this process.

Principally, though, this phase was dominated by events that occurred in the alluvial branch of mining. Towards the turn of the century, commencing with the Slip-Up rushes, a series of nugget discoveries occurred between Tarnagulla and the Loddon, between Cay's and Newbridge. The Federation Lead was being worked in 1901[4] and in 1903 the Nick-O'-Time Rush commenced. According to Tully:

> This lead was discovered by Hatt, Crossley and Claridge in 1903. Six years previously, a fencer named Polo discovered gold here whilst digging a post hole. He put a nick in the post which was still visible at the time of the Nick-O'-Time Rush. It wasnt long before 2000 miners rushed to the area.[5]

One of the last and most sensational of this spate of rushes towards the Loddon occurred in November 1906, when a prospector, John Porter, discovered the Poseidon lead, in the form of auriferous gravels ten feet beneath the surface. His discovery sparked a large rush to the area and the unearthing of many large nuggets.[6] The most famous of these, named the Poseidon after the winner of that year's Melbourne Cup, weighed 953 ounces and gave the rush its name. A few days after this discovery, two more nuggets were found to rival it: the Leila, at 675 oz, and the Hazel, weighing 502 oz. The Poseidon rush took place on private land and, at its height, about 3000 diggers camped on the field. As had happened with the original rushes, fifty years earlier, stores quickly sprang up to cater for all the miners' needs. The Poseidon lead was remarkable on two counts:

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1 *Dunolly and Bet Bet ShireExpress*, 7.1.1896
2 Tully 1988, p46
3 Tully 1988, p47
4 Flett 1979, p273
5 Tully 1988, p46
6 Douthat 1989, p11

> From its size, more large nuggets have come from this lead than any other in the world. 703 oz, 675 oz, thirteen others over 100 oz, nineteen from 50-99 oz, fifty-two from 20-49 oz and two hundred and eight from 1-19 oz... the Premier awarded [James Porter] £500 for the discovery. He was the last man to receive a reward for the discovery of a new goldfield in Victoria.[1]

The Poseidon rush secured for all time the Dunolly Mining Division's reputation as nugget country.

By 1907, the shallow ground on the Poseidon lead had been exhausted and:

> The lead is gradually being worked down to the deep ground, which will require pumping machinery to deal with the water, which is now giving several parties a good deal of extra labour. [2]

The first machinery installed on the lead appears to have been that of the Poseidon Alluvial Company. In 1909, this company erected a small winding plant, and started to sink a three-compartment shaft.[3] By 1911, a further two companies - the Great Poseidon and the Poseidon King - were working the deeper ground. All three companies had machinery at work on the lead in 1912, the Great Poseidon introducing a new innovation - a freezing plant to deal with excess water in its shafts.[4]

The three companies continued their developmental work through 1913, and the following year the Poseidon King Company ceased operations due to lack of capital.[5] The other two continued with some success, and one hopes that the workforce of the Great Poseidon Company (its freezing process now in action) were rewarded well for their labours. The Division's Mining Surveyor tried to present a humane view of their working conditions:

> The temperature, 15 degrees below freezing, is cold working, but when the men protect themselves for the work, and take care in blasting and cleaning up after firing, the work should be healthy.[6]

In 1915, the local newspaper reported that all mines on the Poseidon lead had closed down.[7]

While the giant Poseidon rush was capturing attention in 1906, the old Jones' Creek alluvial field was rushed anew. The Waanyaara Rush (as it was called) was to private land, and, apart from the local population, residing on small landholdings nearby, others were attracted from further afield.

> Several hundred miners turned up and shops were erected. The Post Office, which later became a house, was there for many years. A series of indicators crossed the lead and those who were lucky landed on good nuggets. The sinking was 26 ft and during the rush were found nuggets of 26, 27 (2), 29, 44, 50, 51, 70 and 106 ozs. [8]

The Waanyarra Rush was short-lived, but, as Douthat points out, people who had homes at Waanyarra kept on with their claims and managed to keep their families by small finds and by producing their own food.[9] Occasional finds of large nuggets, one weighing 90 ounces, were still being made the following year.

Deep lead mining continued during this phase, and was still dominated by the Burnt Creek Company. In fact, it was during this phase that the company probably had its most productive years. In 1903, working its new lease, Burnt Creek No. 2, the company reported that it had:

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1 Tully 1988, p47
2 Mining Surveyors' Reports, 1907
3 Mining Surveyors' Reports, 1909
4 Mining Surveyors' Reports, 1912
5 Mining Surveyors' Reports, 1914
6 Mining Surveyors' Reports, 1914
7 Mining Surveyors' Reports, 1915
8 Tully, 1988, p.35
9 Douthat, 1989, p.13

> panelled out about 10,316 tons of wash for a yield of 6,169 ounces of gold. This work involved the employment of 150 men,of whom 125 worked underground.[1]

The following year the company was employing 178 men and had erected a powerful winding and pumping plant at its No. 2 shaft.[2] The affairs of the company appear to have declined after 1904 and, by 1910, progress was reported as being slow, owing to the unevenness of the ground and the large amount of water to deal with.[3] By 1913, the Division's greatest and longest-lived deep lead mining company closed down through lack of capital for necessary developmental work to drain the mine.[4]

During Phase 4, several of the richer alluvial flats were first re-worked by dredges. Three of the major dredging operations conducted in the Division between 1904 to 1913 were at Burnt Creek, Sandy Creek (Tarnagulla), and Moliagul. The Burnt Creek area was worked from 1905-1912 by the Burnt Creek Hydraulic Sluicing Co. Every month the company would clean up the sluice box, usually for a yield of about 300 oz. Nuggets were found readily, including pieces of 24 and 40 ounces.[5] At Sandy Creek in 1904, Messrs Davies and Kersham brought a dredging plant into operation, in the hope of capturing the gold that the original workers of the lead had missed. During the eight years of the plant's operation, an average of 200 ounces of gold was recovered for every acre of ground treated.[6] The Moliagul Welcome Stranger Dredging Company operated in Biggs Gully from 1900 to 1913. In 1907, the company was reported to have recovered 44 ounces of gold from a half-acre paddock.[7]

A substance called 'slum', the residue from the washing of alluvial deposits, was, like the tailings from quartz mines, worked by the cyaniding process for the purpose of extracting gold that had escaped the first treatment. The Burnt Creek Co. appears to have been the leader in this enterprise. In 1909:

> Two puddling machines have been added to the treatment plant. In the shallow alluvial ground, leading into the deep leads, 15 parties have been engaged, employing 62 men... Several of these parties have erected small cyanide plants in connection with their mines for the purpose of treating the slum from the puddling machines, which is carefully stacked, and which was formerly lost onto the creeks or scattered over the surface.[8]

In 1913, puddling and cyaniding of the slum was being carried out on Puzzle Flat, Bealiba. As a result of this attention, a rush took place to Puzzle Flat when a lead running through it was found to be carrying payable wash. On the heels of the rush came the Bealiba Alluvial Company, which as well as sinking shafts, installed a cyanide plant to treat the slum from the puddlers.[9] Other companies joined them on the reef, jointly employing about 60 men in 1915.[10] Mining on Puzzle Flat ceased the following year, but cyanide re-treatment continued.[11]

Timber industry

The decline of the quartz mining industry in the Division considerably lessened the demand for timber for mining purposes. At the same time, however, a new industry emerged in the Division: the distilling of eucalyptus oil. According to McConville:

> The Forestry Commission licensed one distiller, J.B. Reid to operate in the Waanyaara Forest... [Other plants]...worked at Emu in the 1920s, along Tarpaulin Creek, and later at Goldsborough and near Rheola.[12]

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1 Mining Surveyors' Reports, 1903
2 Mining Surveyors' Reports, 1904
3 Mining Surveyors' Reports, 1910
4 Mining Surveyors' Reports, 1913
5 Tully, 1988, p.26
6 Clarke 1985, p6
7 Supple, 1988
8 Mining Surveyors' Reports, 1909
9 Mining Surveyors' Annual Reports, 1913
10 Mining Surveyors' Annual Reports, 1915
11 Mining Surveyors' Annual Reports, 1916
12 McConville (1987), p61

The Eucalyptus distilleries used Cornish boilers to steam the oil from the leaves. Because of this, distilleries required fresh water dams, and it appears that at least two eucalyptus plants, at Goldsborough and Waanyaara, were constructed near old quartz mines, where they could avail themselves of existing dams.

PHASE 5: 1930s Depression onwards - sustenance mining and timber camps

The Great Depression of the 1930s had a significant effect on the mining industry in the Division. Prior to this period, mining activity (both alluvial and quartz) was at a low ebb, being carried on by just a few part-time miners. The Depression, and the State Government's unemployment relief (known as 'sustenance' or 'susso') quickly changed this. During 1931 and 1932 unemployed workers from Melbourne converged on the Dunolly Mining Division. The Government granted each of these men a free pick and shovel and five shillings a week to dig for gold and try to make a living for themselves. As McConville records, these basic tools of the trade were not enough:

> After blundering about in the bush and striking aimlessly at the occasional rock, the disillusioned digger often drifted towards Dunolly... Old miners from the Shire took pity on these newcomers and together they formed a Prospecting Association. At the first meeting only twenty men claimed to have ever dug for gold and only six knew anything about the local fields. Altogether there were over 150 men from Melbourne digging around the town and several hundred on relief funds.[1]

As a result of the influx and renewed interest in mining, the Dunolly Division witnessed a small-scale revival of the 1850s mining scene, when men with little experience tried their luck for their gold. Luck and nuggets were considerably thinner on the ground during the 1930s, however, than they had been eighty years earlier. While local diggers worked the ground with the advantage of some experience, using puddling machines, the newcomers generally adopted a more haphazard and laid-back approach to mining:

> At each strike hundreds of men would gather and start to peg claims. Just as in the 1850s few of the gold-seekers stayed for long. Many turned back to Melbourne or else rushed from one promising find to the next without ever beginning any real diggings. One camp of unemployed diggers drew men to Hard Hills outside Tarnagulla. Howard Lummis remembered the scene on this field in the 1930s when: *they were a crummy lot that lived about there... there were about six or eight camps of them .. they'd get the washing dirt and they'd put it in gutters and as the rain came down it would wash it all for them instead of putting it through the puddling machine.*[2]

One of the largest strikes of gold led to another Waanyarra Rush, but, as Douthat points out, survival, for many of the diggers, relied on a source other than gold:

> There was a canvas township...[at the] Waanyarra Rush where nearly 100 were camped. Claims were 7 x 1 ft... Two hundred men were on the field where water was scarce in February, 1932... Many of the Depression miners were lucky enough and hardworking enough to survive in their tents and rough huts, finding gold or cutting wood, but it is well known among the families of Waanyarra who had been there since the early days, that the women on the small farms kept so many of the poor men fed. By this time when the small farms were producing more food than the families could eat, the excess produce was given or sold to the miners.[3]

According to McConville, the Division's mining revival peaked in 1931:

> Altogether, Dunolly banks purchased £3344 worth of gold during 1931. In 1931 the CBC Bank dealt with 244 gold transactions, double the number of the previous year. From then onwards the returns from fossicking seemed to decline as many of the sustenance men left the district.[4]

1 McConville (1987), p59
2 McConville (1987), p59
3 Douthat 1989, pp13-16
4 McConville (1987), p60

Timber

During the Depression, not all those arriving in the Division found employment in gold mining. Some of the unemployed worked at cutting wood, and locals continued to operate eucalyptus distilleries. Dick Thorpe, a resident of Waanyarra, worked for a distillery during this time:

> During the depression I worked with Ed Morton for a while cutting eucalyptus shoots. 'Knocking shoots' was about the only job you could get then. It was good work. We made about £4.10.0 a week, we'd start about 7.30a.m. We'd cut in an area about six or seven miles around Waanyarra and towards Dunolly. The 'eucy' was taken to the Government Eucalyptus plant at Waanyarra. Jimmy Read rented the factory from the Government and ran the plant.[1]

PHASE 6: 1970s to 1991 - recreational treasure-hunting and prospecting

Although the metal detector was first invented in 1925, the apparatus in its early form was incredibly cumbersome and its detection range limited to large objects at shallow depths in non-mineralized ground. For these reasons, its applications were few, although it was invaluable during the Second World War in locating shallow land mines. During the 1960s, light-weight detectors were developed, with an eye to the hobby market, but their effectiveness, from a gold prospecting viewpoint, was still severely limited.[2] Metal detecting did not become popular until the introduction, in the mid-1970s, of the VLF (very low frequency) detectors, which allowed greater ground penetration and, with experience, could be used in areas of ground mineralization. From the mid to late 1970s, metal detecting took off in Australia as a recreational pastime.[3]

The Dunolly Mining Division, forming part of the famed Golden Triangle (extending north and north-west, to Inglewood and Wedderburn), became a mecca to this new generation of prospectors. Caravan parks filled to overflowing with detector enthusiasts. Mindful of the legendary Welcome Stranger and the unsurpassed nuggetiness of the country, the new rush to the Division centred on Moliagul and Tarnagulla, although the detectors swept the whole region. Plenty of nuggets were certainly found - and continue to be found today. The heyday of this 'rush' was during the late 1970s and early 1980s. Detector operators still comb the Division, but in smaller numbers.

As was the trend in the past, prospectors remaining in the area today tend to systematically work larger areas (rather than fossicking at random) than when the rush was at its peak, often pegging Miner's Right Claims, rather than holding the simple Miner's Right. The effective depth-range of metal detectors is still severely limited, so modern working frequently employs heavy earth-moving equipment to strip off an area's top layer of soil, once the detector has shown this layer to be devoid of gold. The newly revealed surface is then re-swept by detector. This process is called strip-mining.

Metal detecting unearths more than just nuggets: metal artefacts of earlier gold rushes - including mining tools, coins and jewellery - are also brought to the surface and carried away. Many detector operators search for relics of this kind, rather than for gold, and the intensively rushed and much (if briefly) settled Dunolly Mining Division provides rich pickings in this line as well. Relic-hunters, together with their brothers-in-arms, the bottle-hunters, are responsible for much of the recent disturbance to, and destruction of, historic habitation sites in the region.

1 Douthat, 1989, p172
2 Stone, Sargent & Stone, p. 9
3 Stone, Sargent & Stone, p. 10

4. SURVEY RESULTS

4.1 INTRODUCTION

As the North Central Goldfields Project is a broad-ranging and ongoing one, it is unrealistic to expect that each Mining Division in the region can be exhaustively surveyed. What can be realistically aimed for at this stage is a strong representative sampling of sites. The historical database is the tool used to achieve a balanced sample. Not only does its locality-linked historical references indicate which sites were the most important, but also those which are most likely to yield surviving remains. These are the sites primarily targetted for surveying. The historical database still stands as a guide to other localities where historic mining sites might be found, and, ideally, will be used as the basis for further surveying, research and assessment towards the end of the North Central Goldfields Project, when sites in all other Mining Divisions have been similarly sampled and an overall management strategy is being drawn up.

The survey of mining-related and other industrial sites in the Dunolly Mining Division was carried out over a period of two and a half weeks in May 1991. The project officer received assistance in the field from Ray Supple and Graham Perham (Historic Places Branch, DCE), Murray Dangerfield (Forest Officer, DCE, Dunolly), and volunteers, David Knox and Robyn Annear. The fieldwork component represented about one-quarter of the 10-week project period. In the course of fieldwork, 80 sites were surveyed.

4.2 FIELDWORK RESULTS

The following table gives a summary of sites surveyed, outlining geographical location, site type (alluvial, quartz, re-treatment), land status (private or public land type), and the components of each site. (See Figure 2 for 1: 25,000 maps showing locations of sites)

◊

No.	Location	Type	Status	Components
001	Doctors Gully	Quartz retreat	SF	Cyanide vats (gal iron & stone lined)
"	" "	Quartz battery	SF	Battery stumps & concrete footings; boiler
002	Windmill Hill	Quartz battery	SF	Brick & stone footings & bedlogs; dam
003	Clovers Gully	Alluvial	SF	Puddling machine & dam
004	Watts Reef	Quartz mine	SF	Brick footings; shaft; boiler/battery remains
005	Burnt Tree Gully	Alluvial	SF	Puddling machine & dam
006	Cumberland Lead	Alluvial	SF	Puddling machine & dam
007	Cumberland Lead	Alluvial	SF	Sinkings and mullock heaps
008	Bealiba Forest Blk	Timber	SF	1930s camp - 9 stone structures & rubbish
009	Bealiba Reef	Quartz mine	GHR	Mullock heap; stone footings & bolts; bricks
010	Bealiba Reef	Quartz mine	GHR	Mullock heap; buried footings; bolts & bricks
011	Bealiba Reef	Quartz retreat	GHR	Cyanide vat and extensive dumps of sand
012	Bealiba Reef	Timber	P	Functional Eucalyptus distillery
013	Bealiba Reef	Settlement	GHR	Orchard & dam (house on private land)
014	Bealiba Reef	Quartz mine	GHR	Mullock heap; machinery footings; bricks
015	Bealiba Reef	Water Race	P?	Channel & concrete abuttments
016	Bealiba Reef	Quartz retreat	GHR	Circular depressions & cyanide vat
017	Bealiba Reef	Quartz mine	GHR	Brick powder magazine
018	Bealiba Reef	Quartz retreat	GHR	Circular depressions
019	Belgian Reef	Quartz retreat	SF	Cyanide vat
020	Belgian Reef	Quartz retreat	SF	Circular depressions
021	Belgian Reef	Quartz mine	SF	Mullock heap; battery stumps; chimney base?
022	Swipers Gully	Alluvial	SF	Puddling machine & dam (stone retained bank)
023	Almeida Reef	Quartz mine	SF	Open cutting & shafts; 22 stone structures
024	Specimen Reef	Quartz mine	SF	Mullock heap, battery stumps/bed logs; bricks
025	Wild Duck Lead	Alluvial	SF	Puddling machine & dam
026	Gooseberry Hill	Cemented wash	GHR	Tunnel and puddler at base of hill
027	Patchy Flat & Hill	Cemented wash	SF	Sinkings on flat; puddler & dam
028	Slaughtery'd Hill	Cemented wash	SF	Patch of intact sinkings & mullock
029	Graveyard Hill	Burial	CR	Cemetery & Burnt Creek alluvial sinkings
030	Spillers Hill	Alluvial	SF	Dredge dam; hopper & elevator; footings

031	Andersons Hill	Alluvial	GR	Sinkings obliterated
032	Quakers Gully	Quartz mine	SF	Mullock & tailing heaps; dams
033	Chisholms Reef	Quartz mine	SF	Open cutting and shafts; footings; dam & sand
033	Chisholms Lead	Alluvial	SF	Puddling machine & dam; sinkings and mullock
034	Corfu Reef	Quartz mine	SF	Mullock; stoping, shafts; 2 machinery sites
035	Halfway Lead	Alluvial	SF	20-30 tent sites; hotel site; 1930s rubbish
036	Star Reef	Quartz battery	SF	Mullock, battery stumps/engine bedlogs; sand
036	Star Reef	Quartz retreat	SF	Galvanised iron cyanide vats
037	Hellas Reef	Quartz mine	P	Remnants of mullock
038	Linger & Die Lead	Alluvial	P	Sinkings, stone fireplaces, 1930s rubbish
039	Sandstone Reef	Quartz mine	BR	Brick footings /bob-pit; battery stumps& sand
040	Growlers Reef	Quartz mine	TFR	Shafts; early open cutting; battery; tunnel
041	Jim Crow Reef	Quartz mining	TFR	Open cutting & stoping; battery site
041	Jim Crow reef	Quartz Retreat	TFR	Puddling or Chilian circles & sand
042	Jim Crow/Italian	Alluvial	TFR	Sinkings and mullock; 5 puddlers & dams
043	Tappit Hen Reef	Quartz mining	SF	Machinery site; Cornish boiler
044	Hard Hills	Cemented wash	GR	Sinkings gone
045	Sandy Creek Lead	Alluvial	P	Alluvial landscape - dead trees & sinkings
046	Wanda Reef	Quartz mining	SF	Battery site & sand; brick chimney base
047	Gt Northern Lead	Alluvial	SF	Sinkings obliterated by strip mining
048	Nuggetty Gully	Alluvial	SF	Puddler & dam; sinkings
048	Nuggetty Reef	Quartz mining	SF	Shaft; mullock & stone structure; 1930s
049	Gourlays Indicator	Quartz mining	SF	Battery stumps & engine bedlogs; shaft & sand
050	Gourlays Indicator	Timber	SF	Eucy distillery - vats, tramway & footings
051	Barnes Flat	Alluvial	SF	Sinkings, mudbrick/kero tin fireplaces, 1930s
052	Jones' Creek	Alluvial	SF	Sinkings/mullocky landscape; puddling machine
053	Tipperary Gully	Quartz battery	SF	Dam & battery sand
054	Sawpit Gully	Alluvial	SF	Sinkings /mullocky landscape; some reefing
055	Poverty Reef	Quartz mining	SF	Tailing dump, workings, stone structures
056	Calders Reef	Quartz mining	SF	Mullock heap & loading bay
057	American Reef	Quartz mining	P	Mullock heap; brick engine footings
058	Bulldog Gully	Alluvial/Qurtz	MHR	Welcome Stranger Tourist Trail & features
059	Waymans Reef	Quartz mining	MHR	Currently being excavated
060	Queens Reef	Quartz mining	MHR	Dam; tailing heap; open cutting
061	Queens Gully	Alluvial	MHR	Sinkings; ground sluices; 1930s rubbish
062	Biggs Gully	Quartz battery	MHR	Battery stumps & bed logs; water tank
063	Slaty Reef	Quartz mining	MHR	Open cutting in slate; shafts
064	Long Gully	Alluvial	MHR	Sinkings & mullocky landscape; puddler & dam
065	German Gully	Alluvial	MHR	Sinkings; surfacing & 5 puddlers
065	German Gully	Settlement	P	Remains of mudbrick house, cellar & orchard
066	Mt Sheoak	Quartz mining	MHR	Tunnel and finger-like mullock heap
067	Sheoak Reef	Quartz mining	MHR	Battery stumps & sand; bed logs; dam
068	Arcadian Reef	Quartz mining	SF	Mullock heap, battery sand & dam; furnaces
068	Arcadian Reef	Quartz retreat	SF	Concrete bases of cyanide vats
069	Inkerman/Burnt C	Alluvial	SF	Sinkings/mullocky landscape; early cemetery
070	Kangaroo Reef	Quartz mining	SF	Open shafts /stoping & assoc mullock paddocks
071	Nuggetty Gully	Alluvial	SF	Patches of sinkings & mullock; stone fireplaces
072	Burnt Creek No2	Deep Lead	P	Dumps wash & mullock; brick footings; boiler
073	Burnt Creek No 1	Deep Lead	P	Huge dumps wash & mullock; brick footings
074	Burnt Creek	Deep Lead	P/F	Working mine; large dumps; machinery site
075	Sweet Nell	Deep Lead	SF	Dumps of wash & mullock; machinery site
075	Sweet Nell	Slum Retreat	SF	Adjoining puddling circles
076	German Charlies	Cemented wash	GR	Sinkings & mullocky landscape
077	Walker's Reef	Quartz mining	SF	Battery stumps & dam; cyanide vats/tailings.; and whim platform.
078	Wild Dog Diggings	Cemented Wash	WHR	Sinkings & mullocky landscape
079	Old Lead	Alluvial	P	Landscape of sinkings & dead trees
080	Harvest Home Rf.	Quartz mining	SF	Dams & battery sand; machinery site
080	Harvest Home Rf.	Quartz retreat	SF	Puddling or Chilian circles; cyanide vat
081	Puzzle Flat	Cemented wash	SF?	3 phase of pumping works, dam, large mounds
082	Advanced Bealiba R.	Quartz mining	SF	Mullock heap, tailings & workings
083	Tunstall's	Alluvial	SF	1860s sinkings, rock mounds, street pattern
084	Deason/Brooker Reef	Quartz mining	MHR	Cyanide vats and tailings

085	Bet Bet Lead	Alluvial	SF	Stone walled puddler
086	Bet Bet Reef battery	Quartz mining	SF	Battery stumps, engine bed/boiler setting; chimney base; and long open cut.

(Key to abbreviations: SF=State Forest; GHR=Goldsborough Historic Reserve; MHR=Moliagul Historic Reserve; WHR=Wild Dog Historic Reserve; P=private land; GR=gravel reserve; GHR= Gooseberry Hill Historic Reserve; TFR=Tarnagulla Flora Reserve)

5. INTERPRETATION OF PHYSICAL REMAINS

5.1 METHODOLOGY

The interpretation of the physical remains of historic mining sites requires a balanced approach. Ideally, it calls for the skills of an historian, to select and sift through historical sources, and the eye of an archaeologist or geographer, to 'read' the meaning of the surviving landscape and physical remains.

Central to the approach of the project officer is the belief that accurate identification and interpretation of mining sites in the North Central Goldfields region involves investigation of historical sources covering as broad a possible time period. Historical research that is too narrowly focused - for instance, concentrating only on a site's most renowned phase of activity - predetermines its own conclusion, ie. physical remains are automatically attributed to that period, whilst their possible connection with a later (or earlier) phase of activity is ignored. This is the 'wishful' approach to site interpretation. To automatically assume a connection between what is historically significant and what remains on the ground today overlooks an obvious trend in gold mining where an alluvial field or quartz reef, once proved to be auriferous, was subject to successive re-workings. The greater the gold-yield of a place, the more intensive and repeated the re-workings. The surviving remains on such a site are therefore likely to represent bits and pieces from a number of different time periods, with those of the most recent phase of activity dominating and in the best state of preservation. The remains pertaining to early periods of operations are usually the most obscure, having been either removed, buried, eroded, or somehow incorporated into the matrix of a successive stage of workings.

One of the major findings of this report (and of a 1990 study of the Castlemaine-Chewton Historic Area[1]) has been that, despite a gold mine having had its glory days in the mid- to late-nineteenth century, its activity during the period from the 1890s to the Depression years of the 1930s cannot be overlooked when interpreting that site's physical remains. That is the period to which the majority of obvious physical evidence of mining within the division (both alluvial and quartz) can be found to date.

By tracing a mining site right through the historical record, rather than targetting only historical sources of a given period, it is possible to find out whether that site was worked only fleetingly or on a number of occasions over a long period. If the latter is the case, a chronology of events and the changing scale of activities can be established for the site.

During site surveying, the surviving physical remains can be deciphered with the assistance of the historical data collected. Often the task is an easy one, eg. if a site has been reworked on several different occasions, then the bulk of what survives can generally be taken to represent the latest period of mining. Sites which have had only one main period of working are not so easy to phase. The main tool for dealing with this type of site, and one that is also very useful in interpreting multi-period sites, is a technique called relative dating. This involves the development of a range of artefact types which are characteristic, or diagnostic, of a particular phase of mining. In examining a site, the diagnostic elements belonging to the most recent period effectively give the date of the site's last period of operation.

Some of the main examples of diagnostic elements which have so far been found to assist in the relative dating of sites in the North Central Goldfields region are:

- Stone engine beds not associated with brickwork or brick rubble, suggest an early machine site, probably dating from the late 1850s to early 1860s.
- Hand-made red bricks found in association with engine beds or footings suggest a machinery date of mid-1860s to 1880s.
- The presence of machine-made bricks indicate a machinery site dating to the mid-1880s onwards.
- The use of concrete for engine beds indicates a site dating to the 1890s or twentieth century.
- Tailing dumps which contain stratified layers of battery sand and sludge indicate that they have been deposited direct from a battery following successive crushings, rather than having been deposited as a mass after cyanide re-treatment or relocation.
- Cyanide vats date no earlier than 1895. The earliest vats built were of either stone or brick; during the twentieth century, they have been generally constructed of concrete and/or galvanised iron.

1 Bannear, 1990.

- Large mullock heaps containing 'blue' mullock (from below water level) cannot date prior to the introduction of steam-powered pumping machinery (c. 1859).
- Puddlers with a very weathered appearance and covered with large trees, often located away from tracks, tend to date to the nineteenth century; puddlers with well-defined outlines, scant vegetation, raised mounds of washdirt, and found very close to tracks tend to date to the twentieth century (up to 1940s).
- Dredging dams and dredged landscapes post-date 1898.
- Alluvial sinkings associated with rusty tin cans, decaying radio batteries, boot fragments, etc., and often with small brick fireplaces or floors (tent-sites) suggest a 1920s or '30s site.

One of the aims of the North Central Goldfields Project is to expand and refine this listing, and to eventually produce a comprehensive table of phasing and identification markers for the mining heritage of the region.

5.2 RESULTS

On the basis of information derived from the historical database, and the survival and recognition of diagnostic dating features, physical remains on the sites surveyed have been organised into periods, as summarised in the table below. The date ranges for the periods are as follows:

Period 1 1852 to1858
Period 2 1859 to late 1888
Period 3 late 1889 to 1902
Period 4 1903 to late 1920s
Period 5 late 1920s to early 1970s
Period 6 early 1970s to 1991

In Table 2, X indicates that physical remains survive from the period, and ? indicates possible dating. For further details of sites, see the site gazetteer that forms Part Two of this report.

◊

Site No.	Name	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
001	Tarnagulla Govt battery & cyanide works			X	X		
002	Windmill Hill mine site			X	?		
003	Clovers Gully puddler and dam					X	
004	Yorkshire Mine site, Watts Reef			X	X	X	
005	Burnt Tree Gully puddler, Cays Diggings		X	?			
006	Cumberland Lead puddler & dam					X	
007	Cumblerland Lead diggings & camp					X	
008	Bealiba Forest Block - camp					X	
009	Goldsborough Mine		X				
010	Queens Birthday Mine			X			
011	Bealiba Reef - cyaniding					X	
012	Martin's Eucy Distillery				X		
013	Martin's Orchard and house					X	
014	South Birthday Mine		X				
015	Queens Birthday water race				X		
016	Bealiba Reef - circles & vat				?	X	
017	King's Birthday Mine			X	?	X	
018	Bealiba Reef - circles				?	X	
019	Belgian Reef - cyanide vat				?	F	
020	Belgian Reef - circles				?	F	
021	Belgian Reef mine		X				
022	Swipers Gully - puddling machine		X	?			
023	Almeida Reef - quartz working & camps		X				
024	Specimen Reef mine		X				
025	Wild Duck Lead - puddling machine				?	X	
026	Gooseberry Hill diggings			X			

027	Patchy Flat puddler				?	X	
028	Slaughteryard Hill diggings	?	X	?			
029	Graveyard Hill diggings & cemetery	X	?				
030	Spillers Hill/Burnt Creek - alluvial				X	X	?
031	Anderson Hill diggings		?	?			
032	Quakers Reef mine		X				
033	Chisholms Reef/Lead mine, diggings		X	?			
034	Corfu Reef mines		X	X	?	X	
035	Halfway Lead diggings & camp		X			X	
036	Star Reef crushing battery					X	
037	Hellas Reef mine		?	?			
038	Linger & Die diggings & camp					X	
039	Great Sandstone Co. mine			X	?	X	
040	Growlers Reef quartz mining		X	?			X
041	Jim Crow Reef quartz mining		X	X			
042	Jim Crow/Italian diggings & puddlers			?	?	X	
043	Tappit Hen Co. quartz mine		X				
044	Hard Hills diggings, Tarnagulla	?	?	?			
045	Sandy Creek Lead	X	?	?			
046	Wanda Reef		X				
047	Great Northern Lead diggings						X
048	Nuggetty Gully/Reef mining & puddler				?	X	
049	Jones' Creek Co. quartz mine				X		
050	Govt eucalyptus distillery				X		
051	Barnes Flat diggings & camp					X	
052	Jones' Creek diggings & puddler		X	?	?		
053	Tipperary Gully battery site		?	?			
054	Sawpit Gully diggings	X	?				
055	Poverty Reef line of workings		X				
056	Calders reef mining		?	?			
057	American reef			X	?		
058	Bulldog Reef/Black Reef		X	X	?		
059	Waymans Reef		?	?			
060	Queens Reef Co. mine		X		?	X	
061	Queens Gully diggings	?	?	?	?	X	
062	Biggs Gully				X		
063	Slaty Reef workings	?	X	?			
064	Long Gully diggings & puddler		X	?			
065	Swedes/German Gully diggings/puddlers		X	?	?	X	
066	Mt Sheoak tunnel		X	?			
067	Sheoak Reef Co. battery		X	?			
068	Arcadian Reef mining		X	?	?	X	
069	Inkerman diggings & cemetery	X	?	?			
070	Kangaroo Reef Co. mine		X				
071	Nuggetty Gully diggings	?	X	?			X
072	Burnt Creek No. 2 deep lead mine			X			
073	Burnt Creek No. 1 deep lead mine		X				
074	Burnt Creek Co. first lease		X				
075	Sweet Nell Deep Lead mine				X		
076	German Charlies diggings		?	?			
077	Walker's Reef	?	X		?	X	
078	Wild Dog diggings	?	X				X
079	Old Lead diggings in German Gully	?	X				
080	Harvest Home mining		X		?	X	
081	Puzzle Flat				X	X	
082	Advanced Bealiba Reef		X	?			
083	Tunstall's		X				
084	Dearson/Brooker Reef cyanide works				?	X	
085	Beb Bet Lead puddler				?	X	
086	Bet Ber Reef battery & open cut		X				

6. CULTURAL SIGNIFICANCE

6.1 PREVIOUS WORK

Three previous reports have rated the significance of historic sites in the region of the Dunolly Mining Division. These reports are as follows:

- *Shire of Bet Bet Conservation Study* (McConville & Associates, 1987)
- *Historic Sites Survey: North Central Study Area* (Jacob Lewis Vines, for the Land Conservation Council, 1979)
- *Assessment of Moliagul Historic Area* (Ray Supple, Historic Places Section, DCE, 1988)

The Shire of Bet Bet has also identified historic sites in a tourist guidebook, *Golden Triangle Bicycle Rides: History of the early Goldfields in Central Victoria - Dunolly, Bealiba, Tarnagulla and Laanecoorie.*

Four Historic Mining Reserves have been nominated within the Dunolly Mining Division, following recommendations made by the Land Conservation Council. These are the Moliagul, Gooseberry Hill, Wild Dog and Goldsborough Historic Reserves. These Reserves are currently administered by the Department of Conservation and Environment.

As a result of work previously undertaken in the Mining Division, a number of sites have already been identified by McConville and others as having local cultural significance. These include public and private buildings in the townships of Dunolly, Bealiba, Bromley, Moliagul, Newbridge and Tarnagulla, deserted settlements (including Tunstalls, Waanyarra and McIntyre), reef and deep lead mining sites and alluvial mining landscapes, early farming complexes and farmhouses, bridges, a brewery, a herb farm, a weir, a eucalyptus distillery, vineyards, and the Welcome Stranger monument at Moliagul.

6.2 CRITERIA FOR ASSESSMENT

6.2.1 General criteria

In accordance with the Department of Conservation and Natural Resources' *Requirements for Assessment of Features of Significance in Historic Reserves*, the following guidelines were used in assessing the cultural significance of sites surveyed in the Dunolly Mining Division.

Historic Value encompasses the history of aesthetics, science and society. For any given place significance will be greater where evidence of an association or event survives in situ. It should be assessed against the following criteria:

- Represents a sequence of uses or functions over time.
- Part of a group or network of sites, the totality of which is considered to be significant.
- Be of considerable age in circumstances where precise historical significance of the site is not at present known.
- Associated with an important event(s), person(s) or cultural group.
- Success or failure as a mine in terms of its production levels, yields and as a business enterprise. Influence on the economic development of town/area/ region/state.

Scientific Value depends upon the importance of the data represented in the features of a place and upon the degree to which the place may contribute further substantial information. It should be assessed against the following criteria:

- Represents a particular type of process, e.g. special process developed for the reserve or region to overcome water problems, or an accessibility problem; an inventive or innovative process; response to site.

- Represent an important mining technology
- Ability of the site to answer timely and specific archaeological research question.

Social Value is a measure of the spiritual, political, national or other cultural sentiment attached to a place by the community, and is assessed against the following criteria:

- Importance of the site to the local or wider community.
- balance between historical integrity and historical representativeness (See 6.2.2 for discussion on this)

6.2.2 Discussion of historical integrity

Sites identified by this project range from individual features to complex alluvial mining landscapes. It is the latter that can be said to most characterise the nature of historic mining in this Division; unfortunately, they are also the sites least likely to have survived and most difficult to recognise and interpret. In assessing the cultural significance of alluvial grounds, this project considered the balance between historical integrity and historical representativeness.

The historical record shows that some 60 distinct rushes occurred in the Dunolly Mining Division. The following table shows that around half of these alluvial rushes, including the Division's three largest, occurred during Period 1, that is, within the first eight years following the discovery of gold at Moliagul.

◊

Population	Periods One	Two	Three	Four	Five	Six
0 to 1,000	8	9	3	2	3	1
1,000 to 5,000	10	8	-	4	-	-
5,000 to 10,000	7	2	-	-	-	-
10,000 to 20,000	2	-	-	-	-	-
20,000 to 40,000	-	-	-	-	-	-
40,000 and over	1	-	-	-	-	-

The integrity of the sites of these early rushes has been severely diminished by the subsequent search for nuggets. The Division earned, and retains, a reputation as one of the world's great nugget goldfields. Nuggetty country defies the logic of would-be alluvial prospectors: there is no rhyme or reason as to where nuggets may or may not be found. Perseverance and luck are the main requirements, and despite intensive working of a locality in the past, new nuggets are periodically unearthed. Thus localities with a nuggetty reputation, although deemed 'worked-out' and deserted by the majority, have continued to be re-worked by a handful of prospectors throughout the nineteenth century and up to the present time. From time to time, this small-scale strand of re-working has been interrupted by news of a nugget find, resulting in small rushes to the vicinity. In times of economic depression (e.g. the 1890s and 1930s), inexperienced men have been lured by past nugget finds, or by stories heard in a bar or around a campfire, and have joined the perserving locals.

Because of the relatively unchanging nature of the technology employed - tin dishing, cradles, long toms and puddlers - the physical remains of alluvial fields worked in the Dunolly Division between the 1850s and the early twentieth century would not be expected to differ much in appearance. However, the process of repeated re-workings, particularly of those areas which bore good yields of gold, means that early diggings are unlikely to have survived. Traces of successive workings of the same piece of ground have, in many cases, been dug over again and again, so that today it is often impossible to discern which, if any, are the early diggings and which came later. Where reworkings which have removed traces of original diggings have been in character (in terms of method and scale employed) with those diggings, they can nonetheless be said to be historically representative - replicating what they removed.

In the Dunolly Mining Division, the consideration that mining remnants of relatively recent date might nonetheless accurately reflect an earlier incarnation on the same site, is particularly relevant in the case of puddler sites. This unchanging form of alluvial mining technology was widely employed in the Division from the 1850s until at least the 1930s (enduring for longer, perhaps, than in regions where hydraulic sluicing was extensively carried out from early this century). Throughout this period, puddlers were

consistently grouped in 'communities' at the heads and sides of gullies, and this grouping, together with their distinctive deep, circular trough makes them a fairly obvious historic mining feature, even in a revegetated landscape. Consequently, whilst early puddling circles have either eroded away or (more often) been replaced by later puddlers, the appearance, groupings and localities of these later puddlers, many of which are still in good condition, mean that they can be said to accurately represent their predecessors.

The reason that there is need to consider the relative value of an alluvial landscape's integrity or representativeness is that the purpose of attributing cultural significance to a place is to 'help promote an understanding of the past and to enrich the present'.[1] Therefore, a site whose surviving features provide an illustration of historic mining processes and events will be assessed as more significant than one which might loom large in the historical record, but whose integrity, as a site, is largely or entirely diminished. In respect to this there are several things to consider:

a) *Visibility*

An alluvial site needs also to be assessed in terms of how pronounced in the landscape it is: on how well defined are the holes, mounds, puddling circles, or boundaries of the workings. The natural processes of erosion, weathering and revegetation seriously handicap the identification and interpretation of alluvial mining sites. Early diggings, as shown in contemporary photographs and illustrations, were usually dramatically stripped of vegetation, resulting in a bare, churned-up landscape and subsequent erosion and silting. Over the past 130 years or so, natural processes (and the intervention of earth-moving machinery) have softened the harshness, filling in holes, rounding off and obscuring mullock heaps, and covering all with a mantle of trees. Today, many alluvial mining landscapes that were once tangible to the point of downright ugliness have tended to become part of the landscape.

In the Dunolly Mining Division, few early alluvial sites have escaped this carpet of obscurity. Those that have are generally those diggings now on freehold land, which, due to grazing, have not been revegetated or disturbed by subsequent mining. It is here that early diggings are most visible and can be seen in their most evocative and authentic form.

b) *Context*

An alluvial landscape should also be assessed on the grounds of what survives of the activities that accompanied an alluvial rush. An early rush left more behind than just holes, puddling circles, and mounds of discarded washdirt and mullock. Prospectors who could not find a claim (or a find) on the actual diggings, might have instead tried their luck at prospecting and mining on quartz reefs nearby. Shops, hotels, schools, blacksmiths' shops and, of course, residences would have been erected at the rush, and, if it lasted more than a short while, roads were improved, fresh water dams dug, cemeteries (unofficial and official) formed, and more permanent settlements built. Once the rush was over and the area deserted by the majority, a few perserving miners and their families would stay, establishing small-holdings and gardens, near the ground they continued to prospect.

In assessing an alluvial mining landscape, therefore, consideration should also be given to what physical evidence remains of the goldfield's complementary network of activities and habitation.

c) *Boundary-markers*

An alluvial landscape, although not especially authentic, representative or visible, might nonetheless assume some local importance if it marks the extremity of a Division or goldfield's auriferous ground. The preservation of such 'markers' would help retain and reflect a true regional perspective of gold-mining sites.

d) *Accessibility*

Another aspect that could contribute to a site's significance (particularly its social significance) might be its accessibility to the public.

6.3 CULTURAL SIGNIFICANCE OF SITES SURVEYED

1 The Burra Charter of Australia ICOMOS

On the basis of historical and archaeological research carried out within this project, the sites set out in Tables 3 below, are those which have been assessed as having cultural significance. As this is a progress report, these assessments are conditional on an overview to be made at the end of the project, when consideration will also be given to sites identified in the other Mining Divisions that comprise the North Central Goldfields region. There is also the possibility of new historic mine sites being discovered in the Dunolly area which may cause some revision to the table.

Details of the assessments summarised below are to be found in the listings for their respective sites in the site gazetteer: see Part Two of this report.

◊

Site	Period	Status	Name/type of site	Hist	Social	Sci
001	4 & 5	SF	Govt battery/cyanide works	x	x	x
003	3 to 5	SF	Clovers Gully puddling machine			x
004	3 & 4	SF	Yorkshire Co's mine	x	x	x
005	1 & 2	SF	Burnt Gully puddler	x		x
006	3 to 5	SF	Cumberland Lead puddler & dam			x
007	1 to 5	SF	Cays Diggings & Sustenance camp	x		x
008	5	SF	1930s timber camp, Bealiba Forest Block	x		x
			GOLDSBOROUGH HISTORIC RESERVE:-			
009	2	GHR	Goldsborough mine	x		
010	2 & 3	GHR	Queens Birthday mine	x		x
011	3 to 5	GHR	Cyanide vat	x		
012	4 & 5	P	Martins Eucy distillery	x		x
013	5	GHR	Orchard	x		
014	2	GHR	South Birthday mine	x		x
015	4	GHR	Water race	x		
016	5	GHR	Circles & cyanide vat - South Birthday	x		
017	2	GHR	Kings Birthday powder magazine	x		x
018	5	GHR	Adjoining circles - Kings Birthday	x		
019	5	SF	Cyanide Vat	x		
020	5	SF	Adjoining circles - Belgian Reef	x		
021	3	SF	Belgian/Perseverance mines	x		x
022	1 & 2	SF	Swipers Gully puddler and dam			x
023	2	SF	Almeida reef workings & settlement	x		x
024	4 & 5	SF	Specimen Reef			x
025	3 to 5	SF	Wild Duck Lead puddler & dam			x
			GOOSEBERRY HILL HISTORIC RESERVE			
026	3	GHR	Gooseberry Hill tunnel			x
029	2 to 5	SF	Bromley cemetery & associated alluvial sinkings	x	x	x
030	4	SF	Dredge dams along Burnt Creek		x	x
033	2 & 3	SF	Mother Chisholms Reef workings			x
034	1 to 5	SF	Corfu Reef mine workings	x		
035	1 to 5	SF	Halfway Diggings, tent sites and rubbish dumps	x		x
036	2	SF	Star Reef battery/tailing & mullock heaps	x		
038	5	P	Linger & Die Lead Sustenance camp	x		x
039	3 & 4	BR	Great Sandstone Mine, Llanelly	x		x
040	2 or 3?	SF	Growlers Hill tunnel			x
041	1 to 5	SF	Jim Crow Reef workings	x		x
042	1 to 5	SF	Alluvial diggings and puddlers Jim Crow flat & Italian Gully	x		x
045	2 to 5	P	Sandy Creek Lead - alluvial landscape	x		x
			LANDSCAPE AROUND WAANYARRA			
049	4	SF	Jones' Creek Co's battery	x		x
050	4	SF	Waanyarra Eucalyptus distillery	x		x
051	5	SF	Barnes Flat diggings & 1930s campsites	x		x
052	2 to 5	SF	Jones' Creek diggings, Waanyarra	x		x
054	1 to 5	SF	Sawpit Gully workings			x
055	1 to 6	SF	Poverty Reef, Tarnagulla	x	x	
057	2	P	American Reef Co's mine, Laanecoorie			x

			MOLIAGUL HISTORIC RESERVE			
058	2 to 4	MHR	Welcome Stranger Tourist site	x	x	x
060	1 to 6	MHR	Queens Co. mine site	x		
061	1,2 & 5	MHR	Queens and Commissioners gullies	x	x	
062	4 & 5	MHR	Moliagul State battery	x		x
063	2	MHR	Slaty Reef			x
064	1 to 6	MHR	Long Gully diggings & puddler site	x		x
065	1 to 6	MHR	German gully - sinkings, surfacing & puddlers	x		x
066	3	MHR	Tunnel & mullock heap	x		x
065	2	P	Farm	x		x
067	2	MHR	Sheoak Co's battery	x		x
069	1 to 6	SF	Cemetery and Inkerman sinkings	x	x	x
070	2	SF	Kangaroo reef workings	x		x
071	1 to 6	SF	Surviving patch of workings in Nuggetty Gully	x		
072	3 & 4	P	Burnt Creek No 2 - Deep lead mine	x		x
073	2 & 3	P	Burnt Creek No 1 - Deep Lead mine	x		
074	2	SF/P	Burnt Creek Co/Caldeonian Co	x		
075	2	SF	Sweet Nell deep lead mine/circles	x		
076	2	GR	German Charlies mine	x		x
077	2	SF	Walker's Reef			x
			WILD DOG HISTORIC RESERVE			
078	2	WHR	Wild Dog Diggings	x	x	x
079	2 to 5	P	Old Lead, German Gully	x		x
080	2	SF	Harvest Home Reef			x
081	4 to 6	SF?	Puzzle Flat, Bealiba			x
082	2 to 3,6	SF	Advanced Bealiba Reef	x		x
083	2 & 6	SF	Tunstall's	x		x
084	5	SF	Deason/Brooker Reef			x
085	4 or 5	SF	Bet Bet Lead puddler			x
086	2	SF	Bet Bet Reef battery and open cut			x

(Key to abbreviations: SF=State Forest; GHR=Goldsborough Historic Reserve; MHR=Moliagul Historic Reserve; WHR=Wild Dog Historic Reserve; P=private land; GR=gravel reserve: GHR=Gooseberry Hill Historic Reserve; TFR=Tarnagulla Flora Reserve)

7. RECOMMENDATIONS

As stated in the Introduction, this is a progress report, conditional upon the achievement of a North Central Goldfields overview for heritage assessment. It is recommended that all sites assessed in this report as having significance beyond the local level (regional and National Estate) be protected from further preventable damage until such time as their broader cultural significance can be assessed. (recommendations are summarised in Table 5.). At that time, some sites might be recommended for visitor interpretation and tourist development; other sites will be judged too sensitive for such development, and further recommendations will be made as to their protection and conservation. The significance of some sites may be diminished by future findings.

◊

Sites in **bold print** have been assessed as having regional or National Estate significance. For further details, see Site Gazetteer (Part Two of this report).

Site No.	Name	Recommendation(s)
001	**Doctors Gully cyanide works/Govt battery**	**Track to be diverted and site protected**
003	**Clovers Gully puddler & dam**	**Site to be protected**
004	**Yorkshire Mine, Watts Reef**	**Site to be protected**
005	Burnt Gully puddler	Local significance
006	**Cumberland Lead Puddler & dam**	**Site to be protected**
007	**Cays Diggings, Cumberland Lead**	**To be protected**
008	Bealiba timber camp	Local significance
009	Goldsborough mine, Bealiba Reef	Local significance
010	Queens Birthday Mine, Bealiba Reef	Local significance
011	Cyanide vats/tailing dumps, Bealiba Reef	Local significance
012 (p)	**Eucalyptus Distillery**	**To be acquired and included into the Historic Reserve**
013	Orchard	Local significance
014	**South Birthday Mine**	**Remains outside boundary fence to be included in Historic Reserve.**
015	Water race	Local significance
016	Circular depressions/tailings & cyanide vat	Local significance
017	**Kings Birthday mine's powder magazine**	**Top wall plates to be replaced and the iron roof repaired. Site to be protected**
018	Cyanide vat outlines	Local significance
019	Cyanide vat	Local significance
020	Cyanide vat outlines	Local; significance
021	**Belgian mine site**	**To be protected**
022	**Swipers Gully puddler**	**To be protected**
023	**Almeida Reef workings & camp sites**	**Detailed arch survey and site protected**
025	**Wild Duck Lead puddler & dam**	**Site to be protected**
026	Gooseberry Hill tunnel	Local significance
029	**Bromley cemetery & alluvial landscape**	**To be protected**
030	**Burnt Creek dredge dams**	**To be protected**
034	**Corfu Mine**	**To be protected**
035	**Halfway Diggings - settlement**	**Detailed arch survey required. Site to be protected**
036	**Star Reef battery/tailing & mullock heaps**	**Site to be protected**
038 (p)	Linger & Die Lead - Sustenance camp	Further research required. Local significance.
039	**Great Sandstone Mine, Llanelly**	**Machinery site fenced off, pepper tree removed. Site to be protected**
040	Growlers Reef adit	Local significance
041	**Jim Crow Reef & battery site**	**To be protected & further research carried out**
042	**Jim Crow/Italian Gully landscape**	**To be protected**
045 (p)	**Sandy Creek Lead**	**To be protected**
049	**Jones' Creek Co's mine**	**To be protected**
050	**Waanyarra Eucalyptus Distillery**	**To be protected**
051	**Barnes Flat - fireplaces**	**To be protected**
052	**Jones Creek diggings & Waanyarra**	**To be protected**
055	Poverty Reef, Tarnagulla	Local significance
057 (p)	American Reef Co's mine	Local significance

058	**Welcome Stranger Tourist Trail**	**Site to be protected.**
060	Queens Reef	Local significance
061	Queens/Commissioners gullies	Local significance
062	Moliagul Govt battery, Biggs Gully	Local significance
063	Slaty Reef workings	Local significance
064	Long Gully alluvial landscape	Local significance
065	**Swedes/German Gully landscape**	**To be protected**
066	**Sheoak Hill tunnel**	**Site to be monitored/protected**
067	Sheaoak Reef battery	Local significance
069	**Inkerman diggings & cemetery**	**To be protected and the southern sinkings to be included in Moliagul Historic Reserve.**
070	**Kangaroo Reef**	**To be protected**
071	Surviving patch of Nuggetty Gully workings	Local significance
072 (p)	**Burnt Creek No 2**	**To be protected**
073 (p)	Burnt Creek No 1	Local significance
074C 074B	Burnt Creek Co Caledonia Co.	Local significance Local significance
075 (p)	Sweet Nell mine	Local significance
076	German Charlies Hill	Local significance
077	Walker's Reef	Local significance
078	**Wild Dog Diggings**	**To be protected**
079 (p)	**Old Lead Diggings, German Gully**	**To be protected**
080	Harvest Home Mine	Local significance
081	Puzzle Flat	Local significance
082	Advanced Bealiba Reef	Local significance
083	**Tunstall's diggings**	**Detailed archaeological survey and site to be protected**
084	Deason and Brooker Reef	Local significance
085	**Bet Bet Lead Puddler**	**To be protected**
086	**Bet Bet Reef battery and open cut**	**To be protected**

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APPENDIX A : PROJECT BRIEF (1991)

A project officer will be employed to identify and recommend on the significance of and prepare a strategy for the conservation and mangement of historic mining sites on public land in North Central Victoria. It is intended that this will focus on the Land Conservation Council's Historic Reserves but will also include historic mining sites on the other categories of public land and may also require comparison with historic mining sites on private land.

Tasks

The project officer will undertake the following:

1) Identify all the historic mining sites and areas, ie. where mining commenced before 1940, and identify the reports about those places which will assist in determining their significance according to the guidelines of the Burra Charter of Australia ICOMOS as applied by the Historic Mining Sites Assessment Committee.

2) Undertake historical and archaeological research required for the assessment of the significance of the historic mining sites and areas in North Central Victoria using

   - DIEP records, maps and plans
   - relevant newspapers
   - local historical records, conservation studies
   - State libraries
   - other known sources
   - field surveys

   Information about these sites will be stored on a computer data base to facilitate the use of the information for assessment and management purposes.

3) Carry out field surveys at sites selected on the basis of (1) and (2) above, recording the:

   - location of each site
   - components (features and artefacts) at each site
   - condition of each site and its features
   - details of the operation of the site, ie. an attempt should be made to interpret the site and its features
   - relationship between individual sites as well as between the sites and their environment.

4) Assign relative significance to these historic places and submit these recommendations to the Department of Conservation and Environment (now Department of Conservation and Natural Resources) and the Historic Mining Sites Assessment Committee for their consideration.

5) Prepare a strategy for the conservation and management of these historic mining sites and areas, based on present government policies and stategies, with particular emphasis on how historic sites can be interpreted to the public and linked with existing goldfields tourism promotions.

6) Prepare site specific works plans and projects for in the ground works necessary for the protection and interpretation of key historic sites identified in the strategy, so that such on the grounds work can be commenced in the 1991/92 financial year.

7) Make recommendations about areas that require further detailed site recording and investigation.

APPENDIX B: Types of extant features grouped according to method of mining.
Those in **bold** print are individual features which have exemplary intactness and/or uniqueness.

ALLUVIAL

Shallow Alluvvial

Sinkings	007	Cumberland Lead	Curving band of relatively deep sinkings
	027	Patchy Flat	Band of well-defined sinkings
	029	**Graveyard Hill**	**Small patch of sinkings associated with Bromley cemetery**
	033	Mother Chisholms	Wide flat containing well defined sinkings
	042	**Jim Crow Flat**	**Band of well-defined sinkings**
	045	**Sandy Creek Lead**	**Patch of well-defined sinkings surviving on cleared land**
	052	**Jones Creek**	**Band of well-defined sinkings and some paddocking**
	054	Sawpit Gully	Narrow band of well-defined sinkings
	061	Queens Gully	Fairly disturbed sinkings
	064	Long Gully	Patch of relatively intact shallow sinkings
	069	**First Inkerman**	**Band of well -defined sinkings associated with Moliagul Cemetery**
	071	Nuggetty Gully	Patch of well-defined sinkings
	079	**Old Lead**	**Patch of well-defined sinkings surviving on cleared land**
	083	**Tunstalls Diggings**	**Land band of well-defined sinkings**
Puddlers	**003**	**Clovers Gully**	**Raised, fresh-looking puddler and dam**
	005	Burnt Tree Gully	Weathered puddler and small dam
	006	**Cumberland Lead**	**Raised, fresh-looking puddler and dam, with two loading ramps**
	022	**Specimen Track**	**Weathered puddler and stone-retained puddler**
	025	**Wild Duck Lead**	**Raised, fresh-looking puddler and dam**
	026	Gooseberry Hill	Fresh-looking puddler
	027	Patchy Flat	Eroded puddler and dam
	033	Mother Chisholms	Eroded puddler and dam
	042	**Jim Crow Flat**	**Five puddlers in varying states of preservation**
	058	**Black Reef**	**Two weathered puddlers associated with Welcome Stranger nugget**
	064	Long Gully	Eroded puddler and dam
	065	**Swedes/ German Gully**	**Five puddlers**
	085	**Bet Bet Lead**	**Stone-lined puddler**
Surfacing	**058**	**Black Reef**	**Extensive hillslope surfacing**
	065	Swedes/ German Gully	**Extensive surfacing**
Mining village/camp	**007**	**Cumberland Lead**	**Mounds of stone associated with small brick floors and domestic rubbish**
	035	**Halfway Diggings**	**Mounds of stone associated with small brick floors and domestic rubbish**
	038	Linger and Die	Stone fireplaces associated with domestic rubbish
	051	**Barnes Flat**	**Two kero tin fireplaces and mud brick hut**
	071	Nuggetty Gully sinkings	Stone fireplaces associated with alluvial

	083	**Tunstalls Diggings**	**Alignment (streets) of small rock mounds**
Monument	**058: Black Reef**		**Welcome Stranger nugget**
Cement mining			
Mullock heap	081	Puzzle Flat	Large sumps of washed crushed gravels
Sinkings	028	Slaughteryard Hill	Small patch of sinkings that have escaped gravel quarrying
	076	German Charlie's Hill	Small patch of cement workings
	078	**Wild Dog Diggings**	**Patch of well-defined and open sinkings**
Sluicing			
Bucket dredging	**030**	**Burnt Creek**	**Several dredge dams**
	062	Biggs Gully	Dredge dam
Deep Lead			
Mullock heaps	**072**	**Burnt Creek No. 2**	**Dumps of mullock/washed pebbles**
	073	**Burnt Creek No .1**	**Dumps of mullock/washed pebbles**
	074	Burnt Creek Co.	Large quarried dumps
	074	Caledonian Co.	Dumps of mullock/washed pebbles
	075	Sweet Nell	Dumps of mullock/washed pebbles
Mining engine footings	**072**	**Burnt Creek No. 2**	**Substantial brick beds**
	073	Burnt Creek No. 1	Largely bulldozed brick beds
	074	Caledonian Co.	Spread of brick and stone rubble
	075	Sweet Nell	Mound of rubble and concrete footings
Bob-pit	**072: Burnt Creek No. 2**		**Long rectangular pit**
Chimney stack	**072: Burnt Creek No. 2**		**10ft-square brick stack base**
Sand dump	072	Burnt Creek No. 2	Large dumps of sand
	073	Burnt Creek No. 1	Largely quarried dumps
	074	Caledonian Co.	Largely quarried dumps
	075	Sweet Nell Co.	Small dump with cyanide vat impressions
QUARTZ MINING			
Monuments	055	Poverty Reef	Cairn to Poverty mine, Tarnagulla
Adits	026	Gooseberry Hill	Open adit
	040	Growlers Hill	Open adit
	066	**Sheoack goldmine**	**Collapsed adit with intact mullock heap**
Open cuts	021	Belgian Reef	Large open cut filled with rubbish
	040	Growlers Reef	Deep open cutting
	041	**Jim Crow Reef**	**Deep open cutting with some stoping**
	060	Queens Reef	Small open cut
	063	Slaty Reef	Small open cut
	086	**Bet Bet Reef**	**Long, shallow open cut**
Shallow reef workings	**023**	**Almedia Reef**	**Line of open cutting, shallow shafts**

			and small mullock heaps
	033	Mother Chisholms	Line of open cuts, open shafts with mullock paddocks
	048	Nuggetty Reef	Line of shallow sinkings and mullock heaps
	070	**Kangaroo Reef**	**Short section of undisturbed shafts, open cutting and stoping**
Stoping	**034**	**Corfu Reef**	**Small surface stope**
	041	**Jim Crow Reef**	**Stoping visible in open cut**
	070	Kangaroo Reef	Short section of surface stoping
Mullock heap	**009**	**Goldsborough Co.**	**Small intact dump**
	010	**Queens B'day Co.**	**Partly quarried large dump**
	014	**South Birthday**	**Small intact dump**
	021	Belgian Reef	Partly quarried large mullock dump
	024	Specimen Reef	Partly quarried small mullock dump
	032	Sydenham Co.	Partly quarried large mullock dump
	034	**Corfu Reef**	**Intact small mullock dump**
	036	Star Reef	Intact small mullock dump
	041	**Jim Crow Reef**	**Intact small mullock dump**
	043	Tappit Hen mine	Partly quarried small dump
	056	Calders Reef	Bulldozed mullock dump
	057	American Reef	Small mullock dump
	058	**Moliagul Consols**	**Partly quarried small dump**
	068	Arcadian Reef	Partly quarried dump with loading bay
	082	Advanced Bealiba	Large mullock paddock and filled shaft
Shafts	034	Llanelly mine	Open shaft with concrete baling pond
	040	Growlers reef	Open (fenced) shafts
	049	Jones Ck GMCo.	Open shaft
	063	Slaty Reef	Open shaft with wooden collar
Mining engine footings	**004**	**Yorkshire Co.**	**Substantial brick beds**
	009	Goldborough Co.	Brick and stone rubble/protuding iron bolts
	010	Queens Birthday	Brick and stone rubble/protuding iron bolts
	024	Specimen Reef	Bedlogs, iron bolts and brick rubble
	034	Corfu Reef Co.	Stone engine bed and brick rubble
	034	Llanelly Co.	Small concrete beds
	039	**Great Sandstone**	**Parallel lines of brick beds**
	057	American Reef	Brick beds resting on concrete footings
Bob-pit	004	Yorkshire mine	Remains of brick-lined pit
	039	**Great Sandstone**	**Intact brick pit with bolts and wooden pump arch**
Chimney stack/flue	021	Belgian Reef	Collapsed flue leading to stack depression
	046	Wanda mine	Circular brick chimney base
	086	**Bet Bet Reef**	**Short flue leading to base of circular stone stack**
Whims (5 sites)	077	Walkers Reef	Partly quarried whim platform
Mine buildingss	002	Windmill Reef	Stone footings of small structure
	010	Queens Birthday	Concrete floor
	040	Growlers Reef	Stone footings of residential building
	068	**Arcadian Reef**	**Stone structure containing two small slag-lined furnace bowls**
Power plant	001	**State battery**	**Gas producer stands/tank**

	086	**Bet Bet Reef**	**Stone boiler setting**
Powder magazine	**017**	**Kings Birthday**	**Small intact brick building with galvanised iron roof**
Tramway	**039**	**Great Sandstone**	**Embankment running from shaft to site of small battery**
Mining village	**023**	**Almeida Reef**	**At least 22 stone fireplaces**
Battery engine	**001**	**State battery**	**Concrete beds**
	002	Windmill Reef	Bulldozed brick beds
	004	**Yorkshire Co.**	**Arrangement of concrete beds**
	014	South Birthday Co.	Stone and brick rubble
	021	Belgian Reef	Stone and brick rubble
	036	Star Reef	Bedlogs and iron bolts
	040	Growlers Reef	H-shaped concrete bed
	041	Jim Crow Reef	Rubble and boiler ash
	049	Jones Ck GM Co.	Bedlogs and iron bolts
	062	State battery	Bedlogs and iron bolts
	086	**Bet Bet Reef**	**Stone engine bed**
Stamper footings	**001**	**State battery**	**Well-preserved stamper stumps**
	002	Windmill Reef	Decaying bedlogs and iron bolts
	004	**Yorkshire Co.**	**Concrete footings and line of stump slots**
	014	South Birthday Co.	Line of decaying stamper stumps
	021	Belgian Reef	Line of decaying stamper stumps
	024	Specimen Reef	Line of decaying stamper stumps
	036	Star Reef Co.	Stamper stumps and concrete footings
	039	**Great Sandstone**	**Line of well preserved stamper stumps**
	039	Great Sandstone	Decaying stamper stumps
	046	Wanda Co.	Line of iron bolts
	049	Jones Ck GM Co.	Stump slots and concrete
	062	State battery	Stamper stumps
	067	Sheoak Reef	Very decayed stamper stumps
	077	Walkers Reef	Decayed stamper stumps
	086	**Bet Bet Reef**	**Line of stamper stumps**
Loading ramp	046	Wanda mine	Remains of loading ramp
Battery shed	**001**	**State battery**	**Concrete footings and butts of posts**
	004	**Yorkshire Co.**	**Concrete footings and butts of posts**
	062	Sate battery	Concrete footings and butts of post
Water tank	062	State battery	Gal. Iron tank on wooden stand
Water dams	**001**	**State battery**	**Large dam**
	002	Windmill Hill	Two dry dams
	010	Queens B;day Reef	Two large dams
	019	Belgian Reef	Large dam
	024	Specimen Reef	Large dam
	034	Corfu Reef	Large dam
	036	Star Reef	Large dam
	049	Jones Ck GM Co.	Small dam
	060	Queens Reef	Large dam
	067	Sheoak Reef	Small dam
	068	Arcadian Co.	Large dam
	077	Walkers Reef	Small dam
	080	Harvest Home Rf	Two large dams

TAILINGS RETREATMENT

Cyanide vats	001	**State battery**	**Line of galvanised iron vats**
	011	Queens B'day Reef	Single concrete vat
	016	South Birthday Co.	Vat outlines and concrete drainage vat
	018	Kings Birthday	Circular vat outlines
	019	Belgian Reef	Circular vat outlines and one concrete drainage vat
	032:	Sydenham Co.	Galvanised iron vats
	036	Star Reef	Galvanised iron vats
	041	Jim Crow Reef	Outlines of vats
	068	Arcadian Reef	Ciccular concrete bases
	077	**Walkers Reef**	**Galvanised iron vats**
	084	Deason/Brooker Rf	Galvanised iron vats
Tailings paddock	**001**	**State battery**	**Four stone-lined storage paddocks**
Treated tailings	**004**	**Yorkshire Co.**	**Massive dump of tailings**
	010	Queens B'day Reef	Massive dumps of tailings
	019	Belgian Reef	Large dump of tailings
	032	Sydenham Reef	Quarried dump of tailings
	036	Star Reef	Extensive tailings dumps
	039	**Great Sandstone**	**Extensive tailings dumps**
	041	Jim Crow Reef	Small dump of tailings
	046	Wanda Co.	Large dump of tailings
	049	Jones Ck GM Co.	Traces of tailings
	053	Wet Track Dam	Small dump of tailings
	055	Poverty Reef	Extensive tailings dumps
	060	Queens Reef	Large dump of tailings
	062	State battery	Small dump of tailings
	068	Arcadian Reef	Large dump of tailings
	077	Walkers Reef	Small dump of tailings
	080	Harvest Home	Large dump of tailings
	082	Advanced Bealiba	Small dump of tailings
	084	Deason/Brooker Rf	Large dump of tailings

FIGURE 1: MINING DISTRICTS

AND DIVISIONS

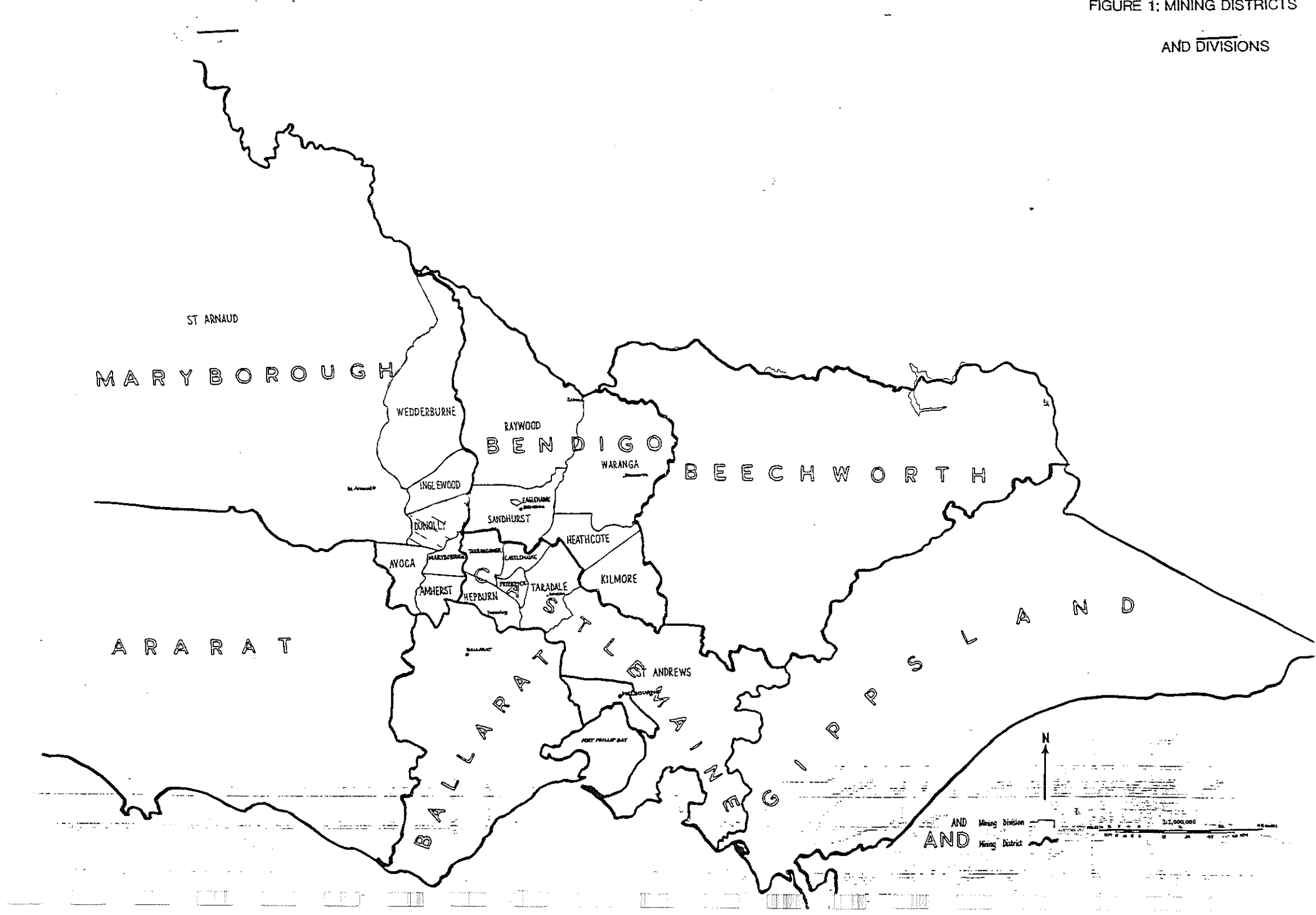
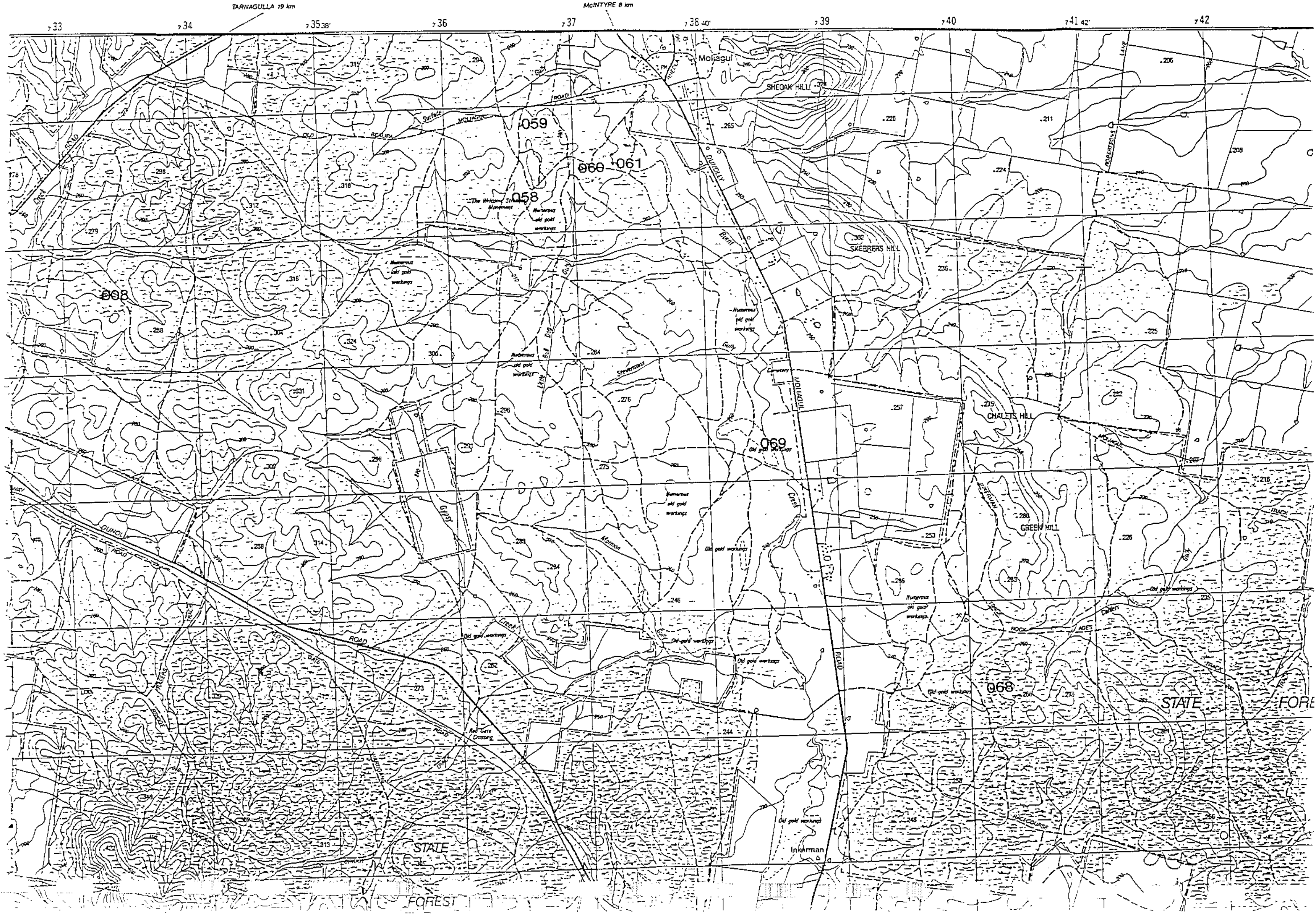


Figure 2 – Index and 1;25,000 maps showing site locations

No	Name	Location	Map reference
001	Tarnagulla Govt battery	Doctors Gully, Tarnagulla	LN - 531.270
002	Windmill Reef mine	Windmill Reef Hill, Dunolly	DS - 422.124
003	Puddler & dam	Clovers Gully, Dunolly	DS - 432.131
004	Yorkshire mine	Watts reef, Tarnagulla	IS - 530.295
005	Puddler & dam	Burnt Tree Gully, Kays Diggings	LN - 556.226
006	Puddler & dam	Cumberland Lead, Kays Diggings	LN - 559.224
007	Alluvial diggings & camp sites	Cumberland Lead	LN - c. 564.212
OO8	Forest camp	Bealiba Forest Block	DN - 333.276
009	Goldsborough Co's mine	Bealiba reef, Goldsborough	DN - 381.214
010	Queens Birthday Co's mine	Bealiba reef, Goldsborough	DN - 381.213
011	Cyanide vat/Tailing heaps	Bealiba Reef, Goldsborough	DN - 384.211
012	Eucalyptus distillery	Bealiba reef, Goldsborough	DN - 385.211
013	Orchard & house	Bealiba reef, Goldsborough	DN - 381.213
014	Sth Birthday mine	Bealiba reef, Goldsborough	DN - 382.209
015	Water race	Bealiba reef, Goldsborough	DN - 381.209
016	Chilian mills/cyanide vats	Bealiba reef, Goldsborough	DN - 383.208
017	Kings Birthday mine	Beliaba reef, Goldsborough	DN - 382.206
018	Chilian mills	Bealiba reef, Goldsborough	DN - 382.206
019	Cyanide vat	Belgian reef, Goldsborough	DN - 391.195
020	Chilian mills/tailings	Belgian reef, Goldsborough	DN - 391.195
021	Criterion Gold Mining Co.	Belgian reef, Goldsborough	DN - 390.195
022	Puddler & dam	Swipers Gully, Dunolly	LN - 489.182
023	Quartz workings & settlement	Almeida reef, Dunolly	LN - 492.187
024	Specimen Quartz Mining Co.	Specimen Reef, Dunolly	LN - 510.188
025	Puddler & dam	Wild Duck Lead, Dunolly	LN - 507.186
026	Tunnel & puddler	Gooseberry Hill, Dunolly	DN - 439.155
027	Puddle & dam/house site	Pacthy Flat Hill/creek	DS - 443.153
028	Almost obliterated	Slaughteryard Hill, Dunolly	DS - 448.148
029	Bromley cemetery & diggings	Graveyard Hill, Dunolly	LS - 452.145
030	Dredge dam	Spillers Hill/Burnt Creek	LS - 450.143
031	Workings obliterated	Andersons Hill, Dunolly	LS - 458.137
032	Sydenham Co's mine	Quakers Gully/Reef, Dunolly	DS - 448.139
033	Quartz mine & puddler/diggings	Chisholms Reef mine & lead	LN - c.556.252
034	Corfu reef Co's mine	Corfu Reef, Halfway Diggings	LN - 556.280
035	Halfway diggings & camp	Halfway/Corfu Lead	LN - c. 556.280
036	Star Reef battery	Star Reef, Halfway Diggings	IS - 558.291
037	Quartz mining	Hellas Reef, Halfway Diggings	IS - 556.301
038	Diggings & camp sites	Linger & Die Lead, Halfway	IS - 556.301
039	Great Sandstone Co's mine	Sandstone reef, Llanelly	IS - 556.315
040	Growlers tunnel	Growlers Reef	LN - 535.275
041	Quartz mining & battery	Jim Crow reef	LN - c.536.272
042	Puddlers & dam	Jim Crow Flat/Italian Gully	LN - c.541.272
043	Tappit Hen mine	Tappit Hen reef	LN - 526.277
044	Diggings obliterated	Hard Hills, Tarnagulla	IS - 555.315
045	Diggings - grazed landscape	Sandy Creek Lead	IS - 526.304

No	Name	Location	Map reference
046	Wanda Co's mine	Iron bark/Wanda reefs	LN - 529.253
047	Diggings obliterated	Great Northern Lead	LN - 494.235
048	Puddler/dam & quartz mine	Nuggetty Gully/Reef	LN - 486.231
049	Jones Creek Co's mine	Gourleys Indicator	LN - 494.235
050	Waanyarra Eucy distillery	Gourleys Indicator, Jones' Crk	LN - 494.235
051	Diggings, camps & cemetery	Barnes Flat, Jones' Creek	LN - 481.229
052	Diggings /puddler site	Jones' Creek/Secret Hill	LN - c. 484.225
O53	Tailings & dam	Tipperary Gully, Jones' Creek	LN - 490.222
054	Diggings/quartz workings	Sawpit/Shingle Gully	LN - c. 488.213
055	Quartz mining	Poverty Reef, Tarnagulla	LN - c.529.267
056	Quartz mine	Calders Reef, Jones' Creek	LN - 481.207
057	American Co's mine	American Reef, Cays Diggings	LN - 581.214
058	Welcome Stranger Tourist trail	Black Reef, Moliagul	DN - 366.282
059	Being mined	Wayman's reef, Moliagul	DN - 366.289
060	Queens Co's mine	Queens Reef, Moliagul	DN - 371.285
061	Diggings/1930s camps	Queens & Commissioners Gly	DN - c.373.286
062	Moliagul Govt battery	Biggs Gully, Moliagul	RS - 370.302
063	Monitor Co.	Slaty Reef, Moliagul	RS - 368.300
064	Diggings/puddler & dam	Long Gully, Moliagul	RS - 368.300
065	Diggings, puddlers, farm	German/Swedes Gly, Moliagul	RS - c. 355.313
066	Tunnel	Mt. Sheoak, Moliagul	RS - 359.314
067	Sheoak Co's battery	Sheoak Reef, Moliagul	RS - 360.309
068	Inkerman Co's mine	Arcadian Reef, Inkerman	DN - 399.249
069	Diggings & old cemetery	Burnt Creek Diggings	DN - 386.268
070	Quartz workings	Kangaroo Reef	LN - 560.229
071	Diggings almost gone	Nuggetty Gully, Tarnagulla	LN - c.530. 239
072	Burnt Creek No 2	Burnt Creek Lead	LS - 512.113
073	Burnt Creek No 1	Burnt Creek Lead	LS - 495.123
074	Caledonian/Burnt Creek Co's	Burnt Creek Lead	LN - 471.125
075	Sweet Nell mine	Burnt Creek Lead	LS - 483.118
076	Diggings	German Charlies Hill	DS - 435.155
077	Walker's Reef	Walker's Reef	LS - 451.120
078	Diggings	Wild Dog Hill	LN - 466.155
079	Diggings - grazed landscape	Old Lead /German Gully	DN - c.437.195
080	Harvest Home Co's mine	Harvest Home Reef	DN - 428.221
081	Puzzle Flat, alluvial	Bealiba	DN - 276.250
082	Advanced Bealiba Reef	Bealiba	DN - 292.263
083	Tunstall's goldfield	Bealiba	DN - 294.285
084	Dreason/Brooker Reef	Moliagul	RS - 360.301
085	Bet Bet Lead	Bet Bet	DS - 447.126
086	Bet Bet Reef	Bet Bet	DS - 447.127

DUNOLLY NORTH



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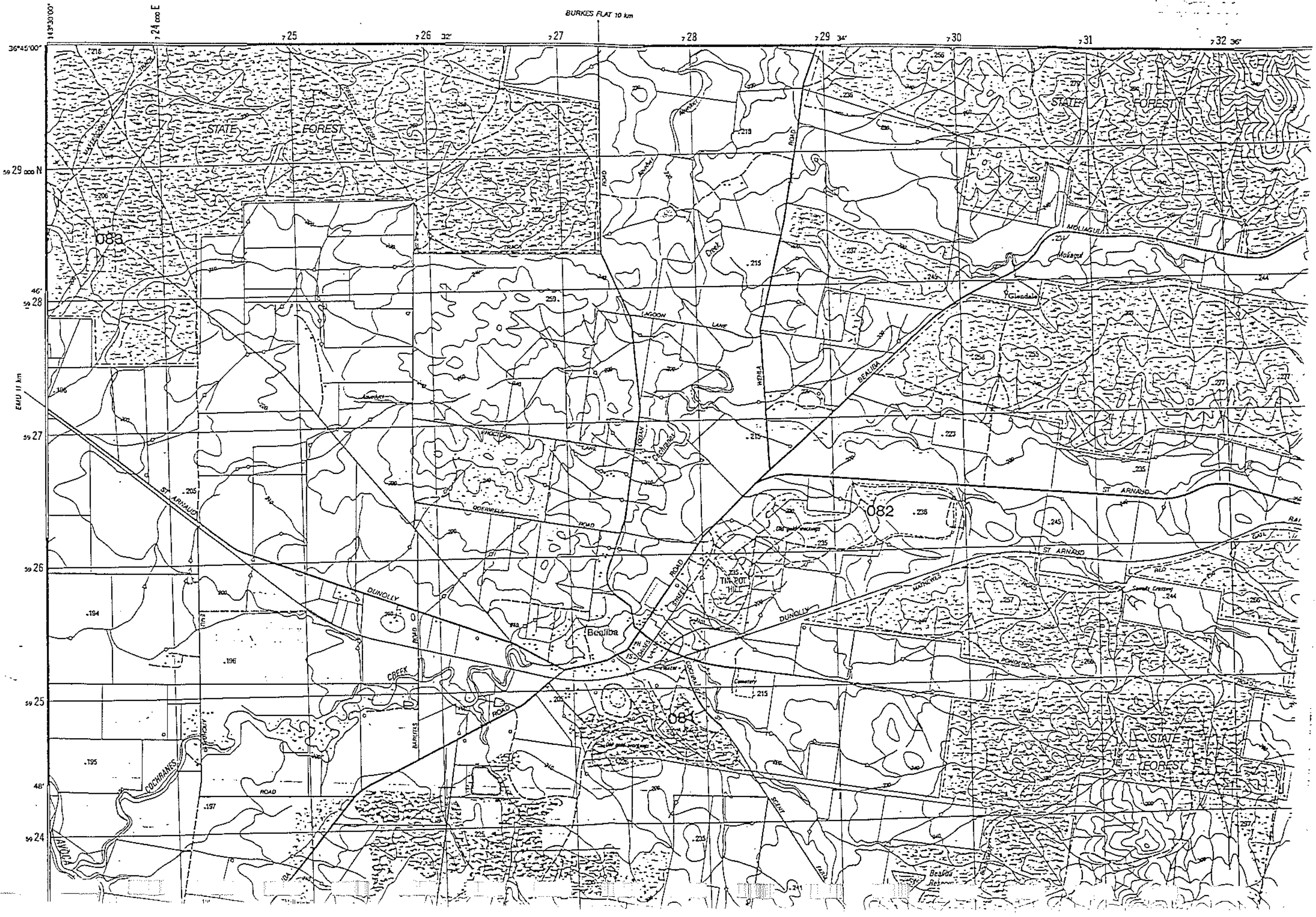
DUNOLLY NORTH



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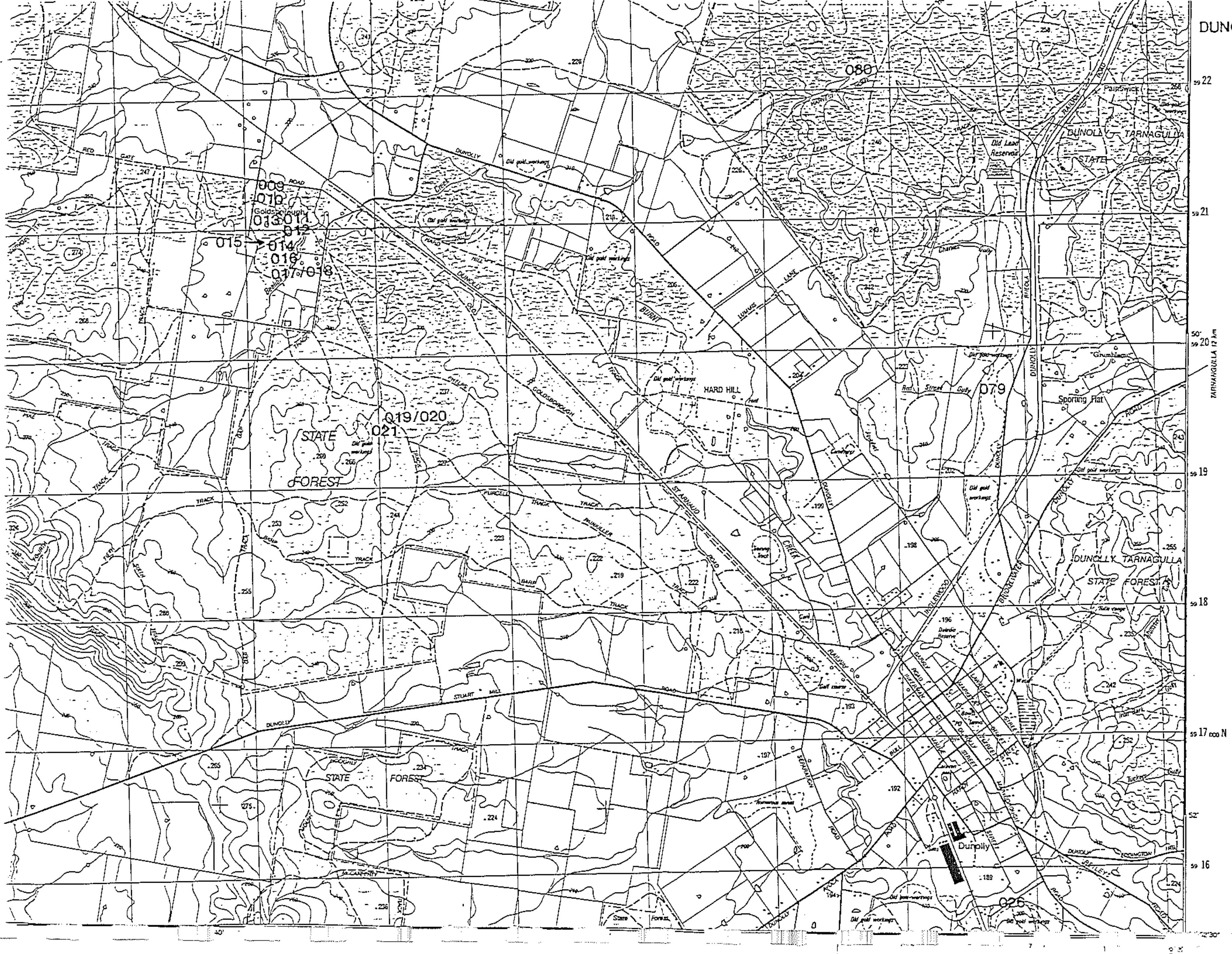

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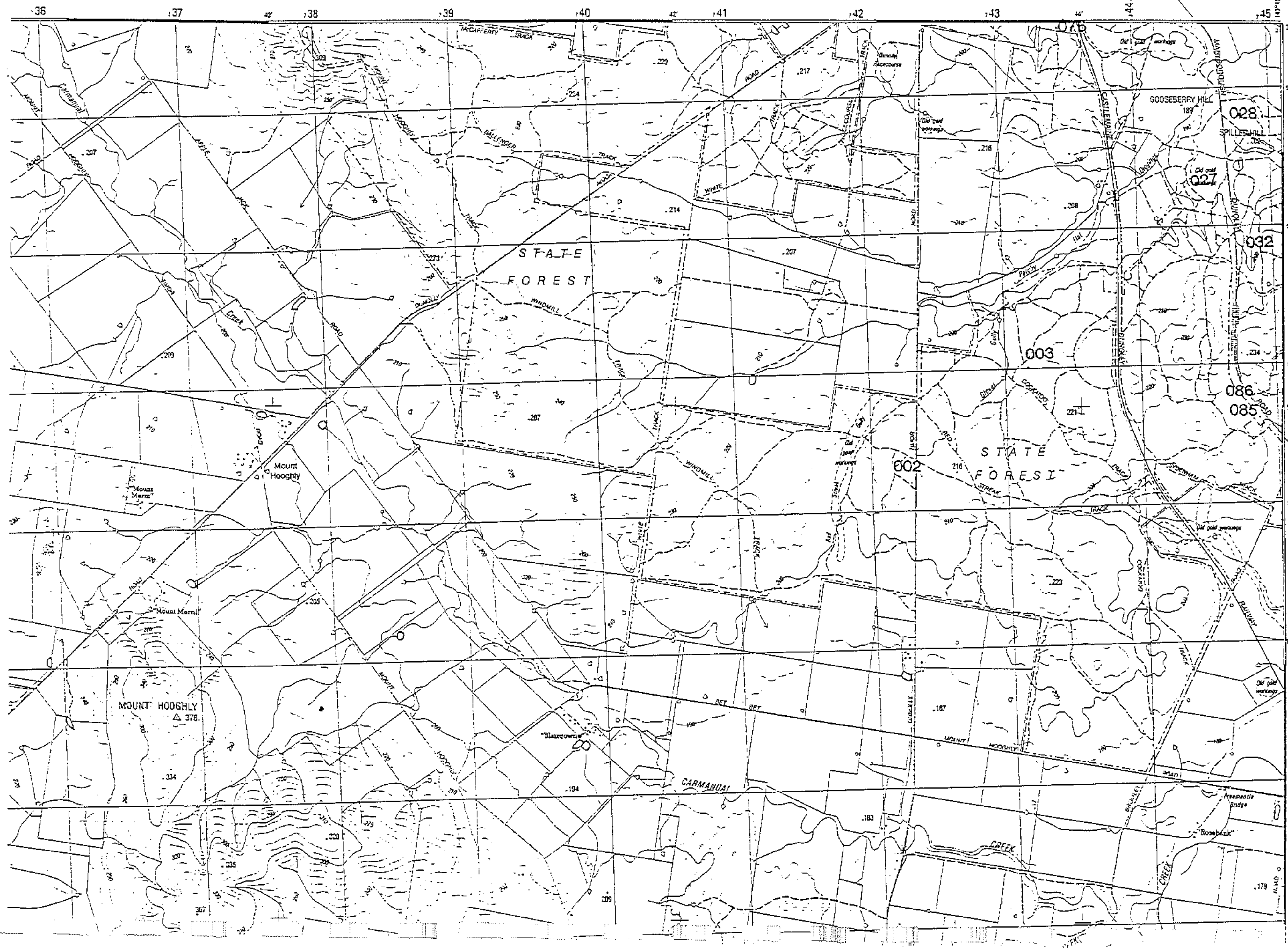
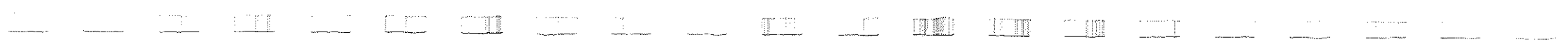
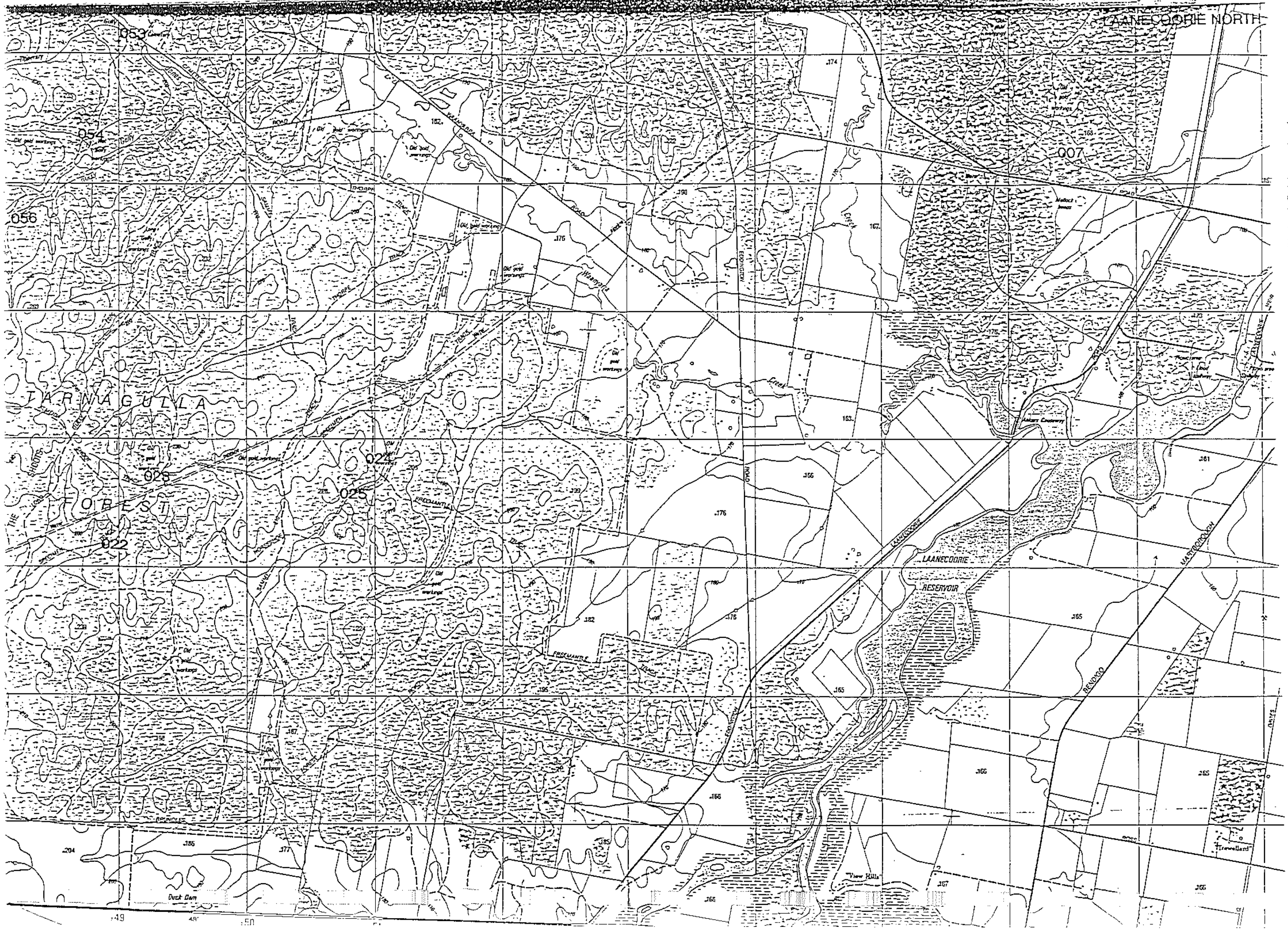



INGLEWOOD SOUTH
Irish Town
Llanelly
Newbridge
DUNOLLY STATE FOREST
TARNAGULLA
039
038
037
036
044
045
004
TARNAGULLA 2 km
MALDON 1:

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TARNAGULLA
FOREST
THE SHOOTS
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BENDIGO
MARYBOROUGH
FREEMANTLE
EDDINGTON
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Creek
Old gold workings
Duck Dam
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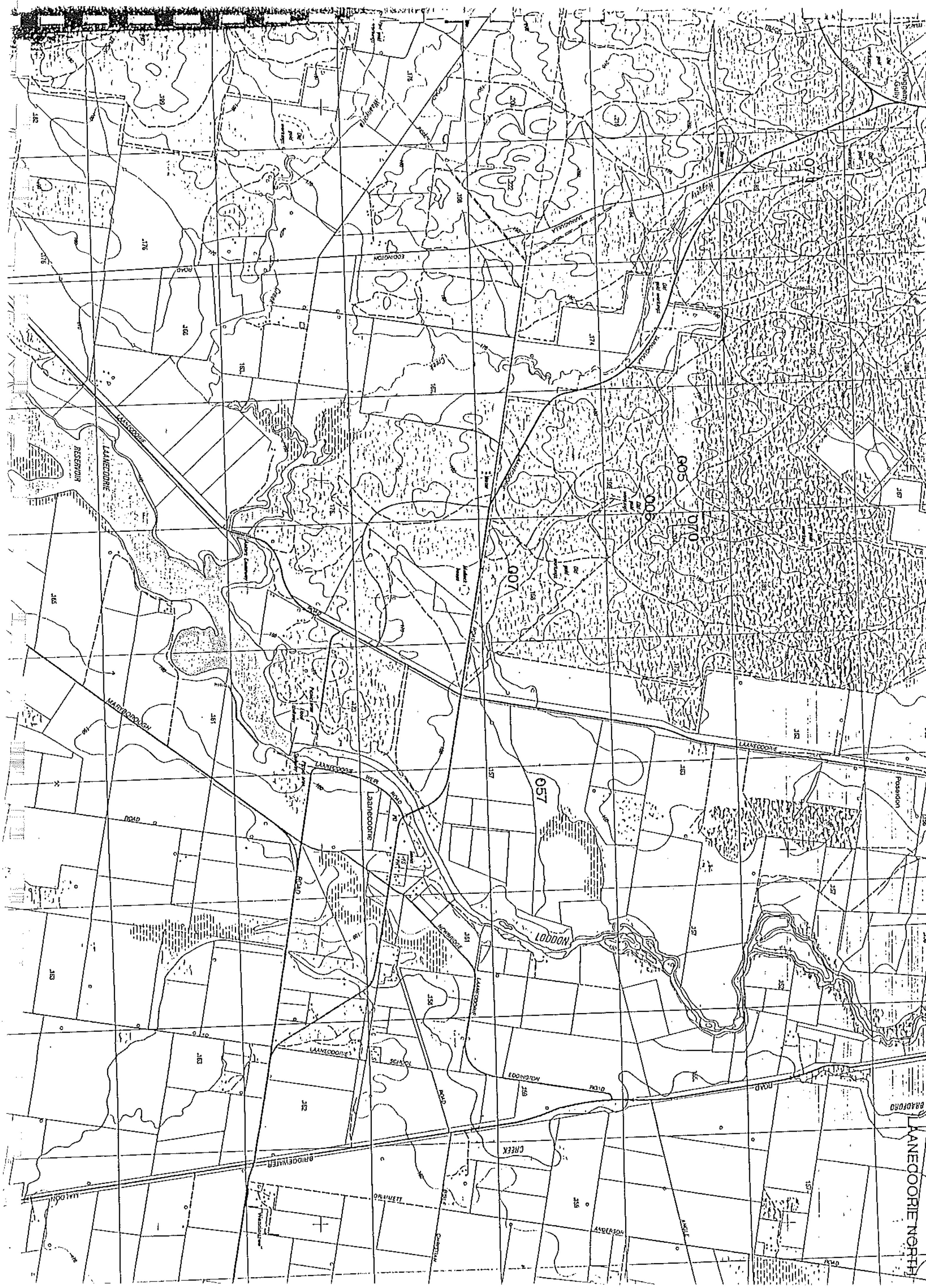

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BRADFORD
Poseidon
Nuggetty Gully
Old gold workings
057
G05
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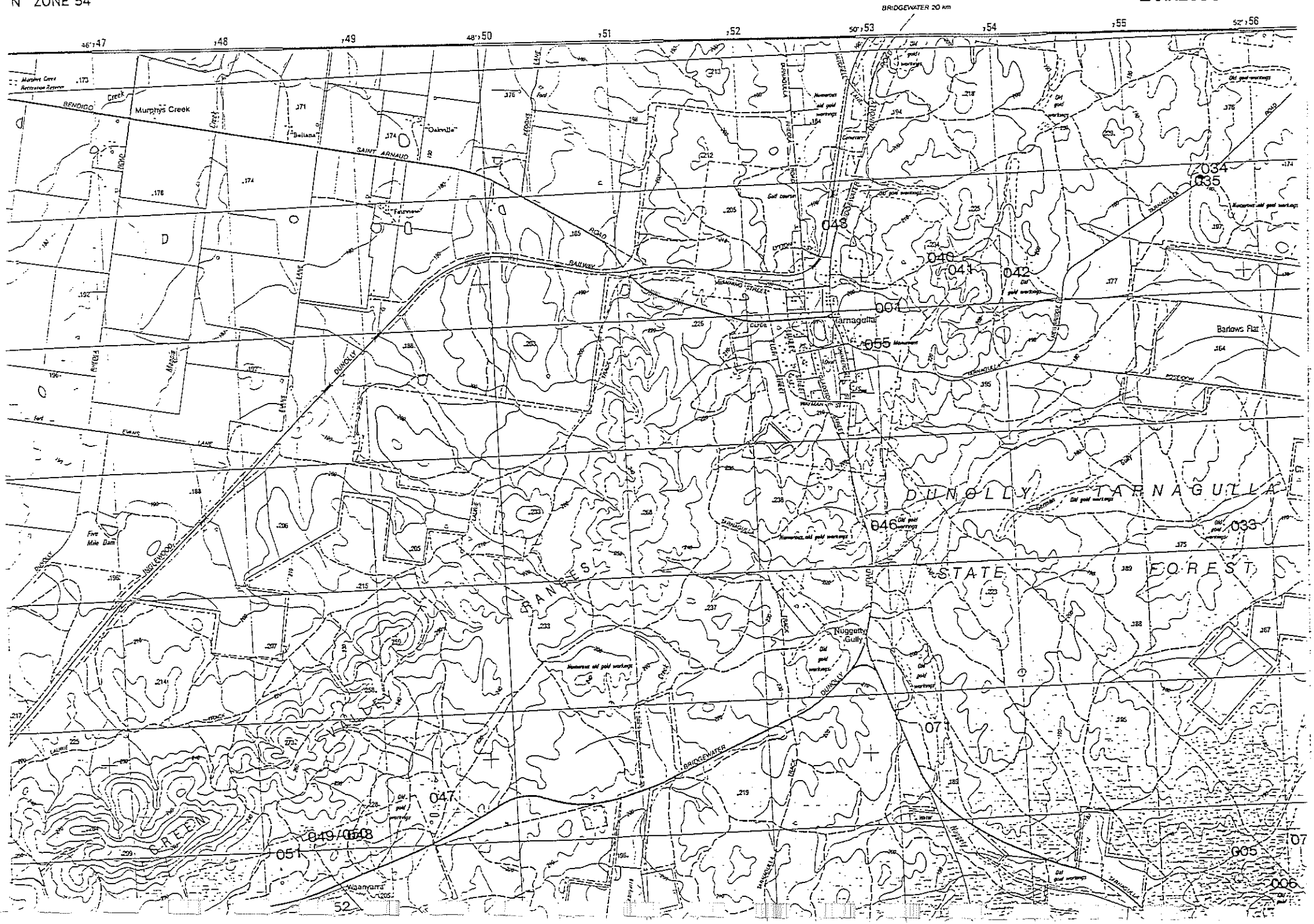
G07

N ZONE 54

LAANECOORIE NORTH



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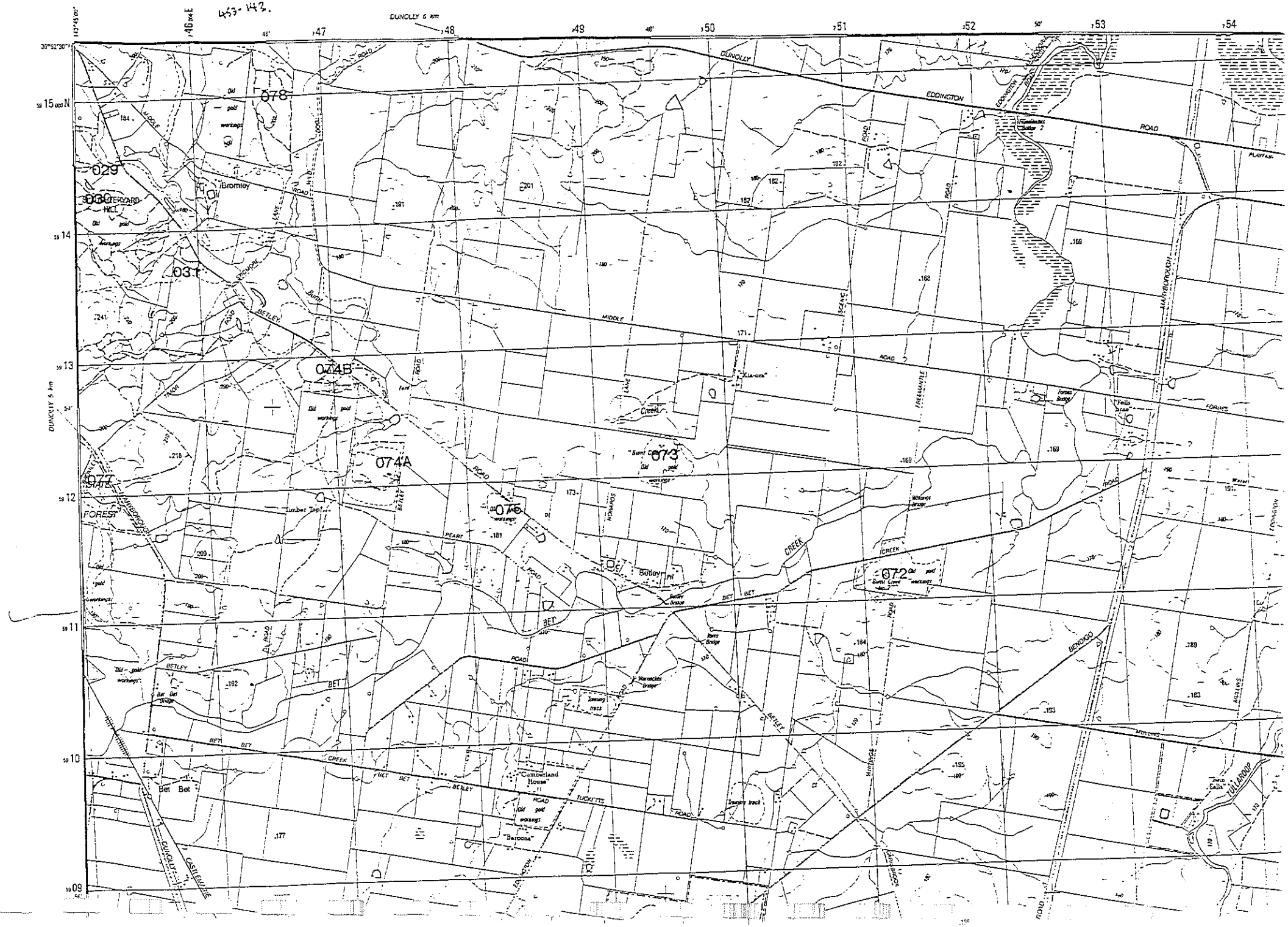

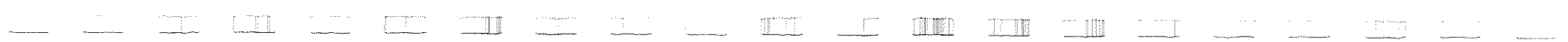

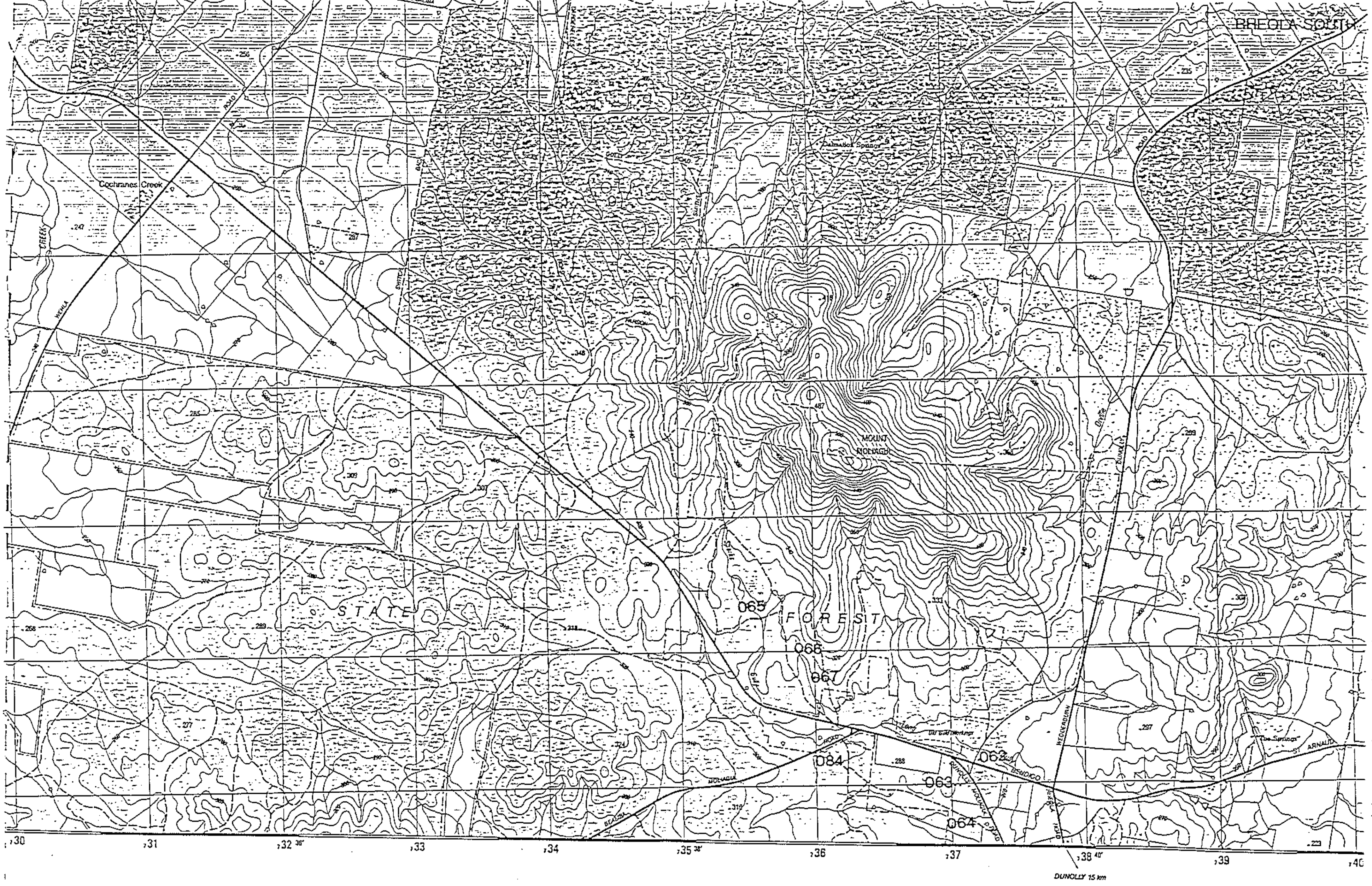

BREOLA SOUTH
Cochranes Creek
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"The Springs"
DUNOLLY 15 km
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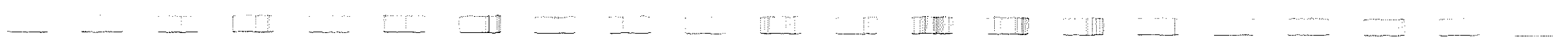

NORTH CENTRAL GOLDFIELDS PROJECT

HISTORIC MINING SITES IN THE DUNOLLY MINING DIVISION

PART TWO: SITE GAZETTEER

David Bannear

Department of Conservation and Natural Resources

Northwest Area

May 1993

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and Natural Resources
Northwest Area

May 1993

No	Name	Location	Map reference	Page
001	Tarnagulla Govt battery	Doctors Gully, Tarnagulla	LN - 531.270	1
002	Windmill Reef mine	Windmill Reef Hill,Dunolly	DS - 422.124	4
003	Puddler & dam	Clovers Gully, Dunolly	DS - 432.131	8
004	Yorkshire mine	Watts reef, Tarnagulla	IS - 530.295	10
005	Puddler & dam	Burnt Tree Gully, Kays Diggings	LN - 556.226	14
006	Puddler & dam	Cumberland Lead, Kays Diggings	LN - 559.224	16
007	Alluvial diggings & camp sites	Cumberland Lead	LN - c. 564.212	18
008	Forest camp	Bealiba Forest Block	DN - 333.276	20
009	Goldsborough Co's mine	Bealiba reef, Goldsborough	DN - 381.214	21
010	Queens Birthday Co's mine	Bealiba reef, Goldsborough	DN - 381.213	25
011	Cyanide vat/Tailing heaps	Bealiba Reef, Goldsborough	DN - 384.211	32
012	Eucalyptus distillery	Bealiba reef, Goldsborough	DN - 385.211	33
013	Orchard & house	Bealiba reef, Goldsborough	DN - 381.213	35
014	Sth Birthday mine	Bealiba reef, Goldsborough	DN - 382.209	36
015	Water race	Bealiba reef, Goldsborough	DN - 381.209	38
016	Chilian mills/cyanide vats	Bealiba reef, Goldsborough	DN - 383.208	39
017	Kings Birthday mine	Beliaba reef, Goldsborough	DN - 382.206	40
018	Chilian mills	Bealiba reef, Goldsborough	DN - 382.206	42
019	Cyanide vat	Belgian reef, Goldsborough	DN - 391.195	43
020	Chilian mills/tailings	Belgian reef, Goldsborough	DN - 391.195	44
021	Criterion Gold Mining Co.	Belgian reef, Goldsborough	DN - 390.195	45
022	Puddler & dam	Swipers Gully, Dunolly	LN - 489.182	48
023	Quartz workings & settlement	Almeida reef, Dunolly	LN - 492.187	49
024	Specimen Quartz Mining Co.	Specimen Reef, Dunolly	LN - 510.188	51
025	Puddler & dam	Wild Duck Lead, Dunolly	LN - 507.186	53
026	Tunnel & puddler	Gooseberry Hill,Dunolly	DN - 439.155	55
027	Puddle & dam/house site	Pacthy Flat Hill/creek	DS - 443.153	59
028	Almost obliterated	Slaughteryard Hill,Dunolly	DS - 448.148	61
029	Bromley cemetery & diggings	Graveyard Hill,Dunolly	LS - 452.145	62
030	Dredge dam	Spillers Hill/Burnt Creek	LS - 450.143	64
031	Workings obliterated	Andersons Hill,Dunolly	LS - 458.137	67
032	Sydenham Co's mine	Quakers Gully/Reef, Dunolly	DS - 448.139	69
033	Quartz mine & puddler/diggings	Chisholms Reef mine & lead	LN - c.556.252	72
034	Corfu reef Co's mine	Corfu Reef, Halfway Diggings	LN - 556.280	74
035	Halfway diggings & camp	Halfway/Corfu Lead	LN - c. 556.280	77
036	Star Reef battery	Star Reef, Halfway Diggings	IS - 558.291	79
037	Quartz mining	Hellas Reef, Halfway Diggings	IS - 556.301	81
038	Diggings & camp sites	Linger & Die Lead, Halfway	IS - 556.301	82
039	Great Sandstone Co's mine	Sandstone reef, Llanelly	IS - 556.315	83
040	Growlers tunnel	Growlers Reef	LN - 535.275	87
041	Quartz mining & battery	Jim Crow reef	LN - c.536.272	89
042	Puddlers & dam	Jim Crow Flat/Italian Gully	LN - c.541.272	91
043	Tappit Hen mine	Tappit Hen reef	LN - 526.277	93
044	Diggings obliterated	Hard Hills,Tarnagulla	IS - 555.315	95
045	Diggings - grazed landscape	Sandy Creek Lead	IS - 526.304	97

No	Name	Location	Map reference	Page
046	Wanda Co's mine	Iron bark/Wanda reefs	LN - 529.253	99
047	Diggings obliterated	Great Northern Lead	LN - 494.235	101
048	Puddler/dam & quartz mine	Nuggetty Gully/Reef	LN - 486.231	103
049	Jones Creek Co's mine	Gourleys Indicator	LN - 494.235	105
050	Waanyarra Eucy distillery	Gourleys Indicator, Jones' Crk	LN - 494.235	107
051	Diggings, camps & cemetery	Barnes Flat, Jones' Creek	LN - 481.229	109
052	Diggings /puddler site	Jones' Creek/Secret Hill	LN - c. 484.225	111
053	Tailings & dam	Tipperary Gully, Jones' Creek	LN - 490.222	114
054	Diggings/quartz workings	Sawpit/Shingle Gully	LN - c. 488.213	115
055	Quartz mining	Poverty Reef, Tarnagulla	LN - c.529.267	116
056	Quartz mine	Calders Reef, Jones' Creek	LN - 481.207	122
057	American Co's mine	American Reef, Cays Diggings	LN - 581.214	123
058	Welcome Stranger Tourist trail	Black Reef, Moliagul	DN - 366.282	125
059	Being mined	Wayman's reef, Moliagul	DN - 366.289	129
060	Queens Co's mine	Queens Reef, Moliagul	DN - 371.285	131
061	Diggings/1930s camps	Queens & Commissioners Gly	DN - c.373.286	134
062	Moliagul Govt battery	Biggs Gully, Moliagul	RS - 370.302	136
063	Monitor Co.	Slaty Reef, Moliagul	RS - 368.300	138
064	Diggings/puddler & dam	Long Gully, Moliagul	RS - 368.300	140
065	Diggings, puddlers, farm	German/Swedes Gly, Moliagul	RS - c. 355.313	142
066	Tunnel	Mt. Sheoak, Moliagul	RS - 359.314	145
067	Sheoak Co's battery	Sheoak Reef, Moliagul	RS - 360.309	147
068	Inkerman Co's mine	Arcadian Reef, Inkerman	DN - 399.249	150
069	Diggings & old cemetery	Burnt Creek Diggings	DN - 386.268	153
070	Quartz workings	Kangaroo Reef	LN - 560.229	157
071	Diggings almost gone	Nuggetty Gully, Tarnagulla	LN - c.530. 239	159
072	Burnt Creek No 2	Burnt Creek Lead	LS - 512.113	161
073	Burnt Creek No 1	Burnt Creek Lead	LS - 495.123	163
074	Caledonian/Burnt Creek Co's	Burnt Creek Lead	LN - 471.125	165
075	Sweet Nell mine	Burnt Creek Lead	LS - 483.118	168
076	Diggings	German Charlies Hill	DS - 435.155	170
077	Walkers Reef	Walkers Reef	LS - 451.120	172
078	Diggings	Wild Dog Hill	LN - 466.155	174
079	Diggings - grazed landscape	Old Lead /German Gully	DN - c.437.195	176
080	Harvest Home Co's mine	Harvest Home Reef	DN - 428.221	170
081	Puzzle Flat, alluvial	Bealiba	DN - 276.250	182
082	Advanced Bealiba Reef	Bealiba	DN - 292.263	184
083	Tunstall's goldfield	Bealiba	DN - 294.285	188
084	Cyanide works	Deason & Brooker Reef	RS - 360.301	190
085	Bet Bet Lead	Bet Bet	DS - 447.126	191
086	Bet Bet Reef	Bet Bet Reef	DS - 447.127	193

SITE NO. & NAME:	001 TARNAGULLA STATE BATTERY
LOCATION:	Doctor's Gully, Tarnagulla
DIRECTIONS:	Doctors Gully is a tributary of Sandy Creek, east of Poverty Mine monument. From Tarnagulla, turn left off Tarnagulla-Newbridge Road, opposite Crystal Road
MAP/GRID REFERENCE:	Laanecoorie North 1:25,000 - 531.270
PARCEL NUMBER:	P131317
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Unreserved Crown Land
EXISTING HERITAGE CLASSIFICATION:	McConville 1987; LCC Study
PRESENT MANAGEMENT/USE:	LCC - NCT1

HISTORY:

1894-95 cyanide plant: a syndicate was formed to work the tailings of the Poverty mine by Messrs Duncan, Noyes & Co., by means of the cyanide process. This was the first time that this process was successfully undertaken on a large scale in Australia. Some hundreds of thousands of tons of sand were treated during the eight years that this company were at work, and the results obtained were remarkable. As much as 28 dwt of gold per ton of sand was recovered.[1]

1895: Treatment of Battery Sand at Tarnagulla by Duncan Brothers' Process.
During the past year (1895) a most successful system for the recovery of gold from tailings has been introduced by Messrs Duncan Brothers at Tarnagulla, where they erected their first plant to treat the sand deposited many years ago from crushing operations of the Prince of Wales and Old Poverty Company, amounting to upwards of 40,000 tons. About 25 men are employed, and several carters, and the steady work and good wages has proved a blessing during the last year to many in the old township. The principle of treatment is essentially a chemical one, the base of which is cyanide, and the combination a secret discovered only after exhaustive laboratory work and study by Messrs Duncan, who naturally enough are not yet disposed to make the whole secret public, although they kindly give the visitor a general idea of the mode of treatment. They found that about three-fourths of the sand required concentration in order to dispose of the slimes; this was done through the medium of a large concave buddle very carefully watched and manipulated, and capable of operating on about 120 tons in eight hours, this quantity being reduced by about one-third in the operation. Repeated daily assays are made from the buddle and slimes run off, so that a maximum of rapid treatment can be secured with a mininum loss of gold in the water and slimes discharged; assays from the latter seldom give more than a few grains per ton. The concentrates are deposited in leaching vats, and the prepared solution pumped in, and the sand thoroughly saturated for a period varied according to the nature of the sand being treated aand the strength of the solution, the duration ranging from six to twelve hours, after which it is drawn off and allowed to percolate through a series of carbon filters at a rate that insures the compeletion of the gold taken up; from this point the process is familiar, as the furnaces soon reduces the apparently gilt chaarcoal to gold bars.
Any sand containing only a small percentage of slimes is treated direct, that is, without concentration, the saving in handling thus permitting of a much lower grade material being treated profitably. The process is also varied so that deposits containing a large percentage of sulphides may be successfully dealt with, although the cost under these conditions is invaariably greater.
So far as they have gone, Messrs Duncan contrive to extract upwards of 90 per cent. of the gold, and their operations at Tarnagulla are unquestionably of a highly profitable nature, and deservedly so as a reward for the genius and capital pluckily expended, and which, in this particular instance, may mean the production of 10,000 ozs. of gold that was hitherto practically lost.
There would appear to be a vast field of utility in the application of the system of treatment, particularly if used in connexion with the dry crushing of silicious lode material. After the inventors have further proved the general aplication of their system its sphere of usefulness will no doubt be greatly extended.[2]

July 1895: Considerable activity prevails both in and around Tarnagulla ... the very debris or dirt, the chaff from the mill is found to have only half thrased of its golden grain. Many thousands of tons of this golden "rubbish" are available and will be treated by Messrs Duncan ... The position taken up by Messrs Duncan affords them ever facility for working the tailings, for they have squatted down in the middle of the Poverty heaps, and are carting thereto from every direction. Fifty five men are employed by the company ... The particular chemicals employed are kept a secret by the firm, but, less the roasting, we presume the treatment is similar to that employed in the Plattner O'Meura process of chlorination, and also by the Newberry Vautin process.
The tailings are buddled in a cistern or depository 30 ft in diameter; the buddle is given a radiating motion, and the sand passes under sacken puddlers which so disturb the lighter particles that they graviatate towards a

common centre through a hole a foot or eighteen inches in diameter, which all refuse passes, into sluice boxes. Beams are fixed at intervals from which are suspended sacks, each with a small hole below, and attatched at the top to a pipem which conveys the flow of water. Into this bag the sand passes and is carefully deposited near the outer rim of the buddle, through the small hole in the end of the sack before mentioned. Sacks are also attatched to the beams by the dragging of which the tailings are combed; ploughs 4 each are affixed to the beams which disturb the sand, now and again, when the water carries off any light material remaining. Thus, the concentrates remain, and are afterwards loaded into carts and sent along to be treated by a chemical process, something similar to the treatment by Chlorine gas, which is generated by chloride of sodium (common salt) and manganese. [3]

1902 -1912 cyanide plant : Further improvement in the process resulted in the re-treatment of these tailings by Messrs Lyndon & Dowsley, between 1902 and 1912. This company also obtained rich returns from the slimes that had been neglected by Messrs Duncan, Noyes & Co. [4]

1915: The Government battery in course of erection, with cyanide plant, should give prospecting a new life in the locality. [5]

1943: Mine Department Batteries - Tarnagulla: Gas, 5-head.[6]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:
Phase 1: 1896 - ? : Duncan, Noyes & Co - cyanide works
Phase 2: 1902 - 1912 : Lyndon & Dowsley - cyanide works
Phase 3: 1915 - 1957 : Government battery/cyanide works.
The stone-walled vats may well date to the earliest phase. The rest of the features relate to the operation of the State battery.

State battery
The site consists of a ramp constructed of battery sand, at the top of which are embedded three open-topped, circular, galvanized iron treatment vats, each 11ft (3.4m) in diameter. Sunk into the ground at the rear of the ramp is another galvanized vat of similar diameter. A channel leads from this tank in a north-easterly direction to a dam.

20m NW of the galvanised iron vats is a line of four sunken vats. The vats have sloping stone walls, and their surface outlines measures 11 x 14m (36 x 46ft). The rear wall of each paddock has a 30cm opening at ground level, leading onto a common drainage area, which slopes NE towards a gully.

Immediately SW of the galvanised iron vats are the remains of a stamp battery (5 head of stamps). Enclosing the battery are the remains of a galvanized iron shed - concrete footings containing remnants of bush timber stumps. The shed would have comprised two rooms, one containing the stamper, the other the engine. The stamper room would have measured 6.3 x 5.2m. The engine room was 8m square, and contains concrete engine mounting blocks. Concrete supports in the ground to the SW of the engine room suggest that this was the location of the boiler. Fragments of the boiler itself are to be found in the vicinity. One such metal fragment still has some of its lining of firebricks. Firebricks, with the impressed words 'SOUTH YARRA' discernible, litter the area.

PHOTOS:
Photo 1: Cyanide tanks and concrete footings. Looking E
Photo 2: Footings and battery stumps. Looking S
Photo 3: 3 gal iron tanks. Looking S
Photo 4: Tank and drain to dam
Photo 5: Boiler
Photo 6: Battery stumps

ARTEFACTS: Parts of boiler, iron bolts in mounting blocks

INTEGRITY/CONDITION: Site integrity is good and the condition of the fabric of the site is fair, given the nature of the remains and the treatment process carried out here.

THREATS: Human visitation: fossicking for treasure and scrap; vehicle track passes through the centre of the site, between the settling tanks and paddocks, and is gradually eroding the edges of the paddocks.
Natural processes: Deterioration of concrete footings, due to dampness; rusting of galvanized iron tanks

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CULTURAL SIGNIFICANCE:

The site has:
- Historical significance because it:

a) is associated with an important historical event: the introduction of a revolutionary re-treatment process during the mid-1890s
b) represents a sequence of uses or functions over time
c) is associated with the Victorian Government's attempt to revitalise quartz mining at the turn of the century through the erection of State Batteries.

- Scientific significance because of:
  a) its intactness
  b) its ability to demonstrate what took place on the site
- Social significance because it has some importance to the local community.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance is attributable mainly to its integrity and association with the pioneering of cyaniding in Victoria.

RECOMMENDATIONS FOR IMPLEMENTATION:

The fact that the site has not been seriously vandalised or damaged suggests that the local community recognises its significance. The site should be monitored and if circumstances change protective measures, such as fencing and sign posting, should be implemented

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Assessor: David Bannear Date: May 1991

1 Clarke 1985, p5
2 Annual Report of the Secretary for Mines and Water Supply, year 1895, p43
3 *Tarnagulla and Llanelly Courier* 20/7/1895
4 Clarke 1985, p5
5 Mining Surveyors' Reports, 1915
6 Mining Surveyors' Reports, 1943

SITE NO. & NAME:	**002 WINDMILL REEF MINE**
LOCATION:	**Windmill Reef**
DIRECTIONS:	Western side of Timor/Dunolly Road. Take Windmill Track and first on the left. Mine workings are visible on the top of the hill
MAP/GRID REFERENCE:	Dunolly South 1:25000 - 422.124
PARCEL NUMBER:	P122049
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	None
PRESENT MANAGEMENT/USE:	LCC - NCE20

HISTORY:

1857/60s: Discovered in 1857. This reef produced 120 oz in February the following year and soon after was returning 8 oz per ton from the 100 ft level. As all the trees had already been cut down by the first miners it was decided to erect a windmill to drive the battery. It was 80ft high and when finished in 1860 failed to work and was abandoned. The brick foundations still remain. [1]

Sept 1859: On Lees Bridge Reef a company of 12 have taken up this long abandoned reef, and are erecting a windmill for crushing purposes, the tower of which is to be 80 feet in height. They will also have a small engine for pumping and winding. [2]

April 1860: At Dunolly, the only reefs being succesfully worked are at the Perseverance and Windmill Hill ... on the latter the prospectors claim on which the windmill has been erected, and which is ready. [3]

Aug 1860: the prospectors had a crushing, the result of which has caused them to pay off most of their hands. [4]

1862: Another company took over in 1862 and were getting 6 oz/ton before being beaten by water. [5]

14 Feb 1863: Enterprise Mining Company - This company has been established to work the reef known as Windmill, has long since gots its machinery in working order, and is crushing away in right good earnest. The scene of the operation is about 3 miles south of Dunolly. Approaching the hill from the town, one is struck with the mass of timber which comprised the mass of timber which composed the framework of the old windmill from which the range and reef derive their name. The shaft now in work is about 120 feet in depth. The reef averages some 4 feet in thickness ... Silver in small quantities is found in the mundic. Carbonate of copper may also easily be traced in the stone ... Sixty eight tons have been crushed, yielding 33 ounces or an average of nearly 10 dwts per ton. The manager, Mr Kendall, has been engaged in mining pursuits since he was eight years of age, and is thoroughly up to his work. He came out to Adelaide in 1847 where he was engaged in the Burra Burra mines ... The water for supplying the engine and for crushing purposes, has hitherto been obtained from the main shaft, but laterlythis has not been sufficient to keep the machine going more than half the time. The shaft is now being sunk a further depth of 40 feet, and when finished it is expected there will again be an ample supply of water. The manager intends sinking a new shaft to the west, on the site of the old windmill, using the frame for poppet heads to raise the quartz and debris. There are two engines employed in the works, one of 25 horse power and one of 6 horse power, the former driving the stampers and the latter working the shaft gear etc. They are supplied from one boiler 28 feet in length by 6 1/2 feet in diameter. At the present there are two batteries of stampers containing each four heads. The proprietors contemplate erecting another battery should the enterprise prove successful. A tramway leads from the shaft's mouth to the mill whence the quartz is conveyed on trucks. Some fourteen hands are employed in the works. [6]

1869: A heap of mullock and quartz was retreated by Hutchinson and Chatsworthy in 1869. [7]

Sept 1876: A small co-operative company has been formed to work the Windmill Reef, and operations are to be commenced at once. [8]

Dec 1876: Caledonia Reef, Windmill Hill - Calder and Co. have sunk their shaft 66 feet during the quarter, making a total of 174 feet. They have opened out for the reef, and are sinking a well. [9]

Sept 1879: Windmill Hill Reef - a party of Beechworthmen have taken up a large area of ground on this line of reef with the intention of floating a company, which will prove a payable venture if properly worked, judging

from the quantity of gold reported to have been obtained from the surface to the water level, of which point it was abandoned some years since in consequence of the want of efficient machinery to keep down the water, and the high prices charged for carting and crushing stone. [10]

Dec 1882: The Windmill Company have crushed 350 tons of quartz taken from 100 and 140 foot level, wheih averaged 8dwt per ton - also sinking a new main shaft, which is now down 35 feet, and is situate 40 feet south of the old shaft. [11]

March 1883: have sunk their main shaft to a depth of 170 feet, crushed 600 tons/180oz gold - prospects improving. [12]

July 1897: The prospectus of the Windmill G. M. Co. has been issued to the public. The company is being formed to work the Windmill Reef. [13]

Sept 1897: Directors sent a gentleman to Ballarat and Melbourne to inspect the necessary machinery. [14]

Oct 1897: poppet-legs have been erected and a suitable plant, consisting of steam winch, steel boiler etc. and will be delivered to the mine next week. [15]

Nov 1897: erection of the machinery and engine house completed. Water from dam to boiler connected. Commenced bailing. [16]

March 1898: It is probable a small crushing will be out this week, and the stuff will be crushed at Maryborough. It will be a great advantage to this mine to have facilities for crushing at hand when the Consolation plant is erected. [17]

April 1898: new main shaft - Laid mullock road and levelled plat. Steam winch removed and reset. Poppet legs taken from late winding shaft and ready for re-erection. [18]

May 1898: purchased from messrs Cameron and Sutherland of Ballarat, the crushing plant of New Garden Reef Co. Moonambel, consisting of a 12 head battery, 16 in cylinder engine, large boilers (capable of steaming for crushing and pumping plant) ripple tables, copper plates and all necessary accessories for a crushing plant, including, Berdan pan, amalgamating barrel and housing over engine and battery house, two safety cages and hooks. [19]

Sept 1898: Contractors making good progress with erection of machinery, poppet legs erected and will be completed when the pit head pulleys are obtained. Bob pit sunk full depth. Building in of boilers will be completed this week. Supply dam for battery nearly completed. [20]

Oct 1898: All brickwork in connection with crushing and pumping plants completed and iron stack erected. Housing over boilers and stokehole nearby nearly completed. Good progress being made with the battery and engine. [21]

24/1/1899: Quartz road and hopper nearly completed. [22]

May 1899: work suspended. [23]

May 1900: The water is out, drives being cleaned and rails laid. Expect to get men below next week. [24]

June 1900: Mother of Gold Consolidated Mines - Windmill Hill. Have driven through a horse of mullock; just picked up quartz again. Contractor for the erection of a new ten head battery has made a start to dismantle the old battery. [25]

Sept 1900: Newbattery completed; one Wilfley table in position. Fixing horses to carry intermediate shaft for driving Wilfley tables. [26]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1859: Unsuccessful attempt to drive a crushing battery with an 80ft windmill.
1863: Enterprise Mining Co. - 8-head battery
1869: Mullock and quartz retreated by Hutchinson & Chatsworthy
1876: Small co-operative party working the reef
1879: Windmill Co. working the reef
1897: Windmill G. M. Co - installation of new machinery for pumping, winding and crushing. Mention of brickwork in connection with crushing and pumping plant; erection of iron stack.

1900: Mother of Gold Consolidated Mines - replacement of old battery with new 10 head battery
Difficult site to interpret, given the recent demolition. The brickwork would certainly date to late 1890s when the Windmill G.M. Co installed new plant. The stone footings presumably date to an earlier phase.

Mine site

Remains are to the right of the bush track and cover an area approx 20m square. The site consists of battery footings (timber bearers embedded horizontally in the ground, plus 8 iron bolts, the tops of most of which have been oxy-ed off). The timber bearers (3 visible, possibily a fourth) are in poor condition (rotted) - would have measured approx 60cm square and 2.7m long.

Immediately to the north of the battery are the bulldozed and broken-up remains of substantial brick foundations. Bricks are red, hand-made, and have large fragments of quartz in their composition. Some bricks have no frogs; others have a single deep, rectangular frog. The bricks are set in a thick, sandy mortar. The foundations would have measured 1.6m (5-1/2ft) x 4.3m (14ft). What appears to be the top face of the foundations has slots for timber (4" x 2"); the timber is no longer present. The foundations are broken into five main pieces, and the debris covers an area of approximately 6 x 4m.

Immediately S of the foundations, and W of the battery are two conjoined, rough-cut excavations, approx. 3.5m square and 1.2m deep. A connecting gap has been cut through the baulk between the two excavations. At the base of the gap are the remnants of stone and mortar footings.

Immediately to the north are scanty remains of rough stone and mortar footings, at ground level and now almost obliterated by built-up soil and debris. 3m further north is the outline of a stone wall, running E-W, possibily a rear wall.

5m NW of the brick foundations are the remains of a stone building. The remains and stone wall are visibly raised at ground level. The structure would have measured approximately 10 x 6.5m. The building stone was set in a sandy mortar.

20m SW of the brick foundations is a large dam (empty); 16m to the W is another dry dam. Between this second dam and the two excavations is a spread of battery sand.

The tailing heap for the workings lies to the E of the crushing works (on the left side of the track) and appear to have largely been removed.

PHOTOS:

Photo 1: Facing N - battery footings and brick foundations.
Photo 2: Facing S - brick foundations.
Photo 3: Facing NW - stone footings of stone building that lies to the NW of the brick foundations.
Photo 4: Facing NE - overview of site, showing excavations, battery and brick foundations.
Photo 5: Facing W - conjoined excavations

AGE/DATING PHASE: Multi-phased site: 1859 - c.1900

INTEGRITY/CONDITION: Integrity of the site is poor. Apart from remains of plant , little survives of the rest of the mine's workings. Timber bearers of the battery are fairly rotten. Brick foundations broken into several pieces. Stone walls protected by build-up of soil and debris.

ARTEFACTS: None

THREATS: The area is currently under a mining lease. Recent prospecting and costeaning is evident. The recent demolition of the brick foundation (suggested by the unweathered nature of breaks in the brickwork) might be contemporary with current prospecting work.

CULTURAL SIGNIFICANCE:

Apart from some machinery footings, which appear to mainly date to the turn of the century, little survives on the site. The context of the mine site - including its workings and plant - has been reduced to such an extent that the site holds little significance.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
No action required

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.21
2 Mining Surveyors' Reports, Sept 1859
3 Mining Surveyors' Reports, April 1860
4 Mining Surveyors' Reports, Aug 1860
5 Tully, 1988, p.21
6 *Dunolly and Burnt Creek Express* , 14.2.1863, p.2
7 Tully, 1988, p.21
8 Mining Surveyors' Reports, Sept 1876
9 Mining Surveyors' Reports, Dec 1876
10 Mining Surveyors' Reports, Sept 1879
11 Mining Surveyors' Reports, Dec 1882
12 Mining Surveyors' Reports, March 1883
13 *Dunolly and Burnt Creek Express* , 13/7/1897
14 *Dunolly and Burnt Creek Express* , 7/9/1897
15 *Dunolly and Burnt Creek Express* , 5/10/1897
16 *Dunolly and Burnt Creek Express* , 9/11/1897
17 *Dunolly and Burnt Creek Express* , 15/3/1898
18 *Dunolly and Burnt Creek Express* , 26/4/1898
19 *Dunolly and Burnt Creek Express* , 3/5/1898
20 *Dunolly and Burnt Creek Express* , 20/9/1898
21 *Dunolly and Burnt Creek Express* , 4/10/1898
22 *Dunolly and Burnt Creek Express* , 24/1/1899
23 *Dunolly and Burnt Creek Express* , 30/5/1899
24 *Dunolly and Burnt Creek Express* , 4/5/1900

25 *Dunolly and Burnt Creek Express* , 8/6/1900
26 *Dunolly and Burnt Creek Express* , 4/9/1900

SITE NO. & NAME:	**003 CLOVERS GULLY PUDDLER**
LOCATION:	**Clovers Gully**
DIRECTIONS:	Take track leading to Clovers Gully, left off Cockatoo Track, which, in turn, is left from the Dunolly-Timor Road. Approx. 250m along the Clovers Gully Track, a rough track branches off to the right. The raised puddler site is on the immediate south edge of the fork.
MAP/GRID REFERENCE:	Dunolly South 1:25000 - 432.131
PARCEL NUMBER:	P122048
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	None
PRESENT MANAGEMENT/USE:	LCC - NCE20

HISTORY:

1862: In September 1862 Clovers Gully was opened by Robert Clover, and there were rushes to the smaller gullies nearby - Spencer's, Hampshire and Middleton's. Very large nuggets were found at Clover's Gully. [1]

Oct 1862: Discovered by Robert Clover and party in October 1862. This was the largest rush in the area with 500 miners. Clovers Gully was known both for its quantity of nuggets and the long period over which it was producing due to many areas being initially overlooked. In November 1862 a nugget of 444 oz was reported by the Dunolly Express but never confirmed. [2]

8 November 1862: Clovers Gully & Fighting Flat - Nuggets are still being obtained almost ad libitum. [3]

29 November 1862: Clover's Gully is still progressing favorably. During the past week several nuggets have been obtained, one by Burgess and party, of over a pound weight, and several others by different parties, weighing from three to six ounces. We hear of one claim as having already yielded upwards of £400 worth of gold. This from four feet sinking is not bad, and reminds one of the good old times... Quite an impetus to prospecting on the flat has resulted from these lucky finds. [4]

DESCRIPTION OF PHYSICAL REMAINS:

In 1862, Clovers Gully gained a reputation as a nugget-bearer. This reputation has resulted in constant reworking, which continues today. Historical records show that 2 puddlers were erected in Clovers Gully in 1869 (See Appendix G). However the intactness, and non-weathered, non-vegetated appearance of the puddling machine site recorded above suggests that it probably dates to the 20th century. It may well be an old puddling site, but a reconstructed puddler.

Puddler

Puddling bowl is 6.5m (20ft) in diameter, 70cm deep at the edges. The bowl is set in 4m (13ft) from the outer edge of its surrounding mound. This mound, raised around 1m above ground level, is constructed of clay and gravel. On the N side of the bowl, an outlet channel, 1 ft (30cm) wide cuts through the mound. There is no evidence of an inlet to the bowl, suggesting that water was pumped in from the dam that abutts the southern side of the puddler. The relatively sheer and clean-cut sides of the bowl and outlet suggests that this site is of fairly recent date. The central post is missing.

The integrity of the alluvial workings in Clovers Gully have been severely diminished by modern bulldozing and detecting opertaions

PHOTOS:	Photo 1: Facing NW - general photo of mound surrounding puddler. Photo 2: Facing N - puddling bowl and outlet
CONDITION/INTEGRITY:	Puddler - good; alluvial workings in gully - poor
ARTEFACTS:	None associated with the puddler.
THREATS:	The mound surrounding the puddling bowl has been constructed of what looks like washdirt. Inexperienced prospectors have excavated into the mound, accelerating erosion. An access track to the mining lease on which the puddler is situated, cuts sharply along the site's N edge.

CULTURAL SIGNIFICANCE:

The site has:

Scientific significance because of its:

a) intactness
b) historical representativeness - ability to clearly illustrate this type of mining technology.
c) ability to answer specific archaeological research questions: its obvious recent construction, and unweathered appearance, acts as a dating yardstick. More weathered examples being older, mid to late 19th century survivors.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the Clover's Gully puddler is attributable to its ability to illustrate the technology involved, and its importance as a relative dating yardstick. Any conservation work carried out should not interfere with the site's ability to carry out this role.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site should be protected and monitored. The fact that it still survives suggests that the local community respects its significance. It should only be fenced off if this situation changes.

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.277
2 Tully, 1988, p.22
3 *Dunolly and Burnt Creek Express* , 8.11.1862, p. 2
4 *Dunolly and Burnt Creek Express* , 29.11.1862, p. 2

SITE NO. & NAME:	**004 YORKSHIRE MINE**
LOCATION:	**Watts Reef**
DIRECTIONS:	2km N of Tarnagulla.
MAP/GRID REFERENCE:	Inglewood South 1:25000 - 530. 295
PARCEL NUMBER:	P124285
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Flora Reserve
EXISTING HERITAGE CLASSIFICATION:	McConville 1987 ; LCC Study
PRESENT MANAGEMENT/USE:	LCC - NCH14 Some signposting in order to protect the mine's tailing dumps which have now become a bird nesting area - white-back swallow, rainbow bee eaters and spotted pardolates.

HISTORY:

June 1859: Watts Reef [Sandy Creek] - 1 claims, 40yds aggregate length, yielding 2 1/2 oz/ton. [1]

June 1868: The Perseverance Co. are raising stone from the water shaft - reef 4 feet thick and expected to yield from 1 to 1-1/2 oz per ton. Excelsior Co., next south, are taking out stone. [2]

March 1870: Excelsior Company have crushed 351 tons of stone for 52 oz 7 dwts... Perseverance Co. have sunk their shaft during the quarter 27 feet; it is now 180 feet deep. They are at present engaged bailing water.[3]

Dec 1871: Excelsior Company have increased the capital, to raise funds for working Perseverance Company have let their mine on tribute, and work will soon be commenced. Phoenix Company have let the mine on tribute. [4]

March 1872: The Excelsior Company are about to erect machinery. Perseverance Co. have let their mine on tribute. [5]

1878-1908: The company that worked the Yorkshire Reef ... moved their operations to Watts Reef, retaining the original name. They worked from 1878 to 1908 with an average of 5 dwt/ton. The main shaft, 1150 ft (350 m) is the deepest in the district. The dam, battery foundations and tailing heap are still visible. [6]

1878: Watts reef was brought by the Yorkshire Co and it was re-opened in 1878. This mine was in operation for many, with brief periods of inaction, until it finally closed in 1908. The shaft was sunk to 1,150 feet, the deepest Tarnagulla shaft, and at this depth the reef was said to be carrying a good showing of gold. The mine was for some years under the management of Mr W. Laidlaw, with Mr. Jas Patterson as underground manger. [7]

March 1878: A Company is also being formed, and a large number of shares are taken up, to work Robinson's lease, on Watt's line of reef.[8]

Sept 1878: Yorkshire Co., Watt's Reef, are erecting a pumping and winding plant, which they will have finished in about 6 weeks.[9]

June 1879: The batteries of the company are now in full operation, and the first cleaning off will take place next week. There are about 700 tons of quartz broken out and on grass, and it is expected that the machine will be kept fully employed. The reef is from 9 feet to 12 feet in width. Gold is seen in the stone, which looks well. The pumping and winding machinery is in good order.
North Yorkshire Co. - This company has been formed to work the ground north of the Yorkshire Company. A large number of shares have been applied for, and it is intended very shortly to commence operations at the mine. [10]

Sept 1879: The Yorkshire Company has been engaged raising and crushing stone. The lode is about 8 feet wide, and has proved payable; a dividend of 6d. per 24,000th share has been declared. Two new companies are being floated to work ground held under lease both north and south of the Yorkshire Co. holding, and have started sinking shafts. [11]

March 1880: Yorkshire Co. - ...sinking the shaft deeper, present depth 275 feet, and the mine is reported to be looking better than of late. [12]

Sept 1880: Yorkshire Co. - the mine looks well. The shaft is being sunk: total depth is now 295 feet.
North Yorkshire Co. - are crosscutting for reef.
South Yorkshire Co. - Now 51 feet from shaft. The country is soft slate. [13]

Dec 1880: North Yorkshire Co. - sunk their shaft 178 feet and put a crosscut of 150 feet.
South Yorkshire Co. - sinking their main shaft 127 feet. The reef, carrying a little gold, was struck in a drive at the 110 feet. [14]

une 1881: Yorkshire Co. - crushed 878 tons for 331 oz, taken from 240 to 310 feet deep; also sinking their main shaft deeper, the present depth being 320 feet. [15]

Dec 1881: Yorkshire Co. - sinking and cross-cutting - depth of shaft 394 feet, 2195 tons crushed during the quarter yielded 892 oz. [16]

June 1882: Yorkshire Co. - Stone is being broken out from between the 200 and 330 foot levels. [17]

Sept 1882: Yorkshire Co. - The company have crushed 1,870 tons for a yield of 440 oz. [18]

March 1883: Crushed 2,051 tons for a yield of 1,112 oz, which is a great improvement. The reef still continues good, the company paid a dividend. [19]

Dec 1883: Yorkshire Co. have sunk their main shaft to a depth of 505 feet. [20]

June 1884: In the northern part of the Yorkshire lease a new shoot of gold has been discovered, with every appearance of being payable. The reef is 5 feet wide. [21]

June 1885: Yorkshire Co.'s prospects have materially improved during the past quarter, enabling them to pay a dividend. 1614 tons yielded 968 oz of smelted gold. [22]

March 1886: Yorkshire Company - 870 tons yielded 195 ozs gold. [23]

June 1888: Obtained some rich specimens of gold in the centre of the reef, at the 500 ft level. [24]

Sept 1889: Driving a cross-cut at the 570-ft level. [25]

26 April 1898: The Yorkshire Gold Mining Co. is still pushing on levels both south and north at the 700 ft level. [26]

1904: At the New Yorkshire Mine, Tarnagulla, active work has been carried out during the past year. The plant at the Old Yorkshire mine has been overhauled and renovated, and a new up-to-date crushing battery of 20 heads of stampers erected and at work. Its milling
capacity is proved to be about 100 tons per 24 hours.
The old workings have been cleaned out and repaired, and a good deal of prospecting has been done. Sinking the main shaft, which is now about 780 feet in depth, is about to be recommenced. The stone milled aggregated 4,695 tons for 490-1/2 oz. The number of men employed is 45. [27]

1907: A large amount of work sinking and driving has been done by the New Yorkshire Company, but nothing payable has been met with, consequently the company closed down towards the end of the year. [28]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1859	One claim working on the reef.
1868	Perseverance Co.
1870	Excelsior Co.
1878/79	Yorkshire Co. - erection of pumping, winding and crushing plant.
1904	New Yorkshire Co. - old plant overhauled; new 20-head battery installed.

Surviving remains date to the mine's operation by the Yorkshire Company and the New Yorkshire Company (1878-c.1904)

Mine and battery site

The site contains substantial brick engine foundations which stand to the height of 2m. The red bricks used in the construction of the foundations appear to be machine-made. The main shaft lies several metres to the NW and appears to have been used as a rubbish dump. Between the shaft and the engine runs an excavation containing a set of parallel brick footings, presumably for the pumping and/or winding gear which was driven by the engine.

10m W of the brick foundations and shaft is a levelled excavation (12 x 5m) which may have been the site of the boiler shed. There is no evidence of any footings, but there are a considerable number of firebricks in the debris that covers this area. The white firebricks have a single wide, rectangular frog with the inscription, SANDHURST. There are also several fragments of thick cast iron and firebars, presumably remnants of the scrapping of the boilers.

20m NW of the main shaft is the crushing works' engine house. All that survives here are several concrete mounting blocks (with iron bolts) standing in a level, excavated area measuring 5 x 7.5m.

Abutting the engine house are concrete foundations (timber footings removed) of what appears to have been a twenty-head battery.

On the west side of the battery, and running parallel to it, are a line of slots (cut into concrete footings) which probably once supported the framing for the front of the battery shed.

PHOTOS:

Photo 1: Facing S - brick engine foundations
Photo 2: Facing E - concrete engine foundations, crushing works
Photo 3: Facing NE - battery foundations and engine mounting blocks in the background
Photo 4: Facing NE - possible site of boiler house
Photo 5: Facing S - engine mounting blocks and battery foundations
Photo 6: Facing N - main shaft and brick footings for pumps and/or winding gear

CONDITION/INTEGRITY:

Apart from some damage to the brick engine foundations, and the concrete of mounting blocks in the crushing works being quite soft, the site is in a reasonable condition and, archaeologically, reasonably intact.

ARTEFACTS:

None visible

THREATS:

Probably the greatest threat to the site is that removal of tailings and other earthworks, such as new roads, and the dumping of rubbish, has effectively obscured the site's integrity. Because, as a result, the site's historic nature and intactness is less obvious, continuing degredation has occurred.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) was a success as a mine in terms of production levels
  b) represents a sequence of uses or functions over time
  c) is the site of the Division's deepest shaft
- Scientific significance because it:
  a) represents an important mining technology
  b) has the ability to illustrate the layout of pumping, winding and crushing machinery which was required to operate a large mine.
- Social significance because it is locally advertised as being of interest to visitors.

Significance ranking: Regional

CONSERVATION POLICY:

The site is considered significant because of its intactness and ability to demonstrate the above-ground technology required to collect and process gold-bearing rock. Conservation work should be directed towards removing obstructions and providing visitor interpretation, which would bring to light the site's somewhat hidden integrity.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site is to be protected.

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, June 1859, p15
2 Mining Surveyors' Reports, June 1868
3 Mining Surveyors' Reports, March 1870
4 Mining Surveyors' Reports, December 1871

5 Mining Surveyors' Reports, March 1872
6 Tully 1988, pp49-50
7 Clarke 1985, p4
8 Mining Surveyors' Reports, March 1878
9 Mining Surveyors' Reports, September 1878
10 Mining Surveyors' Reports, June 1879
11 Mining Surveyors' Reports, September 1879
12 Mining Surveyors' Reports, March 1880
13 Mining Surveyors' Reports, September 1880
14 Mining Surveyors' Reports, December 1880
15 Mining Surveyors' Reports, June 1881
16 Mining Surveyors' Reports, December 1881
17 Mining Surveyors' Reports, June 1882
18 Mining Surveyors' Reports, September 1882
19 Mining Surveyors' Reports, March 1883
20 Mining Surveyors' Reports, December 1883
21 Mining Surveyors' Reports, June 1884
22 Mining Surveyors' Reports, June 1885
23 Mining Surveyors' Reports, March 1886
24 Mining Surveyors' Reports, June 1888
25 Mining Surveyors' Reports, September 1889
26 *Dunolly and Bet Bet Shire Express* , 26.4.1898
27 Mining Surveyors' Reports, 1904
28 Mining Surveyors' Reports, 1907

SITE NO. & NAME: **005 BURNT TREE PUDDLER & DAM**

LOCATION: **Burnt Tree Gully, Cay's Diggings**

DIRECTIONS: 200m south from the junction of Hill and Dale Road and Burnt Tree Gully Track. On the west side of the track, on the bank of a dam. Situated at the head of Burnt Tree Gully.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 556.226

PARCEL NUMBER: P124612

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1858: Gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Kayes Diggings, and between Kaye's and Sandy Creek there were a series of discoveries in 1859. German Gully was opened by a German, and a digger named McMillan prospected Mother Chisholm's Gully. Cumberland Gully was also opened at this time, and Corfu Reef, named after Spero Corfu, a Greek. Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third Hard Hill was worked. [1]

1850s/60s: This area was rushed from 1857 to about 1860 and comprised three main leads, Cumberland, British and Woolshed. A small town was established near the Cumberland Lead called Cays. This was after Robert Cay, owner of the Loddon Station which covered this area. It was sometimes referred to as Kaye's in the early newspapers. Turnbull and Thompson who had a store at Jones Creek moved to this rush where nuggets of 37 and 58 oz. were found ... Nine puddlers were working near here in 1859. The American Reef, discovered soon after the first rush to the area, produced 2025 oz in the first nine months of operation. This was from 1500 tons in five separate claims along 120 yards of the reef. [2]

Sept 1859: There are not above 150 employed in alluvial mining. The rush to Hard Hills, near Sandy Creek, has taken many of them away.[3]

27 Sept 1862: While the rush to the Malakoff is taking off a great number of our floating population, Burnt Creek, especially, suffering severely, a rush to Cays on the Loddon, is attracting some attention. We have long known that several miners have been quietly and profitably pusuing the even tenor of their avocations on that goldfield. For instance, two parties of miners puddled out a small blind guly, one of them getting some 260 loads of dirt that averaged over hald an ounce to the load, and the other is reported to have done still better. But Cay's is by no means confined to its alluvial workings. Some of the most splendid reefs in the district have been discovered in that neighbourhood and we never could never understand why a place which gave such promise for the future should have been so deserted ... The prospectors on the ground at present rushed obtained payable gold at a depth of 33 ft and several holes are going down. There are some hundreds of diggers on the ground yesterday, but its capabilities are not yet ascertained. [4]

DESCRIPTION OF PHYSICAL REMAINS:

Historical records show that a puddler was erected in Burnt Tree Gully, below Kangaroo Reef, in 1869. The weathered appearance of the puddling machine suggests it was in use during the 19th century and may well be the one refferedto in the records.

Puddler

Puddler is situated on the northern end of the dam's earthern embankment. It has a diameter of 6.5m (22ft). The central post and inner mound are still standing, and the puddling trench and outlet trench are still discernible. There is no evidence of an inlet channel.

PHOTOS: Photo 1: showing puddler.

ARTEFACTS: None

INTEGRITY/CONDITION: The very eroded nature of the bowl and outlet suggests that this site is of 19th-century date.

THREATS: Human visitation: prospecting activity.
Natural processes: erosion

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, including Cays Diggings and Kangaroo Reef workings.
- Scientific significance because of its ability to answer specific archaeological research questions: its weathered appearance and the its apparent match with 1869 puddling machine location makes this site a dating yardstick.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett 1979, p273
2 Tully 1988, p42
3 Mining Surveyors' Quarterly Reports, September 1859
4 *Dunolly & Burnt Creek Express* 27 Sept 1862, p2

SITE NO. & NAME: **006 CUMBERLAND PUDDLER & DAM**

LOCATION: **Cumberland Lead, Cay's Diggings**

DIRECTIONS: Head of Cumberland Lead. Approx. 2km along Hill and Dale Track from Laanecoorie-Tarnagulla main road. 120m south of the track, near the southern extension of the mine workings on the Kangaroo line of reef. A track diverges west, leading to the puddler.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 559.224

PARCEL NUMBER: P124612

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

1858: Gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Kayes Diggings, and between Kaye's and Sandy Creek there werea series of discoveries in 1859. German Gully was opened by a German, and a digger named McMillan prospected Mother Chisholm's Gully. Cumberland Gully was also opened at this time, and Corfu Reef, named after Spero Corfu, a Greek. Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third HardHill was worked.[1]

1850s/60s: This area was rushed from 1857 to about 1860 and comprised three main leads, Cumberland, British and Woolshed. A small town was established near the Cumberland Lead called Cays. This was after Robert Cay, owner of the Loddon Station which covered this area. It was sometimes referred to as Kaye's in the early newspapers. Turnbull and Thompson who had a store at Jones Creek moved to this rush where nuggets of 37 and 58 oz. were found ... Nine puddlers were working near here in 1859. The American Reef, discovered soon after the first rush to the area, produced 2025 oz in the first nine months of operation. This was from 1500 tons in five separate claims along 120 yards of the reef.

Sept 1859: Thereare not above 150 employed in alluvial mining. The rush to Hard Hills, near Sandy Creek, has taken many of them away.[2]

27 Sept 1862: While the rush to the Malakoff is taking off agreat number of our floating population, Burnt Creek, especially, suffering severely, a rush to Cays on the Loddon, is attracting some attention. We have long known that several miners have been quietly and profitably pusuing the even tenor of their avocations on that goldfield. For instance, two parties of miners puddled out a small blind guly, one of them getting some 260 loads of dirt that averaged over hald an ounce to the load, and the other is reported to have done still better. But Cay's is by no means confined to its alluvial workings. Some of the most splendid reefs in the district have been discovered in that neighbourhood and we never could never understand why a place which gave such promise for the future should have been so deserted... The prospectors on the ground at present rushed obtained payable gold at a depth of 33 ft and several holes are going down. There are some hundreds of diggers on the ground yesterday, but its capabilities are not yet ascertained. [3]

DESCRIPTION OF PHYSICAL REMAINS:

Cay's Diggings opened up in 1858, and have seen constant re-workings. The historical record shows that there were 9 puddlers operating at Cay's Diggings in 1859. The intactness and non-weathered, non-vegetated appearance of the puddling machine site suggests that it probably dates to the 20th century. It may well be that this is an old re-used puddling sites.

Puddler

Puddling bowl is 6.5m (22ft) in diameter, and 70cm deep at the edges. The bowl is set in approx. 4-5m from the outer edge of its surrounding mound. This outer mound, raised around 1.5m above ground level, is constructed of fresh-looking clay and washed gravel. The total area covered by the puddler and discarded washings is approx. 25m square. On the W side of the bowl, an outlet channel cuts through the mound. There is no evidence of an inlet to the bowl, suggesting that water was pumped in from the dam that abutts the eastern side of the puddler. The puddling trench is 1.4m wide. The central post is present, standing to a height of 70cm, 9 inches in diameter. The puddler has two loading ramps

PHOTOS: Photo 1: showing puddler

ARTEFACTS: None

INTEGRITY/CONDITION: The relatively sheer and clean-cut sides of the bowl and outlet suggests that this site is of fairly recent date.

THREATS: Prospecting activity and erosion

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance because of its:
  a) intactness
  b) historical representativeness - ability to clearly illustrate this type of mining technology.
  c) ability to answer specific archaeological research questions: its obvious recent construction, and unweathered appearance, acts as a dating yardstick. More weathered examples being older, mid to late 19th century survivors.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the puddler comes from its ability to ilustrate the technology involved, and its importance as a relative dating yardstick. Any conservation work carried out should not interfere with the site's ability to carry out this role, unless as a last resort.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site should be protected. The fact that it still survives suggest that the local community respects its significance. It should only be fenced off if this situation changes.

Assessor: David Bannear Date: May 1991

1 Flett 1979, p273
2 Mining Surveyors' Quarterly Reports, September 1859
3 *Dunolly & Burnt Creek Express* 27 Sept 1862, p2

SITE NO. & NAME: **007 CUMBERLAND ALLUVIAL DIGGINGS**

LOCATION: **Cumberland Lead, Cay's Diggings**

DIRECTIONS: Cays Diggings on Cumberland Lead. North of main Laanecoorie-Tarnagulla road, between Hill and Dale Road and Burnt Tree Gully Track.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - centre of diggings approx. 564.212

PARCEL NUMBER: P124612

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1858: Gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Kayes Diggings, and between Kaye's and Sandy Creek there were a series of discoveries in 1859. German Gully was opened by a German, and a digger named McMillan prospected Mother Chisholm's Gully. Cumberland Gully was also opened at this time, and Corfu Reef, named after Spero Corfu, a Greek. Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third Hard Hill was worked. [1]

1850s/60s: This area was rushed from 1857 to about 1860 and comprised three main leads, Cumberland, British and Woolshed. A small town was established near the Cumberland Lead called Cays. This was after Robert Cay, owner of the Loddon Station which covered this area. It was sometimes referred to as Kaye's in the early newspapers. Turnbull and Thompson who had a store at Jones Creek moved to this rush where nuggets of 37 and 58 oz. were found ... Nine puddlers were working near here in 1859. The American Reef, discovered soon after the first rush to the area, produced 2025 oz in the first nine months of operation. This was from 1500 tons in five separate claims along 120 yards of the reef. [2]

Sept 1859: There are not above 150 employed in alluvial mining. The rush to Hard Hills, near Sandy Creek, has taken many of them away.[3]

27 Sept 1862: While the rush to the Malakoff is taking off a great number of our floating population, Burnt Creek, especially, suffering severely, a rush to Cays on the Loddon, is attracting some attention. We have long known that several miners have been quietly and profitably pusuing the even tenor of their avocations on that goldfield. For instance, two parties of miners puddled out a small blind guly, one of them getting some 260 loads of dirt that averaged over hald an ounce to the load, and the other is reported to have done still better. But Cay's is by no means confined to its alluvial workings. Some of the most splendid reefs in the district have been discovered in that neighbourhood and we never could never understand why a place which gave such promise for the future should have been so deserted... The prospectors on the ground at present rushed obtained payable gold at a depth of 33 ft and several holes are going down. There are some hundreds of diggers on the ground yesterday, but its capabilities are not yet ascertained. [4]

DESCRIPTION OF PHYSICAL REMAINS:

These diggings, first opened in 1858, reflect a series of workings and re-workings, the later (1930s 'sustenance' mining and recent bulldozing and metal detecting) being the most prominent features.

Alluvial workings

Curving band of sinkings and mullock heaps following the lead. Towards the main road the sinkings became more widely spaced and are associated with remains dating from the 20th century and, probably, the 1930s Depression. The structural remains consist mainly of small mounds of stone and brick, probably the remains of fireplaces once associated with canvas tents or other temporary structures. These mounds are sometimes associated with brick floors. There is also evidence of mud brick structures, as well as several dumps of rusty tins, etc. scattered through the bush.

PHOTOS: Photo 1: showing fireplace, still standing to a height of 80cm.

ARTEFACTS: The majority of artefact are rusted food and tobacco tins. There are also a considerable number of billies, an occasional broken beer bottle or fragment of crockery, hobnail boots and camp ovens.

INTEGRITY/CONDITION: Early diggings appear to be confined to a pronounced band. Diggings associated with 1930s Sustenance camp appear to be more dispersed. Vegetation cover is light so diggings are fairly visible. Holes vary from being pronounced to quite weathered.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) represents a sequence of uses or function over time
  b) is associated with an important event: the Great Depression (site of an early1930s Sustenance camp)
- Scientific significance because ithas the ability of the site to answer specific archaeological research questions. The remains of the Sustenance camp help to document the nature and distribution of this type of site and thus hold significance for future research.

Significance ranking: Regional

CONSERVATION POLICY:

The diggings' importance stems from their representativeness of traditional alluvial mining, and from their role as an effective marker of the Division's eastern alluvial boundary. No future work should adversely affect these diggings' interpretive abilities.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site is to be protected

Assessor: David Bannear Date: May 1991

1 Flett 1979, p273
2 Tully 1988, p42
3 Mining Surveyors' Quarterly Reports, September 1859
4 *Dunolly & Burnt Creek Express* 27 Sept 1862, p2

SITE NO. & NAME: **008 BEALIBA FOREST TIMBER CAMP**

LOCATION: **Bealiba Forest Block**

DIRECTIONS:

MAP/GRID REFERENCE: Dunolly North 1:25000 - 333.276

PARCEL NUMBER: P120.286

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE12

HISTORY:

None collected

DESCRIPTION OF PHYSICAL REMAINS:

This site consists of nine distinct stone fireplaces in an area measuring approximately 50 x 25m. The most intact fireplace stands to a height of 70cm and measures 1.2 x 1.8m, with 30cm thick walls. Some artefacts are evident, mainly rusty tins. All the hearths appear to face south. A logging road has been cut through close to the fireplaces. Rubbish associated with the stone fireplaces suggest that this was a 1930s timber camp.

PHOTOS: Photo 1: General view of camp
Photo 2: Most intact stone fireplace
Photo 3: showing road and fireplaces

ARTEFACTS: The rusty tins, mainly food and tobacco, and some benzene cans, date the site to the 20th century

INTEGRITY/CONDITION: Integrity is good, as this site appears to have escaped the attentions of treasure hunters.

THREATS: The logging road runs very close to the site. An increase in the width of the road would necessitate the removal of several of the fireplaces.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because of its considerable age (although the precise historical significance of the site is not at present known).
- Scientific significance because of its ability to answer specific archaeological research questions. The remains of the Sustenance camp help to document the nature and distribution of this type of site and thus hold significance for future research.

Significance ranking" Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME:	**009 GOLDSBOROUGH MINE**
LOCATION:	**Bealiba/ Queen's Birthday Reef, Dunolly**
DIRECTIONS:	At the junction of Red Gate Road and Cut Throat Lane, the mullock heap nearest the junction's SE corner belongs to this mine.
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 381.214
PARCEL NUMBER:	P129.551
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Unreserved Crown Land (Proposed Goldsborough Historic Reserve)
EXISTING HERITAGE CLASSIFICATION:	McConville (1978); LCC study
PRESENT MANAGEMENT/USE:	LCC - NCJ27

HISTORY:

The Bealiba Reef was first worked by King and party, but the quartz lode was lost. It was later discovered by Baker and party while sinking a paddock for puddling clay. A joint company known as the Goldsborough Quartz Mining company, was formed. Two engines and pumping and crushing machinery were installed on the claim. [1]

So great was the activity on this reef, generally known as the Queens Birthday Reef, that a book could be devoted to the activity surrounding it - which became the site for the fifth and last habitat of the Old Dunolly people. [2]

Dec 1856: Queens Birthday Reef was undoubtedly discovered by John Hunter Kerr in December 1856, at its northern end in Inkerman. [3]

June 1861: It is generally understood that the celebrated sea captain, Henry Evans Baker, was the discoverer of the Bealiba Reef, and this is true in as far as the actual effective discovery and opening up of the reef is concerned, but the real discoverers were two diggers named King and Wooley, who in June 1861 worked on the reef at the time when Baker was operating a puddler to the east of the reef.[4]

1863-64: Captain Baker's discovery of the reef occurred whilst excavating earth for a puddling machine and the site of the find today is nearly on the road that runs from Goldsborough Railway Station to the school - on the south side. The original hole dug for the puddler is still there, and King's shaft is some distance north of this. The gold was struck about a foot from the surface on 29 December 1863, and Baker, who was in partnership with Robert D. Dodd, took up a prospecting claim - which allowed them 150 feet along the reef. In January 1864, they took William McLeish and Samuel Crozier into the partnership and the four, holding Miners Rights only, were able to hold 360 feet of the reef under Section 122 of the by-laws. In February, they erected a 4-hp donkey engine on the site and the first crushing from the new reef in March 1864, yielded 77oz of gold. At this time, Pike and party had a claim on the area south of Baker's ground and had sunk to 35 feet with poor results, and south of this Smith and party, who later became the nucleus of the Queens Birthday Co., also had a shaft in 1865. [5]

1865: Baker's party sold a fifth share to William Hayes and a company was formed called the Goldsborough Gold Mining Co. This reef found on the surface dipped suddenly towards the south...towards Smith's party. [6]

1866: Goldsborough Co. erected first crushing machinery. By the end of 1866, they were down 100 feet and a total of 1744 ounces of gold had been mined. [7]

1867: The main reef in the lease was discovered in 1867 by a party of men who were making an excavation to hold water for testing the surface deposits in the vicinity... a mine, the Goldsborough, opened up... Rich quartz was obtained down to 300 feet, from which dividends of £20,000 were paid up to the time mining operations were suspended.
Later, another company, the Queens Birthday Company, was formed to work the same reef on its southward extension. This company sank two shafts, the main one being 1,147 feet, and the other 248 feet, south of the Old Goldsborough shaft. After obtaining 100,504 oz of gold down to a depth of about 600 feet, the mine was abandoned until the present company [New Birthday Mine]...took a lease out on the ground.[8]

1867: Goldsborough Co.'s claim was jumped - at least six hearings before a non-suit was declared and Goldsborough Co. lease was granted. The year 1867 also saw the richest days of the Goldsborough Co., e.g.

on 14 February, 297 oz of gold were got from 85 tons of quarts, and in March 58 tons of stone yielded 530 ounces of gold. In March, Shares were worth £900 - in April they had jumped to £1600. Other companies by this time had opened up on the Birthday line. [9]

1867: miners at the North Goldsborough Company, Bealiba Reef, struck gold at 100 feet where the reef ranged from four to five feet in thickness. [10]

March 1867: the celebrated Goldsborough Reef is still continuing its extraordinary richness; this reef has been traced about a half a mile southerly, and the stone obtained from some of the claims looks promising. [11]

Dec 1867: The Goldsborough Company have 26 men employed and are working the mine at 3 levels, viz., 90, 106 and 135 feet. The prospects continue good...a 35 horse-power engine is on the ground, for pumping and winding purposes, and will shortly be erected. The Queen's Birthday Company, next south, have just finished sinking a shaft, 220 feet deep. North Goldsborough Company are erecting machinery for pumping and winding purposes... The next company north, is on freehold property, and is known as the Goldsborough Freehold Company: they are sinking a shaft, and are now down 100 feet. [12]

March 1868: The Goldsborough Company have just completed the erection of a 35 horse-power engine, for pumping and winding purposes, and are now sinking a new shaft 10 feet by 4 feet in the clear, divided into three compartments, it being their intention to work two cages. [13]

June 1868: Goldsborough Co. have been sinking a new shaft to a depth of 180 feet... They have also completed the erection of a 35 horse-power engine for pumping and winding purposes, and in the new shaft have 10-inch lifts and plunger. [14]

Sept 1868: The Goldsborough Company have sunk their new shaft to a depth of 185 feet... The Company have now 3 engines erected, and making preparations to put up additional batteries for reducing stone; also a tailing pump. They have 29 men employed, exclusive of contractors. [15]

Dec 1868: Goldsborough Co. - Two additional batteries, containing twelve heavy stamper heads, are in the course of erection. [16]

1868: Goldsborough Co. - mine possessed a splendid new plant. From 1868 onwards the company's dividends were smaller... [17]

March 1871: The Goldsborough Company have not for some time past been working their mine, but intend resuming operations shortly, with a full complement of men.
Queens Birthday Co., whose mine is next south, have a number of men employed breaking down quartz from the 204-foot and 290-foot levels. [18]

June 1871: Goldsborough Co. have had only three men at work. Queens Birthday Co. have crushed 1319 tons, which yielded 229oz 9dwt. [19]

Sept 1871: Goldsborough Co. resumed operations... The Company has lately purchased the lease of the ground adjoining the mine on the north side.
Queens Birthday Co. - The mine has improved very much during the quarter...sinking the shaft deeper...crushed 243 tons for 197oz.
Goldsborough Extended Company - This Company, which has the lease south of the Queens Birthday Co., intends to recommence working operations... They have a good shaft down about 110 feet, and are going to sink deeper. [20]

Dec 1871: Goldsborough Co. - The batteries have again been started... The shaft is now down 328 feet, the sinking being hard and expensive... Mine force, 23 men and two blanket boys, exclusive of firewood and timber contractors.
Queens Birthday Co. - crushed 1400 tons, yielded 447 oz... number of men employed, 38.
Goldsborough Extended Co. - have let a contract to sink another shaft (which is to be the main one), 100 feet in depth, and the work is now proceeding, but they intend to sink the shaft at least to 200 feet before stopping, and will then probably erect machinery; their ground adjoins that of the Queens Birthday Co. [21]

Dec 1873: The Goldsborough Co. have discontinued crosscutting at the 380-foot level, not having met with any stone of a payable nature.
Queens Birthday Co. are putting in a crosscut for the main reef at a depth of 400 feet. [22]

March 1874: The reefs in the Bealiba portion of the division are nearly all lying idle at present, and there are no crushings to note therefrom. [23]

June 1874: The Goldsborough Co. are sinking the shaft deeper, the present depth being 419 feet. Queens Birthday Co. are crosscutting for the reef at a depth of 405 feet.[24]

Dec 1874: Most of the companies and claimholders in the line of quartz reefs in the Division have suspended work. The Queens Birthday Company at Goldsborough alone carry on mining operations with any degree of vigor.[25]

1874-76: Goldsborough Co. - By 1874 the members had been paying calls... In 1876 a typical yield was 23 ounces from 105 tons and the mine was placed on tribute. The company then had £200 in the bank.[26]

March 1875: Queens Birthday Company still driving the 405 foot level; 902 tons crushed yielded 205oz. Goldsborough Company are sinking the shaft deeper, and are now down 444 feet.[27]

March 1876: The Queens Birthday Company...intend to erect maching to treat their tailings and pyrites, which have yielded very well indeed on assay.
The Goldsborough Company have a party of tributers at work.[28]

Sept 1876: Queens Birthday Company - machinery about to be erected for treating the tailings (some 25,000 tons) and pyrites.
Goldsborough Company expect to resume operations soon.[29]

Dec 1876: Queens Birthday Company - ...the mine presents very favourable appearance for permanency. Two pairs of Chilian mills for treating tailings are now on the ground, and will be erected forthwith; it is also contemplated to erect other machinery for the treatment of the tailings & pyrites.[30]

1877: Goldsborough Co. - mine taken over by Queens Birthday Co.[31]

March 1877: Queens Birthday Company have crushed 1,224 tons for a yield of 804 oz... prospects of the mine good... Another battery of 5 stamp-heads is about to be erected. The company recently purchased the Goldsborough Quartz Mining Co.'s mine and plant, and as the ground adjoins their own lease it makes it a very valuable addition to its property... Another lease of 15 acres has been applied for in the legal manager's name, adjoining east of their existing leases, and two leases south and south-east have been applied for, for gold mining purposes, by Messrs Yates and Borwick respectively.[32]

1880s: Queens Birthday Co. plant, that was situated nearly opposite Thomas King's Royal Hotel, cost £25,000, and this new plant erected in the early eighties with the usual pumping and winding gear on a massive scale, had a forty-head battery as well as a 12-stamper machine on the old Goldsborough Co.'s ground and another that the Queens Birthday Co. now owned on the old North Birthday Co.'s shaft of 18 stampers. They also had a Chilean mill, air compressors, patent concentrators, and reception and visitors' rooms. They also had a board room up above the battery.[33]

DESCRIPTION OF PHYSICAL REMAINS:

Goldsborough mine operated from 1865 to 1877. The scant machinery remains would date to this period. Goldsborough property was then taken over by the neighbouring Queens Birthday Company. It appears that the latter company continued to operate the Goldsborough's crushing plant after the take-over date.

Mine site
The site consists of the remains of a mullock heap - 10 x 18m and approximately 10m high. Mounds, depressions and a section of a stone wall located close to the northern end of the mullock heap suggest that this area would have been the site of the mine's shaft and mining plant. The section of wall is associated with a depression measuring approximately 6 x 2-1/2m, in the base of which can be seen some iron engine bolts. There is also a scattering of red bricks in this area, the bricks being hand-made, with a single narrow, rectangular frog.
To the E is an extensive expanse of battery sand.

PHOTOS: Photo 1: showing adjoining mullock heaps - on the left the Goldsborough mine's, the right the Queens Birthday's.
Photo 2: Section of wall, depression and engine bolts

ARTEFACTS: None visible, apart from bricks and other building rubble.

INTEGRITY/CONDITION: The mine's mullock heap has been quarried, diminishing its integrity and putting the site at threat.

THREATS: Human visitation: Quarrying is the most immediate and overriding threat to this site. Not only will this activity's continuation further destroy the mullock heap (the most visible remaining feature of the mine's operation), it also threatens features associated with the main shaft machinery.

CULTURAL SIGNIFICANCE:

Despite the paucity of remains, the site has:

Historical significance because it:

a) is associated with an important event: the first successful mining of the Bealiba Reef
b) was a success as as mine in terms of production figures
c) is part of a group or network of mining sites, which together made the Bealiba Reef one of the most famous in the Dunolly Division.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Carless, 1983, p.11
2 Flett, 1956
3 Flett, 1956
4 Flett, 1956
5 Flett, 1956
6 Flett, 1956
7 Flett, 1956
8 Kitson, 1902-1906
9 Flett, 1956
10 Carless, 1983, p.12
11 Mining Surveyors' Reports, March 1867
12 Mining Surveyors' Reports, December 1867
13 Mining Surveyors' Reports, March 1868
14 Mining Surveyors' Reports, June 1868
15 Mining Surveyors' Reports, September 1868
16 Mining Surveyors' Reports, December 1868
17 Flett, 1956
18 Mining Surveyors' Reports, March 1871
19 Mining Surveyors' Reports, June 1871
20 Mining Surveyors' Reports, September 1871
21 Mining Surveyors' Reports, December 1871
22 Mining Surveyors' Reports, December 1873
23 Mining Surveyors' Reports, March 1874
24 Mining Surveyors' Reports, June 1874
25 Mining Surveyors' Reports, December 1874
26 Flett, 1956
27 Mining Surveyors' Reports, March 1875
28 Mining Surveyors' Reports, March 1876
29 Mining Surveyors' Reports, September 1876
30 Mining Surveyors' Reports, December 1876
31 Flett, 1956
32 Mining Surveyors' Reports, March 1877
33 Flett, 1956

SITE NO. & NAME: **010 QUEEN'S BIRTHDAY MINE**

LOCATION: **QUEEN'S BIRTHDAY REEF, DUNOLLY**

DIRECTIONS: Adjoining, and to the south of, the mullock heap of the Goldsborough mine (Site 009).

MAP/GRID REFERENCE: Dunolly North 1:25000 - 381.213

PARCEL NUMBER: P129551

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land (Proposed Goldsborough Historic Reserve)

EXISTING HERITAGE CLASSIFICATION: LCC Study and McConville (1978)

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

The Bealiba Reef was first worked by King and party, but the quartz lode was lost. It was later discovered by Baker and party while sinking a paddock for puddling clay. A joint company known as the Goldsborough Quartz Mining company, was formed. Two engines and pumping and crushing machinery were installed on the claim. [1]

So great was the activity on this reef, generally known as the Queens Birthday Reef, that a book could be devoted to the activity surrounding it - which became the site for the fifth and last habitat of the Old Dunolly people. [2]

Dec 1856: Queens Birthday Reef was undoubtedly discovered by John Hunter Kerr in December 1856, at its northern end in Inkerman. [3]

June 1861: It is generally understood that the celebrated sea captain, Henry Evans Baker, was the discoverer of the Bealiba Reef, and this is true in as far as the actual effective discovery and opening up of the reef is concerned, but the real discoverers were two diggers named King and Wooley, who in June 1861 worked on the reef at the time when Baker was operating a puddler to the east of the reef. [4]

1863-64: Captain Baker's discovery of the reef occurred whilst excavating earth for a puddling machine and the site of the find today is nearly on the road that runs from Goldsborough Railway Station to the school - on the south side. The original hole dug for the puddler is still there, and King's shaft is some distance north of this. The gold was struck about a foot from the surface on 29 December 1863, and Baker, who was in partnership with Robert D. Dodd, took up a prospecting claim - which allowed them 150 feet along the reef. In January 1864, they took William McLeish and Samuel Crozier into the partnership and the four, holding Miners Rights only, were able to hold 360 feet of the reef under Section 122 of the by-laws. In February, they erected a 4-hp donkey engine on the site and the first crushing from the new reef in March 1864, yielded 77oz of gold. At this time, Pike and party had a claim on the area south of Baker's ground and had sunk to 35 feet with poor results, and south of this Smith and party, who later became the nucleus of the Queens Birthday Co., also had a shaft in 1865. [5]

1865: Baker's party sold a fifth share to William Hayes and a company was formed called the Goldsborough Gold Mining Co. This reef found on the surface dipped suddenly towards the south...towards Smith's party. [6]

1865-68: Smith's party formed into the Queens Birthday Company... In October 1866, they took out a lease of 10 acres on the reef, but it was 3 years before they got sufficient gold to pay their men out of the yields of the mine. In the meantime, their fortunes had dwindled to less than nothing, whilst the Goldsborough Co. men had made a small fortune. [7]

1867: The main reef in the lease was discovered in 1867 by a party of men who were making an excavation to hold water for testing the surface deposits in the vicinity... a mine, the Goldsborough, opened up... Rich quartz was obtained down to 300 feet, from which dividends of £20,000 were paid up to the time mining operations were suspended.

Later, another company, the Queens Birthday Company, was formed to work the same reef on its southward extension. This company sank two shafts, the main one being 1,147 feet, and the other 248 feet, south of the Old Goldsborough shaft. After obtaining 100,504 oz of gold down to a depth of about 600 feet, the mine was abandoned until the present company [New Birthday Mine]...took a lease out on the ground. [8]

1867: Queens Birthday Co. - went down 115 feet and struck a defined reef of 7 feet width and a little gold. In July they erected the first poppet head and later installed machinery costing £524 from the Old Warrier Co., Ballarat, and they constructed a reservoir.[9]

May 1867-1868: Queens Birthday Co. - first heavy machinery for the Queens Birthday Co. arrived in May 1867...they erected a 5-head battery in December 1868. One shaft at this time was down 205 feet. Gold had increased in the reef from 7 to 15 dwt. and the reef from 6 inches to 2 feet. The new battery, whose table was the best in the state at the time, was completed in May 1868.[10]

Dec 1867: The Queen's Birthday Company, next south, have just finished sinking a shaft, 220 feet deep. North Goldsborough Company are erecting machinery for pumping and winding purposes.[11]

March 1868: Queen's Birthday Company, south of the Goldsborough, have suspended work during the erection of a crushing plant.[12]

Sept 1868: Queens Birthday Co., next south, have completed the erection of their crushing plant.[13]

Dec 1868: The Queens Birthday Co. have opened out at the 205-feet level and struck payable gold. One battery of five heavy stamp-heads is at present working, and another of the same weight will be erected.[14]

March 1871: Queens Birthday Co., whose mine is next south, have a number of men employed breaking down quartz from the 204-foot and 290-foot levels.[15]

June 1871: Queens Birthday Co. have crushed 1319 tons, which yielded 229oz 9dwt.[16]

Sept 1871: Queens Birthday Co. - The mine has improved very much during the quarter...sinking the shaft deeper...crushed 243 tons for 197oz.[17]

Dec 1871: Queens Birthday Co. - crushed 1400 tons, yielded 447 oz... number of men employed, 38. Goldsborough Extended Co. - have let a contract to sink another shaft (which is to be the main one), 100 feet in depth, and the work is now proceeding, but they intend to sink the shaft at least to 200 feet before stopping, and will then probably erect machinery; their ground adjoins that of the Queens Birthday Co.[18]

Dec 1873: Queens Birthday Co. are putting in a crosscut for the main reef at a depth of 400 feet.[19]

March 1874: The reefs in the Bealiba portion of the division are nearly all lying idle at present, and there are no crushings to note therefrom.[20]

June 1874: Queens Birthday Co. are crosscutting for the reef at a depth of 405 feet.[21]

Dec 1874: Most of the companies and claimholders in the line of quartz reefs in the Division have suspended work. The Queens Birthday Company at Goldsborough alone carry on mining operations with any degree of vigor.[22]

March 1875: Queens Birthday Company still driving the 405 foot level; 902 tons crushed yielded 205oz.[23]

March 1876: The Queens Birthday Company...intend to erect maching to treat their tailings and pyrites, which have yielded very well indeed on assay.[24]

Sept 1876: Queens Birthday Company - machinery about to be erected for treating the tailings (some 25,000 tons) and pyrites.[25]

Dec 1876: Queens Birthday Company - ...the mine presents very favourable appearance for permanency. Two pairs of Chilian mills for treating tailings are now on the ground, and will be erected forthwith; it is also contemplated to erect other machinery for the treatment of the tailings & pyrites.[26]

1877: Goldsborough Co. - mine taken over by Queens Birthday Co.[27]

March 1877: Queens Birthday Company have crushed 1,224 tons for a yield of 804 oz... prospects of the mine good... Another battery of 5 stamp-heads is about to be erected. The company recently purchased the Goldsborough Quartz Mining Co.'s mine and plant, and as the ground adjoins their own lease it makes it a very valuable addition to its property... Another lease of 15 acres has been applied for in the legal manager's name, adjoining east of their existing leases, and two leases south and south-east have been applied for, for gold mining purposes, by Messrs Yates and Borwick respectively.[28]

Sept 1877: ...very decided improvement in quartz mining operations in this quarter. This is in a great measure owing to the successful operations of the Queens Birthday Company, which has been and is getting very excellent returns... A company termed the King's Birthday Company have been incorporated to work the lease (No. 1993) south of the Queens Birthday Company; and another company to work the lease south-east of it, and styled the South Birthday Company, the lease being that known as Borwick's (No. 1995). Queens Birthday Company - 15 heads of stamps are at present employed crushing stone, and it is intended to get 12 heads more to work as quickly as possible. [29]

March 1878: Queens Birthday Company - ...excellent returns last quarter - 2,760 tons crushed for an average over 2-1/2 oz per ton... The company has been sinking a new main shaft (now down 337 feet), and a new air shaft... One new boiler has been erected during the last quarter, and another one is to be erected without delay; and three sets of Halley percussion tables are to be fixed to the batteries. [30]

June 1878: Queens Birthday Company - The company has purchased another nearly new crushing battery of 20 heads of stamps, with 60hp engine, and a 25hp winding engine, for erection at their new shaft. King's Birthday Co. sunk their main or No. 2 shaft to a depth of 166 feet, but during the last few feet of sinking the water came in so rapidly as to render it inadvisable to continue further with a whim...pumping and winding plant is about to be purchased and erected without delay.
The South Birthday Co. have been stopped for some time, the water being too strong... a pumping and winding plant has been purchased and will be erected at once.
A company is in the course of formation, and will shortly be registered, to work the lease south of the Kings Birthday Company...
A company, styled the North Birthday Co., has been formed to work some freehold land north of the Queens Birthday Co. [31]

Sept 1878: Queens Birthday Co. have sunk their new main shaft to a depth of 432 feet. They are now erecting a new pumping and winding engine (20-inch cylinder), a crushing plant (24-inch cylinder) and a pumping engne (14-inch cylinder), at the said new shaft. [32]

1878-1880s: The Queens Birthday mine had a lease of ten acres and in 1878, rich yields of gold were being obtained. In 1879, the mine employed 100 men and was one of Victoria's leading gold mines. The highest fortnightly yield was 1765 ounces, but yields of 1000 ounces were common. During the 1880's extensive plant and equipment costing £25,000 was installed at the mine. [33]

1879: in 1879, under example, no doubt, of the dogged perseverance and success of the Queens Birthday Co., about two miles of the Bealiba Reef was under lease to about ten companies, six of which were working. The Queens Birthday alone employed nearly 100 men and was the leading mine in the state. [34]

1879: Queens Birthday Co. in 1879 produced nearly £41,000 in gold in 6 months and paid £34,500 in dividends in that period. [35]

Sept 1879: Queens Birthday Company - last quarter crushed 3,701 tons of quartz which yielded 2,233 oz... Four new batteries of five head each are near completion and will soon be available for crushing. [36]

Dec 1879: Queens Birthday Company - This company have been very successful during the quarter, 4143 tons yielding 4921ôz of gold... They have also been erecting 3 new steam plants...and have now 7 steam engines and 47 heads of stamps erected. [37]

1880s: Queens Birthday Co. plant, that was situated nearly opposite Thomas King's Royal Hotel, cost £25,000, and this new plant erected in the early eighties with the usual pumping and winding gear on a massive scale, had a forty-head battery as well as a 12-stamper machine on the old Goldsborough Co.'s ground and another that the Queens Birthday Co. now owned on the old North Birthday Co.'s shaft of 18 stampers. They also had a Chilean mill, air compressors, patent concentrators, and reception and visitors' rooms. They also had a board room up above the battery. [38]

March 1880: Queens Birthday Company continue to sink the new main shaft, the present level being 656 feet... The erection of the new crushing plant by this company was completed during the quarter, the plant being now considered one of the most efficient in the colony; 20 heads of the stamps only are at work at present.
King's Birthday Co. - sinking the shaft deeper, present depth is 390 feet.
North Birthday Co. - purchased a pumping and winding plant and a crushing plant from the Queens Reef Company. [39]

Dec 1880: Queens Birthday Co. - mine continues to look very encouraging, the reef having increased in width. Air compressor to drive six drills is being erected. [40]

June 1881: Queens Birthday Co. - during the quarter 7,048 tons yielded 4560 oz... One pair of Normanby air

compressors has been erected for driving the National rock-drills, three of which are now at work in sinking and driving. [41]

Sept 1881: Queens Birthday Co. - are putting in more rock-borers to work where practicable in the stopes; they are found to effect a great saving of labour. [42]

Sept 1882: Queens Birthday Co. - yields have of late considerably improved: 7,000 tons crushed yielded 2,807 oz.[43]

March 1883: Queens Birthday Co. - during quarter 6,500 tons crushed yielded 1,791 oz. Main shaft has been sunk to 700 feet.[44]

March 1884: Queens Birthday Co. crushed 1,708 tons for an average yield of 3 dwt 8 grs.[45]

June1886: Queens Birthday Co.have been driving at the760-foot level. North Birthday Co. are driving along the course of the lode.[46]

Sept 1887: Queens Birthday Co. are engaged in sinking the main shaft, and intend going down to 1,000 feet before opening out to prove the deep ground.[47]

1887: [By 1887] nearly a quarterof a million sterling had been paid out to [Queens Birthday Co.] shareholders, and the plant was crushing 2000 tons of stone per week; they then held 136 acres under lease. The total gold taken from their own mine, apart from Baker's lease, to that time was nearly 4 tons 4 cwt.[48]

1887-1896: It was decided at this time to issue new shares and to float the two joint companies - the Queens Birthday Co. and North Birthday - on the London stock market with an issue of 120,000 new shares:- £7,000 of this to be paid to the two companies... Queens Birthday United Co. ran another nine years and closed up.[49]

June 1888: Queens Birthday Co. operations have been confined to sinking their main shaft, which has now reached a depth of 820 feet.[50]

Sept 1889: Queens Birthday Co., which is one of the principle mines in the district, is simply pumping to keep water down, as it is about to be floated in the English market.[51]

1 April 1890: Queens Birthday Co. - working capital of the company (£35,000) has been subscribed in London.[52]

7 July 1892: London - Queens Birthday United Gold-mining Co., the capital of which is £159,000, has been successfully floated. All the shares are allotted. [53]

23 Sept 1892: Queens Birthday Co. making an energetic start... the main plant overhauled and is now ready to start draining the mine...fixed new site for machinery shaft, the old shafts being so close to the underlay as being useless... excavation was marked out for a dam to supply fresh water for the machinery. [54]

22 Nov 1892: Queens Birthday Co. pumps started this morning... tender let for the excavation of the site for the machinery at the price of £65. by the time this is completed, tenders are expected for the removal, re-erection, etc.[55]

16 Feb 1894: Since the mines and plants of the Queens Birthday and North Birthday Companies and Belgium, Perseverance, and other properties were amalgamated and taken over by the New Queen's Birthday London Company, active operations have been carried out at several points. Main shaft: the water has been mastered to the 600-foot level.
Centre shaft - The machinery is being put in order, new poppet legs erected, the shaft repaired... Belgium machinery...whim and horse power.[56]

c.1896-1900: [Queens Birthday Co.] lease taken by Walter J. Parker after an English Company had failed to get gold from the abandoned mine...and a new company formed, the 'New Birthday Co.' who erected a new 15-head battery around 1900. 6500 of the 30,000 shares were forfeited before the company struck gold.[57]

14 Dec 1897: Messrs McCartney and Smith, contractors for the erection of North Birthday plant on Moran's Luck[Goldsborough] mine, are making good headway.[58]

11 Jan 1898: NewBirthday Co., Dunolly - New winding shaft and spider delivered and placed in position. The poppet heads are up, also engine and winding gear are in position, and building in the course of erection. The blacksmith's shop is already erected. The foundation for boiler and chimney are in, and the boiler in position, ready for building on.[59]

22 Feb 1898: New Birthday Co. - Contractor for removal and re-erection of pumping plant making good progress with work... Excavation for Bob-pit nearly completed. [60]

8 March 1898: New Birthday Co. - Foundation logs for pumping engine, and bed logs for engine horses in position. [61]

1/7/1898: The New Birthday Mine
In the days gone by many a notice we gave in our columns of the successes of the Old Queens Birthday mine, Goldsborough. Its marvellous richness quite eclipsing anything in this district. One thousand aand over ounces every fortnight, indicated by the display of bunting on the legal managers' flag pole, often cheered the hearts of the people of Dunolly. Over £34 per share was paid in dividends...
An English Company was formed in London, and money sent out, but these cute Englishmen made also a big mistake in the way the working capital was sent to Dunolly. Instead of sending a fair amount of capital out in one sum of, say £10,000, they tried on the parsimonious way of sending £500 out at a time, so that it was impossible to do any progressive work...
It is absurb to think as all geologists will admit, that a reef gold-bearing, and so wide that has yielded 100,504ozs of smelted gold from 154,432 tons of quartz could possibly cut out in a few hundred feet. We belive it impossible. Scientific men who have been appealed to, aand surveyed the old mine say "There will be more gold out of the New Birthday Co. that ever came out of the old lease. We need hardly say how pleased we will be to see these anticipations realised. Dunolly, as a gold mining centre, will yet become the buzy thriving town of day's gone by - our population will be increased five fold; out busines people will no longer talk of dull times; our mining population will rejoice and the cry of having no work to do will be for ever abunted. We believe in Dunolly and its gold mines, and we feel sure that those outside in every part of the colony will help all they can the mining industry of this district. [62]

8 June 1900: New Birthday Co. - Contractors have finished the tramway from shaft to battery. [63]

4 Sept 1900: New Birthday Co. - The repairs and alterations to the 15-head battery being completed, crushing was started on Tuesday last. [64]

10 Dec 1900: New Birthday Co. - During the past fortnight, at the present working shaft, everything of any value has been taken out from below, preparatory to shifting the winding machinery to the deeper shaft 1100 feet further south. [65]

1904: Old Queens Birthday ground - At the New Birthday Mine, Goldsborough, operations in connexion with the prospecting grant were carried on at the 700-foot level until September last without success. [66]

1908: Old Queens Birthday mine at Goldsborough, has been unwakened, and a drive is being put out west for the lode at the 500-foot level - aided by aloan from the Mining Department. [67]

1909: New Birthday Co. have been carrying on developmental work at the 500-foot level...operations suspended, pending the erection of the Government battery. [68]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site, which saw three main phase of mining and installation of machinery:
1865 - 1888: Queens Birthday Company
1892 - 1896: Queens Birthday United G. M. Co
1896 - c.1909: New Birthday Company
The mullock heap presumably relates to all three phases of mining. Excavation would be required to reach any accurate conclusion regarding the dating of the machinery remains.

Mine site
The remnants of this mine's mullock heap measure 35 x 30m and approx. 15 m high. 17m to the west of the mullock heap is a concrete slab measuring some 19 x 36m. This surface appears to have once been tarred.
5m to the south of the mullock heap are machinery footings which are largely hidden by rubble and vegetation. The remains of the plant cover an area of 35 x 20m in which can be seen a scatter of bricks, a number of depressions and mounds, and a few protruding iron engine bolts. The bricks are hand-made, and either bear no markings or a single narrow, rectangular frog.
To the east is an extensive expanse of battery sand and several dams.

PHOTOS: Photo 1: Adjoining mullock heaps - to the left, that of the Goldsborough mine, to the right, the Queens Birthday mine's.
Photo 2: Machinery footings and rubble.

ARTEFACTS: Apart from building rubble - none visible.

INTEGRITY/CONDITION: Apart from partially-quarried mullock heap, not much visibly remains of this mine. Substantial machinery footings might exist, sub-surface, at the southern end of the mullock heap. If exposed, such remains would enhance the site's integrity.

THREATS: Quarrying of the mullock heap has already taken place, and remains the most immediate and overriding threat to this site

CULTURAL SIGNIFICANCE:

The Queens Birthday Company operated one of the most important mines in the Dunolly Mining Division. However, despite a wealth of historical information, little survives above-ground to illustrate the scale of the mining operations. Despite the paucity of remains, the has:

- Historical significance because it:
  a) is part of a group or network of mining sites, which together made the Bealiba Reef one of the most famous in the Division.
  b) was a success as a mine in terms of production levels
- Scientific significance because it holds considerable archaeological potential. Excavation would probably uncover substantial remains which would increase the site's interpretative ability, and hence its historic importance.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Carless, 1983, p.11
2 Flett, 1956
3 Flett, 1956
4 Flett, 1956
5 Flett, 1956
6 Flett, 1956
7 Flett, 1956
8 Kitson, 1902-1906
9 Flett, 1956
10 Flett, 1956
11 Mining Surveyors' Reports, December 1867
12 Mining Surveyors' Reports, March 1868
13 Mining Surveyors' Reports, September 1868
14 Mining Surveyors' Reports, December 1868
15 Mining Surveyors' Reports, March 1871
16 Mining Surveyors' Reports, June 1871
17 Mining Surveyors' Reports, September 1871
18 Mining Surveyors' Reports, December 1871
19 Mining Surveyors' Reports, December 1873
20 Mining Surveyors' Reports, March 1874
21 Mining Surveyors' Reports, June 1874
22 Mining Surveyors' Reports, December 1874
23 Mining Surveyors' Reports, March 1875
24 Mining Surveyors' Reports, March 1876
25 Mining Surveyors' Reports, September 1876
26 Mining Surveyors' Reports, December 1876
27 Flett, 1956
28 Mining Surveyors' Reports, March 1877
29 Mining Surveyors' Reports, September 1877
30 Mining Surveyors' Reports, March 1878
31 Mining Surveyors' Reports, June 1878
32 Mining Surveyors' Reports, September 1878
33 Carless, 1983, p.11
34 Flett, 1956
35 Flett, 1956
36 Mining Surveyors' Reports, September 1879

37 Mining Surveyors' Reports, December 1879
38 Flett, 1956
39 Mining Surveyors' Reports, March 1880
40 Mining Surveyors' Reports, December 1880
41 Mining Surveyors' Reports, June 1881
42 Mining Surveyors' Reports, September 1881
43 Mining Surveyors' Reports, September 1882
44 Mining Surveyors' Reports, March 1883
45 Mining Surveyors' Reports, March 1884
46 Mining Surveyors' Reports, June 1886
47 Mining Surveyors' Reports, September 1887
48 Flett, 1956
49 Flett, 1956
50 Mining Surveyors' Reports, June 1888
51 Mining Surveyors' Reports, September 1889
52 *Dunolly & Betbetshire Express* , supplement, 1.4.1890
53 *Dunolly & Betbetshire Express* , 7.7.1892
54 *Dunolly & Betbetshire Express* , 23.9.1892
55 *Dunolly & Betbetshire Express* , 22.11.1892
56 *Dunolly & Betbetshire Express* , 16.2.1894
57 Flett, 1956
58 *Dunolly & Betbetshire Express* , 14.12.1897
59 *Dunolly and Betbetshire Express* , 11.1.1898
60 *Dunolly and Betbetshire Express* , 22.2.1898
61 *Dunolly and Betbetshire Express* , 8.3.1898
62 *Dunolly and Betbetshire Express* , 1.7.1898
63 *Dunolly and Betbetshire Express* , 8.6.1900
64 *Dunolly and Betbetshire Express* , 5.9.1900
65 *Dunolly and Betbetshire Express* , 10.12.1900
66 Mining Surveyors' Reports, 1904
67 Mining Surveyors' Reports, 1908
68 Mining Surveyors' Reports, 1909

SITE NO. & NAME: **011 BEALIBA REEF TAILINGS & CYANIDE WORKS**

LOCATION: **Bealiba Reef, Dunolly**

DIRECTIONS: Close to Eucalyptus Distillery (Site 012), on the eastern boundary of the Historic Reserve. On the S side of the track that leads to the distillery, near a large dam.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 383.210

PARCEL NUMBER: P129551

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land (Goldsborough Historic Reserve)

EXISTING HERITAGE CLASSIFICATION: No specific nomination.

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

No direct references were found regarding cyaniding operations carried out along the reef. Cyaniding commenced in the Division in 1896, and, according to local information, was still be conducted in the 1940s.

DESCRIPTION OF PHYSICAL REMAINS:
One circular vat is visible in the battery sand that runs along the southern verge of the track leading to the distillery. The vat has concrete walls, which still retain the impression of a (now absent) galvanised iron lining. The vat has a diameter of 4.2m (14ft) and is approximately 1.1m deep. Other depressions in the vicinity suggest more vats were in use than just the one now visible. There are extensive dumps of battery sand in the vicinity. According to local resident, Mr Martin (pers. comm), this cyaniding vat was being used in the 1940s.

PHOTOS: Photo 1: showing circular vat

ARTEFACTS: None

INTEGRITY/CONDITION: Concrete walls of vat are in a reasonable and stable condition. However, the absence of its galvanised iron lining and of its companion vats, mean that, whilst the site's function is still recognisable, its integrity and intactness has severely diminished integrity.

THREATS: Drifting battery sand threatens to engulf the remaining cyanide vat.

CULTURAL SIGNIFICANCE:

The extensive dumps of battery sand associated with the workings on Bealiba Reef have undoubtedly witnessed extensive cyaniding operations. Little evidence remains of these operations, except for this vat and one other located near the South Birthday mine. This site has:

- Historical significance because it:
  a) was a success as a mine in terms of production levels. The extensive dumps, along with the remaining mullock heaps, are artefacts that clearly illustrate the success of the Bealiba reef mines and the massive scale of the mining operations conducted along the reef from the late 1860s to early 20th century.
  b) adds to the sequence of uses or functions over time carried out along the Bealiba Reef.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: 012 EUCALYPTUS DISTILLERY

LOCATION:

DIRECTIONS: Eastern boundary of Goldsborough Historic Reserve, near a large dam.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 383.210

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Freehold land

EXISTING HERITAGE CLASSIFICATION: McConville (1987); LCC Study

PRESENT MANAGEMENT/USE: According to current owner, this distillery is still operational.

HISTORY:

1920 s: The Britten family began distilling at Goldsborough in the 1920s. In 1929 their Cornish boiler exploded killing one of the family. The distillery continued under H. Britten into the 1950s. It is still run as a small distillery by Pat Martin. The boiler, vat and drains stand in a clearing in the centre of what is left of the town of Goldsborough. [1]

DESCRIPTION OF PHYSICAL REMAINS:

The site consists of a galvanised iron distillery building, containing a boiler and brick chimney stack. South of the building are a wooden crane and several concrete-covered vats. (The site's situation on private land precluded a detailed survey being made.) According to the current owner, this distillery commenced operating in 1916. According to McConville (1987) the plant commenced operation in the 1920s.

PHOTOS: Photo 1: Boiler house and brickstack, and wooden crane. Looking NE
Photo 2: Showing boiler.
Photo 3; Crane and concrete vat covers.

ARTEFACTS: Given that the distillery is still operational, it is probable that the building contains the full complement of tools and equipment required for operation.

INTEGRITY/CONDITION: Excellent

THREATS: As the current owner is quite elderly and the site is a considerable distance from any habitation, vandalism is a major threat.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) is part of a group or network of sites, the totality of which is considered to be significant.
  b) is associated with an important event. it represents the creation of regional industry - eucalyptus distilling appears to have taken off in the district when the demand for timber by the mining industry had declined rapidly.
- Scientific significance because:
  a) it represents a particular type of process; also an inventive or innovative process (how a local family utilized a deserted mining site for other purposes)
  b) of its intactness

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance comes from its intactness, association with mining dam and age.

RECOMMENDATIONS FOR IMPLEMENTATION:

Inclusion into the Goldsborough Historic Area

Assessor: David Bannear Date: May 1991

1 McConville (1987), p61

SITE NO. & NAME: **013 ORCHARD & HOUSE SITE**

LOCATION: **QUEEN'S BIRTHDAY REEF**

DIRECTIONS: The house is located on private land the opposite side of the road to the Queens Birthday Mine (Site 010). The orchard is located about 50m into the Goldsborough Historic Reserve, SE of the house.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 381.211

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Freehold land and Goldsborough Historic Reserve

EXISTING HERITAGE CLASSIFICATION: No specific nomination.

PRESENT MANAGEMENT/USE: Private dwelling

HISTORY:

The stone house was built by a member of the current resident, Mr Martin's, family in the 1940s. The orchard was contemporary with the house construction. [1]

DESCRIPTION OF PHYSICAL REMAINS:

The stone house is the residence of Mr P. Martin. The house is of an old style, of stone with a gabled roof. The surviving dozen trees of the orchard stand in a flattened area, measuring approximately 50 x 60m. Some fence post still stand suggesting there were at least two faces of fencing - the earliest being post-and-rail, followed by one of barbed wire. The orchard was irrigated, via a 3-inch diameter iron pipe, from a dam that lies to the S of the orchard.
The current resident of the house is a member of the family responsible for its construction and the planting of the orchard in the 1940s. The family also grew vegetables there.

PHOTOS: Photo 1: Hip-and-rail fence post, with orchard trees in the background.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Still recognisable as an orchard

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mr P Martin, pers. comm., May 1991

SITE NO. & NAME: **014 SOUTH BIRTHDAY MINE**

LOCATION: **QUEEN'S BIRTHDAY REEF**

DIRECTIONS: This is the next mullock heap south of the Queen's Birthday mine, located on the northern boundary of the lower section of the Historic Reserve.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 382.209

PARCEL NUMBER: P132993

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land (Goldsborough Historic Reserve)

EXISTING HERITAGE CLASSIFICATION: No specific nomination

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

Bealiba Reef: So great was the activity on this reef, generally known as the Queens Birthday Reef, that a book could be devoted tothe activity surrounding it - which became the site for the fifth and last habitat of the Old Dunolly people. [1]

Sept 1877: ...very decidedimprovement in quartzmining operations in this quarter. This is in a great measure owing to the successful operations of the Queens Birthday Company, which has been and is getting very excellent returns... A company termed the King's Birthday Company have been incorporated to work the lease (No. 1993) south of the Queens Birthday Company; and another company to work the lease south-east of it, and styled the South Birthday Company, the lease being that known as Borwick's (No. 1995). [2]

June 1878: The South Birthday Co. have been stopped for some time, the water being too strong... a pumping and winding plant has been purchased and will be erected at once. [3]

Sept 1878: South Birthday - have almost completed the erection of a pumping and winding plant on their lease. [4]

1879-84: South of the Queens Birthday Co. lease were the King's Birthday Co. and South Birthday Co. The former company, which had a heavy plant, was then down nearly 300 feet, but although they later sunk to 600 feet and drove 800 feet along a wall of reef, they found no gold and the company wound up in 1884. [5]

DESCRIPTION OF PHYSICAL REMAINS:

South Birthday - Appears to have been a single-phased mine which only operated over a few years from 1877.

Mine site

Site consists of intact mullock heap measuring 15 x 25m, and 10m high. The main shaft (filled in) and machinery footings are on the N end of the mullock heap. The machinery footings lie to either side of the Historic Reserve boundary fence. Within the Reserve, among an expanse of stone and brick rubble, wooden battery footings (possibly 15-20 head of stamps) and brick and concrete foundations are visible. Outside the Reserve, on the verge of the track that follows the boundary, are more concrete footings.

PHOTOS: Photo 1: Footings and rubble at the N end of the mine's mullock heap. Looking NW
Photo 2: Mine's intact mullock heap.

ARTEFACTS: Apart from Building rubble, none visible

INTEGRITY/CONDITION: The site still retains considerable integrity as the relationship between the mullock heap, main shaft and mining plant is still apparent. The site's integrity could be enhanced by the removal of rubble that presently obscures the layout, and possibly the extent, of the mine's machinery.

THREATS: Human visitation: The intact mullock heap might one day be quarried, and the remains outside the Reserve boundary might be bulldozed during track maintenance.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.
- Scientific significance because it represents an important mining technology. Being relatively intact, illustrates the layout of a late 19th century quartz mine.

Significance ranking: Regional

CONSERVATION POLICY:

The main significance of the site is in its intactness. Any proposed future work should seek to retain, and/or enhance this.

RECOMMENDATIONS FOR IMPLEMENTATION:

Steps should be taken to include the remains lying outside the Historic Reserve's fence within the Reserve.

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Mining Surveyors' Reports, September 1877
3 Mining Surveyors' Reports, June 1878
4 Mining Surveyors' Reports, September 1878
5 Flett, 1956

SITE NO. & NAME: 015 WATER RACE ABUTMENTS

LOCATION: Goldsborough

DIRECTIONS: 100m W of the South Birthday's mullock heap (Site 014), outside the Historic Reserve, and on the verge of the road that runs parallel to Reserve's western boundary.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 381.209

PARCEL NUMBER: P129551

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCJ27

HISTORY:

No references found

DESCRIPTION OF PHYSICAL REMAINS:

Unfortunately, no references were found to the construction of this water race. Its alignment suggests it was built to utilise water from dams constructed for the Queens Birthday mine. Presumably, this occurred after the mine closed down at the turn of the century.

Water race

A disused water race runs south from the Queens Birthday section of the Historic Reserve. Near the South Birthday mine are concrete abutments that directed the water eastwards and to the south. The southern race continues for a short distance where it is cut by the present road.

PHOTOS: Photo 1; showing concrete abutments.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good condition and integrity.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
No action required

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: **016 QUEEN'S BIRTHDAY (?) CYANIDE VATS**

LOCATION: **QUEEN'S BIRTHDAY REEF**

DIRECTIONS: 50m SE of the South Birthday's Mullock heap, on the east side of the track that leads to the King Birthday mine's powder magazine (Site 017).

MAP/GRID REFERENCE: Dunolly North 1:25000 - 383.208

PARCEL NUMBER: P132993

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Goldsborough Historic Reserve

EXISTING HERITAGE CLASSIFICATION: No specific nomination

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

No direct references were found for this particular site. However, a neighbouring mine, the Queens Birthday, started to retreat its battery sand in 1876, and part of the plant installed included Chilian wheels:

Dec 1876: Queens Birthday Company - ...the mine presents very favourable appearance for permanency. Two pairs of Chilian mills for treating tailings are now on the ground, and will be erected forthwith; it is also contemplated to erect other machinery for the treatment of the tailings & pyrites. [1]

DESCRIPTION OF PHYSICAL REMAINS:

On raised ground above a single circular cyanide vat are several faint circular depressions. They occur in two groups, each group comprising what appears to be a line of three adjoining and/or overlapping, narrow circular trenches, each with a raised mound at its centre. One group is on the western bank above the cyanide vat; the other group is on the southern side of the vat. The circles are very eroded or have been buried by battery sand, and exist now only as the faint outlines. All have diameters of about 6.7m (22 ft).

The cyanide vat located below the circle has concrete walls, a diameter of 6.1m (20ft) and is over 1.1m deep. It appears not to have been lined with galvanised iron, but has a hard concrete render.

PHOTOS: Photo 1: Concrete cyanide vat
Photo 2: Adjoining circles, on the W side of the cyanide vat.

ARTEFACTS: None visible .

INTEGRITY/CONDITION: The cyanide vat is in good condition, although it is slowly being buried by drifting battery sand. The outlines of the circles are now fairly faint and, given that the vicinity abounds in battery sand, will eventually become buried.

THREATS: Erosion or burial by drifting battery sand.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.

Significance ranking: Local

CONSERVATION POLICY:
None Required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, December 1876

SITE NO. & NAME: **017 KING'S BIRTHDAY POWDER MAGAZINE**

LOCATION: **QUEEN'S BIRTHDAY REEF**

DIRECTIONS: On the southernmost boundary of the Historic Reserve. Follow the track that runs west of the South Birthday's mullock heap (Site 014).

MAP/GRID REFERENCE: Dunolly North 1:25000 - 382.206

PARCEL NUMBER: P132993

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Goldsborough Historic Reserve

EXISTING HERITAGE CLASSIFICATION: No specific nomination

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

Bealiba Reef: So great was the activity on this reef, generally known as the Queens Birthday Reef, that a book could be devoted to the activity surrounding it - which became the site for the fifth and last habitat ofthe Old Dunolly people. [1]

June 1878: King's Birthday Co. sunk their main or No. 2 shaft to a depth of 166 feet, but during the last few feet of sinking the water came in so rapidly as to render it inadvisable to continue further with a whim...pumping and winding plant is about to be purchased and erected without delay.
A company is in the course of formation, and will shortly be registered, to work the lease south of the Kings Birthday Company. [2]

Sept 1878: King's Birthday - have purchased the Prince of Wales plant, which they are about to erect on their lease. [3]

Sept 1879: King's Birthday - are still sinking their main shaft, and are down 330 feet. [4]

1879-84: South of the Queens Birthday Co. lease were the King's Birthday Co. and South Birthday Co. The former company, which had a heavy plant, was then down nearly 300 feet, but although they later sunk to 600 feet and drove 800 feet along a wall of reef, they found no gold and the company wound up in 1884. [5]

March 1880: King's Birthday Co. - sinking the shaft deeper, present depth is 390 feet. [6]

Sept 1880: King's Birthday Co. - still sinking shaft, now down 512 feet. [7]

March 1883: Kings Birthday Co. - work has been stoppd at the main shaft...and the men transferred to the old workings further south on the ground originally held by the Royal Birthday Co. [8]

DESCRIPTION OF PHYSICAL REMAINS:

No historical reference was found to identify the structure as a powder magazine. However, the robust construction, supported by local knowledge, suggests this was the purpose. Presumably it was constructed and used by the Kings Birthday Co. who operated on the site from 1878 into the 1880s.

Powder Magazine
A squarebrick building sitting on concrete slab. The building measures 2.1m (11-1/2ft), its walls standing to height of 1.9m (6 1/4ft). It has a hipped, galvanised iron roof, the roofing material being attached with galvanised iron screws/washers to milled timber wooden frame. The roofing iron bears the brand-name Gospel Oak. The building has one doorway which has an iron frame, and from which the door itself has been removed. The brick walls are 35.5cm (14in) thick and the brickwork is laid in successive courses of stretchers and ends (Colonial Bond). The walls' interior has been whitewashed and bears some recent graffiti. The building has no ceiling.

PHOTOS:
Photo 1: Front of powder magazine
Photo 2: Rotten top-plate and ripped roofing, eastern wall of powder magazine
Photo 3: Powder magazine. Looking SE

ARTEFACTS: None evident.

INTEGRITY/CONDITION: The brickwork in good condition, apart from some salt damp in the bottom three courses. The timber framing of the roof is in good condition, except that the top plates on the eastern and western sides of the building are rotten, due to the galvanised iron above them having been torn away to admit the rain.

THREATS: Exposure of timberwork to rain; salt damp

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because is is part of a group or network of sites, the totality of which is considered to be significant.
- Scientific significance because it represents an important mining technology: the use of explosives.

Significance ranking: Regional

CONSERVATIONPOLICY:

The building should be retained as it is, and all future work directed to preserving the current facade.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected and some immediate conservation work carried out, i.e:

- top-plates on the eastern and western sides of the building should be replaced, and the torn galvanised iron straightened out.

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Mining Surveyors' Reports, June 1878
3 Mining Surveyors' Reports, September 1878
4 Mining Surveyors' Reports, September 1879
5 Flett, 1956
6 Mining Surveyors' Reports, March 1880
7 Mining Surveyors' Reports, September 1880
8 Mining Surveyors' Reports, March 1883

SITE NO. & NAME: **018 KING'S BIRTHDAY CYANIDE WORKS**

LOCATION: **QUEEN'S BIRTHDAY REEF**

DIRECTIONS: 10 m W of the King Birthday mine's powder magazine (Site 017).

MAP/GRID REFERENCE: Dunolly North 1:25000 - 382.206

PARCEL NUMBER: P132993

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Goldsborough Historic Reserve

EXISTING HERITAGE CLASSIFICATION: No specific nomination

PRESENT MANAGEMENT/USE: LCC - NCJ27

HISTORY:

No direct references were found for this particular site. However, a neighbouring mine, the Queens Birthday, started to retreat its battery sand in 1876, and part of the plant installed included Chilian wheels:

Dec 1876: Queens Birthday Company - ...the mine presents very favourable appearance for permanency. Two pairs of Chilian mills for treating tailings are now on the ground, and will be erected forthwith; it is also contemplated to erect other machinery for the treatment of the tailings & pyrites. [1]

DESCRIPTION OF PHYSICAL REMAINS:

Difficult to interpret the circles at this stage: they do appear to be associated with the treatment of battery sand, probably cyaniding.

Circles

There are at least five circular depressions to the west and rear of the powder magazine. They occur in two parallel lines - one of two adjoining circles, the other of three. In at least one instance, adjoining circles appear to overlap. The circles are very eroded or have been buried by battery sand, and exist now only as faint outlines - each has an inner mound surroundedby a circular trench. All have diameters of around 7.9m (26 ft)

PHOTOS: Photo 1: adjoining circles

ARTEFACTS: None visible

INTEGRITY/CONDITION: Due to drifting battery sand and/or erosion circles are very faintly outlined.

THREATS: The circles are now fairly faint and, given that the area abounds in battery sand, will eventually become buried.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
No action required

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, December 1876

SITE NO. & NAME: **019 BELGIAN REEF CYANIDE VAT**

LOCATION: **BELGIAN REEF**

DIRECTIONS: Follow the Belgian Track from Goldsborough to a large dam on the track's SW side.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 391.195

PARCEL NUMBER: P120209

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE12

HISTORY:

No specific reference found for cyaniding operations on Belgium reef. Cyaniding was carried out in the Division between 1896 and the 1940s.

DESCRIPTION OF PHYSICAL REMAINS:

Cyanide vat, probably mid 20th century. Appear to be associated with some overlapping circular depressions (site 020)

Concrete vat

At the northern end of the dam's earthern embankment is a single circular cyanide vat. The vat is 4.3m (14ft) in diameter and has concrete walls, which were once lined with galvanised iron. No other vats are visible on the site. Dumps of battery sand lie on the east side of the track.

PHOTOS: Photo 1: Cyanide vat

ARTEFACTS: None

INTEGRITY/CONDITION: The concrete walls of the vat are in good condition, but the galvanised iron lining has rotted away, leaving only its impression in the concrete.

THREATS: Vegetation and drifting battery sand will eventually obscure the vat.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (Sites 019, 020, & 021).

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: **020 BELGIAN REEF CHILEAN MILLS**

LOCATION: **BELGIAN REEF**

DIRECTIONS: On the opposite side of Belgian Track from the the cyanide vat (Site 019) are two Chilian mill circles.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 391.195

PARCEL NUMBER: P120209

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE12

HISTORY:

No specific references were found regarding the retreatment of tailings generated by the mining of Belgian Reef. In the late 1870s, tailings were being retreated on Bealiba Reef, by the Queens Birthday Company. Part of the equipment employed by this company was Chilian mills. By the mid 1890s cyaniding of battery sand was being carried out in the Victorian goldfields

DESCRIPTION OF PHYSICAL REMAINS:

Provisionally interpreted as the remains of cyaniding vats erected as part of a quartz tailings retreatment process. Probably linked to concrete cyanide vat on opposite side of road (Site 019)

Circles

The Belgian Track has cut through one of the circles, leaving only a small section of its trench. Immediately adjoining the remains of this circle is a second depression, more intact. The second circle has a diameter of 7.3m (24ft), and its central mound, with post-hole and surrounding 60cm (2ft) deep puddling trench, are both distinguishable.

PHOTOS: Photo 1: Circle, E side of Belgian Track

ARTEFACTS: None

INTEGRITY/CONDITION: Eroded, but still recognisable as circles.

THREATS: Erosion and burial by drifting battery sand.

CULTURAL SIGNIFICANCE:

The site has:

Historical significane because it is part of a group or network of sites, the totality of which is considered to be significant (Sites 019, 020, 021).

Significance ranking: Local

CONSERVATION POLICY:

None required

RECOMMENDATIONS FOR IMPLEMENTATION:

No action required

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: **021 BELGIAN/PERSEVERANCE MINE**

LOCATION: **BELGIAN AND PERSEVERANCE REEFS**

DIRECTIONS:	Mine workings located up a hill, to the NW of the Belgian Track dam.
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 390.195
PARCEL NUMBER:	P120209
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	None
PRESENT MANAGEMENT/USE:	LCC - NCE12

HISTORY:

1856 Goldsborough: The Belgian Reef (discovered by a boy), the Spread Eagle, and others were also opened at the end of 1856. [1]

1856: It was in 1856 at the decline of the Dunolly Rush that thousands of diggers unable to get claims on the leads wandered the hills and towards the end of the year found some of the reefs at Dunolly. The most conspicuous of these were the Belgian, the Hospital Reef (continued into Spread Eagle) and a reef at Inkerman. [2]

Nov 1856: Reported that a gold reef had been found 2 miles west of Dunolly...undoubtedly this was the Belgian Rush ... later the quartz from this reef went 7oz to the ton. Discovery of the Belgian reported in the 'Herald', 29th November, 1856... the reef was rushed for nearly a mile and one of the finders asked £2000 for his share in the reef... 10th December a report said that there were 200 people there. [3]

1857: In June 1857, it was reported that there was a steady and permanent township at the Belgian Reef and that there were 150 people living there. Six claims on the reef at this time were paying handsomely, but there was no quartz crusher there. [4]

1859: On May 9, there was another rush to the Belgian following the discovery of Perseverance Reef nearby. [5]

June 1859: Belgian Reef [Dunolly] - 2 claims, 70yds aggregate length. [6]

July 1859: In July 1859, after the rush, only two claims remained working at the Belgian Reef. along 70 yards of the reef. [7]

Sept 1859: Two claims are at work, both paying. [8]

?: On the Belgian Reef, a twenty horse-power engine, with pumping and winding machinery, and a large stamper battery were being erected by Mr Ernsten. [9]

1861: In 1861 it was reported that Reed's crushing machine was lately shifted from the Belgian to Consolation Reef. Reed's was the original crusher at Dunolly and was originally at North Dunolly and it was probably shifted to Belgian in 1859. [10]

March 1861: Being profitably worked. [11]

1861-67: In 1861 William Regester worked Perseverance Reef, but Pike & party continued working there, and in March 1867, took out a lease of 10 acres. The lease was granted to Thomas, William and John Pike in March 1868. They had worked the reef continuously with machinery then for eight years. Later that year Pike's stone crushed at Ernsten's Battery at the Belgian. The reef was frequently worked by various companies in conjunction with the Belgian reef. [12]

15 Nov 1862: This reef, which was formerly was one of the most regularly yielding lodes in the district, again shows signs of improvement. Within the last few weeks, two lots of stone have been crushed at Read's machine, from No. 5 south. [13]

Oct 1865: One of the richest rushes ever seen at Dunolly began in Nuggetty Gully, 3 1/4 miles from Dunolly towards Mt. Bealiba where diggers found a 16 ounce nugget. Nuggetty Gully that got its name from this rush, is due west of the Yankee Doddle mine that was an attempt late to tap the source of these nuggets ... on 18th Oct the town was startled by a report in the "Dunolly Express" that a large nugget of 515 ounces had been found ... By the following morning half the population of Dunolly, including grocers, butchers and bakers were at the scene of the finds, and what was known as the Blegian Rush, on account of the proximity of the Belgian, was on. By the afternoon of the same day the other half of the population of Dunolly was there also ... and when prospectors unearthed near the surface another nugget, this time 80 ounces, " a scene of excitement ensued such as seldom been seen in the Colony". Other nuggets found included - 101 and 7 ounce pieces; 22 lb nugget which when cleaned weighed 254 ounces; 160 ounces and 84 ounces. The ground at the Belgian Rush contained little gold except the nuggets, nor where there any length of lead or anything approaching one - the nuggets were found here, there, and in odd corners and within a small space and all in the surface. Early in November the "Leader" reported the rush at Belgian was nearly over.[14]

1866: Criterion Gold Mining Co. - applied for a lease of 9 acres, which was granted in July. In September, machinery for the reef arrived - a 12-head, 25 horsepower battery and winding and pumping plant, but after an auspicious start this company lapsed.[15]

Dec 1867: The Criterion Company are sinking their shaft, to cut the reef at a lower level.[16]

1892: Tenders for the removal and erection of machinery at the Belgium will be dealt with next Monday. The new Belgium shaft is down 46 feet and prospecting at 100 feet in an old shaft. [part of Queens Birthday Co. operations] [17]

16 Feb 1894: Since the mines and plants of the Queens Birthday and North Birthday Companies and Belgium, Perseverance, and other properties were amalgamated and taken over by the New Queen's Birthday London Company, active operations have been carried out at several points... Belgium machinery...whim and horse power.[18]

1908: Baker and party, working the old Belgium line of reef, have driven 150 feet on gold-bearing quartz - aided by a loan from the Mining Department.[19]

1921: [This reef] was last worked around 1921 under the management of Con Dyring.[20]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1856:	Reef opened and rushed by 200 miners
1857:	Six claims working, small township in existence
1859:	First crushing batteries installed
1866:	Criterion Co. working the reef
1892:	Tender for removal and re-erection of machinery at Belgium
1894:	Reef becomes part of the property of the New Queens Birthday Co, Goldsborough.
1921:	Worked until this date

Palimpsest of workings, difficult to decipher. The condition of the battery stumps and use of concrete suggests that the remains on the site date to a late phase of mining, probably to the early 1890s, when it was reported that machinery was being removed and re-erected at a new location on the reef.

Mine and battery site

The surviving remains include a mullock heap through which several sampling sections have been cut by prospectors. The heap is approximately 30m wide, 50m long and stands to a height of 8-10m. There is no sign of a main shaft.

Machinery footings are situated on the east side of the mullock heap. The machinery site consists of two levelled platforms - an upper and lower, measuring 9 x 12m and 10m square respectively. On the lower platform are a line of wooden battery stumps, set in concrete. Seven red gum stumps (14in square and standing to a height of 80cm) still survive insitu, and a slot for an eighth is visible, suggesting that this was probably a 12-head battery. On the upper platform is a scatter of building stone and red bricks. The bricks are hand-made, and some have a single narrow, rectangular frog, while others have none. What appears to be the remains of a collapsed flue extends from the rear of the upper platform for a distance of 3m, to a mound of red bricks - possibly a chimney stack base?

On top of the hill is some extensive open-cutting, all that survives of the mining activities on Perseverance Reef. The open-cut is now used as a rubbish dump.

PHOTOS: Photo 1: Battery stumps

ARTEFACTS: None visible.

INTEGRITY/CONDITION: This site has considerable integrity as a mine site, dueto the survival of such features as a dam, tailings, mullock heap, and machinery footings. The wooden battery stumps are in reasonable condition, but some show signs of white ant activity.

THREATS: Prospecting and quarrying of mullock heap for road-building material. The battery stumps are at risk from white ants and fire.

CULTURAL SIGNIFICANCE:

Belgian Reef is historically significant as one of the first reef opened up in the Goldsborough area. It was intially rushed and was the site of an early township and crushing works. The survey found no remains of this early period. The remains which survive on the site today are more consistent with a later phase of mining. The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant.
- Scientific significance because it represents an important mining technology: remains of late 19th century quartz mine. One of the few survivors of those that operated during this time.

Significance ranking: Regional

CONSERVATION POLICY:

Site's significance comes from its intactness and ability to illiustrate a late 19th century mining operation. Any future work should not be to the detriment of this.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.281
2 Flett, 1956
3 Flett, 1956
4 Flett, 1956
5 Flet, 1956
6 Mining Surveyors' Reports, June 1859, p15
7 Flett, 1956
8 Mining Surveyors' Reports, September 1859
9 Carless, 1983, p.11
10 Flett, 1956
11 Mining Surveyors' Reports, March 1861
12 Flett, 1956
13 *Dunolly and Burnt Creek Express* , 15.11.1862, p.2
14 Flett, 1956
15 Flett, 1956
16 Mining Surveyors' Reports, December 1867
17 *Dunolly and Betbetshire Express* , 15.11.1892
18 *Dunolly & Betbetshire Express* , 16.2.1894
19 Mining Surveyors' Reports, 1908
20 Flett, 1956

SITE NO. & NAME: 022 **SWIPERS GULLY PUDDLER & DAM**

LOCATION: **DUNOLLY**

DIRECTIONS: Laanecoorie North 1:25000 - 489.182

MAP/GRID REFERENCE: Travel along Model Farm Road and take the branch known as Specimen Track. About 1km along this track, there is a dam on the south side. Between this dam and the track is a puddler. The puddler and dam are located at the head of Swipers Gully.

PARCEL NUMBER: P121968

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

None found

DESCRIPTION OF PHYSICAL REMAINS:

The puddler is worn-looking, but the inner mound (3.4 m diameter) and puddling trench (1.4m wide) are quite distinguishable. The puddling machine has a diameter of 6.7m (22ft). One outlet is visible.
The earthern wall of the puddler's dam runs from its W side across Swipers Gully. The outer face of the earthern embankment has been retained with stone.
Weathered appearance and vegetation suggests 19th-century date.

PHOTOS: Photo 1: Puddler and associated dam

ARTEFACTS: None visible

INTEGRITY/CONDITION: In reasonable condition, although some fossicking holes have been dug in the puddler.

THREATS: Prospecting and erosion.

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance because of its:
  a) intactness
  b) historical representativeness - ability to clearly illustrate this type of mining technology.
  c) ability to answer specific archaeological research questions: its obvious old construction, and weathered appearance, acts as a dating yardstick.

Significance ranking: Regional

CONSERVATION POLICY:

Significance comes from the age and interpretative value of the puddler

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected

Assessor: David Bannear Date: May 1991

SITE NO. & NAME:	**023 ALMEIDA REEF WORKINGS**
LOCATION:	**Almeida Reef**
DIRECTIONS:	100m N of the junction of Specimen and Almeida tracks. The Almeida Reef workings are located both side of Specimen Track.
MAP/GRID REFERENCE:	Laanecoorie North 1: 25000 - 492.187
PARCEL NUMBER:	P124587
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	LCC Study
PRESENT MANAGEMENT/USE:	LCC - NCE21

HISTORY:

1862: It was found and first worked by Joseph Cil and Bouit D'Almeida on about 16th May, 1862, and paid well from the beginning. In September, following the discovery, the finders sent 100 tons to King's crusher at Sandy Creek. It was reported later that the first find went five ounces to the ton, and the reef was taken up for a considerable distance north and south of the finders: No. 1 claim north in August, 1862 had 100 tons crushed at Kirk's for 100 ounces of gold. At this time the Almeida Reef co. on the Miss or Hit Prospecting claim was working a half-mile north of the Almeida Reef.[1]

1862: Discovered by Bout D'Almeida and Joseph Cil or Gil in May 1862. This reef was rich right from the start. It has been worked for several hundred metres and is the source of three major gullies. The Almeida Reef was worked on and off for many years up to a depth of 200 ft. [2]

28 June 1862: Quite a township is springing up in the neighbourhood of the Almeida and other localities opened in the locality of the Mosquito.[3]

5 July 1862: Some 30 or 40 tents are erected along the line, with a stone [hut?] and a couple of shanties. The miners were busily engaged picking, gadding, and blasting... They are about to send 48 tons to Kirk's machine to be crushed.[4]

15 Nov 1862: This promising reef, with a body of stone ranging from two to six feet, is almost abandoned ... A splendid lode is in existence, the working of which the isolated system of mining encouraged by the Maryborough by-laws is no wise calculated to promote. [5]

14 June 1862: Work is going on vigorously; some five or six claims are in the court of sinking. [6]

1863: Almeida Reef is situated at Mosquito, and this reef and the Horseshoe Reef, the Mosquito and Doctor's Reefs east of the Almeida in 1863 made the place famous and it became a populous place where there were practically all foreigners working, and a little gully running parallel to Almeida Reef to Mosquito Gully was extremely rich.[7]

1867-8: Almeida was retaken up in 1867, but only a little work was done. In 1869 W.T. Hansford and company took it up in June. The main shaft on the reef was taken to 200 feet. After moderate success it was abandoned by this company in 1871.[8]

1878+ - taken up again and frequently worked until recent times [1956].[9]

DESCRIPTION OF PHYSICAL REMAINS:

The remains of 22 stone structures (many of which appear to be fireplaces), reef workings, and dumps of 19th-century rubbish, are consistent with the historical information collected for the site. In 1862, it was reported that a township was springing up in the neighbourhood of the Almeida Reef, and that some 30 or 40 tents were erected along the line of the reef.

Reef workings and mining village

On the north side of Specimen Track is shallow a line of workings, consisting of open-cutting, several shafts (filled in) and small mullock heaps, which continues for about 200m.

To the west, on the hillside above the line of workings, are the remains of at least 13 stone structures (tent sites and forges), and below the workings are a remains of a further 9 stone structures and at least one rubbish dump. The stone structures range from surface mounds to fireplaces which stand to a height of about one metre. Artefacts uncovered near these features by bottle-hunters appear to date the habitations to the 19th century. The settlement associated with the workings covers an area of about 400 x 200m.

PHOTOS: None taken

ARTEFACTS: 19th-century domestic rubbish, including fragments of thick 'black' glass bottles, ceramics and pickle jars.

INTEGRITY/CONDITION: The site has good integrity, showing the confinement and intensity of the settlement and mining involved with working this line of reef, where the gold deposits were found to be shallow but very rich.

THREATS: Prospecting and treasure hunting.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because:
  a) it is part of a group or network of sites, the totality of which is considered to be significant: surface workings and associated settlement
  b) of their age and intactness
- Scientific significance because they represent an important mining technology: a rare survivor of rich surface workings around which a small settlement grew up.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance comes from its intactness, and the clearly illustrated relationship between the tent sites and reef workings. Any future work on the site should not interfere with or obscure this relationship. A continuation of mining should be allowed on the reef.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected. At present, the site appears not to be under threat. It has been thoroughly fossicked by bottle hunters, so hopefully it is now viewed by them as a worked-out site. The site should be subjected to a detailed archaeological survey. The Almeida Reef workings should be monitored, and should this stable situation change, protective measures implemented.

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Tully, 1988, p.31
3 *Dunolly and Burnt Creek Express* , 28.6.1862, p. 2
4 *Dunolly and Burnt Creek Express* , 5.7.1862, p. 2
5 *Dunolly and Burnt Creek Express* , 15.11.1862, p.2
6 *Dunolly and Burnt Creek Express* , 14.6.1862, p. 2
7 Flett, 1956
8 Flett, 1956
9 Flett, 1956

SITE NO. & NAME: 024 SPECIMEN QUARTZ MINING CO. MINE

LOCATION: SPECIMEN REEF

DIRECTIONS: 350m S down Freemantle Track from its junction with Specimen Track. The mine is located on the west side of the track.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 510.188

PARCEL NUMBER: P124587

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1858 Burnt Creek: Discovered in 1858, this reef was worked for several years for a general return of 18 dwt/ton. The remains of the battery and tailing heaps are still evident around the dam.[1]

March 1870: the holders of the lease on Specimen Reef, Dunolly, have formed a party and are working the ground at a depth of 70 feet from the surface.[2]

March 1881: Macdonald and Co ... cut the reef at 70ft, and are driving north and south on the course of the same. Owing to their good prospects ... several other claims, if not all of which are being worked, have been taken up on this line of reef.[3]

June 1881: The Specimen Quartz Mining Company, Dunolly ... have crushed 101 tons of stone for a yield of 94ozs. They are now excavating and building a fresh water dam, and have purchased a steam crushing plant of 24 stamp-heads; specifications for removal and erection are being prepared.[4]

DESCRIPTION OF PHYSICAL REMAINS:

The surviving mine workings would date to the 1880s when the reef was being worked by the Specimen Quartz Mining Company. In 1881, this company was the first (and last) to erect machinery on the reef.

Mine site

Above the dam and tailing heap located by the track are the remains of a mullock heap, part of which has been used to fill in the mine shafts. Shafts filled with the mullock are beginning to re-open.

Machinery footings are located near the eastern end of the mullock heap. These consist of a line of red gum battery stump, burnt to the ground but probably representing 20 head of stamps. On the N end of the battery are two wooden bed logs, 46cm (18in) square and about 5.2m (17ft) long, from which protrude four iron engine-mounting bolts. Further north is a mound and spread of brick rubble which may represent the remains of a boiler house and/or chimney stack. The red bricks are hand-made and have no frog.

Stone fireplaces

Between the Specimen Mine and workings to the south on Doctor's Reef are two stone fireplaces. They are approx. 23m apart, stand to a height of 1m and are 2m wide. Bottle-hunting around these fireplaces has exposed 19th-century artefacts. No bricks are visible. 19th-century artefacts found associated with these structures, and the absence of bricks in their construction, suggests that they relate to 19th-century habitation. Use of bricks in the fireplaces of temporary tent structures was quite common in the 20th century, especially around defunct machinery sites where bricks could be salvaged from footings and chimney stacks.

PHOTOS: Photo 1: Crushing battery, facing SE.
Photo 2: Wooden bed logs and mounting bolts and burnt battery stumps.
Photo 3: Two fireplaces

ARTEFACTS: Around the fireplaces, fragments of 'black' glass bottles and ceramics, suggesting a 19th-century date.

INTEGRITY/CONDITION: The site has considerable integrity as a mining site, owing to the survival of such features as its dam, tailings, mullock heap, and machinery footings. The condition of the burnt-off battery stumps is poor, it they could easily be

completely buried. The fireplaces are in good condition, although their surroundings have been disturbed by treasure hunters.

THREATS: Prospecting, treasure-hunting and quarrying

CULTURAL SIGNIFICANCE:

The site is not particularly significant in terms of any of the assessment criteria. The surviving features on the mine site, and their historical background, are insufficient to merit significance.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.35
2 Mining Surveyors' Reports, March 1870
3 Mining Surveyors' Reports, March 1881
4 Mining Surveyors' Reports, June 1881

SITE NO. & NAME: 025 **WILD DUCK LEAD PUDDLER**

LOCATION: **Wild Duck Lead, Jones' Creek**

DIRECTIONS: At the head of Wild Duck Lead, 0.5km SE of the Specimen Mine (Site 024). The track that runs along the E side of that mine site leads towards the puddler.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 507.186

PARCEL NUMBER: P121968

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

20th?: Wild Duck Lead, Jones Creek: This lead was discovered by Henry Cleasby, the butcher from Eddington. He found nuggets of 5, 7 and 13 dwt near the dam. Being a new area, 300-400 miners flocked to the scene, but within a week it was nearly deserted. Only one other nugget was recorded, this was 12 dwt. Those that remained traced the lead down to Blundells Gully and finally stopped at Mr. Hole's fence. Mr. Banks discovered the reef that bears his name and further prospecting was carried out in Mr. Dam's paddock.[1]

DESCRIPTION OF PHYSICAL REMAINS:

The outer mound of the puddler is approximately 3.5m wide and is raised about one metre above ground level. It still retains a fresh-looking appearance, with the edges of the inner mound and puddling trench still precisely cut. The puddling circle has a diameter of 22ft, and its inner mound is 3.3m in diameter. A loading ramp is located on the southern side. Its dam lies to the east. The fresh, uneroded appearance of the puddler suggests that it has been in use in the 20th century, probably during the 1930s.

PHOTOS: Photo 1: Puddler and dam, facing NW.
Photo 2: as above

ARTEFACTS: None visible

INTEGRITY/CONDITION: The site is in good condition, apart from the removal of all the wooden elements.

THREATS: Prospecting and erosion.

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance because of its:
  a) intactness
  b) historical representativeness - ability to clearly illustrate this type of mining technology.
  c) ability to answer specific archaeological research questions: its obvious recent construction, and unweathered appearance, acts as a dating yardstick, more weathered examples being older, mid to late 19th century survivors.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the puddler comes from its ability to ilustrate the technology involved, and its importance as a relative dating yardstick. Any conservation work carried out should not interfere with the site's ability to carry out this role, unless as a last resort.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site should be protected. The fact that it still survives suggest that the local community respects its significance. It should only be fenced off if this situation changes.

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.37

SITE NO. & NAME:	026 GOOSEBERRY HILL DIGGINGS
LOCATION:	Gooseberry Hill, Dunolly
DIRECTIONS:	The tunnel and puddler are on the west side of Gooseberry Hill. Travelling towards Maryborough on the main road from Dunolly, take the second dirt track on the right after the junction of Maryborough and Eddington main roads. The site is located 300m down this track, on the western side.
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 440.154 (Gooseberry Hill) Dunolly North 1:25000 - 439.155 (Tunnel and Puddler)
PARCEL NUMBER:	P128863
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Gooseberry Historic Reserve/Gravel Reserve
EXISTING HERITAGE CLASSIFICATION:	None
PRESENT MANAGEMENT/USE:	LCC - NCJ29

HISTORY:

1856/57: There was another rush at Burnt Creek in February 1856, and later that year the population was again down to 300, until the vast overflow from Dunolly rush, began, and there were 3000 at Burnt Creek just before the discovery of Wild Dog Gully early in November 1856 ... Little Chinaman's Gully, a continuation of Wild Dog, was also opened at this time ... Wilson's Lead was also opened late in 1856, and the whole gravel range south of the Burnt Creek, known generaly as the Hard Hills, but from west to east as Gooseberry, Spillers, Graveyard and Slaughteryard Hills were covered by diggings early in 1857. [1]

1857: There were 4000 at Burnt Creek and the long line of windsails showed the energy being spent to get gold out of Dunolly wet lead. Most of the digging at Burnt Creek town was being carried out on what is now Gooseberry Hill, but was known as the Hard Hill, along the side of the hill to the burial ground.[2]

July 1857: lead on Gooseberry Hill was first discovered running to Slaughteryard Hill and towards the Maryborough Road.[3]

Sept 1859: The Engine Company...is doing very well.[4]

Nov 1863: Old White Hill Rush - beginnings of three large rushes that started on Gooseberry Hill, and proved - as had been said many times - "Burnt Creek is not done yet".[5]

Sept 1864: things began to get brisk in the direction of Gooseberry Hill ... The Union Co. which claimed to be the openers of this - The Gooseberry Hill Rush - sank 63 feet and immediately got 9 ounces of gold ...The papers referredto this firstly as the "South Dunolly Rush" and reports of the gold found under the gravel and cement, where evry hole had gold, caused a great rush ...On December... the Union Co., with some pomp and ceremony insalled an engine on their shaft. This company, practically owned by George Simpson, having pioneered the rush, were first to set about working their claim methodically. The Gooseberry Hill Rush extended throughout the following years, despite swampings and the discovery of gold near the Pound in 1865...[6]

1864: This is really a series of hills known at different times as Hard, Slaughteryard, White, Patchy Flat, German Charlies, Gooseberry, Fifty Foot, Seventy Foot, Junction and another name unfit for the newspapers to reprint. The confusion was finally overcome by calling the whole lot Gooseberry Hill. It had been tried in many places with little result until one hole struck payable gold in late 1864. Goodholes were dug along a gutter all down the side of the hill. When the first hole on the flat failed to find gold, the miners realised that they had actually dug across the lead instead of along it and a large rush followed all over the Gooseberry Hill(s).[7]

Dec 1864: South end of Dunolly township, Gooseberry Hill has grown to be a rush of considerable size; two extended claims, of four and three and a half acres, respectively, are taken up on this ground in May and August 1864; on one of which a steam engine has been erected. ...the sinking is wet, from forty to sixty feet in depth.[8]

Later in 1864 Dunolly took a new lease of life when a series of new gold discoveries were made about a mile west of the town. The first of these, known as the Gooseberry Hill rush, was started by the Union Co. in November. In February 1865 two prospectors named Manning found gold near the Pound on Timor Road,

about two miles up the Burnt Creek from Gooseberry Hill. There were about 1000 diggers on the Gooseberry and Pound Rushes when another began on Gooseberry Flat late in 1865 [9]

1864/65: The richest claims on Gooseberry that were celebrated at the time were the Nil Desperandum, Lord Palmerston, City of London, Union Co. of Switzerland, and the Last Chance. Others equally good were the Garibaldi, Northumberland, Great Britain, Christmas Co., Princess Royal and the Fay You & Co.[10]

Feb 1865: The hill ... was covered in tents and a considerable sized township had been erected with more than one street ... There were some thousands at Gooseberry early in 1865 and the sight of the great multitude of fires glowing on the hill as seen from Dunolly in the Autumn of 1865 was something to remember...[11]

May 1865: The Nil Desperandum Claim were getting £15 per week per man and there were 18 months work ahead in their claim. In the Great Britain eight men had found 60lbs of gold in six months, and in February, 1865, it was averaging 40 ounces of gold per week, as was the Garibaldi also. The Lord Palmerston claim in a new drive in Nov 1856 found a rich parcel of specimens hardly waterworn, which indicated that the parent source was close at hand, they weighed 30lbs... [12]

May 1865: Despite the Pound Rush, however, Gooseberry Hill continued to give of its richess and the Rising Sun and Morning Star companies began work on Gooseberry in Sept, and the Union Co. with its engine continued its rich yield ... There were, of course, many hundreds of Chinese working on Gooseberry Hill at the rush, and with their facility for the thorough fossicking of the ground old and new, they haunted the lead, and the yields in the well-known claims gradually diminishing generally, the Chinese took them over.[13]

June 1865: Alluvial mining has steadily progressed at Gooseberry Hill. [14]

Jan 1866 Gooseberry Flat: A rush began to Gooseberry Flat, where digging had been going on for some time. The reported finds there were small - too small to account, it seems, for the number of diggers - about 600 - there on 11th Jan when it was reported that "the rush to Gooseberry Flat bids fair to be the largest yet at Dunolly" ... The ground was 30 to 50 feet deep and a great number of Chinese were on the ground at this time. [15]

1866/67: The Pound Rush began to peter out at the end of 1866 and it was reported in Jan 1867, that nearly all the business places had been shifted from the Pound Rush to Gooseberry Flat. [16]

1867: The union Co. let their mine to the Chinese on tribute in February 1867, after it had been running three years and had been flooded. The Chinese pumped for six weeks before it was dry, and then the run of gold continued as before. To 1866 the Gooseberry Hill Rush produced 42,000 ounces of gold and great numbers were still working there in 1869. [17]

Jan 1867: ... dry and with less water at Gooseberry Flat, began with a sensational find of nearly 100 ounces of mixed gold in the bottom of a shaft. [18]

July 1867: After July ... very little was heard of the rush to Gooseberry Flat. [19]

Sept 1873: In alluvial mining, the Prince of Wales Company, on the Pound and Gooseberry Hill leads, have been boring, and about to sink a permanent shaft, having purchased steam machinery for draining the ground.[20]

June 1877: Boyds Freehold Company, Gooseberry Flat, have got their mine in working order... The Enterprise Company is a co-operative company formed to work Watson's freehold lead at Gooseberry Flat.[21]

Sept 1898: Our representative paid a visit a day or two ago to the reef on Gooseberry Hill now being profitably worked by Messrs Barnett and party (4). The cave-like entrance on the side of the hill can be seen from the road. The party have tunelled for some distance into the side of the hill, and the stuff is now being wheeled out to the end of the tunnel and trench. The entrance is just like a cavern, but as they go on the stone seems to go down. There is a big body of stone apparently, and it is said to be very easy to work. The party are not taking out the whole width, but only about 3 feet wide or so in the centre, althoughit is siad it would be payable the whole width with crushing appliances at hand. The stone looks well. A crushing of 31 tons at Deason's battery at the end of last week, and gave the highly payable yield of half an ounce to the ton. This is good, seeing that the stone is so far easily worked. The return is better than that of the first crushing, showing the stone improving. Messrs Schecle? and party havetaken up a claim close to the boundary of Messrs Barnett and Mather's claim and are now sinking. Mr. Paganetti has a claim some half-a-mile off, but supposed to be on the same line. Some people think the reef is on the Spread Eagle line. Already investors have their eye on the property. [22]

12 Sept 1899: We understand that a syndicate with which the name of Mr L.F. Sachs is so closely identified,

has completed arrangements for taking over the claim hitherto worked by Messrs Barnett, on Gooseberry Hill. Operations will be commenced on that lease in a few days.[23]

1905: William Dodd found a 29 oz nugget in surfacing that bears his name. The council gravel pit shows clearly the depth to the bottom and the type of hard sinking encountered by the miners.[24]

DESCRIPTION OF PHYSICAL REMAINS:

The tunnel driven into Gooseberry Hill appears to have been excavated in the late 1890s. No historical reference was found to relate the puddler to this tunnel. As the tunnel was driven to work the reef, it is unlikely that the two were contemporary.

Gooseberry Hill

One of a series of river-wash hilltops of Pliocene age run NW-SE along the S side of Dunolly township.

All traces of the shafts and most of the mullock heaps have been removed. At most, 6 or 7 shallow shafts remain.

A tunnel survives at the base of Gooseberry Hill, on the western side. It is located on the west side of a dead-end track that runs south off the main Dunolly-Maryborough road. The tunnel is driven south into the hill and can be walked down.

40m directly in front of the tunnel, on private property, is a puddler. Burnt Creek lies to the NE.

Near the puddler are the remains of 8 sheds - ranging from mounds of bricks to intact buildings. The latter have wooden framing, galvanised iron roofs and walls made from flattened kerosene tins. The most westerly of the intact sheds is a blacksmithy.

PHOTOS:
Photo 1: Entrance to tunnel, facing S
Photo 2: Puddler in front of tunnel.
Photo 3: Blacksmithy, on private property
Photo 4: Shed, galvanised roof, kerosene tin walls.
Photo 5: Shed nearest to Burnt Creek.

AGE/DATING PHASE: 1857 - 20th century

ARTEFACTS: None visible on the hill

INTEGRITY/CONDITION: The workings on the hill have been almost completely obliterated. The tunnel is in good condition.

THREATS:

CULTURAL SIGNIFICANCE:

Although Gooseberry Hill is significant in terms of the Division's mining history, there are no surviving features which date to the early 1860s when this and other hills in the vicinity formed part of the Great Burnt Creek Rushes. Nor are there any later workings remaining that could really be said to be representative of their earlier counterparts. The site has:

- Scientific significance because it represents a particular type of process, ie, tunnelling. This was a mining method rarily carried out in the Dunolly Division for the extraction of auriferous quartz.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Flett, 1956
3 Flett, 1956
4 Mining Surveyors' Reports, September 1859
5 Flett, 1956
6 Flett, 1956
7 Tully, 1988, p.24
8 Mining Surveyors' Reports, December 1864
9 Flett, 1979, p.282

10 Flett, 1956
11 Flett, 1956
12 Flett, 1956
13 Flett, 1956
14 Mining Surveyors' Reports, June 1865
15 Flett, 1956
16 Flett, 1956
17 Flett, 1956
18 Flett, 1956
19 Flett, 1956
20 Mining Surveyors' Reports, September 1873
21 Mining Surveyors' Reports, June 1877
22 *Dunolly and Betbetshire Express* , 20/9/1898
23 *Dunolly and Betbetshire Express* , 12.9.1899
24 Tully, 1988, p.24

SITE NO. & NAME: **027 PATCHY HILL & FLAT ALLUVIAL SINKINGS**

LOCATION: **Patchy Hill & Flat, Dunolly**

DIRECTIONS: Immediately W of Gooseberry Hill

MAP/GRID REFERENCE: Dunolly South 1:25000 - 443.133

PARCEL NUMBER: P123972

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1857/59: At Patchy Flat about the first place opened was Gouses (Gooseys) Gully, before 1857, and Smith's (Blacksmiths) Gully in 1859. The main lead at Burnt Creek, that had been lost for some time, was rediscovered in 1858, and Wild Duck Lead, at the foot of Wild Dog Gully, was opened in July that year. New areas were also discovered at the 'Shoots', at the head of little Chinaman's. [1]

1862-63: In the years 1862-63, Patchy Flat, then known as Fighting Flat, was opened up. Gold was discovered there in Kentish Gully by John and James Stretton in February 1862, and Scotty's (Scotchman's) Gully was prospected by William Mann soon after. In September 1862 Clovers Gully was opened by Robert Clover, and there were rushes to the smaller gullies nearby - Spencer's, Hampshire and Middleton's. Very large nuggets were found at Clover's Gully. [2]

Worked over a period of years as a series of small rushes eventually joining up to make a continuous lead running in to the true Patchy Flat near the railway line. Some shafts are up to 50 ft. deep. Fighting Flat was named after being a popular place for early illegal boxing matches. [3]

1865: Nuggets of 52 and 60 oz were found at a depth of 60ft. [4]

1865: Originally and inappropriately known as Patchy Flat Rush, Caledonian Gully was opened by McDonnell and party in July 1865 who in their first hole found a nugget 156 oz. [5]

June 1859: Perseverance Reef [Dunolly] - 1 claims, 40yds aggregate length, yielding 1 3/4 oz/ton. [6]

1908: The new rush to Patchy Flat is situated about two miles S.S.E of the township of Dunolly ... The ground is a portion of the lead which was worked a number of years ago ... The sinking is generally through clay, and the sides of the shafts stand well without timber ... and is from 14 to 20 feet ... Two men can bottom a shaft in two days. There are about 80 men on the field, and all the ground has been taken up in claims ... all the men working on the lead are making wages, and some are doing considerably better. A load of washdirt yields from 6 to 16dwts of gold. The wash dirt varies from 1 foot to a few inches in thickness and the stones in it are generally angular and sub-angular. It is puddled in a trough, then cradled, and panned off. At present there is sufficient water in the creek for these operations, and there are two large dams within a short distance of the claims. [7]

DESCRIPTION OF PHYSICAL REMAINS:

Some intact stretches of alluvial sinkings still survive along Patchy Flat. Also one puddler and dam site was located along Patchy Creek. It lies 300m W of the main Dunolly-Maryborough road, opposite the turnoff to the Dunolly tip. The puddler's outer mound is about 8m wide, stands around 1.5m above ground level and has a fresh-looking appearance. Despite its probable 20th century date, the puddler has suffered badly from erosion. The puddler has a diameter of 6.7m (22 ft) and its wooden post (85cm high, 70cm diameter) still stands in the central mound. The associated dam is about 60m wide. The puddler, although extremely eroded, would date to the 20th-century.

On the opposite side of the track that passes close to the W side of the puddler are the remains of a brick and stone house. A large rubbish dump associated with this house contains 20th-century artefacts, some of which date to the 1950s.

PHOTOS: Photo 1: puddler.

ARTEFACTS: None visible

INTEGRITY/CONDITION: None

THREATS:

CULTURAL SIGNIFICANCE:

Patchy Hill and Flat workings have no historical significance, nor are they especially representative.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, pp.276-77
2 Flett, 1979, p.277
3 Tully, 1988, p.23
4 Tully, 1988, p.24
5 Tully, 1988, p.21
6 Mining Surveyors' Reports, June 1859, p15
7 Records of the Geological Survey of Vic VII, part 4, p141

SITE NO. & NAME: 028 SLAUGHTERYARD HILL ALLUVIAL SINKINGS

LOCATION: **Slaughteryard Hill, Burnt Creek**

DIRECTIONS: W side of Dunolly-Maryborough main road. Road to Municipal Tip runs along the base of Slaughteryard Hill.

MAP/GRID REFERENCE: Dunolly South 1:25000 - 448.148 (Slaughteryard Hill)

PARCEL NUMBER: P122005

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Gravel Reserve

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1856/57: Slaughteryard Hill: There was another rush at Burnt Creek in February 1856, and later that year the population was again down to 300, until the vast overflow from Dunolly rush, began, and there were 3000 at Burnt Creek just before the discovery of Wild Dog Gully early in November 1856 ... Little Chinaman's Gully, a continuation of Wild Dog, was also opened at this time ... Wilson's Lead was also opened late in 1856, and the whole gravel range south of the Burnt Creek, known generaly as the Hard Hills, but from west to east as Goosebery, Spillers, Graveyard and Slaughteryard Hills were covered by diggings early in 1857. [1]

DESCRIPTION OF PHYSICAL REMAINS:

A small area of relatively intact sinkings survives near the E side of the main Dunolly-Maryborough road. Further in from the road the workings have been levelled and the area is now the site of the Dunolly tip. Surviving remains are inconsistent with the nature and scale of the diggings as documented in the historical record. The diggings are neither authentic nor representative.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:
None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p. 276

SITE NO. & NAME: **029 BROMLEY CEMETERY & DIGGINGS**

LOCATION: **Graveyard Hill, Burnt Creek**

DIRECTIONS: 300m SE of Dunolly Municipal Dump

MAP/GRID REFERENCE: Laanecoorie South 1:25000 - 452.145 (Bromley Cemetery)

PARCEL NUMBER: P122039

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest/Cemetery Reserve

EXISTING HERITAGE CLASSIFICATION: -

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1855: William Templeton's camp was transferred from Moliagul to Burnt Creek (now Bromley) near Dunolly. [1]

1856/57: There was another rush at Burnt Creek in February 1856, and later that year the population was again down to 300, until the vast overflow from Dunolly rush, began, and there were 3000 at Burnt Creek just before the discovery of Wild Dog Gully early in November 1856 ... Little Chinaman's Gully, a continuation of Wild Dog, was also opened at this time ... Wilson's Lead was also opened late in 1856, and the whole gravel range south of the Burnt Creek, known generaly as the Hard Hills, but from west to east as Gooseberry, Spillers, Graveyard and Slaughteryard Hills were covered by diggings early in 1857. [2]

1861: In August 1861 it was reported that a new lead of gold at Burnt Creek had been discovered by a digger named Chipps ... the locality was Andersons Hill (Hicks) ...A large rush began, which established the town of Bromley. The Chinese, who outnumbered the whites six to one on this rush, had all the 'fancy ground', and opened the lower end of it, known as Hong Kong Lead, which was still being worked in May the following year.[3]

Sept 1885: Thomas and son are getting payable quartz.[4]

DESCRIPTION OF PHYSICAL REMAINS:

This hill is now partly occupied by the Dunolly tip, but the Bromley cemetery survives. This cemetery is located about 200m E of the dump. The cemetery is located on a small 30m-square fenced reserve. Three stone headstones still stand:

Eliza Harse, 25 October 1857 - surrounded by cast iron fence.
John Cameron, 25 August 1858; manufacturer - Roberts & Co, 19 Lonsdale Street.
Thomas Sinnott, 24 August 1856.

Scattered around the reserve are at least 7 mounds or depressions suggesting graves, and 16 likely graves outlined by small quartz lumps.
Some intact alluvial sinkings lie to the S of the cemetery reserve. These form part of the Burnt Creek diggings.

PHOTOS: Photo 1: Bromley Cemetery - 3 surviving head stones
Photo 2: Bromley Cemetery - stone outlines

AGE/DATING PHASE: 1855 - 20th century

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

INTERPRETATION OF PHYSICAL REMAINS:

Bromley cemetery and alluvial sinkings associated with working the Burnt Creek Lead, also known as Hong Kong Lead.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is:
  a) associated with an important event: Phase 1 of the Divisions' mining history. A settlement appears to have grown up here in 1855, when a Gold Commissioner's Camp was established. The township of Bromley later developed as the result of the great Burnt Creek rush.
  b) part of a group or network of sites, the totality of which is considered to be significant, ie. the cemetery's significance is enhanced by its contextual association with some well-defined alluvial diggings in a side gully that leads into Burnt Creek. Although these diggings cannot be shown to be original, they are certainly representative of the traditional method of alluvial mining in the area.

- Social significance because of the importance of the site to the local or wider community

Significance ranking: Regional

CONSERVATION POLICY:

It is important to protect not only the cemetery, but the surrounding context of alluvial diggings. The two are inextricably linked and are an evocative reminder of the reason for the cemetery's siting and existence.

RECOMMENDATIONS FOR IMPLEMENTATION:

Cemetery and associated diggings should be protected.

Assessor: David Bannear Date: May 1991

1 Carless, 1983, p.21
2 Tully, 1988
3 Flett 1979, p.277
4 Mining Surveyors' Reports, September 1885

SITE NO. & NAME:	**030 SPILLER'S HILL DREDGE DAM**
LOCATION:	**Spiller's Hill, Bromley**
DIRECTIONS:	About 200m S of the Bromley Cemetery is a dredgedam. The hopper and conveyor are situated at the SE end of the dam.
MAP/GRID REFERENCE:	Laanecoorie South 1:2500 - 450.143 (Hopper and elevator, base of Spillers Hill)
PARCEL NUMBER:	P122039
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	None
PRESENT MANAGEMENT/USE:	LCC- NCE20

HISTORY:

1856/57: There was another rush at Burnt Creek in February 1856, and later that year the population was again down to 300, until the vast overflow from Dunolly rush, began, and there were 3000 at Burnt Creek just before the discovery of Wild Dog Gully early in November 1856 ... Little Chinaman's Gully, a continuation of Wild Dog, was also opened at this time ... Wilson's Lead was also opened late in 1856, and the whole gravel range south of the Burnt Creek, known generaly as the Hard Hills, but from west to east as Gooseberry, Spillers, Graveyard and Slaughteryard Hills were covered by diggings early in 1857. [1]

1860s: Shown as Slaughteryard Hill on the Mines Department Map (see Maryborough Advertiser 15-6-1863). James and Flora Spiller had a store on the hill here. The southern edge of the hill was worked in 1862 and called the Canton Lead. A Chinese camp existed here. In 1864, Ah Sing found a 150 oz nugget on Spillers Hill. [2]

1861: The salvation of Dunolly in 1861 was once again, when things were blackest, achieved by a strike of gold. On this occasion - on August 19th of that year - the strike was at Burnt Creek, when a lazy digger named Chipps watched two Welshmen bottom a hole on Spiller's Hill alongside one he had parially dug. A new lead was discovered ... The Great Burnt Creek Rush was the result, which was kept going by the perserving Chinese often when almost abandoned by the Europeans, undoubtedly saved Dunolly as a town ... The town turned the corner in 1861. In the next two years it consolidated itself, and for three years following this it reaped a rich harvest for the re-discovery of old runs of gold ... the continuations of the Wet Lead and Old Lead. [3]

April 1862: Of a different type was the rush that occurred to Spillers Hill ... the hills to the west of Burnt Creek - Spillers Hill, Graveyard Hill (old burial ground), Slaughteryard Hill and Gooseberry Hill. On Spillers Hill began the first concerted effort by experienced diggers to trace a lead in this strata - [Pliocene beds of waterworn stone, cemented together] - and the result was the weekly lists appearing in the Dunolly newspaper of nuggets and yields of claims that became famous. In 1863 the Blue Jacket Claim was getting sometimes upwards of 50 ounces per week, and the "Blue Jacket" nuggets were famous. Another claim was the Switzerland, and another had the graceful name, The Rose of Denmark. In the Blue Jacket the wash was seven feet thick and a regular ounce to the load was had for weeks and months. There were many claims on Spillers held by Chinese. Other claims were the Invincible, the Liverpool and All Nations. [4]

Dec 1862: the only place in the division, where machinery is employed in this branch [alluvial mining] is at Spillers Hill and adjoining hill. [5]

1863: At the end of 1863 Spillers Hill was being worked extensively and there were two engines of 24 and 22 h.p. [6]

1905-1912 Burnt Creek Dredge Holes: This area was worked from 1905-1912 by the Burnt Creek Hydraulic Sluicing Co. Every month they would clean up the sluice box which usually contained about 300 oz. Nuggets were found readily including pieces of 24 and 40 oz. [7]

4 Dec 1906: Burnt Creek Hydraulic Sluicing Co. - lowered barge into position. Boilers on barge, and now fixing engines in position. Good supply of water in dam in Quaker's Gully. [8]

29 Jan 1907: Burnt Creek Hydraulic Sluicing Co. - pumping plant under steam, and works well. Expect to have dam full and start sluicing on 6th February next. [9]

1907: Watts and party opened a lead and caused a considerable rush just north of the Red Streak.[10]

1909: Burnt Creek Do. - Two puddling machines have been added to the treatment plant. In the shallow alluvial ground, leading into the deep leads, 15 parties have been engaged, employing 62 men... Several of these parties have erected small cyanide plants in connection with their mines for the purpose of treating the slum from the puddling machines, which is carefully stacked, and which was formerly lost onto the creeks or scattered over the surface.[11]

1910: At the Burnt Creek mine, progress has been slow, owing to the unevenness of the ground and the large amount of water to deal with.[12]

1911: Burnt Creek mine - prospects improving.[13]

1913: Burnt Creek Co. closed down in the latter part of the year... The reason given is that developmental work was not sufficiently advanced to allow the ground to drain and be worked to an advantage. The plant has been sold off.[14]

1917: The Dunolly pump dredge on Burnt Creek has treated a good deal of shallow wash, but the present ground is hardly payable.[15]

DESCRIPTION OF PHYSICAL REMAINS:

Surviving remains date to the 20th century, and represent at least two phase of alluvial mining.

Alluvial mining

Some gold workings are still visible on this hill, but re-workings have levelled substantial areas. Also hillside has been extensively surfaced. At the base of the hill is a long, narrow dredge dam, at the E end of which is a deserted pumping shed. The pipeline from this leads towards a mid-20th-century treatment plant consisting of an iron-framed hopper and elevator, with a continuous canvas belt. The iron framing is recyled railway line, marked with the manufacturer's name and date: V. R. Krupp 1887. Below the conveyor are concrete footings in which are set some iron framing. Scrap iron lies around the site, including a section of what appears to be a disused bucket chain from a dredge.

Several more dredgedams are situated further downstream.

PHOTOS: Photo 1: 20th-century treatment works - conveyor and ramp.
Photo 2 : Concrete footings
Photo 3 : Section of bucket chain.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor, diggings almost obliterated

THREATS:

CULTURAL SIGNIFICANCE:

The mid-20thcentury machinery has little significance. The dredge dam, and ones located further downstream, have already been identified as having high significance. The site has

- Scientific significance because it represents an important mining technology
- Social significance because of the importance of the site to the local or wider community (indentified in local tourist guidebooks)

Significance ranking: Regional

CONSERVATION POLICY:

Significance of the site comes mainly from the survival of several dredgedams along Burnt Creek.

RECOMMENDATIONS FOR IMPLEMENTATION:

Dredgedams be protected.

Assessor: David Bannear Date: May 1991

1 Tully, 1988
2 Tully, 1988, p.25

3 Flett, 1956
4 Flett, 1956
5 Mining Surveyors' Reports, Dec 1862
6 Flett, 1956
7 Tully, 1988, p.26
8 *Dunolly and Betbetshire Express* , 4.12.1906
9 *Dunolly and Betbetshire Express* , 29.1.1907
10 Flett, 1979, p.278
11 Mining Surveyors' Reports, 1909
12 Mining Surveyors' Reports, 1910
13 Mining Surveyors' Reports, 1911
14 Mining Surveyors' Reports, 1913
15 Flett, 1956

SITE NO. & NAME: **031 ANDERSON'S HILL DIGGINGS**

LOCATION: **Anderson's Hill, Burnt Creek**

DIRECTIONS: Immediately NEof Spillers Hill. Wof Dunolly-Bromley Road.

MAP/GRID REFERENCE: Laanecoorie South 1:25000 - 458.137 (Andersons Hill)

PARCEL NUMBER: P121970

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Combination of Freehold Land and Gravel Reserve

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: -

HISTORY:

Aug 1861: The rush that saved Dunolly from possible obscurity took place at Burnt Creek. It began with a digger named Chipps, who sank of Anderson's Hill ... The lead was 60ft deep and was really wet and rather poor, but as though every digger in the district believed it rich, a great rush set in and the shops were set up. Another rush then started to the junction of Wild Dog and Burnt Creek Leads and another rush began at Warnecke's Flat and Dairy. The real lead on which the rush eventually based its existence began near Ah Wing's garden and became known as the Bullock's Flat Rush - the main rush.[1]

1861: In August 1861 it was reported that a new lead of gold at Burnt Creek had been discovered by a digger named Chipps ... the locality was Andersons Hill (Hicks) ...A large rush began, which established the town of Bromley. The Chinese, who outnumbered the whites six to one on this rush, had all the 'fancy ground', and opened the lower end of it, known as Hong Kong Lead, which was still being worked in May the following year.[2]

August 1861: The lead on this hill was called the North Wales Leadwhen discovered in August 1861. Between 4000-6000 miners were working nearby half of whom were Chinese. During the Burnt Creek Rush the town here was a mile in length along the present road. It included several hotels, a chemist, photographer, coach builder and many more. The old mud brick house still standing belonged to Adderton the local blacksmith. [3]

Aug 1861: Burnt Creek Rush - there were 20 Europeans and about 300 Chinese on Anderson's Point and the lead was heading in the direction of Ah Wing's garden, that was a quarter mile on the south side of the Burnt Creek ... by September there were 2500 at the rush and a great rush was expected, gold being found in great quantity - 400 to 500 ounces per week to the Dunolly banks alone before the rush started, being the Burnt Creek yield. The wash on the main lead was 5ft thick and getting rich as it went. In October 1861, the real rush was on, but long before this the town of Dunolly was the scene of activity akin to the early days ... Two miles of the street was laid out and named Anderson Street after the Gold Warden of the time. [4]

DESCRIPTION OF PHYSICAL REMAINS:

Little remains of the gold diggings on this hill. Workings have been levelled and quarried. The remains that survive are not authentically or representative of the type of mining that once made Andersons Hill famous.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:
None

CONSERVATIONPOLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Flett 1979, p.277
3 Tully, 1988, p.26
4 Flett 1956

SITE NO. & NAME: 032 SYDENHAM CO. MINE

LOCATION: QUAKER'S REEF

DIRECTIONS: At the head of Quakers Gully, east of main Dunolly-Maryborough road.

MAP/GRID REFERENCE: Dunolly South 1:25000 - 448.139

PARCEL NUMBER: P122039

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1854: By April 1854 there had been an increase in population at Burnt Creek, and there were 400 diggers there in July. Digging was going on in Quaker's Gully and two large nuggets were found there in 1854... [1]

1854: This was a very rich gully. When found in 1854 it was one of the first major rushes in this area. There were three hotels near the foot of the gully and Kirks crushing machine was just south of the bridge. The Chinese camp was along Burnt Creek. This area was later dredged and reclaimed ... The dredge dam was built to supply additional water to the Burnt Creek Dredge.[2]

1857-69: Quakers Reef: Discovered in 1857 at Christmas time and was worked with good results, but was abandoned owing to the high price of crushing at the time, but was re-opened on 30th March 1859 and was doing well.[3]

1861: In Quakers Gully ...[Sydenham Reef]... discovered by Sydenham and party aboit 1st December 1861, betweem Inchcliffe and Quaker's Reefs, was yielding one ounce to the ton in Feb 1862, and 2 1/2 ounces to the ton later in the year.[4]

31 May 1862: Mr Kirk's Crushing machine (recently brought from Cay's Diggings) has been erected on the Burnt Creek Road, near the Chinese Camp. The engine is of 16-horse power, and when in working will drive fifteen head of stamps. [5]

14 June 1862: Paris Reef, Quaker's Gully - About 9 claims are at work.[6]

26 July 1862: An important discovery has been made on the reef lately known as 'Murphys' now christened 'German', situated in Quaker's Gully. It appears that a party of Germans took up the prospecting claim, which had been abandoned for nearly two years, about six week's ago. [7]

1864: After being abandoned, new arrivals worked the reef in Nov 1864, but at this time the vein was thin and the water difficult. [8]

1865: In August the St. David's Co. took over the reef and installed machinery, their lease extending to 1868, but the company had closed up before this expiry date. In 1868 Leake and mate worked Quaakers Reef north of the St. David's site and a party - The "Working Miners" Co. were getting 1 1/2 oz/ton at 20ft on Quakers ... The Yorkshire Reef (2 oz/ton), the Holy Joe Reef (10oz/ton) and the Jasmine Reef (1oz/ton) are close to Quakers Reef and were included a later lease of this area in Quakers Gully.[9]

Sept 1868: The Working Miners Company are raising stone from the 120-feet level. [10]

1869: The well known Sydenham Co. leased this reef ...[Sydenham]... first on 31/8/1869, the 19 acres including Quakers reef, also which this company worked.[11]

Dec 1871: Sydenham Reef ... Dahl and party have crushed 32 tons, which yielded 43oz 18dwts. [12]

March 1873: Sydenham and Quakers Reef ... The Sydenham Company have commenced operations, and are sinking a main shaft (7ft x 3ft 6in) which is down 80 feet. They intend to sink to a depth of 200 feet. [13]

March 1876: The Sydenham Co. are still sinking the shaft ... it is now down 145 feet. [14]

June 1878: The Sydenham Co. have completed sinking their shaft, which is now 200 feet and are cross cutting. [15]

June 1879: Sydenham Co, Dunolly ... The contractor is pushing on the work of the erection of the machinery ... Catchdams have been formed along the gathering ground of the fresh water dam, and tenders will be opened next week for the construction of a salt water dam.

Sept 1879: ... their pumping, winding and crushing plant completed, and are engaged in the mine in driving main levels at 200 feet. [16]

June 1880: Sydenham Co, Dunolly - This mine has lately been let on tribute to several parties. [17]

Dec 1880: Sydenham Co., South Dunolly - have added considerably to their pumping machinery and are sinking their shaft from 215 to 300 feet. [18]

June 1882: Sydenham Co are sinking their main shaft to 400 feet ... The prospect of late in going north have very much improved. [19]

March 1884: ... have crushed 493 tons for 336 oz gold ... stone taken from the 400 foot level. [20]

Sept 1885: They are now waiting on the arrival of a diamond drill on the ground to put down holes for the purpose of ventilating part of the mine. [21]

June 1886: ...engaged extending the 400 and 500-foot levels. A shaft is being sunk from the surface, west of the main shaft, near the site of the diamond drill hole. [22]

Dec 1887: ...prospecting continuing with good results. The results were due to the timely assistance rendered the company from the prospecting votes of 1886 and 1887; this alone prevented the cessation of mining operations. [23]

The large tailing dam here is from the Sydenham Company Mine, which worked to 200 ft the Sydenham Reef. This averaged 15 dwt/ton. In drives from a lower level they also worked Quakers and Hinchcliffe Reefs. [24]

DESCRIPTION OF PHYSICAL REMAINS:

Surviving remains are consistent with the historical information which shows that this reef was extensively mined by the Sydenham Reef Company from 1869 to c.1887.

Mine site

The site is dominated by large, partially-quarried mullock and tailing heaps. The mullock heap is still being quarried, but about half survives, measuring about 50m square and standing to a height of about 12-15m. The tailings heap, of which only about an eighth survives, would, in its original state, have covered an area of 50m square and stood to a maximum height of about 5m. In the surviving remnant of the tailing heap can be seen the rusty profiles of several galvanised cyanide tanks.

The shaft (now filled) is located on the SE edge of the mullock heap. No sign is to be seen of any footings near this shaft. There has been considerable bulldozing around the shaft and mounds of brick (red, hand-made with no frog) and stone rubble is all that is visible of the associated mining plant.

Two dams are associated with the mine.

PHOTOS: Photo 1: Quarried mullock heap
Photo 2: Quarried tailing dump

ARTEFACTS: Apart from building rubble, none visible

INTEGRITY/CONDITION: The integrity of the mine is poor, although its general layout is still recognisable.

THREATS: Quarrying has destroyed the mine site and its integrity to such an extent that it is beyond saving.

CULTURAL SIGNIFICANCE:

The reef shows was not especially significant in terms of production levels, yields, machinery, or as a business enterprise. The operation of the Sydenham Mining Co. did not significantly influence the Division's economic development on any scale. The surviving remains are insufficient to make the site significant in terms of being able to illustrate the workings of a late 19th-century quartz mine.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.276
2 Tully, 1988, p.26
3 Flett, 1956
4 Flett, 1956
5 *Dunolly & Burnt Creek Express* , 31.5.1862, p2
6 *Dunolly and Burnt Creek Express* , 14.6.1862
7 *Dunolly & Burnt Creek Express* , 26.7.1862, p2
8 Flett, 1956
9 Flett, 1956
10 Mining Surveyors' Reports, Sept 1868
11 Flett, 1956
12 Mining Surveyors' Reports, Dec 1871
13 Mining Surveyors' Reports,March 1873
14 Mining Surveyors' Reports,March 1876
15 Mining Surveyors' Reports, June 1878
16 Mining Surveyors' Reports, June and Sept 1879
17 Mining Surveyors' Reports, June 1880
18 Mining Surveyors' Reports, Dec 1880
19 Mining Surveyors' Reports, June 1882
20 Mining Surveyors' Reports, March 1884
21 Mining Surveyors' Reports, Sept 1885
22 Mining Surveyors' Reports, June 1886
23 Mining Surveyors' Reports, Dec 1887
24 Tully, 1988, p.26

SITE NO. & NAME: **033 MOTHER CHISHOLMS REEF & ALLUVIAL WORKINGS**

LOCATION: **Mother Chisholms Reef & Lead, Tarnagulla**

DIRECTIONS: Travel N along Burnt Tree Gully Track. The mine is 400m SW of the junction with Chisholms Lead Track. A bush track, just S of Billy Goat Dam leads to the mine.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 556.252

PARCEL NUMBER: P124273

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

19thC: McMillan was the prospector of this rush. He also discovered the Cumberland Lead at Cays and Chinamans Flat, Maryborough, before coming back to start a second rush at Chisholms Flat. He named it after Mother Chisholm, who had a grog shop and brothel in what had, before the rush, been an isolated part of the rush. The lead was traced into Billy Goat Flat then lost. [1]

1858: Mother Chisholms Reef: Gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Kayes Diggings, and between Kaye's and Sandy Creek there were a series of discoveries in 1859. German Gully was opened by a German, and a digger named McMillan prospected Mother Chisholm's Gully. Cumberland Gully was also opened at this time, and Corfu Reef, named after Spero Corfu, a Greek. Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third Hard Hill was worked.[2]

Sept 1859: Stony Creek, Mother Chisholms, Ironbark and a few unnamed gullies towards the Loddon have an aggregate population of about 250, very few of whom are doing well.[3]

1906: It was rediscovered in 1906 ... but abandoned three months later when the Poseidon Rush broke out.

DESCRIPTION OF PHYSICAL REMAINS:

Unfortunately, no reference was found to document the working of the reef. The physical remains suggest that large-scale mining was not undertaken on the site. The presence of battery remains suggests that there must have been at least one crushing works erected on the site. The dump is not extensive, and is in keeping with evidence that the reef was only worked on a small scale. Further research needed. Both the mine workings and the puddler would date to the 19th century.

Mine workings

The workings consist of a 150m-long line of open cuts, shafts and small mullock heaps. Five of the shafts are open and are fairly deep. There are several modern bore holes along the line of workings.

About 20m W of the N end of the workings is a levelled area on which stand several mounds of building rubble (stone and mortar). Associated with these mounds are some long depressions which may have a connection with bedlogs for an engine or battery.

In a gully, 20m further W, is a puddler and dam. The puddler is in a very poor condition. It is surrounded by an outer mound of fresh-looking wash which stands, in some places, to a height of 1.5m and is 5-7m wide. The puddler itself is almost buried and has no central post. On the north side of the puddler is a loading ramp. On the other side of the same gully is a spread of battery sand.

The gully runs towards Billy Goat Dam where it opens out into a wide flat. The alluvial diggings in the flat have so far escaped modern bulldozing and metal detecting operations.

PHOTOS: Photo 1: Looking S along the line of workings

ARTEFACTS: Apart from some building rubble, none visible.

INTEGRITY/CONDITION: The site is a difficult one to interpret. The alluvial workings near the reef are not very well defined.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance due to the survival of a relatively intact line of shallow reef workings and alluvial sinkings.

Significance ranking: Local

CONSERVATION POLICY:

None required

RECOMMENDATIONS FOR IMPLEMENTATION:

None

Assessor: David Bannear Date: May 1991

1 Tully 1988, p46
2 Flett, 1979, p. 273
3 Mining Surveyors' Reports, September 1859, p. 13

SITE NO. & NAME:	**034 CORFU REEF MINE WORKINGS**
LOCATION:	**Corfu Reef, Tarnagulla**
DIRECTIONS:	Located along Old Newbridge Road, 2km from its junction with Poseidon Road.
MAP/GRID REFERENCE:	Laanecoorie North 1:25000 - 556.280
PARCEL NUMBER:	P124287
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	LCC study; McConville (1987)
PRESENT MANAGEMENT/USE:	LCC - NCE21

HISTORY:

Corfu Reef is situated near, and west from, the north-west corner of allotment 10, section B, Parish of Tarnagulla, and close to the Newbridge-Tarnagulla Road. A co-operative party successfully worked the formation in the early days, but the complete records of the yields, the extent of operations, and the structure of the lodes are not obtainable. It is believed that the Corfu shafts is less than 300ft in depth. [1]

1859: Corfu, Halfway and Maiden Gully Leads were worked, 'halfway' between Sandy Creek and Newbridge, and became known as the Tarnagulla diggings, from John Catto's Tarnagulla Station on the Loddon. Sandy Creek was first called Tarnagulla in 1860. [2]

This is a very rich reef worked for many years and it is apparently the source of two significant leads. It was discovered by Spero Corfu and party in 1859. William Stubbs had the Rising Sun Hotel on the Newbridge Road near here. [3]

June 1859: Corfu Reef [Sandy Creek] - 2 claims, 70yds aggregate length, yielding 3 to 17 oz/ton. [4]

Oct 1859: the mining surveyor notes in his reports that the Corfu average had dropped from 20 oz. to 5 oz. to the ton ... the greatest depth obtained being 179 feet. They erected machinery, but failed to do much good, and in the early sixties the machinery was sold to Maxwell's Company, at Inglewood. The claim north of the Corfu, known as Garibaldi, produced 284 oz. from 331 tons of quartz, or an average of 17 dwt to the ton. [5]

10 April 1863: Tarnagulla - There are some expectation that the Corfu reef claims would once more change hands, but the negociations have closed, and shareholders have decided upon sinking forty feet deeper, and then driving north and south. [6]

Oct 1865: Tarnagulla. The New Darling Q.M. Co., Corfu Reef .... chairman congratulated the shareholders upon the improved prospects of the mine owing to the discovery of a rich reef at 180ft ... One engine fot baling and winding is at work at the main shaft, which is 200ft deep. [7]

Dec 1865: New Darling Q M Co., Corfu Reef - The mine is worked to a depth of 187ft by the aid of a steam engine used for baling & win ding ... There is another kiln of quartz nearly completed, which will be burnt and crushed in a few days. [8]

?1865: Tarnagulla; New Darling Q M Co. The length on the reef's course is 220yds, by 110yds wide, and contains an area of 4 1/2 acres. There are two workable shafts on the ground, the main shaft and No 1 south. The machinery is one horizontal engine used for baling & winding; cylinder 8 1/2 inches; 22 inch stroke; one boiler, 12ft by 3ft. The whole stands about 70ft west of the main shaft. The winding is done with the usual rope and bucket. The ground was formerly known as the Greeks Prospecting Claim; one crushing of 30 tons yielded as high as 1030 ozs. of gold. [9]

Dec 1867: The Garibaldi Company are working on a block of stone 14 feet in width. [10]

June 1868: The Garibaldi Company are raising quartz from the 160 feet level, where the reef is 4 feet thick... They are also sinking a new shaft at the extreme north of their ground, and at 42 feet struck very payable stone, when the ground adjoining was immediately taken up, and a company formed called the 'Last Chance'. They started a shaft, and at 29 feet struck a reef 5 feet thick.

Manchester Co., south of the Garibaldi, are sinking a new shaft to get in to the stone worked by the latter company. [11]

Dec 1870: On the Corfu line of reef, the Manchester, Garibaldi and Last Chance Companies are endeavouring to come to terms for the amalgamation of their properties. [12]

June 1871: The Manchester, Garibaldi, and Last Chance Companies, on the Corfu Reef, are about amalgamating their several leases; when this is effected powerful draining machinery is at once to be erected.[13]

Dec 1871: The Corfu Reef Company (late the Manchester and Garibaldi ground) have their new and powerful machinery nearly erected, and expect to start work in the mine in January. Men are employed preparing the shaft, and are now putting down the pipe. [14]

March 1872: The Corfu Company have completed the erection of their machinery and pumped the mine out, and started sinking the shaft deeper.[15]

June 1873: Corfu Reef - The Corfu Company have been working during the quarter, but without finding any payable stone, and have stopped work. [16]

1894: In his report (No. 11) on Neglected Gold Fields" 1894, D.B.Waslker states: "This reef (the Corfu) yielded handsomely from the surface, one crushing of 300 tons in the original Prospector's claim giving 3,600 ozs. of gold; and 53 tons of quartz taken from the 9 to 35ft from the surface yielded 1,075 ozs. [17]

1896-1947: The Llanelly shaft is situated about 740 feet north from the Corfu shaft. It was sunk to a depth of 220 feet during or just prior to 1896. The Garibaldi shaft lies about 40 feet north from the Corfu shaft, but its depth is unknown. A quartz reef 35 feet wide outcrops about 200 feet south of the Llanelly shaft. Its well defined walls have been partly surfaced-stoped, while the main body of quartz remain intact ... It is likely that this formation was worked from the Llanelly shaft. Councillor A. Green, of Llanelly, who was employed at this mine during the final stages of its operations, informed me that, at that time, 200 loads crushed for 200 ozs. of gold, and that the average prior to this period was one ounce to the load ... any future work could be best done by reconditioning the Llanelly shaft, which should not be a difficult problem. [18]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1859-early 1860s:	Reef discovered, extremely rich, machinery installed but removed in the early 1860s.
1865:	New Darling Q. M. Co.
1867:	Garibaldi Co. working the reef, their shaft located 40 feet north of the Corfu shaft.
1871:	Amalgamation of several lease, and the erection of pumping machinery
1873:	work ceased
1896:	Llanelly mine operation. Their shaft located 740 ft north of the Corfu mine
post 1947:	Possibility of resumption of prospecting from Llanelly shaft.

Mining Site No. 1: remains of the Corfu Reef mine. The machinery remains most probably relate to relate to late 1860s/early 1870s mining operations.
Mine Site No. 2 : remains of Llanelly mine which operated c. 1896, and probably re-opened c.1947. The machinery footings most probably relate to the latter.

Mine/machinery site No 1 : On the W side of the road is an intact mullock heap which measures about 30 x 25m at the base and stands to a height of 5-8m. Between this heap and the road is the mine's main shaft (now filled in). 14m E of the shaft is a scatter of red bricks and one stone and mortar engine mounting block. The engine foundation is almost buried, but measures approximately 1.25m (4ft) x 3.7m (12ft). A large dam lies to the SW of the mine.
Second machinery site No 2 : 200m down the road to the NE is a second dam. This area is being developed as a picnic spot. On the NW corner of the dam is a shaft and concrete footings. The shaft has a concrete bailing tank, is sealed with wooden planks and fenced off. Two concrete pads lie 4m SE of the shaft.
Surface stoping : Between the two machinery sites, along the line of workings that connect the two sites, is a fenced-off section of surface stoping.

PHOTOS:	Photo 1: Stone engine mounting block - mine site No 1
	Photo 2: Intact mullock heap, facing NW- mine site No 1
	Photo 3: Concrete footings and fenced off shaft, facing NE- mine site No 2
	Photo 4 : Looking down into stoping
ARTEFACTS:	None visible

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is:
  - part of a group or network of sites, the totality of which is considered to be significant (Sites 034 & 035)
  - associated with an important historic event, ie. the Great Depression (appears to have been the site of Sustenance camp
- Scientific significance because of its ability to answer specific archaeological research questions. The remains of the Sustenance Camp help to document the nature and distribution of this type of site and thus hold significance for future research.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the site lies in its ability to illustrate a chronology of events, and any future work should not interfere with this.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site is to be protected. The site appears to be under no immediate threat, but should be monitored and, should circumstances change, protective measures be implemented. This site should be surveyed in more detail so as to ascertain the scale of the settlement and extent of surviving alluvial workings

Assessor: David Bannear Date: May 1991

1 Mining and Geological Journal, March 1947, p31
2 Flett, 1979, pp. 272-3
3 Tully, 1988, p. 50
4 Mining Surveyors' Reports, June 1859, p.15
5 Mining and Geological Journal, March 1947, p31
6 *Dunolly and Burnt Creek Express* , 10.4.1863, p. 3
7 *Dicker's Mining Record* , 17/10/1865
8 *Dicker's Mining Record* , 21/12/1865
9 *Dicker's Mining Record* , Vol 6, 1865
10 Mining Surveyors' Reports, December 1867
11 Mining Surveyors' Reports, June 1868
12 Mining Surveyors' Reports, December 1870
13 Mining Surveyors' Reports, June 1871
14 Mining Surveyors' Reports, December 1871
15 Mining Surveyors' Reports, March 1872
16 Mining Surveyors' Reports, June 1873
17 Mining and Geological Journal, March 1947, p31
18 Mining and Geological Journal, March 1947, p32

SITE NO. & NAME: **035 HALFWAY DIGGINGS SETTLEMENT**

LOCATION: **Corfu Reef, Tarnagulla**

DIRECTIONS: Corfu Reef, on the W side of the dam associated with the earliest machinery site

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 556.280

PARCEL NUMBER: P124287

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: LCC study; McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1859: Corfu, Halfway and Maiden Gully Leads were worked, 'halfway' between Sandy Creek and Newbridge, and became known as the Tarnagulla diggings, from John Catto's Tarnagulla Station on the Loddon. Sandy Creek was first called Tarnagulla in 1860. [1]

1859: The workings here were originally called Tarnagulla Diggings. Their richness became so well known that the nearby town of Sandy Creek changed its name to Tarnagulla. This area was then called Halfway. The Halfway Lead is fed by many different (and rich?) gullies.
In October 1859 a 109 oz nugget was found at Halfway, where 1000 miners were working.
Joseph Foo had a hotel at the rush here ... After the main rush to Halfway was over, those that remained to work the minor gullies and open the reefs were mainly Greeks and Italians. [2]

This is a very rich reef worked for many years and it is apparently the source of two significant leads. It was discovered by Spero Corfu and party in 1859. William Stubbs had the Rising Sun Hotel on the Newbridge Road near here. He soon built a second Rising Sun Hotel closer to Tarnagulla in what became known as Stubbs Gully. His wife Catherine took charge of the Corfu premises, it being referredto as The Old Rising Sun Hotel. By 1869 business had waned and she moved the hotel to the main road midway between Tarnagulla and Llanelly. Another lady, Emily Johnston, ran the Corfu Hotel here from 1871-1892. [3]

DESCRIPTION OF PHYSICAL REMAINS:

A road runs along the W side of the dam associated with the earliest machinery site that survive on Corfu Reef. On both sides of this road, along a stretch of about 150m, are the remains of several structures. Nearest to the dam are the remains of a number of low stone walls and some aloe plants. Associated with the stone structure is a spread of 19th century thick bottle glass. The remains are consistent with there being the site of a 19th century hotel.
Along further are several brick fireplaces, some of which are associated with sections of brick flooring. Around these probable tent sites are dumps and scatters of rusty food and tobacco tins, billies and fragments of working boots. A brief survey put the number of possible tent sites at 20-30. The settlement remains appears to relate to two different time periods. The stone footings may well belong to a hotel built near the reef in 1871, and which operated until 1892. The brick-floored tent sites are probably what survives of a sustenance camp (1930s). Both appear to have been established because of the alluvial lead associated with Corfu Reef, first opened up in the 1860s by a large rush which became known as the Tarnagulla or Halfway Diggings.

PHOTOS: Photo 1: Aloes and stone walls.
Photo 2 : Dump of tins and brick fireplace
Photo 3 : Tent site - brick flooring

ARTEFACTS: Rubbish dumps associated with 1930s camp

INTEGRITY/CONDITION: Despite some bottle hunting, tents sites and hotel still relatively intact.

THREATS: Continuation of bottle/treasure hunting

CULTURAL SIGNIFICANCE:

The site has:
- Historical significance because it is:

a) part of a group or network of sites, the totality of which is considered to be significant (sites 034 & 035)
b) associated with an important historic event, ie. the Great Depression (appears to have been the site of Sustenance camp

- Scientific significance because of its ability of the site to answer specific archaeological research questions. The remains of the Sustenance camp help to document the nature and distribution of this type of site and thus hold significance for future research.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the site lies in its ability to illustrate a chronology of events, and any future work should not interfere with this.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site appears to be under no immediate threat, but should be monitored and, if circumstances change, protective measures should be implemented. This site should be surveyed in more detail, so as to ascertain the scale of the settlement and extent of surviving alluvial workings.

Assessor: David Bannear Date: May 1991

1 Flett, 1979, pp. 272-3
2 Tully, 1988, p50
3 Tully, 1988, p. 50

SITE NO. & NAME: 036 STAR REEF MINE SITE

LOCATION: Star Reef, Tarnagulla

DIRECTIONS: Travel approx. 1.5km along the first bush track that leads from W side the Old Newbridge Road, S of the dam associated with first mine/machinery site at the Corfu mine (Site 034). This track leads to the dam and mine site on Star Reef.

MAP/GRID REFERENCE: Inglewood South 1:25000 - 558.291

PARCEL NUMBER: P124287

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

Dec 1867: Star Reef Company ... sinking a new shaft. [1]

June 1876: Star Reef ... has again been taken up by Mr. J. Watkins, who has excavated and formd a large water dam, and promises to remove his crushing works from Llanelly to this place. [2]

June 1885: Kangaroo Company, Cays Diggings...have purchased a crushing plant at Halfway. They are now putting it in repair and will shortly commence crushing. [3]

Jan 1891: At the Halfway Star Battery last week...[4]

DESCRIPTION OF PHYSICAL REMAINS:

The surviving remains are consistent with the historical information collected for the site:

- Star Reef was only mined on a very small scale - this is in accord with the size of the mullock heap and workings.
- Star Reef was the location of a public crushing works which catered for many of the surrounding reefs. This is borne out again by the smallness of the mullock heap/workings in comparison with the extraordinary extent of the tailing heaps.

The mullock heap probably relates to the Star Company's operations in the late 1860s; and the battery and bulk of the tailings to a public crushing works erected in 1876, which operated until at least 1891.

Mine/machinery site : The track into the mine site passes by a dam, 100m E of which is a high mullock heap. This heap is intact, with a diameter of 12m and standing to a height of 8-10m. In almost all directions from this mullock heap are extensive dumps of battery sand.

On the E side of the mullock heap are the remains of 5 battery stumps and impressions in the associated concrete footings of a further 4 stumps, suggesting 15 head of stamps. On the S end of the line of stumps is a single bedlog with iron mounting bolts protruding. There is also a depression of a second bed log - the wood has rotted away, leaving only the iron bolts remaining. The surviving red gum bedlog measures 2.6m long X 35cm square. There is a spread of red bricks (handmade, no frog) near the S end of the battery.

Cyanide vats: 40m SE of the mullock heap are the remains of 3 circular cyanide vats. The sides of the vats are lined with galvanised iron and the vats are almost buried by drifting battery sand.

19th-century dump: Bottle-hunting N of the dam has exposed 19th-century ceramics and bottle glass.

House site on private land: 100m W of the dam, in a open paddock, are the remains of a stone and brick house. All that survives is a spread of building material and some pepper and fruit trees. Some of the stone and brick work has recently been removed.

PHOTOS:
Photo 1: Battery stumps and engine bed log
Photo 2: Engine bed logs
Photo 3: Remains of cyanide vats
Photo 4: Showing removal of last of the stone and bricks from the house site.

ARTEFACTS: Apart from building material, none visible

INTEGRITY/CONDITION: As the site of a central crushing works, it still retains integrity due to the immensity of relatively untouched tailing heaps and mine workings.

THREATS: Removal of the battery sands and mine workings are the greatest threats to the fabric and integrity of the site.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it represents a sequence of uses or functions over time. The site is the only survivor of the Division's numerous 19th-century public crushing works. The relative size of the intact mullock heap and extensive tailing dumps, and the battery site, evocatively illustrate the scale of operations undertaken on the site. The site's significance is also enhanced by its ability to illustrate a chronology of events: from quartz mine, through public crushing works, to cyaniding operations.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance comes from the survival of intact mullock heaps and tailing dumps, associated with a battery site. The relative size of the dumps clearly illustrates the site's history as a failed quartz mine, but as a successful public crushing works. Any work carried out in future should not be to the detriment of this illustrative ability.

RECOMMENDATIONS FOR IMPLEMENTATION:

Protection of the site from any future quarrying of the tailing and mullock heaps.

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, Dec 1867
2 Mining Surveyors' Reports, June 1876
3 Mining Surveyors' Reports, June 1885
4 *Dunolly and Burnt Creek Express* , 26/1/1891

SITE NO. & NAME: 037 HELLAS REEF

LOCATION: Llanelly

DIRECTIONS: 0.5 km SE of Llanelly. Leaving Llanelly on the main road to Bendigo, take the first bush track on the S side.

MAP/GRID REFERENCE: Inglewood South 1:25000 - 556.301

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Freehold Land

EXISTING HERITAGE CLASSIFICATION: None, but some notoriety as it was opened and worked exclusively for a time by a party of Greeks.

PRESENT MANAGEMENT/USE: -

HISTORY:

Sept 1859: Discovered this month ... near Corfu Reef.[1]

March 1861: ... being profitably worked.[2]

Sept 1870: Hellas Reef has been let on tribute.[3]

June 1871: Bonsfield lease, on Hellas Reef, is idle at present ...[Dec]... Hellas Company, the mine is let on tribute. Bellfield Company are about letting their ground on tribute.[4]

DESCRIPTION OF PHYSICAL REMAINS:

Dueto quarrying or bulldozing, little remains of the mine workings or machinery.

PHOTOS: None

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS: The mine workings are past being threatened.

INTERPRETATION OF PHYSICAL REMAINS:
The surviving workings have been diminished to such an extent that they lack the ability to effectively illustrate what occurredon the site.

CULTURAL SIGNIFICANCE:
Discussions with a local historian, John Tully, suggests that this site holds some historical signficance as one of the few quartz reefs in Australia which was exclusively worked by miners from Greece. Unfortunately, the remains do not bear out this connection, and therefore hold little local signficance.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, Sept 1859
2 Mining Surveyors' Reports, March 1861
3 Mining Surveyors' Reports, Sept 1870
4 Mining Surveyors' Reports, June & Dec 1871

SITE NO. & NAME: **038 LINGER & DIE SETTLEMENT**

LOCATION: **Linger & Die Lead, Llanelly**

DIRECTIONS: 0.5 km SE of Llanelly. Leaving Llanelly on the main road to Bendigo, take the first bush track on the S side.

MAP/GRID REFERENCE: Inglewood South 1:25000 - 556.301

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Freehold land

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

No references were found for this occupation site, but the dumps of rubbish suggest it was a Sustenance camp (1930s)

DESCRIPTION OF PHYSICAL REMAINS:

In the gully that runs along the bush track are some alluvial sinkings, and on the bushy hillside that one passes through to get to the Hellas Reef are at least 5 stone fireplaces and dumps of rusty food and tobacco tins. Also some more fireplaces on the other side of the gully, close to the track that leads to Llanelly. The artefacts suggests this is a 1930s camp.

PHOTOS: None taken

ARTEFACTS: 1930s rubbish

INTEGRITY/CONDITION: The site of the 20th-century camp and alluvial sinkings still retain some integrity.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is associated with an important event, ie. the Great Depression.
- Scientific significance because of its ability to answer specific archaeological research questions. The remains of the Sustenance camp help to document the nature and distribution of this type of site and thus hold significance for future research.

Significance ranking: Local

CONSERVATION POLICY:
None requied

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: 039 **GREAT SANDSTONE MINE**

LOCATION: **Great Sandstone Reef, Llanelly**

DIRECTIONS:	Located on a Bush Reserve, 0.5km N of Llanelly, on the E side of the main road to Bridgewater.
MAP/GRID REFERENCE:	Inglewood South 1:25000 - 556.315
PARCEL NUMBER:	P124290
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Unreserved Crown Land
EXISTING HERITAGE CLASSIFICATION:	LCC study; McConville (1987)
PRESENT MANAGEMENT/USE:	LCC - NCL102

HISTORY:

1860s: The Sandstone Reef was worked by James Watkins, who formed a company in the 1860s. From this reef about 10,000 oz was obtained. Later, a company floated in London sank the two main shafts both to 600 ft. No rich stone was discovered and after spending £50,000 the company went broke. [1]

Dec 1867: The South Sandstone Company are sinking their shaft 20 feet deeper. The prospectors are sinking a water-shaft 300 feet deep, the last three months work has given them £1000 clear.
The Victoria Company, north of the prospectors, have just finished crushing 200 loads, yielding 1oz. per load. [2]

June 1868: South Sandstone Company have 70 tons of quartz on the surface ... The victoria Company are erecting powerful pumping and winding machinery. [3]

Sept 1868: Victoria Company are working a reef as from from 260 to 280 feet ... No stone has been crushed since the erection of their new pumping machinery. The adjoining company north, the Prince of Wales Co., have a reef at a depth of 180 feet ... they are now crushing. [4]

March 1870: South Sandstone Company have crushed during the quarter 160 loads of stone for 26oxs. 9dwts ... The main shaft has been sunk a further depth of 50ft (making it 362 feet deep) ... The holder of the prospecting claim have sunk their main shaft 60ft deeper making it 375 feet ... In another month the company will declare a dividend. [5]

Dec 1870: Victoria Company ... have been crushing very good stone during the last quarter, and are now removing their engine to their new shaft, which is being sunk, and is at present down 285 feet ... The Princess Royal, Prince Alfred, and Prince Patrick Companies, north of the Victoria Company, have found it necessary to suspend operations until the Victoria's shaft is sunk sufficiently to drain their mine. [6]

March 1871: At Llanelly several men are employed on the Sandstone line of reef... most of the companies on this line have recently been employed sinking new shafts, removing machinery etc. They are now about to commence raising quartz, and have excellent prospects. [7]

June 1871: The South Sandstone Company's tributers have had a crushing, which gave a payable return. The prospects are good, but work cannot be carried on at the lower level before the adjoining companies commence to pump. Watkin's lease is not being worked at present, as crushing machinery is being erected. The Victoria Company are sinking their new shaft, which is down 360 feet, the water being heavy, the ground hard. Ten men are employed by the company.
Princess Royal Company ... The men from the Victoria Company are working from this company's shaft. Work at the lower level cannot be carried out until the Victoria Co's shaft is down and draining commenced. The Prince Alfred and Prince Patrick Companies are not working, as they are waiting for the south companies to start pumping, when they will at once work. [8]

Sept 1871: Victoria Company, the new shaft is down 395 feet, and 25 feet more is yet to be sunk.
Princess Royal Co. - are going to increase their capital by issuing new shares, and have called tenders for sinking the shaft to 400 feet. [9]

March 1872: South Sandstone - let on tribute.
Watkin's Prospecting claim - crushing carried on by day only, and 12 men employed.

Victoria Company - 14 men at work
Princess Royal - are sinking a new shaft to the west.
Prince Alfred and Prince Patrick Companies are about to amalgamate and erect pumping machinery. [10]

June 1872: South Sandstone Tribute Co. are working on payable stone.Golden Hope Tribute Co. - This company has Watkin's mine on tribute, and are working at the 400 foot level. [11]

June 1874: The Victoria Company have been breaking out stone from the 500-foot level, and have left a portion of their ground on tribute. [12]

June 1876: Star Reef ... has again been taken up by Mr. J. Watkins, who has excavated and formed a large water dam, and promises to remove his crushing works from Llanelly to this place. [13]

Sept 1885: A company is being formed to work the once famous Sandstone Reef at Llanelly. [14]

Feb 1891: floating of the well known Sandstone claim, Llanelly, on the English market. The new company has to place £10,000 in the bank, for the purpose of buying efficient machinery - pumping, winding and crushing ...the fact that the work is to be resumed means a renewal of prosperity for Llanelly. [15]

23 August 1892:The Great Sandstone United Gold Mines Syndicate Ltd., London & Melbourne.
... this is a company established upon a capital subsribed in England, and is what is now commonly known as an English Company. Secondly, the management have introduced a new pump, known as the "Otis" to combat the heavy flow of water which has invaded the mine years ago and prevented its then lucky possessors from further prosecuting their labors of revealing the wealth known to exist. The Otis pump shows a remarkable development in the history of science as applied to mining. It is claimed on the most substantial grounds that it is a wonderful advance upon the pumps previously in use in mining operations, having an extraordinary advantage to the benefit of mining companies in first cost and in greater efficiency of working, combined with saving of fuel.
... this mine ... situated a little to the north-east of the small township of Llanelly (known in the early days as Maiden Town and New Chum) on what is known as the Sandstone Reef and Watkins' claim. The lease also includes the Old Victoria Company's ground, the Princess Royal, South Sandstone, Prince Alfred, and workings, as well as the once famous Hellas Reef, in all an area of 60 acres.
The present machinery is fixed on the site of the Victoria Company's shaft, which is 500 feet deep. Operations in this shaft were discontinued through a serious breakage of the machinery years ago, at which time the mine became swamped, the tools, trucks, etc. were inundated, and remain in the workings to the present time. The Victoria Company was floated as a No Liability company in 1867, and ceased operations in 1874, having declared in dividends during that period a sum of £15,000 without making a single call.
The Sandstone Reef was discovered, or developed, by the late James Watkins and his son William, two Tarnagulla miners, early in the year of 1863. It was, however, in the first place discovered by the late Mr Gerrand of Newbridge, and originally called the Scotchman's Reef... It was worked by them Watkins' with but very moderate results till the year 1867 when it began to bloom and boom ... The year 1868 saw the best of those prospects as far as the lucky pair were concerned. Subsequently water, and heavy water too, had to be contended with and machinery had to be purchased and erected and that which had previously been worked comparatively inexpensively, now became an expensive undertaking, but not before its fortunate possessors had won from it no less a sum than £52,000. From 26,000 tons of stone a return of 13,170 ounces of gold was obtained.
We have not been able to secure full returns from all the mines included in the present company's lease, but the following have been collected from the Government surveyor's reports available [June 1868 to March 1873 - 25,588 tons for 14,343 ozs of gold, or an average of 11 dwts 5 grs per ton] [16]

April 1894: The Great Sandstone Company's Mine, Llanelly - The contractor, Mr Jorgensen, is making good progress with his contract for erecting the engine to work the Cornish pumps which are being put in to replace the Otis pump. There is no doubt that the Cornish pump should have been put in the first instance instead of spending a vast amount of money on pumps which have proved complete failures and have had to be removed at great cost to the company. Unfortunately, the trouble did not end here. The directors were persuaded by the Otis Co. to get one of their Ball Mill crushers. Subsequent results have proved this likewise to be a failure. The management have crushed 5 tons of quartz and 15 tons of tailings from which good prospects were obtained, for a yield of 1 1/2 ounces of gold for the lot; and this under the superintendence of Mr. Brown, one of the experts in the employ of the Otis Company. 10 tons of tailings from the Hellas Reef were then crushed without the use of silver on the amalgamating tables. From this parcel they obtained about 1/2dwt of gold altogether, though the prospects in the tailings showed 2 to 3dwts of loose gold to the load. 5 tons of stone were then operated on from the Princess Royal shaft without the use of silver, and the result was about 1dwt of gold from the lot. ... Since then the company has removed the concentrating tables and erected splendid tables and copper plates. They then crushed 24 tons of quartz for the tributors, calcined, and obtained 10z 3 1/2dwts of gold; and even this had to be sent to Mr. Spargo's works at Golden Square to be treated as it could not be amalgamated by the ordinary process. 56 tons of the same quality stone were then forwarded to Mr. Clark's battery at Eaglehawk. This returned 12ozs. 15dwts. of smelted gold ... The Company are now on the right track. They are putting in a Cornish lift and have purchased a battery. [17]

Oct 1896: Black Horse and Sandstone Gold Reefs - Llanelly. Princess Royal shaft sunk 7ft. New battery site ready. Main shaft sunk 12 feet. Contract let for the erection of additional 20 head battery. [18]

April 1898: The Great Sandstone Company is busy cutting down the present shaft, with a view of sinking deeper.[19]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:
1867/68: Reef being worked by South Sandstone, Victoria and Prince of Wales Companies.
1871: Other companies working the reef included Princess Royal, Prince Alfred and Prince Patrick.
1874: mining ceased
1891: Great Sandstone Company floated on English market and new machinery installed.
1894: Otis pumps replaced by Cornish pumps; Ball crushing mills replaced by battery
1896: 20 head battery installed at Princess Royal's shaft
Most of the remains after to date from the 1890s onwards.

Mine and battery site : This site exists as an 'island' in an extensive area of cleared and levelled ground are some machinery remains. Hidden by a pepper tree is a rectangular, brick-lined pit. The red bricks are hand-made. The walls of the pit are 33cm thick, and the pit's internal measurements are 1.88m (6ft 2in) wide x 9.1m (30ft) long and at least 3.8m deep. The pit is aligned E-W. Protruding from the top edge of the pit, at the eastern end, are two iron bolts. Its E end and both sides have solid brick walls, whereas the W end has a wooden frame. The uprights of this frame are 18in (46cm) square and the lintel measures 9in x 18in (23 x 46cm), leaving a 2ft (61cm) opening. In the western half of the pit, 4 engine bolts protrude from the debris that covers the base of the pit. A large pepper tree is growing in the middle of the pit.

1m from the E end of the pit, in line with the pit's northern edge, are two parallel lines of brick engine footings. The foundations cover an area of 3.05m (10ft) x 9m (30ft) long.

14m N of the E end of the brick foundations is a line of 12 red gum battery stumps, each measuring 1m high and 46cm (18in) square, indicating 20 head of stamps. An extensive spread of battery sand is situated to the S of the plant, but quarrying has removed all of the mullock heap.

Small battery site : a tramway runs S from the first mine site. At the termination of this tramway is what appear to be the remains of another crushing battery, which, due to lack of time, was not surveyed.

Other features include: Large treated dumps, stone retained dam and stone walls , and several camp sites.

PHOTOS: Photo 1: Brick pit - Cornish lift pump
Photo 2: Twin banks of brick foundations
Photo 3: Line of battery stumps

ARTEFACTS: None visible

INTEGRITY/CONDITION: Although the mullock heap and shafts have been removed or obscured, the machinery footings still hold considerable integrity as evidence of Cornish pump operation at the mine.

THREATS: Damage to the brickwork by a pepper tree growing in the pit.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because of its success as a mine in terms of production level. The Sandstone Reef was one of the giant producers of the Dunolly Division. Along with a neighbouring reef, the New Chum, it was responsible for the formation of the township of Llanelly.
- Scientific significance because it represents an important mining technology. The site has considerable intactness and hence an ability to illustrate twhat went on a late 19th-century quartz mine.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance comes from the relative intactness of its plant. No future work should be to the determent of this.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected. The site should be fenced to prevent any accidental destruction of what is left of the plant. The large pepper tree growing from the bob-pit is a problem that has to be resolved. In many ways, the tree has

hidden the brickwork and thus saved it from being scavenged from the site. However, the root systems of pepper trees are very destructive. The tree should be left until proper protective measures are put into place.

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p. 48
2 Mining Surveyors' Reports, Dec 1867
3 Mining Surveyors' Reports, June 1868
4 Mining Surveyors' Reports, Sept1868
5 Mining Surveyors' Reports, March 1870
6 Mining Surveyors' Reports, Dec 1870
7 Mining Surveyors' Reports, March 1871
8 Mining Surveyors' Reports, June 1871
9 Mining Surveyors' Reports, Sept 1871
10 Mining Surveyors' Reports, March 1872
11 Mining Surveyors' Reports, June 1872
12 Mining Surveyors' Reports, June 1874
13 Mining Surveyors' Reports, June 1876
14 Mining Surveyors' Reports, Sept 1885
15 *Dunolly and Burnt Creek Express* , 27/2/1891
16 *Dunolly and BetBetShire Express* , 23/8/1892
17 *Tarnagulla and Llanelly Courier* , 7/4/1894
18 *Dunolly and Burnt Creek Express* , 6/10/1896
19 *Dunolly and Burnt Creek Express* , 26/4/1898

SITE NO. & NAME: **040 GROWLER'S REEF TUNNEL**

LOCATION: **Growler's Reef, Tarnagulla**

DIRECTIONS: Along Poseidon Road, about 300m past the caravan park, take the bush track on the north side of the road, opposite the Crystal Reef Track. Growlers Dam and the poppet head of a modern mine are about 800m from the turn-off. The poppet head is situated towards the S end of the line of Growlers Reef workings. At the S end of the line of workings along Growlers Reef are some substantial stone footings. A tunnel is located on the E side of Growlers Hill, in about the middle of the line of workings. A track leads to the mine.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 533.273 (modern poppet head)
Laanecoorie North 1:25000 - 535.275 (Growler's Tunnel)

PARCEL NUMBER: P131317

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: LCC study; McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCT1

HISTORY:

1853-56 Tarnagulla: gold was discovered and worked east of the town in Growler's and Stoney Creek Leads, and a number of tributaries of Sandy Creek Lead.[1]

In 1857, Mary Tingley, who lived on Growlers Hill, was sitting on a nearby log when Dan Ray came to cut it up. Underneath he found an indicator which contained £500 worth of gold.[2]

June 1871: Parker and party have crushed 31 loads, which yielded 31 oz. Their prospects continue good.[3]

1917: E. Hayes and party, at 260 feet on Growler's Hill, cut payable stone, and treated 57 tons for over 1 oz of gold per ton.[4]

DESCRIPTION OF PHYSICAL REMAINS:

At least three phases of mine workings:-

- Earlier mine - The use of handmade bricks and stone, rather than concrete, for footings suggest a 19th-century date for the remains of earlier mining operations on Growlers Reef. Presumably the stone structure (mine manager's residence?) would relate to this early phase of working the reef.
- Crushing works - Concrete footings and battery sand, early 20th century/1930s?
- Modern mine - Wood and iron poppet head, and associated sheds, c. 1970s.

Modern mine: A poppet head is made of bush timber and iron pipe, and a tramway leads from the sealed-off shaft along an embankment. There are three sheds - bush timber and galvanised iron - associated with the poppet head. As well, several features survive which appear to relate to an earlier phase of mining:

- on the N side of the shaft are two wooden bedlogs and mounting bolts.
- on the opposite side of the road to the modern plant are some mounds of brick and stone footings.
- quarried remnants of a mullock heap, measuring approximately 20 x 30m, and 8-10m high.

Open-cutting and stone structure : Growlers Reef, S of the modern mining plant, has been extensively open-cut. Some of the workings and more modern shafts have been fenced off. At the end of the workings are the remains of a substantial stone structure. This structure, mainly surviving only at ground level, appears to have had two fireplaces. It would have measured approximately 14 x 5-6m (46 x 14-19ft). Artefacts in a nearby ash dump (from the fireplaces) include fragments of late 19th-century bottles, ceramics and clay pipes.

Concrete footings - battery : 50m S of the modern poppet head, on the E side of the line of reef workings are some H-shaped concrete footings from which 8 mounting bolts protrude. Below the footings, on a levelled platform, is a linear depression and a spread of red bricks. The bricks are machine-made and bear the manufacturer's name NORTHCOTE. A dump of battery sand lies in the gully below.

Tunnel: The line of workings continue north. On the E side of Growlers Hill is a tunnel. Little mullock and no machinery footings associated with the mine's entrance suggest that the quartz was carted away and treated elsewhere.

PHOTOS: Photo 1: modern poppet head and remnant of earlier mullock heap - modern mine
Photo 2: mounds of brick, possible earlier machinery site - modern mine

Photo 3: tramway leading from modern mine - modern mine
Photo 4: wooden bedlogs and engine bolts - modern mine s
Photo 5: Stone structure - facing south
Photo 6: concrete footings of battery
Photo 7: tunnel entrance, facing W

ARTEFACTS: Rubbish dump associated with what may have been the mine manager's residence.

INTEGRITY/CONDITION: Evidence of early mining operations have poor integrity due to the modern mining operations. The open-cutting, in some areas along the reef, remains relatively untouched and is quite spectacular. The site does illustrate, to some extent, several phases of mining.

THREATS:

CULTURAL SIGNIFICANCE:

The 20th-century mining operations have significantly diminished remains belonging to the 19th century. Similiar but less disturbed workings, found on the neighbouring Jim Crow Reef, would appear to hold more local significance. The site has:

- Scientific significance because it represents an innovative process for the Dunolly Division: being only one of a handful of tunnels ever dug in the Division.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett 1979, p272
2 Tully 1988, p44
3 Mining Surveyors' Reports, June 1871
4 Mining Surveyors' Reports, 1917

SITE NO. & NAME: **041 JIM CROW WORKINGS**

LOCATION: **Jim Crow Reef, Tarnagulla**

DIRECTIONS: 200m E of the Growlers Reef line of workings is a line of workings belonging to the Jim Crow Reef. They commence just S of the modern poppet head erected on Growlers Reef (Site 040).

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 536.272

PARCEL NUMBER: P131317

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: LCC study; McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCT1

HISTORY:

1856: 11th (p97) - Harry and his mate got three tubs an ounce on Jim Crows. They began hauling quartz to the machine at Loddon.
25th (p102) - I went down this morning to the crushing machine at the Loddon to burn some of the quartz. With cutting wood, carting and burning the day drew to a close.
26th - We got wood and stacked another fire ... the machine is an 8 horse power engine. The quartz is first put through stampers, from thence conveyed by means of a shoot (supplied by a continuous flow of water) into a trough where two large rollers each weighing about 2 tons grind them to almost a fine gun powder and only when retorted the process is completed.
27th - Put another stack then returned to Sandy Creek.
1st - Went down to the Loddon to burn some quartz. The machine works pretty regular and is kept in motion night and day; the average quantity crushed in 48 hours about 5 tons.
2nd - completed our job, and returned in the evening. 5 1/2 of the first class quartz turned out about 6lbs 10 1/2 oz; the pieces look well.[1]

June 1873: Scorer and party have crushed 8 tons, which yielded 16ozs. 11dwts., and have a quantity of stone at grass, which is expected to yield well.[2]

Sept 1885: Vandyke and party are working a claim on Jim Crow Reef with payable results, and are about to form a company to more efficiently work the ground.[3]

23 May 1899: Work at the Tarnagulla Consols mine is now being proceeded with. The foundations for the stamper boxes for the new battery are being made. All machinery is now on the ground... The cutting for the tramway, to connect the main shaft with the battery, has been completed. The poles, or uprights for the erection of a tramway from the Jim Crow shaft to the battery are being delivered.[4]

23 July 1899: The Tarnagulla Consols, in the McKenzie shaft, is driving south in the lode.[5]

DESCRIPTION OF PHYSICAL REMAINS:

Unlike the neighbouring Growlers Reef, the Jim Crow Reef workings appear not to have been disturbed by modern mining operations. Although the reef was being worked in 1856, as part of the Poverty Reef line of workings, the first battery appears to have been erected in 1899. The battery site and dump of battery sand are located below the reef, on Jim Crow Flat. More research required.

Mullock heap and reef workings: 50m E of the concrete foundations (1930s battery site on east side of Growlers Reef), at the head of the intervening gully between Growlers and Jim Crow Reefs, is an intact mullock heap. The heap measures 18 x 20m and is some 10-15m high.
Jim Crow reef has been worked extensively along the ridge, mainly by open-cutting and some stoping. The largest hole is at the N end of the workings, and has ferns growing in it.
Crushing works: Located to the E, in Jim Crow Flat, below the ridge workings, is a battery site. Little is left of this site, except for a levelled area upon which is a dump of ash, a spread of red bricks (hand-made, no frog), and several fragments of the cast ironwork from the battery and boiler. 50m further down the hill, on the flat proper, is a dam, around which is a dump of battery sand and a puddler. For details of puddler, see Jim Crow Flat (Site 042).

PHOTOS: Photo1: Ferns growing in Jim Crow workings

AGE/DATING PHASE: c.1956 - c.1899

ARTEFACTS: Fragments of boiler, also a hand-made sledge hammer head.

INTEGRITY/CONDITION: The site has considerable integrity. The workings along Jim Crow Reef are relatively untouched, and are quite dramatic. Further, the existence of ferns growing in the largest open cut adds an unusual aesthetic dimension.

THREATS: Mining

CULTURAL SIGNIFICANCE:

]

The site has:

- Historical significance because it:
  a) is part of a group or network of sites, the totality of which is considered to be significant. This site is linked, through the location of its crushing battery, to the alluvial landscape in Jim Crow Flat.
  b) represents a sequence of uses or functions through time.
- Scientific significance because it represents an important mining technology, ie. opencutting & stoping.

Significance ranking: National Estate

CONSERVATION POLICY:

The significance of the Jim Crow workings comes not only from their intactness, but from their juxtaposition with the alluvial landscape in Jim Crow Flat. Any future work should not be to the detriment of this landscape.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected. Further research needed.

Assessor: David Bannear Date: May 1991

1 Blake 1981
2 Mining Surveyors' Reports, June 1873
3 Mining Surveyors' Reports , Sept 1885
4 *Dunolly and Bet Bet Shire Express* , 23.5.1899
5 *Dunolly and Bet Bet Shire Express* , 23.7.1899

SITE NO. & NAME: 042 JIM CROW FLAT/ITALIAN GULLY PUDDLERS & DAMS

LOCATION: Jim Crow Flat/Italian Gully, Tarnagulla

DIRECTIONS: Continue along the track that runs past the modern poppet head at Growlers Reef. About 400m along the track, on the right (southern) side, is a dam. This is at the head of Jim Crow Flat. Puddlers continue into Italian Gully.

MAP/GRID REFERENCE: Puddler1: Laanecoorie North 1:25000 - 538.273
Puddler2: Laanecoorie North 1:25000 - 539.273
Puddler3: Laanecoorie North 1:25000 - 541.273
Puddler4: Laanecoorie North 1:25000 - 541.272
Puddler5: Laanecoorie North 1:25000 - 542.271

PARCEL NUMBER: P124241

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Flora Reserve

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCH14

HISTORY:

1858: Gold was discovered near Janevale P.R. on the Loddon in 1858, at what became known as Kayes Diggings, and between Kaye's and Sandy Creek there were a series of discoveries in 1859. German Gully was opened by a German, and a digger named McMillan prospected Mother Chisholm's Gully. Cumberland Gully was also opened at this time, and Corfu Reef, named after Spero Corfu, a Greek. Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third HardHill was worked.[1]

19th: This lead has been worked for about six kilometres without being enriched by any tributaries. A hill 500 m south-west of Italian Dam has some small reef workings ... A 5 oz nugget was found in Italian Gully in 1931.[2]

DESCRIPTION OF PHYSICAL REMAINS:

The historical record does not reveal much about alluvial workings in this area. The ground was certainly being extensively worked in 1858 and bears evidence, in the form of 1930s camp sites and modern strip mining, that it has seen considerable re-working since. The bulk of the puddling machines are of the non-weathered, sparseley-vegetated type, indicating that they are relatively late sites, perhaps related to 20th-century surfacing operations. The circular depressions in the dump of battery sand may well be the only visible signs of cyanide vats.

Puddler No. 1 & brick fireplaces : On the south side of the dam is a puddler site. The puddler (6.7m or 22ft diameter) is reasonably intact and not much eroded. It has a raised outer mound, and clearly defined puddling trench, inner mound and post hole. The puddler has two channels through its outer mound.

Immediately to the E of the puddler, excavated into a dump of what appears to be battery sand, are two circular depressions. Both have a maximum depth of 1.5m, and a diameter of 6.7m (22ft)

17m S of the puddler are the remains of two brick and stone fireplaces, and an associated dump of rusty food cans.

50m SW of the puddler site, up the hill towards the workings on Jim Crow Creek, is a battery site (see Jim Crow Reef [Site 041 for further details).

Puddler No. 2 Approximately 400m downstream of Puddler No 1, on the S side of the channel running through Jim Crow Flat, is a puddler. It is in poor condition - all that survives is the inner mound with a post hole surrounded by a very eroded outer mound. The alluvial sinkings between these two puddlers have so far escaped modern surfacing, and bear testimony to some intensive work. No stone were fireplaces found associated with these alluvial sinkings.

Puddler No. 3: At the junction of Jim Crow Flat and Italian Gully is a dam. 50m NW of the dam, up Italian Gully, which itself is pock-marked with more or less continuous alluvial sinkings, is another puddler site. Despite having fresh-looking washdirt, and a raised outer mound (1m above ground level), the puddler is badly eroded in places. Its central post is no longer present. Typically, the puddler has a diameter of 6.7m (22ft).

Puddler No. 4: On the E side of the dam located at the junction of Jim Crow Flat and Italian Gully is a puddler site. This puddler (diameter 6.7m or 22ft) has a very worn appearance, but still retains its central wooden post and outlines of the inner mound, puddling trench and outer mound. There is a fairly large tree (diameter 0.6m) growing on the outer mound. There is no sign of any channels through the puddler's outer mound.

Puddler No. 5: Approximately 200m south of the junction of Jim Crow Flat and Italian Gully, this puddler is surroundedby fresh-looking washdirt, has its inner mound but no central post, and is generally very eroded. Its diameter is 6.7m (22ft). A small dam associated with the puddlerhas been breached.

PHOTOS:
Photo 1: PuddlerNo 1
Photo 2: Brick fireplaces and dump of rusty cans
Photo 3: Circular depressions in battery sand
Photo 4: PuddlerNo 2, facing NW
Photo 5: PuddlerNo 3
Photo 6: PuddlerNo 4 - facing SW

ARTEFACTS: Mainly 1930s rubbish, also some 19th century thick bottle glass.

INTEGRITY/CONDITION: Good condition

THREATS: Strip mining

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant: being linked, through the battery site at the head of Jim Crow Flat, to early and relatively intact reef workings on Jim Crow Reef.
- Scientific significance because:
  a) it represents an important mining technology (traditional alluvial mining)
  b) of the intactness of the alluvial sinkings and the concentration of puddling machine sites.
  c) it has the ability to answer specific archaeological research questions, eg. distribution and dating of puddling machines.

Significance ranking: National Estate

CONSERVATION POLICY:

The significance of the Jim Crow Flat/Italian Gully junction workings comes not only from their intactness, but from their juxtaposition with quartz mining on Jim Crow Reef. Any future work should not be to the detriment to this associated landscape.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected.

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p. 273
2 Tully, 1988, p. 50

SITE NO. & NAME: **043 TAPPIT HEN MINE & TARNAGULLA RAILWAY STATION**

LOCATION: **Tarnagulla**

DIRECTIONS: The Tappit Hen mine site is situated 50m N of the site of the former Tarnagulla railway station, on the W side of the railway line.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 526.277

PARCEL NUMBER: P131335

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Flora Reserve

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCH14

HISTORY:

1850s Tarnagulla: This reef was first found by miners working the Sandy Creek Lead. It is opposite the railway station site. [1]

June 1889: The Tappit Hen Company have sunk their main shaft a further distance of 30 feet, which is now 90feet deep.[2]

1890s: a company was floated to rework the mine at depth. A tappit hen was a type of wine bottle. [3]

2 Sept 1890: The Tappit Hen Co., Tarnagulla, have ceased operations in their old shaft, and started to sink the new one. They will clean off a crushing of 180 tons today. [4]

5 Sept 1890: Yield of 125oz smelted gold. [5]

23 Sept 1890: Tappit Hen. New shaft sunk 38 feet, total depth 48 feet. Contractor making good progress with machinery, all the bed logs in position for engine. [6]

21 Oct 1890: Tappit Hen - Contractor making good progress with engine. Bricklayers completed building boiler, and will start on stack this week. [7]

9 Feb 1891: Last year - purchased the machinery of the Star Reef, Llanelly, the price being £200...comprising engine, winding gear, pumping gear, gear and pumps, housing, poppet heads, and boilers. On account of the boiler being too small, the Directors purchased a large boiler and use the small one for an exhaust tank[?]. Plant was re-erected...we also made a dam to hold water to feed the boiler; also removed the changing house from the old shaft to the new one and made it into a blacksmith shop; we also made a tramway from the brace about 60ft long to be used for mullock and quartz; and also cleaned away 50 yards of mullock to make a paddock to receive the quartz. I also had to fill in old shafts to make room for a capstan, and a lot of other surface work in the shape of road making. [8]

22 March 1892: Tappit Consols Co. - shaft sunk 6ft and slabbed for the week, total 11ft. [9]

August 1897: Moliagul Co - foundation logs for poppet legs in position. Purchased winding and pumping plant of Tappit Hen Gold Mine, Tarnagulla; dismantling. Bob pit cut; all surface work completed ... Staring raising old lifts from shaft; dismantling rest of plant. [10]

26 April 1898: Made known that the Tappit Hen Gold Mining Co. (now known as the Great Southern Gold Mining Co.) has been successfully floated on the English market with a capital of £100,000, the whole of which was privately subscribed. [11]

DESCRIPTION OF PHYSICAL REMAINS:

Railway Station

All that survives of the station are a series of concrete slabs, on both sides of the railway line. Artefacts associated with the remains included two sanitary pans.

Tappit Hen Gold mine (Difficult to date remains, presumably relate to last period of mining c.1890s)

The most visible feature is a mine shaft (filled in) and the remains of a mullock heap. To the N of the shaft is a levelled area, approximately 12m square, which contains mounds of brick and stone rubble and several depressions.

To the NW of the shaft is a dump of ash, containing several fragments of ironwork from a boiler (mainly firebars). Numerous red bricks lay scattered around in the bush: all are hand-made, and have no frog.

A bush track runs along the E side of the main shaft and associated machinery site. On the roadway surface can be seen seen a single stone mounting block, complete with two bolt holes.

SW of the mine site, approximately 300m away, in the main channel of Sandy Creek is a Cornish boiler (18-1/2 ft (5.6m) long, 4-1/2ft (1.37m) in diameter)

PHOTOS: Photo 1: Mounds of rubble - machinery site, facing W
Photo 2: Showing area of crushing works, facing S
Photo 3: Cornish boiler lying in bed of Sandy Creek

ARTEFACTS: Fragments of boiler, plus intact boiler in creek.

INTEGRITY/CONDITION: Poorly defined site.

THREATS: The site has deteriorated to the point where it is beyond risk.

CULTURAL SIGNIFICANCE:

As it survives today, the Tappit Hen mine site holds little local significance. It was not one of the Division's important mines, nor are the physical remains capable of illustrating what took place on the site. The Cornish boiler lying in the bed of Sandy Creek does hold some significance as a musuem piece: is one of the few intact pieces of mining plant discovered during the course of the survey.

Significance ranking: None

CONSERVATION POLICY:

None required for the site. The Cornish boiler should be conserved as a musuem piece.

RECOMMENDATIONS FOR IMPLEMENTATION:

Local community should be approached regarding the preservation of the Cornish boiler.

Assessor: David Bannear Date: May 1991

1 Tully 1988, p51
2 Mining Surveyors' Reports, June 1889
3 Tully 1988, p51
4 *Dunolly and Bet Bet Shire Express* , 2.9.1890
5 *Dunolly and Bet Bet Shire Express* , 5.9.1890
6 *Dunolly and Bet Bet Shire Express* , 23.9.1890
7 *Dunolly and Bet Bet Shire Express* , 21.10.1890
8 *Dunolly and Bet Bet Shire Express* , 9.2.1891
9 *Dunolly and Bet Bet Shire Express* , 22.3.1892
10 *Dunolly and Bet Bet Shire Express* , 19.10.1897
11 *Dunolly and Bet Bet Shire Express* , 26.4.1898

SITE NO. & NAME: **044 HARD HILLS ALLUVIAL DIGGINGS**

LOCATION: **Tarnagulla**

DIRECTIONS: At the junction of the Rheola-Tarnagulla Road/Rheola-Llanelly roads, on the E side of the former road.

MAP/GRID REFERENCE: Inglewood South 1:25000 - 522.307

PARCEL NUMBER: P124244/P124286

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Gravel Reserve

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCR48

HISTORY:

1856-1859 Sandy Creek: This is a series of river wash hilltops of pliocene age... They each had their own names including Prospect Hill (first worked 1856), White Hill (pipeclay) and Sustenance Hill ... In 1857, the European diggers were working HardHill, while 1000 Chinese had claims on White Hill. The Chinese Camp was along Sandy Creek. The following year, as the easy gold started to peter out on HardHill the Europeans drove the Chinese out of town. Most went to the Burnt Creek camp. A 56 oz nugget was found at HardHills in 1859. [1]

1856: the HardHills were discovered west of Llanelly, and in 1856-58 a great number of quartz reefs east of the town. [2]

c. May 1857: The HardHill rush at Tarnagulla was another of the rushes that helped break up the Second Inkerman Rush. This was one of the largest rushes at Tarnagulla after the Sandy Creek and Nuggetty Gully Rushes of the early days ... Hardhill was apparently one of the familiar Older Pliocene beds of cemented gravel, like Gooseberry Hill at Dunolly and very rich, and the rush to this continued from April 1857 for some months. [3]

1858: Italian Gully, opened in 1856, was also rushed at this time and worked to Llanelly, and the third Hard Hill was worked. [4]

Sept 1859: A rush has, however, taken place to the HardHills, Sandy Creek, on which a population of 800 is profitably employed, and the number is fast increasing. These hills are situate nearly three miles north of Tarnagulla township, and on the east side of the flat. They have been worked at intervals for the last three years, several small rushes having taken place to them. The sinking varies from surfacing to 40 ft in depth. [5]

Oct 1859: larger rush than ...[Halfway Diggings, 1000 men]... to HardHills, again at Sandy Creek. [6]

June 1865: A rush to HardHills, at Tarnagulla, took place about 2 months since; it continues to pay a moderate extent, and at present employs 150 miners; there are about 30 paying claims on it. [7]

DESCRIPTION OF PHYSICAL REMAINS:

Remnants of major conglomerate (alluvial) diggings. The workings have been extensively levelled, and are now the site of a rubbish dump.

PHOTOS: None

ARTEFACTS: None

INTEGRITY/CONDITION: Poor

THREATS: The site is past the stage of being threatened

CULTURAL SIGNIFICANCE:

Although the site of some significant rushes in the Division's early mining years, subsequent re-workings and quarrying have obliterated all traces.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully
2 Flett 1979, p272
3 Flett, 1956
4 Flett 1979, p273
5 Mining Surveyors' Reports, September 1859, p13
6 Flett, 1956
7 Mining Surveyors' Reports, June 1865

SITE NO. & NAME: **045 SANDY CREEK DIGGINGS**

LOCATION: **Sandy Creek Lead, Tarnagulla**

DIRECTIONS: West side of Mitchell Lane

MAP/GRID REFERENCE: Inglewood South 1:25000 - 526.304 (approx. centre of diggings)

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

1852/53: Mrs Lauder(Elizabeth Anne Bright)... who went with a family party to Sandy Creek at what was obviously Christmas 1852, was no doubt the first to get gold at the goldfield. She wrote: "At Christmas 1853, we went with our bullock team to the station of Mr John Catto on the Loddon, looking for the best grass, and intent upon the chance of finding gold. We crossed the Loddon. While following the dray, my brother John found the first piece, which weighed 4 oz 1 dwt. The wheel of the dray had gone over it. We camped upon the creek close by, and named it Sandy Creek. Opposite our camp we found gold in quartz, and that reef afterwards became known as Poverty Reef" ... Early in February 1853, there appears the first official report of the Sandy Creek discovery, written by J.N.E. Bull, resident gold commissioner at Bendigo. After visting Moliagul he wrote: "I then proceeded eight miles easterly towards the Loddon and came on another diggings - about 100 men assembled. The same character of array exhibited itself. These diggings produced gold similar to Mt Alexander, but in less quantity. About 300 holes had been bottomed" ...This first diggings at Sandy Creek was in the gully below Poverty Reef, on and below the site of the town, and was known as the 'Old Sandy Creek Lead'.[1]

1852: Late in the year 1852, a party of miners bound for the Korong goldfield made camp on the flat opposite the golf course. They sank a hole in the creek and found gold. The gold was of such exceeding richness that in a very short space of time more than 5,000 miners were attracted to the district and the diggings extended for 2 1/2 miles along the main lead ... Canvas stores were opened to supply the simple needs of the community, and soon canvas hotels, dancing saloons, canvas skittle alleys and canvas shanties appeared...[2]

1853: The first newspaper report of the Sandy Creek discovery was in the Herald, 28 March 1853, which said that within the last few days there had been a rush from Forest Creek to Sandy Creek and Sandy Hill, on the old Adelaide overland road, going towards Korong. In April Ironbark Gully and rich surfacing near it were opened, and about mid July Nuggetty Gully, beginning near the heads of Sandy Creek Lead and Ironbark and running south-east. Here there was one of the largest rushes ever in the area, which was confusingly called 'Jones Creek Rush' ... By August there were 7000 at Nuggetty Gully.[3]

Dec 1853 Sandy Creek Lead: This was the first gully opened in the district, found by a South Australian family in December 1853. It was very rich. Some of the nuggets found include seventeen pieces from 9 to 45 oz 1852, 1,4,5, 15, & 33 oz 1856, 41 oz 1861 and a specimen of 120 oz with 48 oz gold in 1862 ... The town established at the initial find was called Sandy Creek, before later being changed to the more popular Tarnagulla.[4]

April 1855: About April that year rich leads were reported discovered at Sandy Creek. These were probably Stony Creek and Ironbark Gully ... The rushes to Sandy Creek brought about 2000, but the population left there in August for Inkerman Rush.[5]

1904 Sandy Creek: Believing that the miners who had worked the main lead had missed getting all the gold, Messrs Davies and Kersham, in 1904, brought a dredging plant into operation. Mr. J James amd Mr Patterson managed the plant at different periods. During the eight years that it was in operation an average of 200 ounces of gold was recovered for each acre of ground that was treated.[6]

DESCRIPTION OF PHYSICAL REMAINS:

A patch of alluvial sinkings and dead trees - similar to that found on private land on the Old Lead, German Gully, Dunolly (Site 079).

PHOTOS: None taken

AGE/DATING PHASE: 1853 - 20th century

ARTEFACTS: None Visible

INTEGRITY/CONDITION: This site has a relatively high historical integrity because of its treeless setting.

THREATS: Human visitation: strip mining; and natural processes: re-growth and/or erosion.

INTERPRETATION OF PHYSICAL REMAINS:

Surviving remnants of the alluvial workings of one of the Division's earliest goldfields. The bulk of the alluvial workings were removed when Sandy Creek lead was dredged between 1904 - 1912.

CULTURAL SIGNIFICANCE:

The site has:

- Historical Significance because it is associated with an important event: the discovery of alluvial gold and subsequent rushes to Sandy Creek.
- Scientific significance because of its historical representativeness of traditional alluvial mining, with the definition of the holes, mounds and boundaries very good. Being on grazed freehold land, the workings have escaped the blanket of obscurity (vegetation and re-working) which has been imposed on the majority of alluvial diggings on Crown land. Although it is difficult to say that they are authentic workings dating to the early 1850s, they are certainly representative of the traditional technology. Like the Old Lead Diggings at German Gully, Dunolly, the diggings are very evocative.

Significance ranking: Regional

CONSERVATION POLICY:

Significance of the site is due to their rarity, intactness, representativeness and visibility. Ideally, future development on this land should not interfere with the alluvial landscape's ability to convey such an evocative picture.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected

Assessor: David Bannear Date: May 1991

1 Flett 1979, p271
2 Clarke, 1985, p3
3 Flett 1979, p272
4 Tully 1988, p51
5 Flett, 1956
6 Clarke 1985, p6

SITE NO. & NAME: **046 WANDA QUARTZ MINE**

LOCATION: **Ironbark & Wanda Reefs, Tarnagulla**

DIRECTIONS: E of the main Tarnagulla-Dunolly road, approx 750m from Tarnagulla.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 529.253

PARCEL NUMBER: P124271

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

June 1885: Wanda Company are prospecting various parts of their ground to a depth of 240 feet.[1]

Sept 1885: The Wanda Company have crushed 95 tons of stone, from 200-foot level, for 95 oz gold. They are engaged erecting a plant, consisting of pumping engines and 20 heads of stamps.
Caradoc Company are still raising stone with improving prospects. (Adjoins southern boundary of Wanda Co's lease.)[2]

Dec 1885: The Wanda Co. are erecting a crushing plant.[3]

March 1886: Wanda Co. have finished the erection of a 20-head battery of stamps, with powerful steam engine and crushed 1,057 tons for 429 oz. Crushing operations are stopped for want of water. They are constructing a drain from the Poverty Co's mine to obtain water. [Located south end of Tarnagulla township, immediately east of the south end of Great Western lease.][4]

DESCRIPTION OF PHYSICAL REMAINS:

Remains appear to belong to the Wanda Company who commenced mining operations c.1885
Battery site
Site consists of large dump of battery sand, approximately 100 x 50m and up to 10m high. An adjoining mullock heap has almost been totally quarriedaway.
50m SE of the W end of the tailing heap is a machinery site. On a levelled area, measuring approx 20m square, below a loading ramp, is a line of 4 iron bolts, probably related to the battery boxes of a crushing works. On the N end of the battery is a circular brick chimney base (diameter 90cm or 3ft). The bricks are hand-made, no frog and contain quartz lumps. There are also various mounds and depressions and an extensive spread of bricks.

PHOTOS: Photo 1: Base of round chimney stack.
Photo 2: Line of iron bolts and ramp.

ARTEFACTS: None visible.

INTEGRITY/CONDITION: Poor

THREATS: prospecting, quarrying and scavanging of bricks.

CULTURAL SIGNIFICANCE:

The Wanda was not one of the Division's important reefs. The remains that survive are of a relatively late mine, and their integrity has been diminished to the degree that they lack the capability of illustrating what took place on the site.

Significance ranking: None

CONSERVATION POLICY:
None required.

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, June 1885
2 Mining Surveyors' Reports, September 1885
3 Mining Surveyors' Reports, December 1885
4 Mining Surveyors' Reports, March 1886

SITE NO. & NAME: **047 GREAT NORTHERN DIGGINGS**

LOCATION: **Great Northern Lead, Waanyarra**

DIRECTIONS: Runs along the W side of the Great Northern Track for about 0.5km N of the main Tarnagulla-Dunolly road.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 494.235 (approx. centre of lead)

PARCEL NUMBER: P124582

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1856: Fred Sergeant built the Jones Creek Hotel here ...[E side of Great Northern Lead]... in 1856. The weatherboard and iron building had an adjacent garden and an underground well. Coaches on the Dunolly - Tarnagulla Road used this as a staging place. Business was good and Sergeant decided on a more permanent and imposing structure. He sold the hotel to John Laidlaw who re-erected it as the Camp Hotel in Tarnagulla. Fred Sergeant then rebuilt in brick renaming it the Waanyarra Hotel, which was slowly being accepted as the official name of the town. [1]

1859: there were two new gullies opened at Jones Creek, possibily the Great Northern Guly and Catch Me Gully, which was first discovered in 1858. [2]

1863: Nugget found by Edward Grimsdale in October 1863, at the foot of Tipperary Gully, was 297 oz. [3]

1970s+: These old workings have been reworked several times. Bluey Robbins set up a hydraulic sluicing plant here in the 1970's and in 1975 found a nugget 182 oz. The lease was sold to the 3Ds Mine, which in turn sold it to Bendigo Mining Company. [4]

DESCRIPTION OF PHYSICAL REMAINS:

Area of extensive alluvial sinkings which has now been totally obliterated by modern bulldozing and metal-detecting activities.

PHOTOS: None taken

AGE/DATING PHASE: c. 1858 - 20th century

ARTEFACTS: Debris from 1970s sluicing operations

INTEGRITY/CONDITION: Poor

THREATS:

INTERPRETATION OF PHYSICAL REMAINS:

Although the lead was first worked in 1858, recent hydraulic sluicing operations and strip mining have obliterated the earlier alluvial diggings.

CULTURAL SIGNIFICANCE:

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully, 1988
2 Flett, 1979, p.274
3 Flett, 1979, p.274
4 Tully, 1988

SITE NO. & NAME: 048 **NUGGETTY GULLY PUDDLER**

LOCATION: **Nuggetty Gully, Waanyarra**

DIRECTIONS: Take a bush track 200m E of the Waanyarra Cemetery Road, on the opposite side of the main Tarnagulla-Dunolly road. Travel N for approximately 300-400m. The puddler lies near the dam on the E side of the track; the mine site lies to the NW.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 487.231

PARCEL NUMBER: 124582

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC-NCE21

HISTORY:

No references found for this gully. Along with others in the area probably opened up in the 1850s. The non-weathered/vegetated appearance of the puddler suggests the gully was still be re-worked by the traditional method well into the 20th century.

DESCRIPTION OF PHYSICAL REMAINS:

Puddler

The puddler is situated on the N side of a dam. Despite having a fresh-looking, raised outer mound, the puddler is in a very eroded condition. This erosion has been exacerbated by modern prospecting activities. The puddler has a diameter of 6.7m (22ft). Its central post is still standing but the inner mound has been removed.

Mine Site

The Nuggetty Reef workings consist of a line of shallow sinkings. One shaft and a surrounding mullock paddock is located near the track. The shaft, which has been worked in recent times, has been sealed off with an iron framework. A modern steel-framed winch lies nearby.

30m to the W of the recently worked shaft is another open shaft with its surrounding mullock paddock. Set into the W side of the mullock paddock, only 2m from the open shaft, is a mud and stone fireplace. This fireplace appears to have a stone foundation and mudbrick walls. It appears that the mullock was dumped around the dwelling. Dumps of late 1920s & 1930s rubbish - bottles, ceramics, tins, etc. - lie in the bush around the dwelling.

PHOTOS: Photo 1: Mud and stone fireplace set in the mullock heap
Photo 2: Construction technique of fireplace

ARTEFACTS: 1930s rubbish and recent mining plant

INTEGRITY/CONDITION: Poor.

THREATS:

INTERPRETATION OF PHYSICAL REMAINS:

Workings show that the gully was re-worked on several occasions.

CULTURAL SIGNIFICANCE:

Although the alluvial diggings are, for the most part, intact and representative of the traditional technology, there are more visible and historically important sites of this nature in the general vicinity. It also appears that the gully is in process of being stripped mine. All these factors combine to diminish the integrity of the gully to a point where it holds no local significance.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: **049 JONES' CREEK GOLD MINING CO.**

LOCATION: **Ravens & Gourlay's Indicator, Waanyarra**

DIRECTIONS: Take the bush track immediately opposite the junction of the main Tarnagulla-Dunolly road and Waanyarra Cemetery Road . Approximately 500m along the track (heading N) is the mine site.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 484.231

PARCEL NUMBER: 124582

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

June 1887: at Jones' Creek two new reefs have been discovered. The first by William Gourley ... Flynn and party discovered the second reef, in the same locality, which is parallel to Gourley's, and some very good stone is being obtained. [1]

July 1887: A 2lb. weight was unearthed at Gourley's reef.[2]

July 1887: Gourley's Reef, Jones' Creek - finished crushing about 25 tons for yield of 66ozs. gold. Now sinking a shaft. [3]

Feb 1902: The Dunolly Government Battery was managed by Mr. Hamilton. Stone was carted to Dunolly from Waanyarra for crushing. In February Raven and Gourley crushed two tons of stone for 55 1/2 ozs. of gold and another load of quartz weighing six tons yielded 52 ozs. 12 dwt. The Mines Department called tenders for moving the Government Battery from Dunolly to Waanyarra in April, 1902.
Raven, Gourley and Thompson's claim had been worked profitably for about three years. In April 1903 they worked 20 loads of stone through the battery and it yielded 50 ozs. The stone was taken from the south end of the reef adjoining Jarry and Baker's claim which also had good stone. [4]

Sept 1905: Manager of Jones' Creek G. M. Co. ... cleaned up three loads for 15oz of amalgam, and have about 25 loads to put through ... Contractors have boiler about finished and are getting on with the winch house.[5]

c. 1904 : This was discovered by two well-known prospectors. Out of this mine they obtained 620 oz dollied on site and sent 422 tons to the battery for 1037 oz 13 dwt ... In 1904, they sold out to the Jones Creek Gold Mining Company. [6]

May 1906: Jones' Creek Co. ... manager expects to have a 9-head battery completed by Thursday, and will have the mine unwatered and men below about the same date. The south drive will be continued without delay, and will soon be under what is known as Gourley's chute of gold, which yielded as much as 60oz gold to a bucketful a few years ago. [7]

July 1906: Jones' Creek - a special meeting of the Board of Directors, held on Friday, decided to sink the main shaft to 200 feet. A Blake pump will be used to take away the water, there bein plenty of steam available from the present plant. The shaft is down 140 feet... [8]

Sept 1906: Jones Creek Co. ... the contractor has met with great difficulty in removing the pumping plant purchased by the above company from the Robert Nichol Co. ... It will take a month to finish the contract, when the work in sinking the shaft will be at once commenced.[9]

Nov 1906: Jones Creek Co ... the water is now out of the main shaft and the men below ... Waanyarra Co. ...arrangements have been made to crush at Jones Creek battery, while the later is engaged in shaft sinking. [10]

DESCRIPTION OF PHYSICAL REMAINS:

The mine workings appear to relate to two phase of mining. The first commenced with the reef's discovery in 1887, and the second when the Jones' Creek Co. took over the reef in 1904. That company appears to have erected the battery whose remains survive today.

Battery site

Approximately 50m S of the large dam located at the end of the track are the remains of a crushing plant. These consist of concrete foundations, in which are set the impressions of 6 battery stumps (representing 10 head of stamps). The stumps (had they survived) would have measured about 18in (46cm) square. Some of the metal tie rods associated with the stumps are still in position.

On a levelled surface, on the eastern side of the stumps, is a wooden frame, constructed of beams approximately 12in (30cm) square. The frame's internal dimensions are 13ft x 8ft (4m x 2.5m) and several iron bolts protrude from the frame's upper surface.

Adjoining the northern end of the wooden frame are two engine bedlogs, with 4 engine mounting bolts still in position. The bedlogs are approximately 12ft (3.6m) long and 12in (30cm) square.

Red bricks are scattered around the site: they are hand-made with no frog, and contain quartz lumps.

15m to the N of the battery are some concrete and stone footings. An open shaft lies 15m W: it is fenced off with iron droppers and strands of wire.

A dump of battery sand is located near the dam.

PHOTOS: Photo 1: Footings and wooden framework
Photo 2: foundations and engine bed logs.

ARTEFACTS: None visible.

INTEGRITY/CONDITION: The concrete footings for one of the battery boxes have decayed badly. The timber beams are in reasonable condition. The site still retains its integrity, despite the processes of demolition and decay.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) represents a sequence of uses or functions through time.
  b) is part of a group or network of sites, the totality of which is considered to be significant (sites 049 to 052). Together they trace the development of the mining and timber industry around the township of Waanyaara.
- Scientific significance because it represents a particular type of process, ie. inventive or innovative process (adaptation of mining site to Eucalyptus distilling)

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance comes from two sources: its intactness and from it being a part of a landscape that illustrates a chronology of historically important local events. Both the site and the landscape should be preserved.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site and associated landscape be protected from further mining. Sites 049-052, are well defined features, and together document many features of the economic and social development of the Waanyarra area. It is recommended that these sites form the nucleus of a new Historic Area. A detailed archeological survey should be conducted in the area to see what other sites survive.

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, June 1887
2 Douthat, 1989, p.10
3 *Dunolly and Burnt Creek Express* , 26/7/1887
4 Douthat, 1989, p.12
5 *Dunolly and Burnt Creek Express* , 12/9/1905
6 Tully, 1988, p.39
7 *Dunolly and Burnt Creek Express* , 15/5/1906
8 *Dunolly and Burnt Creek Express* , 10/7/1906
9 *Dunolly and Burnt Creek Express* ,, 25/9/1906
10 *Dunolly and Burnt Creek Express* , 6/11/1906

SITE NO. & NAME: **050 WAANYARRA EUCALYPTUS DISTILLERY**

LOCATION: **Ravens & Gourlay's Indicator, Waanyarra**

DIRECTIONS: Take the bush track immediately opposite the junction of the main Tarnagulla-Dunolly road and Waanyarra Cemetery Road. Approximately 500m along the track (heading N) is the mine site. Near the site of the Jones' Creek Mining Company battery and dam.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 484.231

PARCEL NUMBER: P124582

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

Perhaps less exhausting was the second industry based on forestry - eucalyptus distilling. The Forest Commission licensed one distiller, JB Reid, to operate in the Waanyaara Forest. In dry years he could not distill effiecently as water in his dam fell below the level of his condensing pipes. Then his chimney pipe rusted through and collapsed ... Distillers worked at Emu in the 1920s, along Tarpaulin Creek, and later at Goldsborough and near Rheola. Although the Waanyaara plant closed down in 1938, new distilleries began working during the Second World war. At least one survived during the 1950s. [1]

1930s: My uncle worked for J. B. Reid, Grocer and HardwareMerchant of Tarnagulla. J.B. also owned and operated a Eucalyptus Distillery in Waanyaara. I remeber my grandfather designing a device for lifting the leaves out of the vats. This was made using a wagon wheel. My uncle first cut leaves but later worked at the distillery. [2]

1930s: [Dick Thorp] ... During the depression I worked with Ed Morton for a while cutting eucalyptus shoots. "Knocking shoots' was about the only job you could get then. It was good work. We made about £4.10.0 a week, we'd start about 7.30a.m. We'd cut in an area about six or seven miles around Waanyarra and towards Dunolly. The 'eucy' was taken to the Government Eucalyptus plant at Waanyarra. Jimmy Read rented the factory from the Government and ran the plant. [3]

DESCRIPTION OF PHYSICAL REMAINS:

These are the remains of the Waanyarra eucalyptus distillery which operated during the 20th century until 1938. The location of the distillery in the grounds of a deserted quartz mine was probably due to the availability of fresh water from the mine's dam for the distillery's boiler.

Distillery site

On the W and S sides of the dam are the remains of a eucalptus distillery. On the S side of the dam, 1m apart, are two circular brick-lined vats. The vats have walls 30cm (1ft) thick, a diameter of 2.05m (6-3/4ft) and are at least 2.6m deep. The tops of the vats are shaped so as to receive lids. Between the two vats, set at an equal distance from both, is a large wooden stump. This may well have been part of the foundations for a crane which would have been necessary to lift the lids off the vats.

A tramway embankment runs S from the vats for a distance of 38m. Its S end is retained by dry stone walling.

On the W side of the dam is a long, rectangular concrete boiler foundation: it is 7.7m (25-1/4ft) long and 90cm (3ft) wide.

3m from the N end of the foundation is a square concrete structure, whose walls are 30cm (1ft) thick and which has an inside dimension of 1.5m (5ft) square. This structure is probably the footings for a chimney stack. Debris lying around the area suggests the stack was circular.

Near the boiler foundations is an ash dump and rusty sections of boiler. Bricks lie scattered around the site: they are hand-made and have no frog, and contain lots of quartz lumps.

PHOTOS:
Photo 1: Circular brick lines vats
Photo 2: Concrete boiler footings
Photo 3: Chimney base
Photo 4: Tramway embankment and dry stone retaining at S end.

ARTEFACTS: Boiler fragments, bricks etc.

INTEGRITY/CONDITION: The brickwork of the vats and concrete foundation are in good condition. The site holds considerable integrity, containing the key diagonstic elements for interpretation as a distillery.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) represents a sequence of uses or functions through time.
  b) is part of a group or network of sites, the totality of which is considered to be significant (sites 049 to 052). Together they trace the development of the mining and timber industry around the township of Waanyaara.
- Scientific significance because it represents a particular type of process, ie. inventive or innovative process (adaptation of mining site to Eucalyptus distilling)

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance derives from its intactness and from it being a part of a landscape that documents a chronology of historically important local events. Both the site and the landscape should be preserved.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site and associated landscape should be protected from mining. Sites 049-052, are well defined features, and together document many features of the economic and social development of the Waanyarra area. It is recommended that these sites form the nucleus of a new Historic Area. A detailed archeological survey should be conducted in the area to see what other sites survive.

Assessor: David Bannear Date: May 1991

1 McConville (1987), p 61
2 Douthat, 1989, p104
3 Douthat, 1989, p172

SITE NO. & NAME: 051 BARNES FLAT SETTLEMENT

LOCATION: Barnes Flat, Waanyarra

DIRECTIONS: Barnes Flat runs along the N boundary of the old site of Waanyarra township. The house/tents sites are located 75m NW of E end of the N boundary of the old township site.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 481.229

PARCEL NUMBER: P124582

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest/Rec Reserve (1921)

EXISTING HERITAGE CLASSIFICATION: The township itself has been nominated by the LCC Study and McConville (1987).

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

1853: This was one of the first area worked around Jones Creek, discovered by G. H Patterson in 1853. The original cemetery was on the hill behind the town of Waanyarra. A few were buried here before the new cemetery was established on its present site. [1]

14 April 1932: William Baker and Mathews found a 89 oz. 6 dwt. nugget valued at £700 at Barnes' Flat near the Waanyarra Cemetery. [2]

April 1934: An 89 1/2 oz nugget was found at Barnes Flat. [3]

DESCRIPTION OF PHYSICAL REMAINS:

The Barnes Flat diggings bear evidence of several phase of re-workings from the 1850s, through the 1930s until recent times. The site consists of two fireplaces and one mudbrick house:

Fireplace No. 1

A chimney constructed out of kerosene tins placed on a foundation of stone and quartz blocks. The tins were filled with washdirt, then stacked on top of one another. The fireplace is now partially collapsed but would have measured about 2 x 1.5m. Some red bricks are scattered in the rubble; they are hand-made with no frogs.

Fireplace No. 2

13m away, a second fireplace has almost disappeared. It now survives only as a raised mound of clay, in which can be seen an odd fragment of stone or brick. Probably the fireplace was constructed of mudbrick.

Mudbrick house

6m from Fireplace No. 2 are the remains of a two-roomed mudbrick house. The structure would have measured about 5 x 2.3m. Only a fireplace and one of the rooms survives above ground level. The mudbrick chimney stands to a height of 1m, and the surviving room has 30cm-thick walls standing about 20cm above the ground. This room is about 2.1m square.

PHOTOS:
Photo 1: Fireplace No. 1
Photo 2: Fireplace No. 2
Photo 3: Mudbrick house
Photo 4: Mudbrick house and fireplace No. 1 in the background.

ARTEFACTS: Dumps of 1930s rubbish. Three different manufacturers are represented in the kerosene tins used for Fireplace No 1: Vacuum Oil Company, Shell and COR (Commonwealth Oil Refinery).

INTEGRITY/CONDITION: Given the nature of the building materials used - mainly clay and tin - the site is in good condition.

THREATS: Greatest threat appears to be natural processes such as erosion and decay.

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is:

a) part of a group or network of sites, the totality of which is considered to be significant (sites 049 to 052)
b) associated with an important historic event, ie. the discovery of gold at Jones' Creek. Also reputed to be site of the areas' first cemetery. Also has associations with the Great Depression, through the existence of Sustenance dwellings.

- Scientific significance because of its ability of the site to answer timely and specific archaeological research questions, ie., the nature and distribution of Sustenance camps in the Division.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance derives from its intactness and from it being a part of a landscape that documents a chronology of historically important local events. Both the site and the landscape should be preserved.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site and associated landscape should be protected from mining. Sites 049-052, are well defined features, and together document many features of the economic and social development of the Waanyarra area. It is recommended that these sites form the nucleus of a new Historic Area. A detailed archeological survey should be conducted in the area to see what other sites survive.

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.33
2 Douthat, 1989, p.16
3 Tully, 1988, p.33

SITE NO. & NAME: **052 JONES' CREEK/SECRET HILL DIGGINGS**

LOCATION: **Waanyarra**

DIRECTIONS: Immediately S of junction between Tarnagulla-Dunolly mainroad and Waanyaara Cemetery Road. The puddling machine site is 25m NW of the of the bush tracks that run SW along Jones' Creek and S along the back of Secret Hill.

MAP/GRID REFERENCE: Puddler: Laanecoorie North 1:25000 - 485.225

PARCEL NUMBER: 124587

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: LCC Study, McConville (1987)

PRESENT MANAGEMENT/USE: LCC-NCE21

HISTORY:

23 August 1862: Jones's Creek - A new rush took place...which is likely to turn out well. [1]

1853: Jones Creek is a few miles south-west of Tarnagulla, and the discovery of gold there followed immediately upon the opening of the latter field. The first official report on the field , early in March 1853, said that Moliagul was deserted for 'a sheet of water eight miles nearer the Loddon, and this was followed on the 26 March by another report saying the Moliagul Camp had been removed to Jones Creek, ten miles away. . The first newspaper report of the new goldfield was early 1853. A number of names have come up in connection with the discovery, and of these perhaps the most likely prospector was G. H. Patterson, who claimed a reward for the discovery of Jones Creek, and 'near Jones Creek'. The latter place, difficult to identify today, but called 'Patterson's Diggings' in 1854, was possibly at Patterson's Reef. [2]

This creek is formed by the junction of Catch me, Nuggetty and Great Northern Leads and only runs 3 km before joining the Waanyarra Creek. The whole district is often referred to as Jones Creek...[3]

Waanyarra Township: Popularly called Jones Creek this township was the centre for the area for many years until farming closer to the Loddon River became the area's main interest. There were two main hotels, the White Swan (remains of well still visible) and the Jones Creek Hotel closer to Tranagulla. Waanyarra also had several stores and a post office, which remained open until the 1920's. [4]

1853: The Commissioner's Camp at Jones Creek was sited on water about one and a half miles below the town site later. The place was gazetted for Petty Sessions on 29 October 1853, and named 'Beverly', a name which failed to stick. Commissioner Bull's map of this area, done at the time, shows the diggings at Jones Creek as the main gully at the town site and the three gullies running into it on the west side; the site of Beverly is also shown. [5]

1853: The police camp and the first were established in 1853 on two flats along Jones Creek. The camp probably was where the Bicycle Track B.B.Q is now. William Templeton was the Commissioner. The township, Officially called Beverley, but always Jones Creek by the locals, was on a flat along Jones Creek. This was probably the last flat before the private land, behind the signpost 'Old Waanyarra Townsite'. [6]

1853: Several prospectors have been named as the first gold discoveries of the Jones Creek field. G. H. Patterson claimed the rewards saying that he found the first gold there in 1853. But the Goldfields Rewards Board refused his application along with those of Philip White and Charles Jones. Captain John Mechosk was in the Jones' Creek area before he opened up and was rewarded for the Tarrengower field. It was reported that Mechosk found gold at Jones' Creek but did not claim the reward. The popular story ...[is] ... The Baker party, having travelled overland from South Australia in 1853, stopped at the creek to camp. A women in the party, whilst washing dishes in the creek, found some specks of gold. The Jones' Creek rush was said to have started from this discovery in March 1853. Charles Baker, husband of the woman who discovered the gold claimed the reward for the Jones' field ... The gold rewards committee, unable to decide on the various claims ... ruled that the gold found by the applicants was sufficient reward. [7]

1854-55: Jones Creek was almost deserted... but there were large rushes in January 1856 and September-November following. No doubt Tipperary Gully, the western end of Jones Creek, was opened in 1853, and Wet Gully, Long Gully, Sawpit, Deadman's, Specimen and Mosquito opened at the rushes in 1856: the latter places by Spaniards, Greeks, and East Indiamen. There was a township at Mosquito. [8]

Sept 1855: Jones's Creek is exceedingly dull. Mining has never been in such a depressed state as this place before. Population is about 150.[9]

1856: Jones Creek was a nugget bed, and one piece of 410 oz was found by Gourlay.[10]

Nov 1856: Rushes also occurred at the same time at Jones' Creek itself, where the usual small rush rather quickly dissipated, and at Mosquito where there was a large number digging.[11]

1857: Chinese on the Goldfields ... The Chinese were well aware of the richness of the Jones' Creek alluvial fields and left Sandy Creek diggings during the week of the big finds at Jones' Creek. The Maryborough and Dunolly Advertiser, on 15th September, 1857 reported..[their departure].[12]

Mid 1859: Jones' Creek contained 150 people only at this time, but Sandy Creek was thriving.[13]

1862: Waanyarra is known to have produced the purest gold ever found in the world, being 99.9% pure. Waanyarra is also known for the large amount of alluvial nuggest found there ... a dull time on the fields was always revitalised by the discovery of a nugget. This can be seen from the various rushes which occurred ar Waanyarra over the years. The Inglewood Advertiser on 3rd January, 1862 reported "Mining a Jones Creek is generally dull". But it was only a matter of weeks before the place was rushed after the news that a 52 lb. nugget had been found at "Secret Hill". Then followed larger finds, and Waanyarra was bustling again.[14]

11 October 1862: Jones's Creek - A splendid discovery was made on Secret Hill...in the reef worked as the 'Anglesey' some two years ago, but now named after the township of 'Waanyarra'.[15]

1868 Names taken from Postal Directory for Jones Creek/Waanyarra lists 6 storekeepers, 17 miners, 1 inkmaker, 4 dairymen, 1 tailor, 7 farmers, 1 publican, 1 butcher, 2 blacksmiths, 1 brickmaker, 1 gunsmith, 1 postmaster, 2 carpenters, 2 wheelwrightd, 1 saddler, 1 schoolteacher, 1 cowkeeper, 1 baker, 1 tobacco grower, 3 gardeners, 1 shoemaker, and one Justice of the Peace.[16]

22 Dec 1888: John Pearce and John McEvoy, who had been puddling for some time in an alluvial gully at Waanyarra found a 99 ozs. 2 dwt. nugget. The gully, which had been worked in the early days of the diggings, had been famous for its large nuggets.[17]

Dec 1888 a nugget weighing 99 ozs. 2dwts gross was found at Jones' Creek, by John Pierce and John McEvoy. These men had been working for some time puddling and facing out an alluvial gully that had been previously worked, and was famous for large nuggets in the early days of the diggings.[18]

Alluvial "Rushes" were constantly occurring, and the chance discovery of a nugget attracted hundreds of men to the district in the space of a few hours ... The Wanyarra rush was started in 1902 by Messrs Lockett Bros. Much gold was found on this field, the largest piece was by A. Taig.[19]

Jan 1903: Lack of water was a drawback at the Waanyarra Rush. The Dunolly Express, 20th Jan, 1903, reported that parties were leaving the Waanyarra Rush daily ... Workings at Waanyarra were upset by a heavy storm and flooding in March, 1903 ... April, 1903, saw a falling of numbers at the Waanyarra Rush. The large volume of water in the creek made work dangerous. McPherson and Co.'s claim near the creek was suddenly flooded, but the miners escaped in time. Water was being pumped from many claims ...
June 1903: Waanyarra Rush was described as 'almost a thing of the past' because of the rising creek, but still diggers were working and having success ... The people who lived at Waanyarra kept on with their claims and managed to keep their families by small finds and by producing their own food.[20]

1930: The next 'Rush' was in the 1930's when the Great Depression saw many men 'shipped off' to the goldfields with a pan and pick, a tent and 6/- a week to supplement their finds ... There was a canvass township ...[at the] ...Waanyarra Rush where nearly 100 were camped. Claims were 7 x 1 ft. It was like a revival of the early days where men with little experience were trying to survive on the gold ... Two hundred men were on the field where water was scarce in February, 1932 ... Many of the Depression miners were lucky enough and hardworking enough to survive in their tents and rough huts, finding gold or cutting wood, but it is well known amoung the families of Waanyarra who had been there since the early days, that the women on the small farms kept so many of the poor men feed. By this time when the small farms were producing more food than the families could eat, the excess produce was given or sold to the miners.[21]

DESCRIPTION OF PHYSICAL REMAINS:

Re-worked alluvial ground asociated with the township of Waanyarra.

Alluvial workings

Relatively intact stretch of alluvial diggings stretching from Secret Hill to the old township site of Waanyarra. On the eastern side of the diggings, on the W slope of Secret Hill is a puddling machine. Only half of the

puddler survives, the other half having been bulldozed. The puddler is of the worn-looking, ground level variety. The post still stands in what survives of the inner mound and the puddler would have had a daimeter of 6.7m (22ft).

PHOTOS: Photo 1: surviving section of puddler, with sinkings in the background.

ARTEFACTS: Further survey required

INTEGRITY/CONDITION: Good

THREATS: Strip mining and treasure hunting

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is:
  a) part of a group or network of sites, the totality of which is considered to be significant (sites 049 to 052)
  b) associated with an important event, ie. the discovery of gold in the area and the formation of the township of Waanyarra.
- Scientific significance because of its historical representativeness, ie., it clearly illustrates the nature of traditional alluvial sinking. The diggings are also very accessible, as a track, forming part of the Shire of Bet Bet's tourist bicycle route, runs along their southern boundary.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance derives from its intactness and from it being a part of a landscape that documents a chronology of historically important local events. Both the site and the landscape should be preserved.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site and associated landscape should be protected from mining. Sites 049-052, are well defined features, and together document many features of the economic and social development of the Waanyarra area. It is recommended that these sites form the nucleus of a new Historic Area. A detailed archeological survey should be conducted in the area to see what other sites survive.

Assessor: David Bannear Date: May 1991

1 *Dunolly and Burnt Creek Express* , 23.8.1862, p. 2
2 Flett, 1979, p.274
3 Tully, 1988, p.33
4 Tully, 1988, p.33
5 Flett, 1979, p.274
6 Tully, 1988, p.34
7 Douthat, 1989, p.5
8 Flett, 1979, p.274
9 Mining Surveyors' Reports, Sept 1855
10 Flett, 1979, p.274
11 Flett, 1956
12 Douthat, 1989, p.6
13 Flett, 1956
14 Douthat, 1989, p 8
15 *Dunolly and Burnt Creek Express* , 11.10.1862, p. 2
16 Douthat, 1989, p.22-23
17 Douthat, 1989, p.10
18 Mining Surveyors' Reports, Dec 1888
19 Clarke, 1985, p.6
20 Douthat, 1989, p.13
21 Douthat, 1989, pp.13-16

SITE NO. & NAME: **053 TIPPERARY GULLY TAILINGS**

LOCATION: **Tipperary Gully, Waanyarra**

DIRECTIONS: SW of the junction between Waanyarra Cemetery Road/Wet Track. Tipperary Gully

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 490.222

PARCEL NUMBER: P124587

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE21

HISTORY:

No historical references found

DESCRIPTION OF PHYSICAL REMAINS:

Large dam which has a dump of battery sand located on its northern perimeter. A site inspection found no evidence of any battery site. Recent bulldozing work to enlarge the dam may have removed the physical remains. Could also be a cyanide works site.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS: Gone beyond any consideration

CULTURAL SIGNIFICANCE:

Remains are insufficient to be of significance.

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear **Date: May 1991**

SITE NO. & NAME: **054 SAWPIT GULLY DIGGINGS**

LOCATION: **Sawpit or Shingle Gully, Waanyarra**

DIRECTIONS: 700m S along Wet Track, from its junction with Waanyarra Cemetery Road. Diggings run in a E-W direction both sides of the track.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - Diggings run from 478.214 to 488.213

PARCEL NUMBER: P124587

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1854-55: Jones Creek was almost deserted ... but there were large rushes in January 1856 and September - Novemebr following. No doubt Tipperary Gully, the western end of Jones Creek, was opened in 1853, and Wet Gully, Long Gully, Sawpit, Deadman's, Specimen and Mosquito opened at the rushes in 1856: the latter places by Spaniards, Greeks, and East Indiamen. There was a township at Mosquito. [1]

1856: This gully was opened in 1856. A small rush occurred in 1867 when gold was found under some cement in the gully. [2]

June 1900: Messrs Gourley and Williams, who have been working at Shingle Gully, are reported to have struck a good reef.[3]

DESCRIPTION OF PHYSICAL REMAINS:

Reworked alluvial ground
Brief inspection of the gully found no puddling sites or stone fireplaces. The alluvial diggings are relatively intact and pronounced. Some small scale quartz mining on a reef that runs across the gully.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Alluvial diggings relatively intact and in good condition.

THREATS: Strip mining

CULTURAL SIGNIFICANCE:

The gully holds little historical significance in terms of the Division's mining history. The diggings are relatively well-defined and form a very tightly-knit band of diggings. The alluvial diggings are also associated with some small-scale reef mining. Although not significant at present, if other, more historically important landscapes are destroyed in the future, this situation would alter.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.274
2 Tully, 1988, p.34
3 *Dunolly and Burnt Creek Express* , 8/6/1900

SITE NO. & NAME: **055 POVERTY REEF MONUMENT**

LOCATION: **Poverty Reef, Tarnagulla**

DIRECTIONS: Runs along the E side of Tarnagulla, N of the Tarnagulla Caravan Park.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 529.267

PARCEL NUMBER: P131294 and P131317

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: LCC Study; MCConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCT1

HISTORY:

Sandy Creek/Tarnagulla: This was the richest reef on the goldfield. An incredible 13-1/2 tons or 324,000 oz was mined from an area a 120m long and 120m deep at an average of 4 oz/ton. [1]

1853-54: Poverty Reef, a sensationally-rich quartz deposit just east of the town was known during 1853-54 and was first worked by George and James Walker. In 1855 it was pioneered by King and Hatt, and Bell and Hammond soon after. [2]

1853-54: prospectors began to turn their attention to quartz mining, and it was about this time that Messrs King, D. Hatt, Hawkins and R. W. Hammond discovered Poverty Reef. This splendid reef made Tarnagulla famous when its wealth was made known to the wondering world. Its astonishing richness was withheld from its discoverers, and it was not until Messrs Beynon, J. Davies and Williams brought their practical mining knowledge to bear on its problems that its truly remarkable values were disclosed. The original prospectors spent their time and energy until they were almost in despair of every striking the lode that had lavished its wealth in the alluvial flats and gullies. In fact, one half of the Prince of Wales Claim [No 7] was offered for $40 and there were no buyers. $100,000 was offered for the same interest a few weeks later ... The Poverty Reef was named by Mr D. Hatt in remembrance of Poverty Bay, New Zealand, where his life had been saved by a Maori maid when he was in danger of drowning. The Poverty lode was peculiar in that it occurred in massive blocks of quartz. Each block was thick in the middle and tapered at each end and was generally schistose casing between the points of overlap. When a block was worked out the next block was found by tracing the leaders or small quartz veins that connected them. [3]

Sept 1855: Very little known of the early days of Poverty Reef there, but an article in the "Tarnagulla Leader" tells us that it was first worked by the Walker Bros. "the well known farmers". A lot of stone from Poverty was crushed at the McCallums Creek battery in Sept 1855 went 92 ozs to the ton and was considered the richest in the state. [4]

1857: Tarnagulla town was the scene of much activity and even then the Great Poverty Reef which a year or so later was to astonish the country by its returns, was in the process of making men rich ... King's and Hammond's crushing plants were working right in the town, and Wayman's and another were also working alongside the great reef that ran parallel to the street about 150 yards to the east. [5]

1859: from a single crushing from the Prince of Wales Claim ... two cakes of gold weighing 1,389 and 1,054 ounces were obtained, some of the stone producing the magnificent yield of 200 ounces to the ton ... About this period the Gold Fields Commissioners visited Tarnagulla and they were shown a kiln of quartz valued at $40,000. [6]

Mid 1859: Sandy Creek was thriving. The yield from Poverty Reef alone was 600 ounces per week, and 6 crushing machines operated in the town. [7]

June 1859: Poverty Reef - 9 claims, 140 aggregate length, 3 to 6 oz/per ton ... Poverty is by far the most important ...[reef in the Dunolly Division] ... It almost exclusively employs three crushing machines, two of 25-horse power, each, and one of 12-horse power, besides an 8-horse power engine for winding for the two principal claims almost adjoining. One of these claims, 80 feet in length, and which is being worked at a depth of 200 feet, is regularly yielding 600 ounces weekly. The next, north of the above, after being worked constantly for 20 months, has struck the reef at a depth of 247 feet, and is quite as rich as the other. [8]

Aug 1859: The first mining lease to be taken out in the district was issued on August 1859. The first lease was to the first Poverty Reef Co. - "The Sandy Creek Quartz Mining Co" - to King, Summers, Beynon, Alex Turball, and Thomas Baker, lease No. 16 in the Maryborough Mining District, Dunolly Division. [9]

Sept 1859: On Poverty Reef, which continues its extraordinary success, a pumping and winding engine of 20-horse power is in the course of erection by Messrs Beynam and Co. on the north end; and on the south end the Poverty Reef Mining Co. are making preparations for the erection of machinery which is on its way from Melbourne. They have called for tenders for the engine-shaft on the reef, and are about to commence work on a block of alluvial ground they have leased. [10]

Nov 1859: On the north end of Poverty Reef, Messrs Neynon and Company's engine has commenced bailing in the shaft over 300ft deep in their amalgamated claim. [11]

Dec 1859: The Poverty Reef Company have their engine and chimney completed, and intend to commence winding in their main shaft. [12]

April 1860: Mining Lease Company - Poverty Reef Co's main shaft sunk to a depth of 260ft and their engine is at work winding and bailing.
On the north end of Poverty Reef an amalgamated claim on Messrs Beynon and Company has a prospecting shaft to a depth of 360ft ... This is the deepest shaft in the division. [13]

10 April 1863: Tarnagulla - On Wednesday 1st, Mr Warden Orme fixed the rate of assessment for pumping to be paid to certain claimholders on Poverty to the Company. [14]

Sept 1864: all mining has been suspended in consequence of pending arrangements among the various claim holders for leasing the ground and erecting more extensive machinery, and consequently about 100 miners have been thrown out of employment on this reef for the present, but new and powerful machinery is being erected by claimholders conjointly. [15]

Oct 1865: Poverty Reef is situated in the heart of the township, about 150 feet eastward from the main street. South of the prospecting claim there are five claims (not including the Poverty Reef Gold Mining Company), and north of it there are also five. In the last direction there were at one time many others, but the works appear now to be entirely suspended, the golden lode not having been traced after about eight years sinking and prospecting. The shareholders in the prospecting shaft, and five claims to the north and two to the south have amalgamated which step has resulted in the foundation of the Victoria Company ... The shafts on this Victoria claim are all being sunk to the stipulated depth of 450 feet. The new company, however, is getting down with its water shaft, and will begin raising quartz from that level, notwithstanding the before mentioned arrangement ... Upon reaching the surface the quartz is thrown upon the open kilns near the shaft, a plan considered not only economical but expeditous. The mine force employed consists of 45 miners ... the contract for roasting and carting quartz is 1s 6d per ton; firewood generally 5s 3d. per ton, of 48 feet. The machinery comprises one horizontal engine; cylinder 18 inch with stoke of 3 feet; two Cornish boilers, 24 feet by 6 feet 6 inches each; this drives the pumps and lifts, with Vivian patent friction winding gear. The pumps are 8 inches in diameter, and consist of both plunger and lift. There is besides one small winding engine, 10 inch cylinder. The engine with boiler is housed in a substantial brick building 30 feet by 30 feet, and covered with corrugated iron. There is one Clayton and Shuttleworth's portable engine for winding from No. 4 and No. 6 claims, and one of Roby's patent portable 10-hp engine foe winding from No. 6 north. There are four crushing plants on the ground, two of eighteen heads of stampers each, with engine of 25-hp, and tailings pumps, and two of twelve heads each. The amount of quartz crushed weekly is estimated to average 400 tons. [16]

1866: The Dunolly and Bet Bet Shire Express, of 8th October ... reported that an area of 300 square feet had then yielded one and a quarter million pounds sterling. [17]

March 1868: Most of the claims on this line of reef are let on tribute and are giving satisfactory returns. Two crushings, taken from the Prince of Wales ground, yielded 2ozs. per ton; they have 20tons on the surface. [18]

Sept 1868: The whole of the line of reef is now worked by five different parties of tributers. [19]

March 1870: United Poverty Company - Since crushing commenced (on 8th Feb) up to the present time, 1,480 tons of quartz have been passed under the stamps, yielding 3dwts per ton. Although this yield leaves a small margin of profit after the expenses are paid, it is not so good as expected, and the batteries will now be employed crushing from the 260-foot level, while in the meantime, preparations are being made to let contracts for raising stone from the Victoria and Poverty shafts from the 400-foot and 600-foot levels respectively.
South Poverty Consols Company have struck a reef at 180 feet from the surface 8 feet thick...
Ironbark Gully Co. are at a standstill owing to an influx of water. [20]

Sept 1870: United Poverty Co's prospects have materially improved during the last quarter.
South Poverty Consols Co. are raising quartz from a depth of 40ft from the surface, and near the southern end of their leased ground they purpose erecting pumping and winding machinery, to enable them to sink their main shaft and test the ground at a great depth.[21]

March 1871: United Poverty Company is the only one doing anything. [22]

June 1871: United Poverty Company have crushed 1781 loads of stone, which yielded 390ozs. 10dwts.
South Poverty Consols are not carrying on mining operations at present, but the batteries are employed crushing stone for the public
North Poverty Company have let their mine on tribute, and the prospects are consudered very good.[23]

Sept 1871: Prince of Wales Company, Poverty Reef ... anew company to work this ground is being endeavoured to be formed, three men have been working on tribute for sometime unprofitably. [24]

Dec 1871: United Poverty Company are driving at the 530-foot level. Six men are employed on this work; six men are employed driving from the main shaft east; six men are working on tribute in the central ground.
Prince of Wales Co. - nothing doing at present
Beynon's lease - nothing doing at present.
South Poverty Consols Company have been employed sinking and breaking stone, and have been engaged in reducing stone for themselves and the public.[25]

March 1873: United Povert Company have crushed 603 tons for a yield of 277ozs.
Prince of Wales Company - a new company has been formed to work this ground, and operations are intended to be commenced at once.
London and Lancashire Comapny are working at the 350-foot level, and sinking the shaft deeper.
South Poverty Consols Co. are fetting a little gold.[26]

June 1873: United Poverty Reef Co. - are driving north and south at the 465-foot level; 1045 tons crushed for a yield of 133ozs.
Prince of Wales and London and Lancashire Comapnies are about, in conjunction, to sink the shaft at the latter company to a depth of 454 feet.[27]

Sept 1874: Most of the companies on this line of reef are idle at the present, but the United Poverty, Prince of Wales, and the London and Lancashire Companies are negotiating for an amalgamation of their several claims.
West Poverty Reef - The Lady Bowen Company have struck some stone that shows good promise. [28]

Dec 1874: Most of the companies and claimholders on the line of quartz reefs in this division have suspended work ... The Poverty Reef Company have only two men employed.[29]

Sept 1875: The Poverty Company and London and Lancashire Companies are amalgamating, and it is said that work on this reef will be shortly commenced.[30]

March 1876: The Prince of Wales Company, Poverty Reef, have started their crushing machine, having a supply of water from the mine.[31]

March 1878: indications of improvement, as preparations are being made by cleaning out boilers and overhauling machinery etc., to resume work on the Old Poverty line of reefs.[32]

Sept 1878: Poverty Reef Co. have been engaged draining their mine.[33]

June 1879: United Poverty Tribute Co. - This company are working.[34]

Sept 1879: Poverty Company still idle.[35]

1880: Old Poverty Reef has again been floated, and the company are about to commence operations with every prospect of success.[36]

June 1881: Old Poverty Reef Co. - are sinking their main shaft, which is now down 590 feet, and are putting in a drive at 450-foot level. [37]

March 1884: The Poverty Reef Company are at present engaged in sinking their shaft and putting up machinery.[38]

June 1884: The United Poverty and Prince of Wales Company have been crosscutting for the reef at 200 feet ...they are also erecting pumping and winding machinery.[39]

Sept 1884: Prince of Wales and Old Poverty Co., pumping and winding machinery (two engines) in the course of erection, and will be ready for work some time in October. As soon as the machinery is in working order the company intend sinking the shaft to 600 feet.[40]

Sept 1885: Prince of Wales and Old Poverty Company - still sinking their main shaft. Present depth 542 feet. They are also engaged at putting their crushing works in repair.[41]

June 1888: Prince of Wales and Old Poverty Company have sunk their main shaft to a depth of 763 feet from the surface. Up to the present time they have been working with flat hemp ropes, but as the depth is now so great they find it avisable to substitute wire ropes.[42]

Dec 1890: Prince of Wales and Old Poverty Co. - the east crosscut at 900 feet level has been extended 8 feet for the week.[43]

March 1891: now fixing opening frame at 1,010 feet.[44]

May 1892: Prince of Wales and Old Poverty Company - Housing over Root's blower just about finished.[45]

1894-95 cyanide plant: a syndicate was formed to work the tailings of the Poverty mine by Messrs Duncan, Noyes & Co., by means of the cyanide process. This was the first time that this process was successfully undertaken on a large scale in Australia. Some hundreds of thousands of tons of sand were treated during the eight years that this company were at work, and the results obtained were remarkable. As much as 28 dwt of gold per ton of sand was recovered.[46]

Sept 1895: cable from London - company known as the Bendigo Consol Co. with a capital of £120,000 has been formed for the purpose of acquiring Victorian Mining properties. One of the properties purchased by the company is the Prince of Wales and Old Poverty Mine, Tanagulla from which about 10 1/2 tons of gold have been taken in the past.[47]

Nov 1895: The following parcels of stone have been crushed at the Poverty Battery, Tarnagulla - from Racecourse Rd., Prince of Wales lease, and Jim Crow.[48]

March 1896: Bendigo Consols, Tarnagulla - 900 foot level south extended.[49]

1902 -1912 cyanide plant :Further improvement in the process resulted in the re-treatment of these tailings by Messrs Lyndon & Dowsley, between 1902 and 1912. This company also obtained rich returns from the slimes that had been neglected by Messrs Duncan, Noyes & Co.[50]

1909: A syndicate, with the aid of a Govt loan, took up ground south of the old Poverty shaft and has been engaged in sinking a shaft to a depth of 148 feet, cross cutting east and west.[51]

DESCRIPTION OF PHYSICAL REMAINS:

McConville (1987) provided the following details of the Poverty Reef Field:

> Area of mine working with shafts covered. One shaft recently operated and has a frame above the shaft opening. Some brick footings left on the surface and several mounds of waste material taken from the shafts. Some remains of brick footings from earlier mine workings. A monuement marking reef is visible from Commercial Road.[52]

Little survives of the reef workings which were some of the richest in the Division. All that is visible today are the remnants of very substantial tailing heaps, a line of shallow workings and small mullock heaps, and a scatter of stone and brick fireplaces. At the entrance of the modern mine site, a monument has been erected to commemorate the richness of the reef and its significance to the township of Tarnagulla

PHOTOS: None taken

ARTEFACTS: Mainly domestic rubbish. It is interesting to note that discussions with local treasure hunters reveal that the artefacts found associated with house/chimney sites scattered through the bush mostly relate to the 20th century.

INTEGRITY/CONDITION: Given the scale of what occured on the site, very poor integrity.

THREATS: Gone beyond any consideration - an archival site

CULTURAL SIGNIFICANCE:

McConville (1987):

> An exceptionally rich reef even when compared to Ballarat and Bendigo. The field was crucial to the survival of the town of Tarnagulla. Most of the principal political and commercial figures in the town made money from the field. Its location alongside the major commercial area of the town is an essential aspect of the character of the character of Tarnagulla and a reminder of the connections between the town and the mining activity. [53]

Assessment of this study

Despite the reef's historical importance, the extent and integrity of the surviving features have been diminished to such an extent that little of significance remains on the site. The site has:

- Historical significance because it:
  a) isassociated with an important event, ie. the location and development of the township of Tarnagulla
  b) was a success as a mine in terms of production levels and yields.
- Social significance because of its importance to the local and wider community, as reflected by the erection of the monument.

Significance ranking: Local

CONSERVATIONPOLICY:
None required

RECOMMENDATIONSFORIMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully 1988, p44
2 Flett 1979, p272
3 Clarke 1985, p4
4 Flett, 1956
5 Flett, 1956
6 Clarke 1985, p4
7 Flett, 1956
8 Mining Surveyors' Reports June 1859, p15
9 Flett, 1956
10 Mining Surveyors' Reports Sept 1859, p14
11 Mining Surveyors' Reports, Nov 1859
12 Mining Surveyors' Reports, Dec 1859
13 Mining Surveyors' Reports, April 1860
14 *Dunolly and Burnt Creek Express* , 10 April 1863, p3
15 Mining Surveyors' Reports, Sept 1864
16 *Dicker's Mining Record* , 24/11/1865, p243
17 Clarke 1985, p4
18 Mining Surveyors' Reports, March 1868
19 Mining Surveyors' Reports, Sept 1868
20 Mining Surveyors' Reports, March 1870
21 Mining Surveyors' Reports, Sept 1870
22 Mining Surveyors' Reports, March 1871
23 Mining Surveyors' Reports, June 1871
24 Mining Surveyors' Reports, Sept 1871
25 Mining Surveyors' Reports, Dec 1871
26 Mining Surveyors' Reports, March 1873
27 Mining Surveyors' Reports, June1874
28 Mining Surveyors' Reports, Sept 1874
29 Mining Surveyors' Reports, Dec 1874
30 Mining Surveyors' Reports, Sept 1875
31 Mining Surveyors' Reports, March 1876
32 Mining Surveyors' Reports, March 1878
33 Mining Surveyors' Reports, Sept 1878
34 Mining Surveyors' Reports, June 1879

35 Mining Surveyors' Reports, Sept 1879
36 Mining Surveyors' Reports, 1880
37 Mining Surveyors' Reports, June 1881
38 Mining Surveyors' Reports, March 1884
39 Mining Surveyors' Reports, June 1884
40 Mining Surveyors' Reports, Sept 1884
41 Mining Surveyors' Reports, Sept 1885
42 Mining Surveyors' Reports, June 1888
43 Annual Mining Report
44 Annual Mining Report
45 Annual Mining Report
46 Clarke 1985, p5
47 *Dunolly and Bet Bet Shire Express* , 10/9/1895
48 *Dunolly and Bet Bet Shire Express* , 19/11/1895
49 *Dunolly and Bet Bet Shire Express* , 10/3/1896
50 Clarke 1985, p5
51 Annual Mining Report
52 McConville (1987), p179
53 McConville (1987), p180

SITE NO. & NAME: **056 CALDER'S REEF WORKINGS**

LOCATION: **Calder's Reef, Waanyarra**

DIRECTIONS: 1.75 km S down Wet Track from its junction with Waanyarra Cemetery Road. E side of the road

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 481.207

PARCEL NUMBER: P124587

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Mine site now part of Bealiba Watercatchment dam

HISTORY:

Calders Creek, Nov 1872: A 20 ozs. nugget found at the lower end of Jones' Creek was sold at Dunolly. The Nugget was reported close to Calder's Reef.[1]

DESCRIPTION OF PHYSICAL REMAINS:

The mine site has largely been levelled. All that survives is a portion of a mullock heap and associated stone-lined loading bay.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS: Site is beyond consideration.

INTERPRETATION OF PHYSICAL REMAINS:

What little survives of this reef mine is difficult to interpret.

CULTURAL SIGNIFICANCE:

Significance ranking: none

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Douthat, 1989, p.9

SITE NO. & NAME: **057 AMERICAN REEF QUARTZ MINE**

LOCATION: **Laanecoorie**

DIRECTIONS: American Reef line of workings, 450m N up Newbridge road from its junction with main Laanecoorie-Tarnagulla road. Mine site is located in second paddock, approx. 600m E of the Newbridge Road.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 581.214

PARCEL NUMBER: P124613

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

1850s/60s: The American Reef, discovered soon after the first rush to the [Cay's] area, produced 2025 oz in the first nine months of operation. This was from 1500 tons in five separate claims along 120 yards of the reef.[1]

June 1859: American Reef [Cay's] - 2 claims, 55yds aggregate length, yielding 3 oz/ton.[2]

Sept 1859: ...the upper or surface reef, as it is termed, is nearly worked out; but several claims are going down... the water is an obstacle.[3]

April 1860: ...an extended claim on American reef...on which the proprietors are arranging to erect machinery.[4]

Dec 1867: At Cay's Diggings - The Kangaroo and American Reefs, long since abandoned, are again taken up by private companies, and will shortly be worked.[5]

Dec 1870: The Kangaroo and American Companies (Cays) are negotiating with Melbourne capitalists for the erection of machinery for the purpose of working their mines in a more efficient manner.[6]

Sept 1871: The American Company - The shareholders are negotiating with some capitalists at Sandhurst. When this is concluded, machinery will be erected and work commenced.[7]

Dec 1872: The American Company are about erecting pumping machinery.[8]

2 June 1895: Old American Quartz Company, Laanecoorie - The plans for the removal and re-erection of machinery were adopted today. The final completion of the purchase of the machinery from Mr Price for £6000 was made...[9]

6 August 1895: Tenders for the removal of machinery was deferred for a month. Mr E. Hayes, of Tarnagulla, was appointed mining manager.[10]

13 April 1897: Old American, Laanecoorie - ...men at work pulling down poppet heads; the plant for leading the waggon will arrive on the site today... arrangements still not complete for removal of machinery.[11]

12 July 1898: Ray's Luck Co. (Old American), Laanecoorie - ...machinery in good working order, and active operations commenced last week.[12]

DESCRIPTION OF PHYSICAL REMAINS:

The remains probably relate to the most recent phase of mining: by the Old American or Ray's Luck Company, which installed machinery on the site in 1898.

Mine site

Relatively small, intact mullock heap, measuring about 10m square x 4m high. On the S side of the heap are some brick foundations, resting on concrete footings and standing to a height of 1m. Also some ground-level concrete footings visible. No sign of any battery sand

PHOTOS: Photo 1: Mullock heap and brick foundations

Photo 2: Brick foundations.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Brickwork and concrete in reasonable condition. The mullock heap and foundations are very visible from the mainroad.

THREATS:

CULTURAL SIGNIFICANCE:

The American Reef mine was not one of the Division's important mines. However, the remains are in quite good condition and the large mullock heap, located in a grazed paddock, is very visible from the main Laanecoorie-Tarnagulla road. The site has:

- Scientific significance because:
  a) of its historical representativeness
  b) of its visibility
  c) and as a marker of the Division's easterly quartz mining boundary.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully 1988, p42
2 Mining Surveyors' Quarterly Reports, June 1859, p15
3 Mining Surveyors' Quarterly Reports, September 1859
4 Mining Surveyors' Quarterly Reports, April 1860
5 Mining Surveyors' Quarterly Reports, December 1867
6 Mining Surveyors' Quarterly Reports, December 1870
7 Mining Surveyors' Quarterly Reports, September 1871
8 Mining Surveyors' Quarterly Reports, December 1872
9 *Dunolly and Betbetshire Express* , 2.6.1895
10 *Dunolly and Betbetshire Express* , 6.8.1895
11 *Dunolly and Betbetshire Express* , 13.4.1897
12 *Dunolly and Betbetshire Express* , 12.7.1898

SITE NO. & NAME: **058 WELCOME STRANGER TOURIST TRAIL**

LOCATION: **Moliagul**

DIRECTIONS: Follow tourist route signs from Moliagul.

MAP/GRID REFERENCE: Dunolly North 1:25000 - 366.282

PARCEL NUMBER: P124951

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Reserve

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Reserve; LCC Study; McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCJ5. Also a Tourist walking trail

HISTORY:

1850s Bulldog Reef: This reef has been worked both sides of the Bulldog or Black Lead. To the north, it was also called the Black Reef or Welcome Stranger Reef. On the south it was also Moliagul Reef ... The northern end was discovered in 1857 and by 1859 was returning 2 1/2 oz/ton ... a shaft was sunk to the west to work the reef at the 200 ft level. [1]

1857: Bulldog Gully was opened in May 1856, and the Black Lead, of Welcome Stranger fame, in 1857. [2]

May 1857: There was also a large rush on 25th May to Bulldog Gully ... but the gold was neither rich nor extensive, although there was a great number there. [3]

1857: This reef was worked first at the time of the Bulldog Rush by all foreigners - Italians, Frenchmen and Jews - in August 1857, and the reef was yielding well at this time. It was also called Black Reef. [4]

1859: Only one claim working on the Bulldog Reef, but it was averaging 2-1/2 ounces to the ton and was 40 yards long and 140 feet deep. [5]

June 1859: Bulldog Reef [Moliagul] - 1 claims, 40yds aggregate length, yielding 2-1/2 oz/ton. [6]

1860s Bulldog Lead, Black Lead: Nuggets - Welcome Stranger 2332 oz (1869), 113 oz (1869), 114 oz (1859), and 36 oz (1866). This was a well-established area by the time John Deason and Richard Oates found the Welcome Stranger. A piece of ground still occupied was a Chinese market garden cultivated by J. Youlk. Further down in Bulldog Gully were two dairies owned by Walter Brown and Mrs. Gutcher. [7]

March 1861: [This reef] is being energetically and profitably worked. [8]

1862: Number of claims working - a year of great reefing activity. About this time, Richard Meer's 'Reunion Co.' had the reef - five acres on lease... [9]

1867: ..1867 and later it was worked for a long time by McJuncken and party. [10]

1869: Moliagul became famous when the 'Welcome Stranger' nugget was discovered by Cornish miners, John Deason and Richard Oates, at Bulldog Gully, Moliagul, on February 5th, 1869. The nugget was the largest found in Victoria, and the largest of the world's nuggets. The gross weight was 2520 ounces. Some of the gold was kept by the finders, but the amount sold was valued at £9,553. Owing to the nuggets great size (about 2 feet long and 1 foot wide), it could not be weighed on the largest scales at the London Chartered Bank, Dunolly, so was taken to Walls's blacksmith shop nearby, and reduced to a number of fragments on the anvil. [11]

8th Feb 1869 - Welcome Stranger ... It weighed 210lbs gross and 2268 oz, 10 dwts, 14 grains of smelted gold have been obtained from it irrespective of a number of pieces of gold and specimens which have been given away by the finders. The finders are John Deason and Richard Oates, miners who have worked in this locality for about seven years and have a puddling machine there, and the nugget was found ... about an inch below the surface on the western side of the gully slope, going from Black Reef down to a gully which is known as the Bulldog Gully or Black Lead. They estimate the size as about 21 inches in length and 10 inches in thickness, but unfortunately broke the nugget in three parts before they informed anyone of it. The spot where the nugget was found is about 50 yards west of the Bulldog Reef in which the quartz lode runs from one to four feet wide and has been worked to water at a depth of, say, 100 feet, and is about 200 yards east of the alluvial gully

known as Black Lead, and where the depth of sinking is from there to 10 feet with a sandstone bottom. The nugget was found in some surfacing (of which from 10inches to a foot is generally puddled) of loose, gravelly loam, resting on thick red clay, with a bottom of sandstone about 10 inches from the surface. The actial amount paid for the gold sent to the bank was £9534. [12]

Sept 1871: A lease has been taken up on the Black Reef and Stewart's Reef, by a company to be styled the William the Conqueror Company, and mining operations are to be commenced forthwith. The reefs both yielded largely when originally worked, and the ground taken up includes that where the 'Welcome Stranger' nugget was got, which was found close to the cap of the Black Reef. [13]

1896: In the 1896 activity in mining at Moliagul [this reef] was worked again by Lidge who got up to 2-1/2 ounces to the ton. [14]

1897: The obselisk commemorating the finding was erected by the Mines Department in 1897 during a period of renewed reefing activity at Dunolly. [15]

August 1898: Moliagul Consolidated Co ... timbered to surface from 82 feet. [16]

Oct 1898: Moliagul Consolidated ... called for tenders to drive on course of leader from prospect shaft, close to Welcome Stranger obelisk. [17]

Oct 1898: Erected whip frame. Monday, start Whip horse. [18]

April 1899: Moliagul Consolidated - plant from Dunolly all delivered on mine. Boiler and plant to hand from Ballarat. [19]

May 1899: One pair of poppet legs erected, next set raised today. Foundations cut, bed logs in position to carry horses for engines, pumping and winding gear. [20]

August 1899: Boiler built in. Cutting down flue and excavating foundations for smoke stack. Overhead wheels in. Brace and railings will be finished next week. Costeening east and west to south of Welcome Stranger Monuement; 12 feet west of monument cut leader showing gold. This will trench along when further advanced with costeening. [21]

Sept 1899: All brickwork finsihed; boiler and cistern finished. Steam pipes connected. Building house over boiler. Sinking winze on indicator near monuement. [22]

August 1899: Shaft unwatered and timbered. Resumed sinking. Will open out at 200 feet to cut both reefs. Trenching new find west of main workings ... Accepted tender to dismantle, cart and erect battery. [23]

Jan 1900: Moliagul Consol - Battery, ready to commence erection. [24]

May 1900: Good progress connecting winding engine. [25]

June 1900: Complete erection engines, expect coupled next week. [26]

6 Dec 1900: Moliagul Consols - This lease (No. 3695) lies about 10 chains S-W from the Queen lease... Five hundred feet north of the main shaft, and within the area contained within the lease, is the 'Welcome Stranger' monument, an obelisk erected by the Mines Department to mark the spot where the 'Welcome Stranger' was found by John Deason and Richard Oats in 1869. A pumping and winding plant suitable for sinking to 300 feet is erected at the mine. [27]

1901: The Moliagul Consols Mine which worked the Black Reef, south of the site of the Welcome Stranger discovery, closed, and its plant was auctioned in 1901. [28]

DESCRIPTION OF PHYSICAL REMAINS:

Located in a Picnic Area is an information board directing visitors to a tourist trail, taking in a series of sites: the monument to the world's largest nugget; surface mining; John Deason's house; Deason's and Oates' puddler; Oates' house; Chinese grave; Chinese camp; puddler; cut forest; new growth forest (red and grey box trees); and Black Gully. The remains on the site reflect several of phases of working, covering aspects of both alluvial and quartz mining. The tourist trail identifies only the former, overlooking the remains of the Moliagul Consols mine that operated on the reef at the turn of the century. Apart from the monument the other prominent sites are:

Moliagul Consols Mine

Located 120m S of the historic monument, just beyond the surfacing, within the forest, is the remains of the mine site. The remains consist of a mullock heap (partly quarried) measuring 25 x 15m and approx. 5m high, some shallow workings, and, on a level area, some almost-buried stone and mortar footings and depressions, associated with a spread of red bricks (hand-made, no frog).

Deason's puddler

A very worn-looking, ground-level puddler site. The central mound is barely distinguishable, and the central post is no longer present. The puddling trench has almost been buried by the erosion of the central mound. The puddling circle's diameter is approx 6.7m (22ft), and a small dam lies to the west.

2nd puddler

This puddler has a more fresh-looking appearance, and more distinguishable inner mound and raised outer mound. Despite its relatively recent appearance, the puddler is very eroded due to discharge from its associated dam. It appears to be a smaller puddler, probably only 6.10m (20ft) in diameter.

PHOTOS: Photo 1: Monument to World's largest nugget.
Photo 2: Deason and Oates' puddling machine
Photo 3: 2nd puddler on the tourist trail.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Some of the sites are visible, namely the puddling machines, but many of the others, especially the habitation sites and Chinese grave, have no real tangible physical markers. In this sense they have poor integrity.

THREATS:

CULTURAL SIGNIFICANCE:

The site's significance has already been well-documented. For example, McConville (1987):

> The site of the discovery and the reef (Bulldog Reef) are important as places central to Australian mining history. The Welcome Stranger discovery renewed local efforts at mining and at the same time attracted world-wide attention to the shire. The monument erected in 1897 testifies to this importance and at the same time is itself a part of the Shire's history. It is an early example of attempts to commemorate the endeavours of local miners. The surrounding gullies and mine workings still reveal some of the shape and character of a nineteenth-century mining field, even though they have been worked over several times. The monument and the discovery of the nugget are significant to the character of the Shire and are also central to Victorian mining history. [29]

Assessment of this study

The site has:

- Historical significance because it is:
  a) associated with an important event; the discovery of the world's largest nugget
  b) part of a group or network of sites, the totality of which is considered to be significant.
- Social significance because of its importance to the local or wider community. This is illustrated by the erection of the monument by the Mines Department and the recent creation of a tourist trial.

Significance ranking National Estate

CONSERVATION POLICY:

The area's significance comes from the interrelationship of various mining technologies and phases. Any future work should not be to the detriment of the apparent nature of this relationship.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected.

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.5
2 Flett, 1979, p.270
3 Flett, 1956
4 Flett, 1956
5 Flett, 1956
6 Mining Surveyors' Quarterly Reports, June 1859, p.15
7 Tully, 1988, p.5
8 Mining Surveyors' Quarterly Reports, March 1861
9 Flett, 1956

10 Flett, 1956
11 Carless, 1983, p.23
12 Flett, 1956
13 Mining Surveyors' Quarterly Reports, September 1871
14 Flett, 1956
15 Flett, 1956
16 *Dunolly and Betbetshire Express* , 30/8/1898
17 *Dunolly and Betbetshire Express* , 18/10/1898
18 *Dunolly and Betbetshire Express* , 25/10/1898
19 *Dunolly and Betbetshire Express* , 18/4/1899
20 *Dunolly and Betbetshire Express* , 9/5/1899
21 *Dunolly and Betbetshire Express* , 22/8/1899
22 *Dunolly and Betbetshire Express* , 12/9/1899
23 *Dunolly and Betbetshire Express* , 17/10/1899
24 *Dunolly and Betbetshire Express* , 28/1/1900
25 *Dunolly and Betbetshire Express* , 15/5/1900
26 *Dunolly and Betbetshire Express* , 8/6/1900
27 Mining Surveyors' Annual Reports, 1900
28 Supple, 198
29 McConville (1987), p186

SITE NO. & NAME:	**059 WAYMAN'S REEF MINE SITE**
LOCATION:	**Wayman's Reef, Moliagul**
DIRECTIONS:	0.9 Km W along Bealiba Road, from its junction with Dunolly-Moliagul main road. S side of the road
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 366.289
PARCEL NUMBER:	P124951
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Moliagul Historic Reserve
EXISTING HERITAGE CLASSIFICATION:	Included in Moliagul Historic Reserve
PRESENT MANAGEMENT/USE:	LCC- NCJ5. Currently being mined

HISTORY:

1850s: The original quartz reef discovered at Moliagul was the Slaty Reef, and the Derby, Wayman's and others were opened during 1856-57. [1]

1857: This reef was discovered by the Wayman Bros in 1857 and had some very rich pockets. Example being 117 oz/2 ton, 400 oz/11 ton and 52 oz/1 ton. Wayman shifted to Tarnagulla where he built a battery. [2]

1857: situated a little over a half mile south-west of Moliagul township. It was discovered and worked by Wayman Brothers in 1857, who originally got 117 ounces from two loads of stuff dug out at 120 feet. From a single machine full of stuff Wayman got 400 ounces of specimens, and the last stone he took out went 52 ounces to the ton. There were a number of claims along the reef, but none of them on rich stone. [3]

June 1859: Waymans Reef [Moliagul] - 3 claims, 100yds aggregate length, yielding 3 to 11 oz/ton. [4]

1860: Wayman's was leased for the first time in 1860 to Wayman's Reef G. M. Co. who had steam machinery valued at £3500.

1866: In Dec ... Mt. Moliagul G.M.Co. leased 20 acres of Wayman's. It had then been the main reef at Moliagul for nearly ten years and the company took out 640 tons of stone that averaged 6 ounces to the ton. They also worked Stewarts Reef nearby. [5]

1866-69: From 1866-1869 the Mount Moliagul Gold Mining Co. worked Waymans Reef crushing 640 tons for about 3840 ozs. [6]

March 1869: Ballarat and Moliagul G.M. Co. ... opened on Wayman's Reef just after the finding of the "Welcome Stanger" a few chains away ... had a poor first crushing - some 2 1/2dwt to the ton. This company had Ward and Phillip's old ground, which the latter had apparently worked out, nor was the reef ever very good after this. [7]

Dec 1876: Deason and Cos last crushing gave an average of over 6dwts per ton ... the water is troublesome, and will necessitate the erection of machinery for keeping it under. [8]

March 1877: Waymans Reef ... pumping and winding machinery is being erected. [9]

June 1877: Decemvirate Company, Waymans Reef ... have just completed the erection of pumping and winding plant, and expect to be breaking out stone in about a week's time. [10]

1878: The next company could only raise stone worth 2 1/2 dwt/ton. John Deason and Pollard worked the reef in 1878. [11]

15 June 1900: There is actually a timbered shaft, sunk to 240 feet, and gold has been got from the surface to 150 feet. [12]

1987: Some open-cut work was done here in 1987. [13]

DESCRIPTION OF PHYSICAL REMAINS:

Site currently being excavated/mined, removing any trace of previous mining. Access to site not possible.

PHOTOS: None taken

ARTEFACTS: None

INTEGRITY/CONDITION: Poor

THREATS: Beyond consideration

INTERPRETATION OF PHYSICAL REMAINS:

Site currently being mined. Inability to access site made interpretation impossible.

CULTURAL SIGNIFICANCE:

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.270
2 Tully, 1988, p.4
3 Flett, 1956
4 Mining Surveyors' Quarterly Reports, June 1859, p.15
5 Flett, 1956
6 Tully, 1988, p.4
7 Flett, 1956
8 Mining Surveyors' Reports, Dec 1876
9 Mining Surveyors' Reports, March 1877
10 Mining Surveyors' Reports, June 1877
11 Tully, 1988, p.4
12 *Dunolly and Betbetshire Express* , 15.6.1900
13 Tully, 1988, p.4

SITE NO. & NAME:	**060 QUEEN'S MINE SITE**
LOCATION:	**Moliagul**
DIRECTIONS:	500m NEof Welcome Stranger monument. Bush track leads to the mine site from the Bealiba Road.
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 371.285
PARCEL NUMBER:	124951
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Moliagul Historic Reserve
EXISTING HERITAGE CLASSIFICATION:	Moliagul Historic Reserve; LCCStudy; McConville (1987)
PRESENT MANAGEMENT/USE:	LCC- NCJ5

HISTORY:

1857: Also once called Old Queens Reef. Discovered in 1857. By 1859 it was going 1 oz to the ton. [1]

1859: a company was formed in August to work Queens Reef along with Black Reef, and in this year there were two claims each 35 yards long averaging one ounce to the ton. [2]

June 1859: Queens Reef [Moliagul] - 3 claims, 100yds aggregate length, yielding 12 oz/ton. [3]

Sept 1859: The Queens and Hogarth's Reefs have suspended operations. They are fixing up a 25-horse power engine. [4]

March 1860: Queens Co...have been crushing some stone yielding about 7 oz to the ton. [5]

April 1860: At Moliagul, the only company is the Queens, a co-operative company holding their ground under the regulations of the district (not a lease). They have a 25 horse-power engine and crush with stampers. [6]

1862: Discovered in 1862 by William Nutt, Ah Loy and another Chinaman ... Loy and Nutt open-cut the reef to 100 ft for crushings of 51 oz from 1 1/2 tons, 54 oz from 11 tons, 102 oz from 34 tons then 5 oz/ton and 2 oz/ton. [7]

Nov 1862: William Nutt and Co. of Mount Moliagul crushed 1-1/2 tons of quartz from the Queen's Reef for a yield of 51 ounces of gold. [8]

1863: William Nutt, Ah Loy and another Chinese struck rich gold - the first crushing of 34 tons yielded 102 ounces. This was the only reef of importance in the district of Moliagul and in 1865 Nutt and Ah Loy were still getting 2 ounces to the ton. [9]

1871: Towards the end of 1871, the Queens mine was let on tribute and a plant erected to enable the 200-foot level to be reached. [10]

Dec 1871: The parties holding the lease on this reef have let it on tribute. The tributers have 10 men on and are sinking a new shaft, which is now down 130 feet. [11]

Sept 1872: The Queen's Reef Company have purchased pumping and winding machinery, and tend to erect the same without delay. [12]

Dec 1872: The Queen's Reef Co. are sinking a main shaft (present depth 120 feet) ... They have nearly completed the erection of powerful pumping and winding machinery, and intend to put down a 10-inch plunger lift to drain the mine. [13]

1874: Mine idel, as the prospecting at the 200 foot level had proved nothing of value. [14]

1874: The Queens Reef Co. was formed ..and the Company took over Ah Loy and Nutt's claim and Phillip's claim on the south end of the reef. [15]

Sept 1874: The Queens Co. have sunk the shaft to a depth of 273 feet, but are stopped at present. [16]

Sept 1875: The Queens Reef Co. have suspended operations. [17]

1877/78: Mine was again let on tribute, and 59 tons crushed for 10 1/2 dwts per ton... In 1878...the lower levels were being prospected, a battery was erected, but the western lode proved non-payable, the mine was idle in 1879. [18]

Dec 1878: Queens Reef Co... They have purchased an engine, boiler and twenty head of stamps, and are now removing and erecting the same. [19]

1879: The Queen's Reef Co. erected a crushing plant of 20 stampers. The engine was named "Victoria" when a bottle of wine was broken over the fly-wheel. [20]

Sept 1879: The 130-foot level has been continued; a crooscut at 230 feet south of the engine shaft has been driven 46 feet east from the western reef... The machinery is in good working order. [21]

May 1896: A Moliagul correspondent reports a great revival in quartz mining there. Mr Deason's new battery was started last Thursday, on stone from Mr Liddell's claim on Wayman's Hill. Mr Deason gets credit for his unaided enterprise in affording facilities for the development of the mining resources of the place. [22]

Oct 1898: Queens Reef... Contractors for cartage of machinery making good headway with delivery on mine. Let contract for whole of plant, buildings, poppet legs etc. [23]

Oct 1898: Sand for cyanide being bagged. [24]

Oct 1898: Bagged and forwarded 102 bags of battery sand for bulk cyanide test. Contractors for erection of machinery started. [25]

Jan 1899: Queens Reef... main shaft timbered and centred to 130 feet. [26]

Jan 1900: Race and flumings for mine water to Deason's battery well forwarded. [27]

Deason remained at Moliagul and among other things operated an eight head battery near McCoy's Dam. He obtained his water from the Queens Reef Mine via a flume supported on trestles. [28]

1900: Report by Hunter in 1900 gives details of the locations of features at the Queens Reef Mine and shows that the area around the Queens Reef Mine was stripped of surface material by this date. [29]

1939-45: Queens Reef Dam was a site of an internment camp for 3 years during the Second World War. The internees were engaged in cutting timber. [30]

DESCRIPTION OF PHYSICAL REMAINS:

Moliagul's most famous and important reef. Multi-phased site:

1857:	Discovered and first worked.
1859:	Three claims working the reef.
1860:	Only company working - The Queens Co. First battery installed
1871:	Queens Co's. mine let on tribute
1872:	Queens Co. working again - powerful pumping and winding machinery installed.
1874:	Queens Co. reformed.
1879:	Queens Co. erecting new battery.
1898:	Sand being bagged for cyaniding.
1900:	Water from mine used to supply Deason's battery.
1939/45:	Internee camp built near Queens Co's dam.

Apart from the dam. some battery sand, and some shallow open-cutting little survives of the Queens Co. mine. Poorly defined alluvial sinkings were found in associated gullies, also some traces of ground sluicing and 20th-century rubbish.

Mine site

A large dam with an extensive tailing dump running around its eastern perimeter. Some relatively intact open-cutting has survived further to the E, but apart from a scatter of red bricks, nothing is visible of the associated machinery. The area has seen been extensively bulldozed and re-worked.

A survey was made for evidence of the 1940s internment camp, reputed to have existed on the high ground between Commissioners Gully and Queens Gully. Although evidence of alluvial workings was found in the respective gullies, no habitation remains were sighted, except for one brick fireplace/tent site associated with a dump of rusty cans. Also located were a small patch of ground sluicing channels and associated paddocks.

PHOTOS: None taken

ARTEFACTS: 20th-century rubbish - mainly rusty cans.

INTEGRITY/CONDITION: Despite the importance of the reef and the extensive nature of its working, little survives except for the open-cutting, dam and remnants of the tailing heap. The alluvial workings in the associated gullies are not well-defined.

THREATS:

CULTURAL SIGNIFICANCE:

The integrity of Queens Reef and the associated gullies (Site 061) has been so severely diminished by subsequent activities (principally bulldozing) that they offer little material for interpretation. The site has:

- Historical significance because it was a success as a mine in terms of its production levels and yields. It is the site of the largest and most important mining operations to be carried out in the Moliagul area. Also has added significance because of its proximity to Welcome Stranger site.
- Scientific significance because it demonstrates aspects of quartz mining

Significance ranking: Local

CONSERVATION POLICY:

Significance of the site comes mainly from its proximity to the Welcome Stranger site.

RECOMMENDATIONS FOR IMPLEMENTATION:

None

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.6
2 Flett 1956
3 Mining Surveyors' Quarterly Reports, June 1859, p.15
4 Mining Surveyors' Quarterly Reports, Sept 1859
5 Mining Surveyors' Reports, March 1860
6 Mining Surveyors' Reports, April 1860
7 Tully, 1988, p.6
8 Carless, 1983, p.22
9 Flett, 1956
10 *Australian Mining Standard* , Dec 6 1900
11 Mining Surveyors' Reports, Dec 1871
12 Mining Surveyors' Reports, Sept 1872
13 Mining Surveyors' Reports, Dec 1872
14 *Australian Mining Standard* , Dec 6 1900
15 Flett, 1956
16 Mining Surveyors' Reports, Sept 1874
17 Mining Surveyors' Reports, Sept 1875
18 *Australian Mining Standard* , Dec 6 1900
19 Mining Surveyors' Reports, Dec 1878
20 Carless, 1983, p.22
21 Mining Surveyors' Reports, Sept 1879
22 *Dunolly and Betbetshire Express* , 19/5/1896
23 *Dunolly and Betbetshire Express* , 4/10/1898
24 *Dunolly and Betbetshire Express* , 18/10/1898
25 *Dunolly and Betbetshire Express* , 25/10/1898
26 *Dunolly and Betbetshire Express* , 7/1/1899
27 *Dunolly and Betbetshire Express* , 16/1/1900
28 Supple
29 Supple
30 Supple

SITE NO. & NAME:	**061 QUEENS & COMMISSIONERS GULLIES ALLUVIAL DIGGINGS**
LOCATION:	**Queens & Commissioners Gullies, Moliagul**
DIRECTIONS:	Both gullies lie to the E of the dam associated with the Queens Mine (Site 060).
MAP/GRID REFERENCE:	Queens Gully: Dunolly North 1:25000 - approx 373.286 (centre of diggings) Commissioners Gully: Dunolly North 1:25000 - approx 374.282 (centre of diggings)
PARCEL NUMBER:	P124951
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	Moliagul Historic Reserve
EXISTING HERITAGE CLASSIFICATION:	Included in Moliagul Historic Reserve
PRESENT MANAGEMENT/USE:	LCC- NCJ5

HISTORY:

Sept 1852: miners travelling south from Korong (Wedderburn)goldfields, discovered gold at Queens Gully, Moliagul. This was the first goldrush to occur in the Dunolly district. In a few weeks, a store, a blacksmith's shop and butchery had been opened.[1]

This was the first gully opened in the entire district, becoming the supply point for prospectors working as far away as Tarnagulla and Jones Creek.[2]

Dec 1852: The first rush in the area that occurred at Moliagul was about Dec 1852 when the diggers returning from Korong ... opened up Queens Gully, Moliagul and by Jan 1853, a store, butcher shop and a blacksmiths appeared. On this date the first Gold Commissioner's camp in the district was et up in what is marked on the Geological Survey maps as Commissioners Gully, and the first Commissioner, William Templeton, issued the gold licences.[3]

Jan 15 1853: Commissioner's report: indicated that the main diggings were in a small gully, 200 yards from the creek, bounded by iron-bark ranges.[4]

2 Feb 1853: Commissioner Reid visited Moliagul: 500 people there and an encampment of 160 tents and stores ... He deided that an assistant Commissioner, a Camp and Police would immediately be placed at Moliagul. William Templton, who was in charge of the camp at Commissioner's Gully, was responsible for issuing gold licences, collecting gold for escourt to Melbourne, and administering the goldfield ... In 1855, Willaim Templeton's camp was transferred from Moliagul to Burnt Creek (now Bromley) near Dunolly.[5]

early 1853: After the first rush to Moliagul ... the place was almost deserted for Sandy Creek early in 1853.[6]

1853/56: The second rush to Moliagul in the Spring of 1853, where the heaps of washdirt along the Burnt Creek that were not washed until the winter of 1855 so great was the dryness. A great amount of gold was found at this second rush. A gold map of Moliagul made in 1856 shows only three areas worked - the original diggings at Queens Gully ... and Surface and Long Gullies.[7]

1874:The puddler at the small dam in German Lead was worked by Samuel Manky in 1874.[8]

1930s: More surfacing was carried out in the great depression.[9]

DESCRIPTION OF PHYSICAL REMAINS:

Both gullies bear evidence of alluvial diggings. The workings are extensive, but the holes and mounds are not well-defined. Their definition is not aided by a blanket of vegetation. In some of the areas, the old workings have been removed and obscured by subsequent re-workings., making interpretation difficult.

PHOTOS:	None taken
AGE/DATING PHASE:	late 1852 - 20th century
ARTEFACTS:	Mainly early 20th-century rubbish

INTEGRITY/CONDITION: Poor

THREATS: Human visitation: mining

INTERPRETATION OF PHYSICAL REMAINS:

A survey and assessment of the Moliagul Historic Area conducted by Ray Supple, Historic Places Unit, Department of Conservation and Environment (1988) found of the Queens Gully Alluvial Diggings:

> The area between the township and C.A. A26 is covered with dense holes or depressions and has a hummocky appearance. The forest type, Red Gum, indicates that this area is subject to flooding. This may partly explain the condition of the alluvial holes. This was the location of the first rush in the Shire in 1853, and there may be some holes remaining from the period. However it is also likely that the area has been reworked at least in part during the 1860s or 1870s. [10]

The historical information collected in this project shows that the gullies were also extensively worked in the 20th century.

CULTURAL SIGNIFICANCE:

The associated alluvial gullies - Queens and Commissioners - are two of the earliest gullies worked in the Division, the former credited with being the site of the first discovery of gold in the Division. The integrity of Queens Reef (Site 060) and the associated gullies has been severely diminished by subsequent activities and natural processes. The site has:

- Historical significance because it is associated with an important event, namely the first recorded discovery of gold in the Dunolly Division.
- Social significance because of its importance to the local or wider community. Some local people still see the gully as significant because of its part in local history.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Carless, 1983, p.18
2 Tully, 1988, p.6
3 Flett, 1988
4 Carless, 1983, p.18
5 Carless, 1983, p.21
6 Flett, 1956
7 Flett, 1956
8 Tully, 1988, p.6
9 Tully, 1988, p.6
10 Supple, 1988

SITE NO. & NAME: 062 **MOLIAGUL GOVERNMENT BATTERY**

LOCATION: **Moliagul**

DIRECTIONS: Middle reaches of Biggs Gully. NE of the junction between St. Arnaud-Bendigo Main Road and Mt. Moliagul Look-out Track.

MAP/GRID REFERENCE: Rheola South 1:25000 - 372.302

PARCEL NUMBER: P124964

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Reserve

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Reserve; LCC Study

PRESENT MANAGEMENT/USE: LCC - NCJ5

HISTORY:

Sept 1859: Third mining lease tasken out in the district - No 25 - went to McBride, Prendergast and Vogel of Dunolly, and was to works Biggs Gully ... as well a build a reservoir ...[this lease and another for Surface Gully were]... immediately objected to by the diggers, who forsaw all the best ground tied up in this way, and a Miners Protection Association was the result, and the ambitious plans born of the Moliagul nuggets that a the time seemed so easy to find, and the lean times of Dunolly, came to nothing. [1]

1900-13: Moliagul Welcome Stranger Dredging Company operated in Biggs Gully from 1900 to 1913. In 1907 the company was reported to have recovered 44 oz of gold from a half-acre paddock.[2]

1928-1953: A 5-head Government battery was established in Biggs Gully in 1928 and operated until 1953. The battery, which was powered by a Shuttleworth Engine, was removed in 1969 and is now on display at the Museum of Victoria.[3]

DESCRIPTION OF PHYSICAL REMAINS:

Moliagul State Battery (1928 - 1953)
The remains in this gully consist of a galvanised iron tank perched perilously on its wooden stand. Immediately W of the tank stand are engine bedlogs and redgum battery stumps. There are 4 stumps - all 40cm (17in) wide, three 38cm (15in) long and one 30cm (12in) - making up a battery box of 5 head of stamps. In front of the battery is a level earthen floor, measuring 7 x 8m, and with a concrete and brick drain outlet on its northern boundary. The outlet drains into Biggs Gully, where there is a dump of battery sand. The stumps of wooden posts surround the room and the battery.

PHOTOS: Photo 1: Tank, battery stumps and engine bedlogs.
Photo 2: Battery stumps and engine bed logs

ARTEFACTS: None visible

INTEGRITY/CONDITION: Timber work on the whole is in good condition. Some of the battery stumps starting to rot slightly in the middle.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is associated with an important event. The remains help document an aspect of Periods 4 & 5 of the mining history of the Dunolly Division, namely, when the government took over the role of public crushing, after most major quartz mines in the Division had closed down. This enabled prospecting to continue in the district
- Scientific significance because it represents an important mining technology: the crushing of quartz.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Supple, 1988
3 Supple, 1988

SITE NO. & NAME: **063 SLATY REEF WORKINGS**

LOCATION: **Slaty Reef, Moliagul**

DIRECTIONS: A bush track leading to the reef is located on the S side of the main St Arnaud-Bendigo road, 75m W of its junction with the Dunolly-Moliagul Road. The workings on the reef commence at the SE corner of the block of private land that faces onto the St Arnaud-Bendigo road.

MAP/GRID REFERENCE: Rheola South 1:25000 - 368.300

PARCEL NUMBER: P124952

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Area

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Area

PRESENT MANAGEMENT/USE: LCC - NCJ5

HISTORY:

1850s Moliagul: The original quartz reef discovered at Moliagul was the Slaty Reef, and the Derby, Wayman's and others were opened during 1856-57. [1]

1870: An open cut on the reef here was taken down to 100 feet averaging 1 oz/ton. The monitor Co. yook over in 1870 and set up a battery to work this and the Monitor Reef.[2]

1870: Monitor Co. had a battery there and were working at 110 feet.[3]

June 1870: The Monitor Co., Slaty Reef, have nearly completed the erection of a powerful steam crushing plant, which will be ready for operations in about a month. [4]

Sept 1870: Completed the erection of a new crushing plant on their leased ground ... which is now in full work, crushing quartz obtained from the mine at 110ft from the surface.[5]

March 1872: White and Co report having struck some good stone ... This ground was formerly held by the Monitor Co., who gave it up, being unable to make it pay.[6]

DESCRIPTION OF PHYSICAL REMAINS:

Although the workings still survive on Slaty Reef, a survey found no evidence of the 1870s mining plant belonging to the reef's main operator: the Monitor Co. As this company was also working nearby Monitor Reef, the machinery was probably erected on the latter. More survey work would be required to determine whether this machinery site still exists, perhaps sub-surface.

Reef workings

Workings along the reef consist of a relatively shallow, confined stretch of open-cutting. The exposure of slate in the sides of the open-cut makes the site stand out from other open-cuts inspected in the Division. The area surrounding the open-cut is very scrubby, and only one shaft (approx. 5m deep) was found. This shaft still retains its wooden collar. A search of the closest gully, Long Gully, found no battery sand.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Workings in good condition, no sign of machinery.

THREATS: Rubbish-dumping.

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance because it represents an important mining technology: the opening up and small scale working of a minor reef. Workings are fairly intact and of a relatively early date.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.270
2 Tully, 1988, p.4
3 Flett, 1956
4 Mining Surveyors' Report, June 1870
5 Mining Surveyors' Report, Sept 1870
6 Mining Surveyors' Report, March 1872

SITE NO. & NAME: **064 LONG GULLY DIGGINGS**

LOCATION: **Long Gully, Moliagul**

DIRECTIONS: The gully runs parallel to the S side of the main St Arnuad-Bendigo road, draining into Burnt Creek. The gully lies S of Slaty Reef (Site 063).

MAP/GRID REFERENCE: Rheola South 1:25000 - 368.297

PARCEL NUMBER: P124952

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Mixture of State Forest and Private

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Area

PRESENT MANAGEMENT/USE: LCC- NCJ5

HISTORY:

1853 Moliagul: Opened in 1853 along with Surface Gully. Their richness influenced the moving of the settlement from Commissioners Gully to where the township is now.[1]

1853/56: The second rush to Moliagul in the Spring of 1853, where the heaps of washdirt along the Burnt Creek that were not washed until the winter of 1855 so great was the dryness. A great amount of gold was found at this second rush. A gold map of Moliagul made in 1856 shows only three areas worked - the original diggings at Queens Gully... and Surface and Long Gullies.[2]

1853-57: After a dry period the diggers returned to Moliagul in October 1853, and Long Gully, Surface Gully and Nuggetty were opened.[3]

1870: In 1870, William Simpson and John Douglas each had a puddler near the head of the gully and another further down was operated by Walter Hansford.[4]

DESCRIPTION OF PHYSICAL REMAINS:

The diggings that survive in the State Forest portion are the last surviving remnants of alluvial workings in Long Gully. The diggings were first opened up in 1853 and have been reworked since.

Alluvial workings and puddler

A stretch of intact alluvial diggings still survives on Crown Land between blocks of private land.

One puddling machine site was found, situated immediately below the earthern embankment of a dam. As the dam wall has been breached, the puddler has been seriously eroded, leaving only the inner mound and central post as recognisable features.

PHOTOS: Photo 1: eroded puddler and breached dam

ARTEFACTS: None

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is associated with an important historic event. The first rush to this gully and others in the vicinity led to the relocation of the early township of Moliagul from Commissioners Gully to its present site.
- Scientific significance because of its historical representativeness. Although it would be difficult to date the surviving workings to the early 1850s, they are a good example of the traditional technology. The diggings are well-defined, though obscured by trees.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.4
2 Flett, 1956
3 Flett, 1979, p.270
4 Tully, 1988, p.4

SITE NO. & NAME: **065 SWEDES & GERMAN GULLIES PUDDLERS**

LOCATION: **Swedes & German Gullies, Moliagul**

DIRECTIONS: The gully system that is makes up Swedes and German runs N from the main St Arnauds-Bendigo road, 1.25km W of its junction with Bealiba Road.
A bush track runs along the W side of the gully and, where the track crosses the gully, is a block of private land. The mud-brick house stands in the SE corner of this block.
The puddling sites and tunnel are located on the E side of the gully, N of a large dredge dam.

MAP/GRID REFERENCE: Mudbrick house site: Rheola South - approx 353. 320
PuddlerNo 1: Rheola South - 355.313
PuddlerNo 2: Rheola South - 356.313
PuddlerNo 3: Rheola South - 356.311

PARCEL NUMBER: P124964

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Area

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Area

PRESENT MANAGEMENT/USE: LCC- NCJ5

HISTORY:

1853-57: After a dry period the diggers returned to Moliagul in October 1853, and Long Gully, Surface Gully and Nuggetty were opened. Nuggetty Gully was also known as Biggs Gully, from Stephen Biggs, who opened a store there in 1853. A map of Moliagul, 1855-56, shows the workings at north Inkerman rush, 1855, to within thre miles of Moliagul, and worked ground at German and Swede's gullies. [1]

1896 +:[worked]... again in 1896 by the Robinson Bros. A later attempt was made to tunnel into the reef from German Gully. The stone encountered was incredibly hard and the endeavour abandoned. [2]

20th: The Moliagul Dredging Company was formed this century and worked the rich ground in [Biggs] gully ... they built the large dam in German Gully to supply additional water. [3]

DESCRIPTION OF PHYSICAL REMAINS:

A survey and assessment of the Moliagul Historic Area by Ray Supple, Historic Places Unit, Department of Conservation and Environment (1988) found:

> the gully system to contain five puddling machines in relatively good condition compared with the puddlers in Sparks Gully that can be accurately dated. The alluvial diggings that remain are dense and, considering the condition of the puddling machines, it appears that the historic features may date from the late 1860's -1880s. Despite the very recent mining activity this is a good example of this type of mining activity over a whole gully. [4]

The brief survey conducted as part of the present project recorded three of the five puddlers and one quartz mining tunnel. During the survey a couple of features were noted which suggest that the puddlers may date to a later phase of mining:

- the puddlers appeared to be associated with extensive surfacing on the eastern slope of the gully. The bulk of the alluvial sinkings appeared to be confined to the flat, both sides of the channel. Perhaps this reflects two distinct phases of mining
- At least one of the puddlers was excavated into wash, perhaps deriving from an earlier puddler.

The predominance of hand-made nails and hewn timber in the mud-brick house on private land suggests that this building was constructed in the 19th century. Probably reflects the changing status of some of the gully from auriferous to 'worked-out' ground.

Desription of sites found in this survey:
Mud-brick house

This site consists of the remains of two roomed house, cellar, two outbuildings, orchard and cleared paddocks. The large chimney is largely obscured by a pepper tree.

The house consists of a large stone fireplace, 1.8m (6ft) x 2.3m (7 3/4ft) and 3.6m high, associated with two rooms which now survive as an outline of evenly spaced, hewn wooden posts (at least 1.9m high) and collapsed mudbrick walls. The post are all roughly 8cm in diameter and contain only hand-made nails. Each room would have been around 15ft square, with walls 40cm thick. The room associated with the large fireplace is the most intact, its mudbrick walls still standing to a height of about 1m. A doorway is visible at the N end of its E or side wall, and a window in the middle of the other side wall. The walls of the adjoining room, apart from the hewn posts, have almost vanished. There is no scatter of galvanised roofing, suggesting that the building had a wooden, perhaps shingled, roof.

Stone paving leads to an underground cellar, 7m W of the house. This cellar has an internal measurement of 4.9m (16ft) x 3.1m (10ft 3in). The front and back walls of the cellar have a thick inner core of earth, which is retained on both sides by dry-stone walling. The side walls have only an inner face of stone, retaining a thick embankment of earth. The cellar's wooden-framed roof has collapsed.

Two other outbuildings, both collapsed to ground-level, are situated to the E of the house.

Puddler No 1

Located on the NE of Swedes/German Gully, the area surrounding the puddler and dam has been extensively surfaced to bedrock. The 6.6m (22ft) diameter puddler has a raised outer mound, approx 4.5 wide, and, at its highest, is about 1.5m above ground-level. Both the inner mound (diameter 2.5m or 8ft) and puddling trench (1.6m wide) are still precisely defined, and the central post is still visible. Apart from saplings, no trees are growing on the puddling machine site. An outlet channel drains towards the gully, some 40m away. The dam lies 15m to the N.

Puddler No 2

150m E of Puddler No. 1, on the W side of a tributary of Swedes/German Gully, is another puddler. Again, the surrounding area has been extensively stripped, some of it recently, by bulldozer. The trench of this puddling machine has clearly been excavated into bedrock, hence the edges of the puddling trench are clearly defined. The central post still survives and the inner mound had a diam of 2.8m. The puddling trench is 1.7m wide (5ft 6in) and overall the puddler has a diameter of 6.1m (20ft). A large mound of wash and discarded stone stretches around the S perimeter of the puddler: it is some 12m wide and 1.5m high. A dam lies to the NW and, like Puddler No. 1, no trees grow on the machine site.

Puddler No. 3

230m downstream (south) of Puddler No. 1 is a third puddling machine site. It is located on the E side of the main channel and is in a very poor condition owing to the fact that it seems to have been excavated into washdirt, rather than bedrock. The central mound is almost completely gone, but a section of the central post still stands upright. The puddler has a raised, fresh-looking outer mound and, like Puddlers 1 and 2, has only saplings growing on it. It is smaller than the other puddlers surveyed, having a diameter of approx. 5.6m (18ft). The dam associated with this puddler has been formed by placing an earthen embankment across the main channel of the gully.

The dredge dam occurs lower down the main channel, near the road.

PHOTOS: Photo 1: remains of mud brick house.
Photo 2: puddler No 1
Photo 3: puddler No 2
Photo 4: puddler No 3

ARTEFACTS: More thorough survey needed.

INTEGRITY/CONDITION: Fair condition given the nature of the building materials and possible 19th-century age of the site.

THREATS: Erosion

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (065 to 067)

Scientific significance because it:

a) represents an important mining technology (traditional alluvial mining)
b) is historically representative, because of the intactness of the alluvial sinkings and the concentration of puddling machine sites.
c) has the ability to answer specific archaeological research questions, eg. distribution and dating of puddling machines.

Significance ranking: National Estate

CONSERVATION POLICY:

This site's significance derives from the number of intact and interrelated features surviving. No future work should be to the detriment of these.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected

Assessor: David Bannear Date: May 1991

1 Flett, 1979, p.270
2 Tully, 1988, p.2
3 Tully, 1988, p.3
4 Supple, 1988

SITE NO. & NAME: **066 MT SHEOAK QUARTZ MINE**

LOCATION: **Sheoak Reef, Moliagul**

DIRECTIONS: 150m ENE of Puddler No. 2 in Swedes/German Gully (Site 065)

MAP/GRID REFERENCE: Tunnel & mullock heap: Rheola South - 359.314

PARCEL NUMBER: P124964

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Area

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Area

PRESENT MANAGEMENT/USE: LCC - NCJ5

HISTORY:

1879: Sheoak Goldmining Co. formed ... planned a tunnel into Sheoak Hill on Mount Moliagul, in order to strike the quartz reef. Owing to the hard rock and the high cost of work involved, the venture was eventually abandoned.[1]

May 1891: Moliagul Prospecting Association... application for £1000 (from Prospecting Vote) to assist in prospecting for quartz reefs on Nuggetty Hill, Moliagul... also same asscoaition applied for £4000 to drive a tunnel through Sheoak Hill, the Association to contribute £1 to £1. There are twenty members in the Association and they intend to erect a crushing plant if gold was obtained. The tunnel would be cut about 200 feet below the crown of the hill... They would employ 18 men, to drive from both ends.[2]

1896 +:[worked] ... again in 1896 by the Robinson Bros. A later attempt was made to tunnel into the reef from German Gully. The stone encountered was incredibly hard and the endeavour abandoned.[3]

DESCRIPTION OF PHYSICAL REMAINS:

Remains of a late 19th-century attempt to tunnel into Sheaok Reef. The survival of the radiating mullock heap shows that this mine has not been re-worked in the 20th century. Several stone fireplaces and/or forges are associated with the workings.

Adit and mullock heap

At the head of a tributary to Swedes/German Gully, 150m ENE of Puddler No. 2 (Site 065), is an intact mullock heap and collapsed tunnel. The tunnel is driven N into the S slope of Mt Moliagul. From the adit leads a tramway which is enclosed on both sides for a distance of 80m by mounds of mullock. At the 80m mark, the tramway gives way to seven distinct lines of mullock dumping. The diverging mullock dumps cover an area of about 50 square metres, and at their western ends the dumps are 1 to 2m high. There are at least two stone fireplaces or forges associated with the workings.

PHOTOS: Photo 1: Radiating lines of mullock
Photo 2: Collapsed adit

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

CULTURAL SIGNIFICANCE:

The tunnel has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (065 to 067)
- Scientific significance because it represents a particular type of process, ie. innovative process.

Significance ranking: National Estate

CONSERVATION POLICY:

The significance of the site derives from its intactness and ability to illustrate the formation of a mullock heap. No future work should threaten this illustrative capacity.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected

Assessor: David Bannear Date: May 1991

1 Carless, 1983, p.22
2 *Dunolly and Burnt Creek Express* , 8/5/1891
3 Tully, 1988, p.2

SITE NO. & NAME: 067 SHEOAK REEF BATTERY

LOCATION: **Sheoak Reef, Moliagul**

DIRECTIONS: Battery site lies 150m NNWof the W corner of the private block of land that lies on the N side of the main St Arnaud-Bendigo road, opposite its junction with Bealiba Road. Site lies on the W side a track that runs parallel to the diggings on Sheoak Reef.

MAP/GRID REFERENCE: Rheola South 1:25000 - 360.307

PARCEL NUMBER: 124964

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Moliagul Historic Area

EXISTING HERITAGE CLASSIFICATION: Moliagul Historic Area

PRESENT MANAGEMENT/USE: LCC - NCJ5

HISTORY:

June 1859: Sheoak Reef [Moliagul] - 1 claims, 40yds aggregate length, yielding 1 oz/ton. [1]

10 April 1863: Moliagul - The batteries of the Perseverance Company, She Oak Reef, are pounding away day and night... [2]

21 March 1863: The machinery of the Perseverance Company, Sheoak, which consists of an engine of 14 horse power with two batteries of six head of stamps each, is now complete, and is capable of crushing 100 tons per week; a plentiful supply of water is obtained from a dam constructed in close proximity to the engine, in case of the failure of which though a long continuation of dry weather resort can be made to a water shaft worked by a whim. The engine etc., has been brought here and put in working order at the expense and under the superintendence of R. Scholes Esq. of Carisbrook ... The proprietors commenced crushing on Tuesday the 17th inst, everything connected with the engine running so smoothly at the first start as though she had been working for months; there are about 200 tons of quartz ready for the mill which is expected to return about 13 dwts to the ton, that being the average yield to the present time of a quantity crushed at Cochranes and elsewhere ... All parties concerned in erecting the machinery, masonry, and building deserve great praise for the substantial, and workmanlike manner in which they are finished. The shareholders are 16 in number, all practical miners, to whom it is hoped the reef may prove a source of wealth for many years to come and who will undoubtedly be the pioneers of many other lucrative companies on the Mount, as there is no doubt but these formerly excessively rich diggings are intersected by belts of equally rich quartz reefs. some of which have formerly been very profitably worked for a small time by small parties of miners, who have laboured under the disadvantage of expensive carting and crushing, in addition to loss of time of sending it to a distance of sometimes 20 or 30 miles from this locality ... The development of these reefs would not only confer a benefit on the tradesmen and agricultural settlers in the neighbourhood, but they would also offer a vast field of labour to that numerous class of industrious and persevering miners who must eventually abandon the nearly exhausted old alluvial ground to the puddlers, and in place of their former precarious living will enable them to obtain profitable and lasting employment. [3]

1869: The Sheoack Co. was formed to work the reef and all shares were taken up at once. [4]

June 1871: The Excelsior and Perseverance Companies are endeavouring to amalgamate. [5]

June 1878: A co-operative company is about being formed to test the Sheoack reef, from which some very good stone was obtained a number of years ago. [6]

1879: John Pollard and Thomas Flynn invested £5000 and worked the reef to August 1882, averaging 10dwt to one ounce to the ton. Later a large English Company tried to mine the reef, but apparently the huge money they required was not forthcoming. [7]

1879 -1882: Worked very early for some exceptionally good returns. It was mined from 1879 to 1882 for an average of 1/2 to 1 oz/ton... [8]

1879: Sheoak Goldmining Co. formed ... planned a tunnel into Sheoack Hill on Mount Moliagul, in order to strike the quartz reef. Owing to the hard rock and the high cost of work involved, the venture was eventually abandoned. [9]

May 1891: Moliagul Prospecting Association ... application for £1000 (from Prospecting Vote) to assist in prospecting for quartz reefs on Nuggetty Hill, Moliagul ... also same asscoaition aplied for £4000 to drive a tunnel through Sheoak Hill, the Association to contribute £1 to £1. There are twenty members in the Association and they intend to erect a crushing plant if gold was obtained. The tunnel would be cut about 200 feet below the crown of the hill ... They would employ 18 men, to drive from both ends.[10]

May 1892: Good progress has been made during the last fortnight sinking the trial shaft, which is now down 27 feet through the reef, looking promising. [11]

August 1892: secured shaft, will commence to sink tomorrow.[12]

Sept 1892: shaft down 77ft through reef.[13]

1896 +:[worked] ... again in 1896 by the Robinson Bros. A later attempt was made to tunnel into the reef from German Gully. The stone encountered was incredibly hard and the endeavour abandoned.[14]

August 1896: Robinson Brothers, of the Sheoack line, has 2 1/2 tons crushed at Deason's battery ... claim being very high up on Mt. Moliagul. [15]

March 1897: The company who brought the Sheoack reef ... brought timber up to erect a whip, no other machinery on the site.[16]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1859:	One claim working.
1863:	Batteries of Perseverance Co. working day and night.
1869:	Sheoak Co. worked
1871:	Excelsior and Perseverance Co's preparing to amalgamate.
1879-1882:	Reef worked between these dates.
1896:	Worked by Robinson Bros. - no machinery except a whip on the site.

The absence of any red bricks, the condition of the battery stumps, and the possibilty of a stone chimney suggests this may be an early crushing works, perhaps c.1860. Survey of similar sites in the Castlemaine Historic Area[17] indicates this interpretation. The historical record shows that the only battery erected on the reef was being operated by the Perseverance Company in 1863.

Battery site

The site is in poor condition and visibility is poor. It consists of a levelled platform, about 10 x 7m in dimension, which has a narrow depression running along its S boundary. In this depression are the remains of at least two distinct sets of redgum battery stumps. The most easterly set has only one stump visible, but the impressions of another two; and the adjoining set still has three stumps, albeit burnt to ground-level. The stumps are all about 16-18in square. As the depression continues there are indications of a possible third set of battery stumps. An inspection of the area found no sign of any bricks, and a mound of stone rubble on the N side of the battery might indicate the original site of stone chimney base. A dam and dump of battery sand lies in Biggs Gully below the machinery site. A track runs around the back of the battery.

The shafts sunk on Sheoak Reef have been filled in.

PHOTOS: Photo 1: Battery stumps
Photo 2: Platform and battery stumps
Photo 3: Platform and battery stumps

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor condition.

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (065 to 067)
- Scientific significance because it represents an important mining technology. The Sheoak Reef battery holds considerable local significance because its age and rarity. Along with the remains of the battery at Bet Bet Reef, these are the earliest surviving remains of crushing works in the Dunolly Division. The site is in poor condition and may well be beyond conservation.

Significance ranking: Local

CONSERVATION POLICY:

The site's significance derives from its early date, but unfortunately little survives on the ground. Given the site's limited survival, further research into its background and a more detailed recording, might be worthwhile.

RECOMMENDATIONS FOR IMPLEMENTATION:

None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Quarterly Reports, June 1859, p.15
2 *Dunolly and Burnt Creek Express* , 10.4.1863, p.2
3 *Dunolly and Burnt Creek Express* , 21.3.1863, p.2
4 Flett, 1956
5 Mining Surveyors' Reports, June 1871
6 Mining Surveyors' Reports, June 1878
7 Flett, 1956
8 Tully, 1988, p.2
9 Carless, 1983, p.22
10 *Dunolly and Burnt Creek Express* , 8/5/1891
11 *Dunolly and Burnt Creek Express* , 10/5/1892
12 *Dunolly and Burnt Creek Express* , 2/8/1892
13 *Dunolly and Burnt Creek Express* , 13/9/1892
14 Tully, 1988, p.2
15 *Dunolly and Burnt Creek Express* , 21/8/1896
16 *Dunolly and Burnt Creek Express* , 9/3/1897
17 Bannear, 1990

SITE NO. & NAME: **068 ARCADIAN REEF MINE SITE**

LOCATION: **Arcadian Reef, Moliagul**

DIRECTIONS: Approx. 1.25km E along Inkerman Mine Track from its junction with Moliagul-Dunolly main road, on E and W sides of the track.

MAP/GRID REFERENCE: Dunolly North - 402.243

PARCEL NUMBER: P123754

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

August 1861: The Acadian Reef was opened by a Nova Scotia man at the head of McBain's also in June 1861... [1]

1861: Discovered by a Nova Scotian in June 1861 and was the first reef discovered on Inkerman - at the top of McBain's Gully between Milkmaid Gully & Chancellor's Gully... the first ton went 309 ounces, and the next two 6 ounces, or something like £2400 worth.
Arcadian Reef was rushed after discovery... In November 1861, a half-ton of stone from Peter Frayne's claim crushed at Wayman's crusher at Sandy Creek yielded 287 ounces. [2]

1861-62: One of the first discovered and best known of [Inkerman's] auriferous veins is that to which the name of the Acadian Reef has been given, from the circumstance of its discoverer being a native of Nova Scotia or Arcadia. He was fossicking on the side of a ridge of slaty sandstone and mullock, when he came upon a magnificent specimen of white auriferous quartz. It was snugly nestled in the long grass among some debris from a leader or vein, and had evidently not travelled far, for its edges were sharp, and it had no appearance of being washed except by the rains of winter. It was not large, but it contained as much gold as quartz. The lucky finder did not wander far afterwards in search of better prospects. He commenced to sink close by the spot. It was not far from the alluvial diggings of Inkerman, but between them and Mount Moliagul, on the north-east. His labor was not long in finding its reward. He discovered a rich leader, and in June, 1861, took out a prospecting claim for the reef, to which he gave the name of Acadia, in remembrance of the land of the Blue Noses. This was the first reef discovered on Inkerman... The Acadian dips heavily - from north to south, running down to a depth of a hundred feet within the same length from the point where it was discovered near the surface. On the top, the main reef, or leader - whichever it be - was not more than two inches broad; it has widened to ten inches, and narrowed and widened again, and it lies so capriciously that two or more shafts have been found necessary for its working, within a few yards of each other... The casing of the reef is sandstone, and green slate of a soapy texture... Very rich, however was the quartz of these thin leaders, and the 'father' - as the first found specimen was named - was not disgraced by his 'children', the picked pieces of quartz that were taken up as the leader was broken out... all as fine as any specimens I had previously seen... From one ton of this quartz, 309 ounces of gold were obtained, and from two tons, 602 ounces, worth something like £2,400... [3]

2 August 1862: Arcadian Reef - A little more than a ton of quartz from Mr Frayne's claim on this reef, or thin leader, crushed last week, yielded...78oz of gold. [4]

Sept 1872: The Arcadian Co. have been incorporated to work this reef, and intend to commence operations without delay. [5]

Dec 1882: The Inkerman Company are sinking on a newly discovered reef, at 70 feet from the surface... Another lot of 10 tons of stone will be put through the mill shortly. [6]

Dec 1883: Inkerman Co. are sinking and driving ... the reef is from 1 to 2 feet wide, and payable. A new main shaft, 150 feet north of the underlie shaft, has been sunk 60 feet. Pumping, winding and crushing machinery has been purchased, but not yet moved onto the claim. [7]

Dec 1883: Inkerman Co. are sinking and driving ... the reef is from 1 to 2 feet wide, and payable. A new main shaft, 150 feet north of the underlie shaft, has been sunk 60 feet. Pumping, winding and crushing machinery has been purchased, but not yet moved onto the claim. [8]

March 1884: Main shaft has been sunk to a depth of 170 feet and crosscutting at the 160 foot level ... The pumping, winding and crushing plant, which is in the course of erection, will be completed in a month. [9]

1884: Hansford, Crabbe and others put down a deep shaft 100 feet east of Arcadia Reef. They had a first class engine and gear, and proposed driving west to intersect the reef, but failed to reach it, their offers of tribute being declined. The company was the Inkerman Quartz Co.[10]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1861:	Reef first opened
1872:	Arcadian Co. incorporated to work the reef.
1882:	Worked by Inkerman Co.
1884:	Inkerman Co. erecting pumping, winding and crushing plant
1896/1940s:	Cyaniding

Surviving remains probably relate to the Inkerman Company's operations on the mine. Presumably, the furnace was either part of the company's crushing and gold treatment process, or used to melt fine gold retrieved during later cyaniding operations (or both).

Battery and mine site

A large dam lies on the E side of the track. Around its S perimeter runs a dump of battery sand. On top of the dump of battery sand are two circular slabs of concrete (bases of cyanide vats), both 3.6m (12ft) in diameter.

Below the dump of battery sand is a stone structure. The battery sand appears to have either formed around or been excavated for the structure. The structure consists of a stone and mortar wall, into which are set two small, circular, brick-lined furnaces. Only part-sections survive of these furnaces, but they would have had diameters of 45cm (1ft 6in), and stood over 0.5m high. The bricks lining the bowls are heat-crazed and coated with a thick lining of slag.

25m S of the battery sand dump is a stone and brick fireplace whose outside dimensions are 1.2 x 2.1m, and which has walls 40cm thick. A faint outline of raised dirt suggests that the building associated with the fireplace was constructed from mud-brick, and probably contained only one room, measuring 11ft x 20ft.

The remnants of a mullock heap lies on the opposite side of the road. It has apparently been bulldozed to fill shafts. A spread of red bricks lies around the bulldozed area, suggesting that the associated machinery footings suffered the same fate. The surviving mullock heap measures 9 x 18m, and stands about 6m high. On the SE face of the mullock heap is a stone-retained loading bay.

PHOTOS: Photo 1: Concrete bases of cyanide vats
Photo 2: Furnaces
Photo 3: Standing fireplace.

ARTEFACTS: None visible

INTEGRITY/CONDITION: The site has suffered badly due to bulldozing. The small furnaces are a feature not found surviving elsewhere in the Division.

THREATS: Continued bulldozing of mullock heap and other remains.

CULTURAL SIGNIFICANCE:

Historical information shows the mine site not to be historically important. Nor are the remains sufficiently preserved to be of significance as an interpretive site.

Significance ranking: None

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett 1979, 281
2 Flett, 1956
3 *Argus* Special Reporter, in *Dunolly and Burnt Creek Express* , 29.111862, p. 2
4 *Dunolly and Burnt Creek Express* , 2.8.1862, p. 2
5 Mining Surveyors' Quarterly Reports, September 1872

6 Mining Surveyors' Reports, Dec 1882
7 Mining Surveyors' Reports, Dec 1883
8 Mining Surveyors' Reports, Dec 1883
9 Mining Surveyors' Reports, March 1884
10 Flett, 1956

SITE NO. & NAME: **069 FIRST INKERMAN DIGGINGS**

LOCATION: **Three Grain Gully, Moliagul**

DIRECTIONS: Runs parallel to the western side of the Moliagul-Dunolly main road.

MAP/GRID REFERENCE: Centred on Dunolly North - 385.263 up to Moliagul Historic Reserve

PARCEL NUMBER: P123745 and P124951

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC- NCE12

HISTORY:

1854/55: There is some doubt to the actual date of the HardHill rush, but one account records: 'The Hard Hills at the head of the first lead worked at Dunolly in 1854. The first holes were bottomed on New Year's day, 1854, and the lead was called New Year's Lead. Three sailors who lived at Inkerman were the prospectors...' Some time after the HardHill rush the diggers deserted Dunolly for Avoca, but meantime gold was discovered about halfway between Moliagul and Dunolly P.R. at what became known as Inkerman and there was a large rush there in July 1855. There were an estimated 16,000 men, who dug up about a mile of rich, nuggetty ground, on the west side of the Burnt Creek from Three Grain Gully down.[1]

July 1855: The *Age* - At Mt. Moliagul three weeks ago there were not 300 on the diggings, now there are 3000 surfacing and doing well. Plenty of water is to be got and the ground is yielding an average of 1/2dwt to the bucket. Several miners are making their piles. The new rush that has occurred the influz is on a little hill. This first rush to Inkerman, much written up in "The Age" of the time, first brought to light the nuggets that made the locality famous. It saw the first coach services that had ever run in the district.
On August 23rd there were 6000 on the rush, that was referred to as the "Moliagul Rush", but it was actually closer to Inkerman and always referred to as tthe first Inkerman Rush later at Dunolly. At that date there was a street of shops and saloons a mile long. The rush was composed chiefly of diggers from Daisy Hill, Maryborough and the Alma...
Inkreman Rush was lively and the typical rush. The gold extended for two miles and was from 10 to 16ft deep. It was coarse, nuggetty, and plentiful, and typical of the whole of the gold in the Burnt Creek Valley - it was in a series of patches and very rich.
The Maryborough correspondent wrote - "Ourstreets, long destitute of life have been for the last week crowded with eager multitudes, all wending their way to the new rush at Moliagul. I believe there are 16,000 there and every day seems to increase the number ... A large street has been formed and public houses and stores rapidly erected. By Sept 16th, 1855 the rush was declining. Famous Fiery Creek Rush near Beaufort had begun.[2]

August 1855: it was estimated that there were 6000 people at the rush which was referred to as the "Moliagul Rush", although it was actually nearer Inkerman. Shops and saloons lined the track to Moliagul for almost a mile.[3]

July 1856: a large rush took place at Inkerman, between Dunolly and Moliagul. For the first time ever, coaches travelled from Maryborough to Inkerman, conveying passengers to the rush.[4]

1857/58: In March 1857 there was another large rush to Inkerman, south of the 1855 workings, which built up to a population of 6000 in April. Small new discoveries of gold took place everywhere in 1857. A digger named King in August opened Munster Gully, and late in 1858 gold was traced down from the ranges west of Inkerman, and Morman Gully, Wattle Flat was opened.

March 1857: First reports of the second great rush to Inkerman were in the Melbourne daily papers on 15th March 1857 ... There were 3000 on Inkerman Rush at the time of the second rush there in 1857. The gold was from 9 to 20ft deep, the creek was running water and an ounce to the tub was being washed up. Nuggets from 2oz to 20oz had been found. The rush occurred south of the previous rush, and at the locality now known as Wattle Patch, but extended from there up and down the creek as far south as the Old Police Camp at Goldsborough.[5]

7 April 1857: "Melbourne Herald"-"there are now 12,000 at Inkerman. On every tent a chimney is erected, and although to the casual observor this may seem of no importance, it is yet one of the surest indicators of the intention of the inhabitants' to winter here. The main street is already a mile in length and contains many buildings of a neat and substantial character.[6]

4 May 1857: still many diggers left at Inkerman, and now that the town was established it did not completly disappear and many stayed on confident that sooner or later they would get a nugget... [7]

Nov 1858: yet another rush to the nugget-fields of Inkerman... The usual number of stores and grog shops were erected at Inkerman. Thus was Mormon's Gully opened in 1858. In March 1859, a new lead was discovered at Wattle Flat at Inkerman. [8]

1860/61: In June 1860 Longbottom and party discovered gold in Tipperary Gully near Goldsborough racecourse, and the area between the racecourse and Mt Bealiba Hotel was rushed in October that year. In 1861 there were a series of discoveries east of Inkerman. Fraser, opened Fraser Gully. James McBain Farmer's Gully in May, and Milkmaid Fat Rush, prospected by Cook and Hood, started in June. The Acadian Reef was opened by a Nova Scotia man at the head of McBain's also in June 1861, the Exhibition Reef by Douglas and the Arrandale Reef by Peter Kerr, In August. Also in June 1861 there was a fresh discovery of a lead on Sporting Flat by Thomas Boan, and in August a Maltese started a rush to McIntosh's Gully near the Belgian Reef. The Bealiba Reef, where the Queen's Birthday mine later operated, was also opened in June 1861, by a man named King.

Mid 1861: another rush started at Inkerman, at the foot of Milkmaid Gully. The prospectors of this was James McBain, and this gully was sometimes known as McBain's Gully. A rush also began at Milkmaid Flat after two diggers, Cook and Hood, had bottomed a rich hole. About 3500 diggers were there in June 1861. [9]

May 1861: A considerable number of men have returned to the old ground in the neighbourhood of Wattle Flat, Inkerman...and many are erecting puddling machines. [10]

Wattle Flat and Inkerman Rushes. Nuggets recorded-
Wattle Flat: 20, 24, 26 (20, 32, 36, 40, 50, 100, 144, 157 and 300 oz.
White Patch: 60, 100 and 200 oz
First Inkerman Rush: 18, 26, 52, 84 and 432 oz.
Second Inkerman Rush: 18, 25, 27, 28 (2), 30, 36 and 40 oz.
Various Inkerman area: 60, 100, 200 and 220 oz. [11]

Sept 1861: Inkerman has again came to the fore by attracting many who had no luck at Burnt Creek and the 'North Wales Lead' had been opened there on the hill. There were 3000 then at Inkerman and substantial stores were once again going up on this oft deserted place. At this time the three famous reefs were opened up at Inkerman, the Acadia, Skippers and the Arrandale, a north of Inkerman a rush called the Cemetery Flat was opend by two Germans - Crewechich and Lazarawitch - about 500 yards north of Moliagul Cemetery about 1st Nov 1861. [12]

1 Nov 1861: Cemetery Flat Rush took place, and an area of land about 500 yards north of the Moliagul cemetery was worked. [13]

July 26 1862: The cry in the summer is want of water. Now it is the reverse as there is decidedly too much of the liquid element. Although the rain of the past week had seriously impeded alluvial mining in some respects, it has rejoiced the hearts of the puddlers and quartz crushers ... The neighbourhood of Inkerman and Wattle Flat have perhapd been most materially benefitted by the plentiful supply of water... [14]

15 Nov 1862: Great Find at Inkerman - Last week Peter Kerr and party found nearly £400 worth of gold while prospecting for a reef on one of the ranges at Inkerman. The whole was obtained from one bucket of stuff, at a depth of 15 feet only. There can be no doubt that with such magnificent gold in the easing a good reef exists in the immediate neighbourhood. [15]

Aug 1868: Gipsy Rush was first called Wattle Flat Rush, was propspected first by Samuel Collins and C. Thompson (the former of whom was called Gipsy Sam) on the 4th August 1868. Gipsy began rather quickly, on the 11th August there were 200 on the field, the sinking was four feet deep, and places of business were already being erected. A report on this date said 'The gully is pretty extensive and runs in the direction of Little Bulldog Gully'. Tunstalls - the original claim of Collins and Thompson - was on a hill, and 15dwts only were found in this, but by the 14th August the rush had spread to the opposite side of the original strike, great crowds were arriving and more stores were goin up. [16]

DESCRIPTION OF PHYSICAL REMAINS:

The Burnt Creek alluvial lead was very rich, but patchy: a run of nuggetty gold would suddenly cut out, giving way to barren ground. The above landscape certainly illustrate this, with the cemetery located on barren ground between two intensively worked patches of nuggets. These patches appear to have been worked by two quite distinct rushes.

According to James Flett's (1979), the first Inkerman Rush took place in July 1855, and was associated with Three Grain Gully. A Plan of the Gold Fields, Mount Moliagul, and the line of the old road from Dunolly to Bealiba, dated 1865 (drawn by Hugh Fraser, Assistant Survey) [17] also confirms the location as the site of the first rush.
Sinkings generated by the rush stretched for a mile downstream from this gully. As a result of this rush, the cemetery was established. The sinkings north of the cemetery appear to belong to another episode in the history of the Inkerman Diggings: the Cemetery Rush, which took place in November 1861. Obviously this rush received its name from its proximity to the cemetery. After this date, other large rushes occurred to the south of the cemetery, but always to new ground. It therefore appears that the two areas were not re-rushed, though they were probably prospected from time to time by fossickers.

Alluvial workings and cemetery
A wide band of sinkings and mounds surviving on Crown Land. They stretch for about 2.5km from Queens Gully, south down Burnt Creek to the junction of the creek with Three Grain Gully. The diggings are particularly intense at this junction, which is about 0.5km south of a cemetery. The alluvial sinkings sweep out of Three Grain Gully and head downstream. The band of workings appears to be an inner core of very concentrated sinkings (holes almost touching) with more dispersed sinkings on the edges. North of Three Grain Gully the sinkings peter out as you near the cemetery.
The earliest marked grave in the cemetery is dated May 1859.
A survey and assessment of the Moliagul Historic Area conducted by Ray Supple, Historic Places Unit, Department of Conservation and Environment (1988) found that the area north of the cemetery has been intensively mined and is covered with well-defined alluvial holes up to 1.5m in diameter, 1m deep and 1.5 to 2m apart.

PHOTOS: None taken

ARTEFACTS: Apart from the sinkings and mullock heaps, and cemetery, no other features, such as puddling machines or stone fireplaces were noted

INTEGRITY/CONDITION: Partially visible holes, and weathered mounds of mullock.

THREATS: Strip mining

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it is:
  a) associated with an important event: the first Inkerman Rush which was one of the Division's earliest and largest rushes.
  b) part of a group or network of sites, the totality of which is considered to be significant: the establishment of the adjoining cemetery clearly dates to the time of the earlier rush.
- Scientific significance because it is historically representative. The sinkings are well-defined, intense, and located in a distict band. The juxtaposition of the alluvial workings and the cemetery also demonstrates the patchy nature of the Burnt Creek Lead.
- Social significance because the cemetery is an important site to the local and wider community.

Significance ranking: National Estate

CONSERVATION POLICY

The significance of the place comes from its representativeness of the traditional mining technology, and from the association of the alluvial workings with the old cemetery. No future work should be to the detriment of this association.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected

Assessor: David Bannear Date: May 1991

1 Flett 1979, p279
2 Flett, 1956
3 Carless 1983, p21
4 Carless 1983, p3
5 Flett, 1956
6 Flett, 1956
7 Flett, 1956

8 Flett, 1956
9 Flett, 1956
10 Mining Surveyors' Reports, May 1861
11 Tully 1988, p8
12 Flett, 1956
13 Carless, 1983, p.21
14 *Dunolly and Burnt Creek Express* , 26.7.1862, p2
15 *Dunolly and Burnt Creek Express* , 15.11.1862, p2
16 Flett, 1956
17 Centrals Plans Office, Treasury Place - Goldfields 17

SITE NO. & NAME: **070 KANGAROO REEF QUARTZ MINE**

LOCATION: **Kangaroo Reef, Laanecoorie**

DIRECTIONS: The main workings on Kangaroo Reef lie 300m N along Burnt Tree Gully Track, from its junction with Hill and Dale Track, and in 200m (W) of the track.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 560.229

PARCEL NUMBER: P124613

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1850s: The gully here is below the rich Kangaroo Reef out of which 1551 oz was obtained from 601 oz in 1859. The reef was not worked in the gully for fear of being flooded by water in the alluvial. [1]

Sept 1859: Kangaroo reef is again looking up. Five claims are getting gold. [2]

Dec 1867: At Cay's Diggings - The Kangaroo and American Reefs, long since abandoned, are again taken up by private companies, and will shortly be worked. [3]

Dec 1870: The Kangaroo and American Companies (Cays) are negotiating with Melbourne capitalists for the erection of machinery for the purpose of working their mines in a more efficient manner. [4]

Sept 1871: Kangaroo Company have purchase steam machinery for the mine, and shortly will proceed with the erection of it. [5]

June 1872: Kangaroo Company have sunk their engine shaft 150 feet ... The ground is hard and water heavy ... They are putting the batteries in order for crushing.
South Kangaroo is about to let their mine on tribute.
North Kangaroo are about to sink a new shaft. [6]

1878: Edward Hayes worked the puddler here in 1878. [7]

March 1882: Kangaroo Co. - have let a contract to sink their shaft 100 feet from the surface. They are now down 60 ft, and timbering up. [8]

March 1883: Kangaroo Company engaged in erecting machinery. [9]

March 1884: Kangaroo Co. ceased work, trying to dispose of their property to the Mercantile Co. [10]

June 1884: Kangaroo Co. have cleaned out an old shaft, and are erecting winding machinery. [11]

Sept 1884: Kangaroo Co. struck a gold-bearing lode at 145 feet ... aportable winding engine and gear has been provided at this mine. [12]

June 1885: Kangaroo Co. have purchased a crushing plant at Halfway. They are now putting it in repair and will shortly commence crushing. [13]

Dec 1887: The New Kangaroo Co have driven 140 feet south on the course of the lode. [14]

DESCRIPTION OF PHYSICAL REMAINS:

Main period of mining appears to have been from c.1859 to late 1880s. The reef's main mine, operated by the Kangaroo Co. appears to have been situated at the southern end of the reef. Little survives of the mine save traces of mullock and a dam. The reef has been prospected for about a kilometre of its length. There are several open shafts at the northern end of the reef.

Reef workings at southern end

Line of mainly shallow workings (open-cutting) that run N and S across Hill and Dale Road. At the N end of the reef, near the head of Burnt Tree Gully, the reef has been more extensively worked. Here there are 3 shafts (two still open and with their wooden collars) and a section of open stoping. All the workings are surrounded by mullock paddocks. 300m to the E is another shaft (still open), some open-cutting and associated mullock paddocks.

The reef to the south has been prospected and, in places, opened up with shallow trenching.

Mine site

A survey of the mining area found no evidence of any mullock heaps, machinery footings, or bricks or battery sand, suggesting that the quartz was carted elsewhere for treatment. However, at the S end of the line of reef, near the main Laanecoorie-Dunolly road is a large dam. Near this dam is the remnant of what appears to have been a sizeable mullock heap. This may well have been the site of the main Kangaroo Reef mine.

PHOTOS: Photo 1: Shaft with mullock paddock
Photo 2: Showing all the workings

ARTEFACTS: None visible

INTEGRITY/CONDITION: Some of the reef workings are in good condition, comprising some of the few shafts found in the Division to have escaped being filled by the Mines Department.

THREATS:

CULTURAL SIGNIFICANCE:

This was certainly not one of the Division's famous or important mines, and little survives of the main mine on the reef. However, the site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (sites 006 to 008, 057 & 070)
- Scientific significance because it represents an important mining technology: the windlass shafts and open cutting are some of the rare escapees of the shaft filling programme.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the place comes from the intactness of the reef workings located at the southern end of the reef and the existence of other mining sites in close proximity.

RECOMMENDATIONS FOR IMPLEMENTATION:
Site to be protected

Assessor: David Bannear Date: May 1991

1 Tully 1988, p46
2 Mining Surveyors Reports, Sept 1859
3 Mining Surveyors' Quarterly Reports, December 1867
4 Mining Surveyors' Quarterly Reports, December 1870
5 Mining Surveyors' Quarterly Reports, Sept 1871
6 Mining Surveyors' Quarterly Reports, June 1872
7 Tully 1988, p46
8 Mining Surveyors' Quarterly Reports, March 1882
9 Mining Surveyors' Quarterly Reports, March 1883
10 Mining Surveyors' Quarterly Reports, March 1884
11 Mining Surveyors' Quarterly Reports, June 1884
12 Mining Surveyors' Quarterly Reports, Sept 1884
13 Mining Surveyors' Quarterly Reports, June 1885
14 Mining Surveyors' Quarterly Reports, Dec 1887

SITE NO. & NAME: **071 NUGGETTY GULLY ALLUVIAL DIGGINGS**

LOCATION: **Nuggetty Gully, Betley**

DIRECTIONS: Runs parallel to the main Laanecoorie-Tarnagulla road, on the NE side of road. The main section of Nuggetty Gully lies between the junctions with the Dunolly-Tarnagulla main road and the dirt road to Eddington.

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - Runs from 528.245 to 533.232

PARCEL NUMBER: P124612

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCE21

HISTORY:

1853: The first newspaper report of the Sandy Creek discovery was in the Herald, 28 March 1853, which said that within the last few days there had been a rush from Forest Creek to Dandy Creek and Sandy Hill, on the old Adelaide overland road, going towards Korong. In April Ironbark Gully and rich surfacing near it were opened, and about mid July Nuggetty Gully, beginning near the heads of Sandy Creek Lead and Ironbark and running south-east. Here there was one of the largest rushes ever in the area, which was confusingly called 'Jones Creek Rush'... By August there were 7000 at Nuggetty Gully. [1]

1853: Nuggetty Gully was opened in 1853, and it is in this year that we have the first record of nuggets of gold being found. A negro named ruby (who was later hanged for murder) and his partner uncovered 86 lbs weight of gold in a fortnight ... The heaviest nugget found in this gully, which lies about half-a-mile south of Tarnagulla, weighed 32 lbs. [2]

1853 Nuggetty Creek: A large rush occurred here when first discovered in 1853. This was followed by several more over the years as the lead was traced further and further down towards the Loddon.[3]

1860s: 'Black Joe' Ruby and Egan found a 144 oz piece, on the surface, as part of a patch of 1052 oz in two weeks. In 1861, Ruby murdered his partner Joe Watson at Tarnagulla, for which he was hung. It was a well-published event after which an effigy of him was put in the Melbourne Wax Museum.[4]

DESCRIPTION OF PHYSICAL REMAINS:

These alluvial sinkings date to the 1853 Nuggetty Gully Rush, the largest rush to take place in the Tarnagulla area. Its nuggetty reputation saw the gully reworked on many subsequent occasions.

Alluvial workings

A heavily worked gully, once a chaos of almost overlapping sinkings and mullock heaps. However, extensive bulldozing/metal-detecting and dam-building operations have removed a considerable portion of the workings. There is one large intact patch near the southern end of the workings, close to the main road. A bush track runs along the eastern edge of the diggings, and along its western verge are the remains of several stone fireplaces, which bear the scars of modern treasure-hunting. These stone structures appear to be associated with exposed scatters of 19th-century bottle glass.

Modern strip mining has taken place in the gully, taking substantial 'bites' out of the early diggings.

PHOTOS: None taken

ARTEFACTS: 19th century and 20th century bottle glass

INTEGRITY/CONDITION: The flow of the alluvial diggings have been significantly affected by modern strip mining. An intact patch of workings, still survives at the S end of the gully, close to where the gully crosses the Dunolly-Laanecoorie main road

THREATS: Strip mining and bottle hunting.

CULTURAL SIGNIFICANCE:

Nuggetty Gully was the site of the largest alluvial rush to take place in the Tarnagulla area. The integrity of alluvial workings in Nuggetty Gully have been seriously diminished by modern strip mining. A patch of workings still surviving at the southern end of the gully, near the Tarnagulla-Laanecoorie main road, has:

- Historical significance because it is associated with an important event (Tarnagulla's biggest rush)
- Scientific significance because of its historical representativeness: they are the only physical remains which survive that provide an insight into the intensity of the Nuggetty Rush.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett 1979, p272
2 Clarke 1985, p3
3 Tully 1988, p41
4 Tully 1988, p41

SITE NO. & NAME: 072 **BURNT CREEK NO. 2 MINE SITE**

LOCATION: Betley

DIRECTIONS: Corner of Bet Bet and Whitings Roads. Betley

MAP/GRID REFERENCE: Laanecoorie South 1:25000 - 512.112

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private

EXISTING HERITAGE CLASSIFICATION: LCC Study; McConville (1987

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

31 Aug 1897: Burnt Creek, Dunolly - The bricklayers have been making better progress, the pumping pier being nearly completed, so that the contractor will be able to make better headway with erection of the machinery. One bob is already in place, and the cylinder is in position. [1]

7 Sept 1897: Both bobs are now in position and a large pumping wheel on the pier is ready to receive shaft. Span beam for capstan is up in place; also leg that carries the lead wheel.[2]

19 Oct 1897: Burnt Creek Co. - The brick engine house will be completed to-morrow.[3]

4 Oct 1898: Good headway has been made with foundations for boilers...both of which have been delivered. Dam is nearly completed.[4]

1903: The Burnt Creek Co. who are working the Burnt Creek lead, have panelled out about 10,316 tons of wash for a yield of 6,169 ounces of gold. This work involved the employment of 150 men, of whom 125 worked underground.[5]

1904: At the Burnt Creek mine, steady progress is being made... Number of men employed 178... At No. 2 shaft a powerful winding and pumping plant has been erected.[6]

1909: Burnt Creek Co. - Two puddling machines have been added to the treatment plant. In the shallow alluvial ground, leading into the deep leads, 15 parties have been engaged, employing 62 men... Several of these parties have erected small cyanide plants in connection with their mines for the purpose of treating the slum from the puddling machines, which is carefully stacked, and which was formerly lost onto the creeks or scattered over the surface.[7]

1910: At the Burnt Creek mine, progress has been slow, owing to the unevenness of the ground and the large amount of water to deal with.[8]

1911: Burnt Creek mine - prospects improving.[9]

1913: Burnt Creek Co. closed down in the latter part of the year... The reason given is that developmental work was not sufficiently advanced to allow the ground to drain and be worked to an advantage. The plant has been sold off.[10]

DESCRIPTION OF PHYSICAL REMAINS:

Remains of the Burnt Creek No. 2 mine, where the Burnt Creek Co. worked the deep lead from 1897-1913.

Deep Lead mine

Located in a paddock is a large dump of mullock, measuring some 100 x 130m, and approx 35-40m high. On the SE corner of the dump are substantial brick foundations, covering an area of approx 18m x 8m. These foundations are of three separate blocks of brickwork, each one standing to a height of 1.7m.

20m from the S end of the brick foundations is the remains of a brick chimney base. The base is 3.05m (10ft) square and stands to a height of 80cm. The area between the chimney stack base and the brickwork has been extensively excavated, but once would have been covered by a thick concrete floor.

On the E side of the brick foundations is a small insitu iron boiler.

Immediately in front of the brickwork is a long rectangular pit (10 x 2.2m, and at least 2.4m deep) which terminates at the site of the main shaft (filled-in). To the NE of the pit are the remains of a dump of washed gravel.

In the surrounding paddocks are large mounds of sand.

PHOTOS: Photo 1: Brick foundations and pit. Looking W
Photo 2: Brick foundations and chimney base. Looking E
Photo 3: Foundations and insitu boiler. Looking NW

ARTEFACTS: Small iron boiler

INTEGRITY/CONDITION: Good

THREATS: Quarrying

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because it:
  a) was a success as a mine in terms of production levels and yields.
  b) is part of a group or network of sites, the totality of which is considered to be significant (sites 072 to 075).
- Scientific significance because it:
  a) represents an important mining technology, being the most intact deep lead mine in the Division. The mine site represents the final of three moves by the Burnt Creek Co., during the 25 years it successful mined the Burnt Creek lead. Whilst the quartz mining industry of the Division ground to a halt towards the turn of the century, the Burnt Creek Co. continued to prosper, and in 1903 was employing 150 men. The huge dumps of mullock, washed gravel and sand are important landmark features and are representative, not only of the technology, but of the most southerly extent to which this kind of mining was carried out in the Division.
  b) represents an inventive or innovative process. Whilst operating this mine the Burnt Creek Co. was responsible for the operation of small cyanide plants to treat the slum generated by puddling machines on their mines.

Significance ranking: Regional

CONSERVATION POLICY:

The site's significance derives from its intactness as a mine site, its potential for research (of slum-cyaniding), and its value as a boundary marker. No future work should act to the detriment of these qualities.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected. The site should be further assessed in respect to its wider significance, particularly its scientific significance, with regard to the cyaniding of puddler slum.

Assessor: David Bannear Date: May 1991

1 *Dunolly and Betbetshire Express* , 31.8.1897
2 *Dunolly and Betbetshire Express* , 7.9.1897
3 *Dunolly and Betbetshire Express* , 19.10.1897
4 *Dunolly and Betbetshire Express* , 4.10.1898
5 Mining Surveyors' Reports, 1903
6 Mining Surveyors' Reports, 1904
7 Mining Surveyors' Reports, 1909
8 Mining Surveyors' Reports, 1910
9 Mining Surveyors' Reports, 1911
10 Mining Surveyors' Reports, 1913

SITE NO. & NAME: **073 BURNT CREEK NO. 1 MINE SITE**

LOCATION: **Betley**

DIRECTIONS: On the W side of Howards Lane, 1km from its junction with Betley Road, Betley.

MAP/GRID REFERENCE: Laanecoorie South 1:25000 - 495.123

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private

EXISTING HERITAGE CLASSIFICATION: McConville (1987): LCC Study

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

March 1885: The Burnt Creek Company are still raising payable dirt and have just purchased the Kings Birthday Co.'s machinery, with the view of working the private property recently applied for on lease. [1]

June 1886: Tributers have been blocking out ground... They have also let a contract for the erection of another plant, and the ground is being bored to ascertain the course of the lead.[2]

Sept 1886: Burnt Creek Company have commenced the erection of new machinery on one of their leases on private property, about 50 chains SE of the old workings. [3]

Dec 1886: Burnt Creek Company - they are now erecting powerful machinery for pumping, winding and puddling purposes, to work the continuation of the lead, which had formerly been braced and profitably worked til levels were run out. A continuation of the Wild Dog Lead has been found to run through their ground.[4]

June 1887: Burnt Creek Company have sunk their main shaft to a depth of 247 feet... One 10 inch plunger lift is completed and a second one being put down. They are also erecting puddling machines and steam machinery to work them. [5]

Sept 1887: Burnt Creek company - A new puddler is in the course of erection. The company will then have three to work with. [6]

25 Feb 1890: During the past week, the west drive has been extended 36 feet, total from main shaft - 1634 feet. Yield for week: Company, 23oz; tribute 58oz. [7]

6 May 1890: Burnt Creek Co. - Bed for new boiler or No 4 boiler ready.[8]

4 Nov 1890: Yield last week - 132 oz.[9]

25 Nov 1890: Watsons Burnt Creek Co. - manager reports No. 1 bore down 115 feet from surface in hard cemented ground.[10]

April 1891: Inception of Burnt Creek Co., No Liability. [11]

6 March 1894: Burnt Creek Co. - yield for week 50 oz.[12]

19 April 1895: Burnt Creek Co. - yield for week 87oz. [13]

7 Jan 1896: Burnt Creek Co. - Area of leasehold: private propety, 540 acres; Crown lands, 27 acres; no. of men employed, 80. Gold won during 1895 - 2739 oz. Gold won since inception of the present Company - 14,265 oz; value about £57,000. [14]

DESCRIPTION OF PHYSICAL REMAINS:

The remains represent the Burnt Creek No. 1 claim, where deep leading mining was carried out from 1885 until the turn of the century.

Deep Lead mine

A dump of mullock and washed gravel. The mullock dump is roughly the same size as the one surviving on Burnt Creek No. 2, but does not stand as high. This dump is currently being quarried.
Most of the sand heaps associated with the washing of gravel appear to have been removed from the site.
Below the dump (on its N side) is a single block of brickwork, measuring approx. 2m x 10m and standing to a height of 1m. The area surrounding the brick engine foundations has been bulldozed and levelled.

PHOTOS: Photo 1: Looking E from Howards Lane
Photo 2: Surviving brickwork. Looking down from top of mullock dump
Photo 3: Surviving brickwork and mullock dump.

ARTEFACTS: None visible

INTEGRITY/CONDITION: Machinery foundations in relatively poor codition, mullock dumps still survive.

THREATS: Quarrying

CULTURAL SIGNIFICANCE:

Unlike it successor, Burnt Creek No. 2, machinery remains on the Burnt Creek No. 1 site are poor. Despite this the site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant. This mine was one of three operated by the Burnt Creek Co. in 25 years and the surviving mine dumps are a landmark feature and marker of the course of the rich Burnt Creek deep lead.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, March 1885
2 Mining Surveyors' Reports, June 1886
3 Mining Surveyors' Reports, September 1886
4 Mining Surveyors' Reports, December 1886
5 Mining Surveyors' Reports, June 1887
6 Mining Surveyors' Reports, September 1887
7 *Dunolly and Betbetshire Express* , 25.2.1890
8 *Dunolly and Betbetshire Express* , 6.5.1890
9 *Dunolly and Betbetshire Express* , 4.11.1890
10
11 *Dunolly and Betbetshire Express* , 7.1.1896
12 *Dunolly and Betbetshire Express* , 6.3.1894
13 *Dunolly and Betbetshire Express* , 19.4.1895
14 *Dunolly and Betbetshire Express* , 7.1.1896

SITE NO. & NAME:	**074A**	**BURNT CREEK COMPANY MINE**
	074B	**CALEDONIAN COMPANY MINE**
LOCATION:	**Betley**	

DIRECTIONS: Located S of the Betley-Dunolly Main Road, W of Timor Road.

MAP/GRID REFERENCE: Burnt Creek Company: Laanecorrie North - 475.120
Caledonian Company: Laanecoorie North - 469.129

PARCEL NUMBER:

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Burnt Creek Co. is located on Private land
Caledonian Company on State Forest - Parcel No. P121983

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Caledonian Co.: LCC- NC194

HISTORY:

1861: The salvation of Dunolly in 1861 was once again, when things were blackest, achieved by a strike of gold. On this occasion - on August 19th of that year - the strike was at Burnt Creek, when a lazy digger named Chipps watched two Welshmen bottom a hole on Spiller's Hill alongside one he had parially dug. A new lead was discovered ... The Great Burnt Creek Rush was the result, which was kept going by the perserving Chinese often when almost abandoned by the Europeans, undoubtedly saved Dunolly as a town ... The town turned the corner in 1861. In the next two years it consolidated itself, and for three years following this it reaped a rich harvest for the re-discovery of old runs of gold ... the continuations of the Wet Lead and Old Lead.[1]

1862-67: Main Burnt Creek lead, which continued apparently about half way to the later Burnt Creek No 1 mine before the lead was lost. For some reason the miners at the time expected this lead to run south through the hills to Bet Bet - Hong Kong Hills - but the old "Rising Sun" Company ... was unable to find the lead in that direction. This company later became the Duke of Edinburgh Co. in 1867.[2]

1862-1913: Hong Kong Lead was lost in 1862 and not re-discovered until 1869. The first good gold in it was not found until ten years later, and it was 1882 before it became payable to the Burnt Creek Co. It was then worked as a deep lead until 1913.[3]

1865: All companies - the Rising Sun, The Duke of Edinburgh, the Victoria and others having failed to find the continuation of Hong Kong lead near Bromely. Peter McBride was one of the chief ones in this quest and great must have been the discussion and the geological speculation over the Lost Lead ay Hong Kong, and the Bet Bet farmers took up the matter of the Deep Leads, forming a syndicate in Nov 1865, composed of Freemantle, Pike, Sewell, and Gemmill, who met at Grant's Bet Bet Hotel and, along woth 16 others, agreed to £20 each to starting boring for leads in the Bet Bet valley.[4]

Aug 1869: Dunolly mining men knew that the Hong Kong Lead continued, but had no clue to its direction; but this continuation was discovered on Aug 27th 1869 " south of the Duke of Edinburgh mine and not far from Adam Boyd's 42nd Section Block". The first lease of the area went to Richard James Scott of Timor in 1871, and the Great Caledonian Co. started in Sept 1872.[5]

Sept 1871: A large area of ground has been applied for, under lease, at Burnt Creek, by the Great Caledonia Company, who intend to work on the continuation of the Burnt Creek and Dunolly leads, which were very rich up to this point, beyond which they were not worked.[6]

1878: Work began as a tribute Co. in April 1878 when 170 acres of lease and an engine and 20 head battery was there - all the property of Alexander Watson, of Chinaman's Flat, who started there in 1877. The tribute Co., which Anstery, Seymour and Garlord were chief, then gave up and in 1879 when the first Burnt Creek Co. (of Edward Morris, Robert Richie and Watson) was formed it bought out the lease and plant. The mine was worked at 140 feet.[7]

Sept 1878: Caledonian Company have sunk their shaft and cut a chamber, also driven a reef about 300 feet. They are about to erect a battery for the purpose of reducing cement, of which they have a great quantity.[8]

Dec 1878: ...in alluvial mining...the Caledonian Company, Burnt Creek, are extending their reef drives and

constructing jump-ups. They have already opened up about 600 feet of cemented wash-dirt, and are now erecting engine, boiler, and 20 heads of stamps, to crush the same.[9]

Dec 1881: Watson's Burnt Creek Company (alluvial) have done a good deal of driving during the quarter, but have not got any payable wash yet.[10]

Sept 1882: The Caledonian Company, Burnt Creek, after long and persevering work, struck a lead of gold, which is turning out very favourably. They are now about to erect puddling machines in connection with the steam machinery already erected.[11]

Dec 1883: Burnt Creek Company have driven 350 feet, with payable prospects...company called for tenders for the removal and erection of two steam puddling machines.[12]

DESCRIPTION OF PHYSICAL REMAINS:

Located about 0.5km apart are the remains of two deep lead mines. These represent the properties of the Caledonian and Burnt Creek Companies. In the late 1870s/early 1880s these two companies were the first to successfully work the lead that had been unpayable for all other companies attempting to work it since 1864.

Burnt Creek Company

The most westerly of the two deep lead mines is currently being mined. This site was inspected from outside the security fence that now surrounds it. Most of its large mullock heap has been removed. Some brick footings may be located just in from the security fence, near the SE corner of the mullock heap.

Caledonian Company

Further down the Betley Road towards Dunolly is the site of another deep lead mine. This one is located in a State Forest and, apart from some minor quarrying, the dumps of mullock and washed gravel are relatively intact. The main mullock heap measures approximately 45 x 100m and stands about 25-30m high. Most of the sand from the site has been removed.

On the W side of the mullock heap, near its junction with a dump of washed gravel, is a spread of red bricks and large hornsfel blocks. This appears to be all that is visible of the mine's machinery footings.

PHOTOS	Photo 1: Burnt Creek mine - showing surviving section of dump Photo 1: Caledonian mine - showing spread of building material
ARTEFACTS:	None visible
INTEGRITY/CONDITION:	Mullock heaps are in good condition, but the mine sites are otherwise not very intact; nor are they prominent landscape features. One has been virtually obliterated by mine re-processing; the other is obscured by the forest.
THREATS:	Quarrying

CULTURAL SIGNIFICANCE:

The two sites represent the location of an important historical event. It was here that, after years of fruitless prospecting, the Burnt Creek deep lead was finally made payable. Unlike their successors, the Burnt Creek No. 1 and No. 2 mines, the mine sites are not very intact; nor are they prominent landscape features. However, the sites have:

- Historical significance because they are associated with an important event: the rediscovery and successful working of the lost Burnt Creek Lead.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Flett, 1956
3 Flett, 1979, p.278
4 Flett, 1956

5 Flett, 1956
6 Mining Surveyors' Reports, September 1871
7 Flett, 1956
8 Mining Surveyors' Reports, September 1878
9 Mining Surveyors' Reports, December 1878
10 Mining Surveyors' Reports, December 1881
11 Mining Surveyors' Reports, September 1882
12 Mining Surveyors' Reports, December 1883

SITE NO. & NAME: 075 SWEET NELL ALLUVIAL MINE

LOCATION: Betley

DIRECTIONS: Located on S side of Betley Road, 1km NWof Betley.

MAP/GRID REFERENCE: Laanecoorie South 1:25000 - 483.118

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private land

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: Pastoral

HISTORY:

1904: At the Sweet Nell, which is an alluvial mine, situated near Dunolly, and owned by a local syndicate, a shaft has been sunk to work a substantial remnant of the Burnt Creek gutter. The prospectors drives put in, per whim haulage, have disclosed wash of sufficient extent and value to justify the erection of a small winding plant, which is now completed, and at work. There are 20 men employed. [1]

DESCRIPTION OF PHYSICAL REMAINS:

These are the remains of the Sweet Nell deep lead mine which commenced operations in 1904.

Deep Lead mine

This site consists of adjoining dumps of washed gravel, mullock and sand.

The dump of sand measures about 50 x 75m, and is about 2- 3m high. The S side of the sand dump has been levelled and on the levelled top are two sets of 3 adjoining circular depressions. These each have a diameter of 8.1m (27ft), are flat-based and about 30cm deep. The depressions in each group are separated by baulks about 30cm wide, and the nearest circles to each adjoining group are separated by a 4m baulk. Remains probably relate to cyaniding operations.

The mullock heap is about 50m square and stands to a height of 8-10m. This heap has been partly quarried. On the W corner of the dump, about 15m away, is a low mound of brick rubble and mortar. This measures about 5 x 15m and stands to a height of 1m. There is also a small section of concrete footing visible in the rubble. The bricks are hand-made, and contain quartz lumps in their matrix.

PHOTOS: Photo 1: Adjoining circular depressions
Photo 2: Adjoining depressions
Photo 3: low mound of building rubble

ARTEFACTS: Several sections of boiler firebars

INTEGRITY/CONDITION: Dumps are well preserved.

THREATS: Quarrying of dumps.

CULTURAL SIGNIFICANCE:

This mine is not one of the Division's famous deep lead mines. However, the site has:

- Historical significance because it is part of a group or network of sites, the totality of which is considered to be significant (072 to 075). The Sweet Nell Co. was probably the last deep lead mining company to be formed in the Division. For the previous fifty years or so, companies like the Sweet Nell had formed an integral and important part of the Division's mining history.

Significance ranking: Local

CONSERVATION POLICY:

None required

RECOMMENDATIONS FOR IMPLEMENTATION:

None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, 1904

SITE NO. & NAME: **076 GERMAN CHARLIE'S DIGGINGS**

LOCATION: **German Charlie's Hill, Dunolly**

DIRECTIONS: The next hill west of Gooseberry Hill, on the west side of the Dunolly railway line. Follow the track that runs past the Gooseberry Hill tunnel.

MAP/GRID REFERENCE: Dunolly South 1:25000 - 435.155

PARCEL NUMBER: P122009

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCK1

HISTORY:

1864: This is really a series of hills known at different times as Hard, Slaughteryard, White, Patchy Flat, German Charlies, Gooseberry, Fifty Foot, Seventy Foot, Junction and another name unfit for the newspapers to reprint. The confusion was finally overcome by calling the whole lot Gooseberry Hill. It had been tried in many places with little result until one hole struck payable gold in late 1864. Goodholes were dug along a gutter all down the side of the hill. When the first hole on the flat failed to find gold, the miners realised that they had actually dug across the lead instead of along it and a large rush followed all over the Gooseberry Hill (s).[1]

DESCRIPTION OF PHYSICAL REMAINS:

The cement workings have the same undisturbed appearance as those surviving on Wild Dog Diggings. Unlike the Wild Dog Diggings, work on German Charlie's Hill was very shallow, restricted to quarrying the surface, rather than sinking shafts. Diggings appear to be opend up during the 1860s.

Cement workings
An intact patch of shallow workings on top of a small hill. The sinkings are shallow and poorly defined, and look more like surface-quarrying rather than shaft sinking. The area in which the conglomerate gravels have been worked is quite restricted, covering no more than 200 square metres. In the flat below the small hill are some alluvial sinkings and a well-constructed dam.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

CULTURAL SIGNIFICANCE:

Although mining operations on German Charlie's Hill were not especially important in their time, they now have:

- Historical significance because it is associated with an important historic event. This site represents the only undisturbed patch of hilltop conglomerate workings associated with the famous Burnt Creek Rush. In the early years of 1860s, this rush saved the town of Dunolly from extinction.
- Scientific significance because it represents an important mining technology: the prospecting and working of cemented gravels.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.24

SITE NO. & NAME:	**077**	**WALKER'S REEF**
	077A:	**Battery site**
	077B:	**Cyanide vats**
	077C:	**Whim platform**
LOCATION:	**Walker's Reef, Dunolly**	

DIRECTIONS: Sites are located 250m down Bromley Road from its junction with Maryborough Main Road. 150m east of the Bromley Road.

MAP/GRID REFERENCE: Site 77A: Laanecoorie South 1:25000 - 450.119
Site 77B: Laanecoorie South 1:25,000 - 451.119
Site 077C: Laanecoorie South 1:25,000 - 452.120

PARCEL NUMBER: P121980

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:
1858: On 19th Jan 175 ounces were got in one week from this reef and in 1866 it was still yielding 3 1/2 ounces to the ton [1]

March 1868: Walker and party again struck rich stone in their ground, and will commence crushing next week.[2]

June 1870: Walker's Reef Co. have erected pumping and winding machinery and have commenced mining operations by putting in a level at 140 feet. [3]

Sept 1870: ceased operations; they are attempting to get a party to work the mine on tribute. [4]

DESCRIPTION OF PHYSICAL REMAINS:

Battery appears to belong to Walkers Reef Co. and operated c.1868/early 1870s. Cyanide works would date to the 20th century. The whim platform is difficult to date, presumably it dates to the 19th century.

077A: Battery and shafts
All that survives of the crushing works on this site are two red gum battery stumps. One is partially burnt, the other has been burnt to ground-level. The more intact one measures 24 x 18in and stands a 0.5m above the ground; the other is approx. 18in square. Depressions indicate that at least 3 more stumps once existed. A channel runs from the N end of the battery in a north easterly direction towards a small dam. There is a dump of battery sand on the south east side of this dam. The battery stumps are surrounded by the odd red brick (hand-made) brick bat and fragments of boiler far bars. There is also a small dump of boiler ash.

100m S of the battery site are 3 open shafts, surroundedby their mullock paddocks. To the W of these shafts, near the corner of the forest block and freehold land, are some more mullock paddocks and some modern excavations. One shaft survives, and is still open and timbered from the top down. This open shaft is very close to the southern verge of the Sydenham Track.

077B: Cyanide vats and treated tailings (date to early 20th century)
75m north east of the battery side is a small dump of treated tailings. The dump is partly quarried. On the flattened top of the dump are three buried Gal. Iron cyanide vats. The vats, which adjoin one another, are 19ft in diameter. The most northerly of the vats has been partly destroyed by recent excavations. In the middle of this vat is a well preserved wooden pivot past (presumably for agitating arms).

077C: whim platform (difficult to date whim)
The southern section of the whim platform has been bulldozed. The surviving northern section is raised approx. 3ft above ground level, is constructed of local rock and clay, and has an insitu central pivot post . The post is 1ft in diameter, and is badly decayed. The structure has a diameter of 40ft and there is a definite narrow sunken track running around the platform's perimeter.

PHOTOS:
Photo 1: showing surviving stumps of battery.
Photo 2: timbered shaft
Photo 3: cyanide vat
Photo 4: whim platform, looking south
Photo 5: quarriedsection of the whim

Photo 6: decayed pivot post

ARTEFACTS: None visible

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:

The Walker's Reef sites have:

- Scientific significance because of their:
  a) intactness
  b) ability to demonstrate different mining technologies.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Mining Surveyors' Reports, March 1868
3 Mining Surveyors' Reports, June 1870
4 Mining Surveyors' Reports, Sept 1870

SITE NO. & NAME: **078 WILD DOG DIGGINGS**

LOCATION: **Dunolly**

DIRECTIONS: SW corner of junction of the main Dunolly-Eddington road and Wild Dog Lane, Dunolly

MAP/GRID REFERENCE: Laanecoorie North 1:25000 - 466.150

PARCEL NUMBER: P121965 and P121966

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Wild Dog Historic Reserve

EXISTING HERITAGE CLASSIFICATION: Wild Dog Historic Reserve; LCC Study, McConville (1987)

PRESENT MANAGEMENT/USE: LCC - NCJ18

HISTORY:

1856: Opened in 1856 this lead has been traced to the present Burnt Creek whence it turned east into deep ground ... Wild Dog Hill ... is a Historic Reserve with many holes both round and rectangular still open. [1]

Nov 1856: A great number of those who came to Dunolly Rush stayed in the area when the exodus from the Dunolly leads occurred in late 1856. The movement from Dunolly was mostly to nearby areas, the chief of which was the Wild Dog Rush in early November which was good in places and there were some 3000 or 4000 there. The sinking on Wild Dog (called by some Wild Goose) was 18 feet deep and up to 3 ozs. to the tub was washed.[2]

Feb 1857: minor rush to Wild Dog.[3]

Sept 1857: Another rush to Wild Dog Flat.[4]

June 1858: Another rush to Wild Dog.[5]

1857/59: At Patchy Flat about the first place opened was Gouses (Gooseys) Gully, before 1857, and Smith's (Blacksmiths) Gully in 1859. The main lead at Burnt Creek, that had been lost for some time, was rediscovered in 1858, and Wild Duck Lead, at the foot of Wild Dog Gully, was opened in July that year. New areas were also discovered at the 'Shoots', at the head of little Chinaman's. [6]

26 July 1862: The rush to Wild Dog has quite subsided, the best of the ground having proved scarcely payable. [7]

Dec 1886: Burnt Creek Company - ... A continuation of the Wild Dog Lead has been found to run through their ground.[8]

DESCRIPTION OF PHYSICAL REMAINS:

Well-defined sinkings onto Pliocene cemented gravels. Both round and square shafts and conglomerate mullock. These diggings reflect a series of rushes and re-workings that took place between 1856 and the late 1880s.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Well-defined and intact landscape.

THREATS:

CULTURAL SIGNIFICANCE:

The significance of these diggings is well recognised because of their age, intactness and rarity. For example, McConville (1987):

> The spacing of the shafts and lay-out of this field reflects the intention of the 1854 legislation. These regulations established the right of small individual operators or partnerships to mine a claim 24 feet by

12 feet for two men, twenty-four feet by 18 feet for three and 24 square feet for four. Wheras most shallow diggings in the shire have been filled or re-worked, these diggings remain much as they were when they were originallydug in the 1850s. Many of the shafts are circular indicating that they were dug by Chinese. The diggings demonstrate the lay-out of early mining fields which played so great a role in not only shaping this shire but forming the history of the state of Victoria. [9]

The historical information collected shows that the diggings reflect a series of rushes and re-workings, and, although it would be difficult to date the various holes, they are certainly representative of the traditional mining technology. The site has:

- Historical significance because it is associated with an important event: Phase 1 of the Dunolly mining history.
- Scientific significance because it represents an important mining technology: working of cemented gravel
- Social significance because of the importance of the site to the local or wider community.

Significance ranking: National Estate

CONSERVATION POLICY:

The site's significance derives from its rarity, representativeness and intactness. No future work carried out on the site should be to the detriment of these qualities.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site to be protected.

Assessor: David Bannear Date: May 1991

1 Tully, 1988, p.31
2 Flett, 1956
3 Flett, 1956
4 Flett, 1956
5 Flett, 1956
6 Flett, 1979, pp.276-77
7 *Dunolly and Burnt Creek Express* , 26.7.1862, p.2
8 Mining Surveyors' Reports, December 1886
9 McConville (1987), p177

SITE NO. & NAME: **079 OLD LEAD DIGGINGS**

LOCATION: **German Gully, Dunolly**

DIRECTIONS: W of Old Lead Road; between Railway line and Old Lead Reservoir, Dunolly

MAP/GRID REFERENCE: Dunolly North 1:25000 - runs from 436.188 to 439.210

PARCEL NUMBER: -

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Private

EXISTING HERITAGE CLASSIFICATION: McConville (1987)

PRESENT MANAGEMENT/USE: Pastoral/Prospecting now prohibited

HISTORY:

1855: Later in 1855 there were several new discoveries along the hills and the flats near the Burnt Creek at Dunolly, and in January 1856 the Old Lead was rushed. Digging in this large tributary of the Burnt Creek coming in from the north, had been going on for a considerable time, and an irregular run of gold discovered and traced down within a half-mile of the Burnt Creek. This area, then known as German Gully, was possibly opened in 1854, but the rush in January 1856, ending about a mile from the present town, was a failure. Many diggers then left for Avoca Wet Lead, but returned soon after to a large rush near the creek and south east of the Hard Hill. There was a long straggling street along Goldsborough road in June 1856, near the rush, that was also poor, but on 20 July large nuggets were found in two places: in German Gully (Old Lead) and at Kangaroo Flat, near the present crossing at Broadway and the Inglewood railway. This caused one of the largest and most sensational rushes in the State. The estimated population of the area of the town in September 1856 was 35,000, but an eye-witness, who counted the tents, figured there were 100,000 ...The large population of diggers at Dunolly Rush in 1856 discovered gold in a number of places. The original main lead was traced into the Wet Lead... Gold was discovered on the south fall from Patterson's Diggings at the extreme head of the Old Lead and was also traced from Charley's Gully and in Sporting Flat. In November 1856 a party ... discovered a reef and started a huge rush at Old Dunolly. The Belgian Reef (discovered by a boy), the Spread Eagle, and others were also opened at the end of 1856. [1]

1856 Rush: About 7000 people had gathered on the Old Lead at Dunolly where two large nuggets weighing 410 ounces and 182 ounces had been discovered. In spite of these important finds, the area then being worked was considered poor. Soon after, many diggers left for rushes at Jones's Creek and Avoca ... Diggers flocked in from Mount Alexander, Wedderburn and Avoca. Buildings which served as theatres, concert halls, hotels and stores at Avoca, were quickly dismantles and loaded on drays for transport to the rush at Dunolly, where by August, the population had reached 15,000 ... The Old Lead at Dunolly was about 600 yards wide and extended for about 4 miles, while the main street was about a mile long. The peak of the rush occurred about the middle of September, when 35,000 people were estimated to be in the Dunolly area ... From 1857 to 1860, the gold yield from the Dunolly district was approximately 100, 000 ounces per year.[2]

Jan/July 1856: The result of the discovery of the great nuggets on the Old Lead is easily guesses. Within a matter of weeks the rush was on a tremendous scale and equalled in size anything ever seen in the State ... The Dunolly Rush began in June 1856 ... The rush depopulated half the digging towns of Victoria and it stemmed the rush to Rocky River, N.S.W., and digging being at a standstill at Creswick, Daisy Hill, Castlemaine and Maryborough emptied themselves of diggers. A great exodus set in from Bendigo ... It was Avoca, however that suffered most from the Dunolly Rush. This place of all others had proved that s sudden wanderlust on the part of the diggers could cause a budding township to disappear. Balmoral Street, Avoca ... was a chain wide and was lined with large, permanent erections and looked like an established township. James Gearing, who was at the time running the first Newspaper there, said that as the news of the Dunolly rush got about the effect was like an earthquake. Theatre, concert halls, hotels and stores (including his printing office) litered the ground, and were hastily being loaded on drays, as each one raced the other to be first at the new "El Dorado" ... The thousands of diggers that poured into Dunolly in August 1856 traced the lead down towards Burnt Creek with great rapidity. Despite the depth of the sinking - usually 45 feet, and the size of the lead... The gold at the Old Lead was mostly nuggets, but otherwise the amount of gold sometimes got off the bottom was something prodigious. Near where the first gold occurred the washdirt was 5 feet thick and studded with gold.[3]

Nov 1856: Nuggetty Rush ...Another rush at this time occurred above the site of the Old Lead Reservoir ... in the gully ... that was called Nuggetty, on account of the 1856 finds, one party reported ... getting four nuggets 60, 30, 14 and 7 ounces in a week. At this time the population there steadily increased despite the smallness of the area of the diggings until there was practically a town there.[4]

July 1856: the newspaper published reports of the nuggets first found on the lead. The "Ballarat Star" published a list of ten pieces, the largest of which was 448 ounces, and the others 176, 144, 120, 96, 40, 17 and 3 of about 20 ounces weight. [5]

Aug 1856: estimated that there were 15,000 people at Dunolly and thousands more were arriving ... The street at this stage was about a mile long and the lead was 600 paces wide and extended 4 miles. [6]

25th Sept 1856: The pinnacle of the Dunolly Rush - It was variously estimated that there were from 30 to 50 thousand on the lead and crowded into the main street where in the long line of shops there was no break or room for carts to pass across... The later diggers carried on the rush...carried the workings into the wet ground or 'Wet Lead'.[7]

Sept 1856: The "Wet Lead" at Dunolly was at times "Unaccountably" rich ... In the early days of the rush the lead was very deep and wet and many claims were abandoned on account of the water. Parties had to work all night to save the shafts from being flooded, the water rising 25 feet up the shaft in 24 hours, while shafts were sometimes 60 ft. deep. The Wet Lead continued to yield phenomenal returns like a pound of gold to the tub in late November, and an ounce to the bucket in a great number of holes at Xmas 1856. [8]

Oct 1856: The Dunolly Rush after building up to the huge population that was even estimated at 60,000 in September, fell to about 20,000 in the middle of October when a very rich rush to Chinaman's Flat, Maryborough ... drew great many diggers from Dunolly. [9]

Oct 1857: Old Lead... brought to light ...[a specimen]... larger than any ever seen at Dunolly. The Dunolly nugget was 2952 ounces gross weight and when taken out of the ground broke into two pieces .... when melted produced 1363 oz 18 dwt.[10]

1857: Forming and metalling of Broadway (also known as The Broadway) began in April, 1857, when a Government grant of £4000 was provided. Burnt Creek waterholes became muddy and dirty, caused by the constant cradling, panning and puddling of the washdirt to obtain the gold. Near the course of the creek, holes were dug in the gravel and sand, and water allowed to seep into the depressions, the sand acting as a filter to clear the water ... it was collected and sold to township residents by the water carriers. On the outskirts of the township, many of the diggers' tents were being replaced by huts of wood and clay, with bark roofs. Brick buildings in Broadway were replacing the canvas and wooden shops. The Bull and Mouth Hotel and the Bendigo Hotel, were, by this time, partly constructed of brick. [11]

c. 1860: tenders called for the construction of a reservoir in a gully near the top of the Old Lead. Alexander H. Amos was the contractor and the cost was £912. At the time it was suggested that the water should be piped to the township, but this was not done until 1880, and until then, the water carriers had a lucrative business. [12]

1862: On the Old Lead also they settled permanently and around the area of the dam ... on the main lead a crowd of diggers had built little places and had goats, fowls and gardens to help tide them over bad times. They had erected a number of puddling machines and every now and then they came across an astonishing patch of nuggets apart from the ordinary earnings of this lead, which were seldom poor. [13]

31 May 1862: Important Rush - For some time past a number of miners have been prospecting in flat north end of the street, being firmly convinced that some thing payable existed in the neighbourhood. The "lead" was lost there and appeared to divide, one branch running to the right and the other to the left. That to the right proved to be a golden one indeed and the magnificent nuggets that have made their appearance from time to time, contributed to the make the old lead famous in the mining annals of Victoria ... Yesterday especially, Broadway was lined with some hundreds of diggers with mining implements on their shoulders, wending their way to and fro. On paying a visit to the spot yesterday afternoon, we found that the work had been stopped on account of the rain, but we counted about twenty windlasses, and many other shafts were going down. Some hundreds of claims have been marked out, extending from the Old Lead to Cemetery Flat. [14]

6 September 1862: Rush to the Old Lead - A rather extensive rush has taken place to some ground near Hughes store in this lead. [15]

1874: The opening of the Castlemaine to Dunolly railway, via Maryborough in 1874, resulted in the decline of coach services from districts served by the railway as the new passenger service was faster and more convenient for travellers. [16]

April 1891: A small rush has taken place near the Old Lead, about half mile from town, in some new ground. A number of claims were marked out yesterday. [17]

April 1891: Rush to Old Lead - north side of Tarnagulla Road. The sinking is about 38 feet. [18]

DESCRIPTION OF PHYSICAL REMAINS:

A surviving patch of alluvial workings which relates back to the great Dunolly Rush of 1855, one of Victoria's largest. The gully was rushed on numerous occasions until the 1890s, and would have been constantly prospected on a small scale into the 20th century.

Alluvial workings
A band of alluvial workings, associated mounds and stumps of dead trees. Because of grazing, the sinkings are particularly visible.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Historical significance because of their association with one of Victoria's great alluvial rushes (and that which founded the town of Dunolly), the 1856 Dunolly rush. Most of the alluvial sinkings on the Old Lead have been obliterated by dredging operations carried out in the early stages of the 20th century, but the diggings are well-defined, highly visible in the landscape, and thus evocative.
- Scientific significance because of their historical representativeness: although difficult to date the sinkings, they certainly reflect the traditional alluvial technology.

Significance ranking: National Estate

CONSERVATION POLICY:

The significance of this site derives from its rarity, intactness and visibility. No work in the future should be to the detriment of these qualities.

RECOMMENDATIONS FOR IMPLEMENTATION:

The site should be protected from future mining and/or prospecting.

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Carless, 1983, p.4
3 Flett, 1956
4 Flett, 1956
5 Flett, 1956
6 Flett, 1956
7 Flett, 1956
8 Flett, 1956
9 Flett, 1956
10
11 Carless, 1983, pp. 4-5
12 Carless, 1983, p.5
13 Flett, 1956
14 *Dunolly and Burnt Creek Express* , 31.5.1862, p.2
15 *Dunolly and Burnt Creek Express* , 6.9.1862, p. 2
16 Carless, 1983, p.5
17 *Dunolly and Burnt Creek Express* , 14/4/1891
18 *Dunolly and Burnt Creek Express* , 28/4/1891

SITE NO. & NAME:	080 HARVEST HOME MINE SITE
LOCATION:	**Harvest Home Reef, Dunolly**
DIRECTIONS:	Junction of Harvest Home track and Racecourse track, Dunolly
MAP/GRID REFERENCE:	Dunolly North 1:25000 - 428.221
PARCEL NUMBER:	P123754
MUNICIPALITY:	Shire of Bet Bet
LAND STATUS:	State Forest
EXISTING HERITAGE CLASSIFICATION:	McConville (1987); LCC Study
PRESENT MANAGEMENT/USE:	LCC - NCE21

HISTORY:

1857: William Grant discovered the reef.[1]

1859: Popple Brothers worked the reef, they had their quartz crushed at Sandy Creek. Thomas Miller and William Reilly had the Harvest Home Reef after Popples. [2]

1864: The main shaft was worked by J.H. yates, but before this some others had taken the reef for more or less short periods, including: Thomas Boan, Walter Woolterton and William Williams (Puddler Bill). [3]

Dec 1878: Beaconsfield Company...have had first class prospects from the two reefs in the various parts of their lease... The prospects being so encouraging, the company are about to incorporate under the Mining Companies Act and intend to sink a main shaft and erect crushing machinery. Several co-operative parties are at work on different reefs, sinking shafts, etc., notably on the Harvest Home, Kentish, and Sheepshead lines. [4]

1879-1880: Edmonds and Co. put down a new shaft on the reef to a depth of 150 feet. A Dunolly co-operative party gook over this reef... They formed the Beaconsfield Quartz Mining Co. in 1879. The Beaconsfield Co. erected a 20-head battery and in 1880 were working at 190 feet... The Company processed about 450 tons of stone a fortnight. The reef was later tried at 400 feet.[5]

March 1880: Harvest Home Company are sinking a new main shaft, and also the old shaft on the lode... They have also purchased a pumping and winding and crushing plant, and will shortly erect the same.[6]

Sept 1880: Harvest Home Company, Dunolly - The main shaft has been sunk to a depth of 208 feet. The erection of pumping and winding and battery is now completed.
North Harvest Home - sinking their main shaft, now 128 feet.
South Harvest Home - about to commence operations, and tenders have been called for sinking a new main shaft. [7]

25 Feb 1890: Working Miners, Homebush - no change reported in the washdirt face.[8]

29 June 1890: Working Miners, Homebush Co. - north main drive extended 29 feet, reef keeping about level. Yield of gold for week, 36 oz.[9]

23 Dec 1890: Working Miners - work has been pushed on as fast as the nature of the ground would permit. Yield of gold this week, 143 oz; for fortnight, 285oz 9dwts.[10]

18 April 1891: A small rush has taken place in the direction of the Harvest Home or Patterson's Reef, one party has returned excellent results. [11]

2 June 1891: Working Miners, Homebush - men now engaged laying permanent road.[12]

13 Sept 1892: Working Miners - Tangye pump supplying water for sluicing. Yield for week: 225 ounces; for fortnight, 465 oz.[13]

6 March 1894: Working Miners, Homebush Co. - yield for week 75oz. [14]

17 April 1894: Removal of poppet legs and re-erection at site of new shaft. Tenders for the supply of sawn and hewn timber for new shaft... plans for erection of new winding engine. [15]

26 June 1894: The blacksmith shop has been delivered on the ground, and foundations for the same. [16]

26 June 1900: Mother of Gold Consolidated Mines Ltd., Dunolly - North Harvest Home mine, winze below 160 feet N, level down 35 feet; 15 inchest at the footwall; quartz worth £6 per ton. [17]

5 Feb 1901: A crushing of 47 loads cleared up from the Harvest Home yielded 29 oz. [18]

DESCRIPTION OF PHYSICAL REMAINS:

Multi-phased site:

1857:	Reef discovered and first worked.
1878:	Beaconsfield Company - erection of first battery.
1880:	Harvest Home Company working.
1890:	Working Miners, Homebush Co.
1900:	Mother of Gold Consolidated Mines Ltd.

The remains reflect a re-worked site which, due to massive disturbance, contains little which can be accurately dated. The two circles on top of the battery sand are consistent with a late 19th-century retreatment process which employed Chilian wheels with Carpenter Patent Separators. Cyaniding of tailings took place in the Division between 1896 and the 1940s.

Mine site

A large dam is situated at the junction of Harvest Home and Racecourse tracks. On the NW corner of the dam is a dump of battery sand. The top of the dump has been levelled and on its surface are two circular depressions belonging to cyanide vats, each having a diameter of 6.7m (22ft). These depressions are 2m apart, and the most northerly one has a raised inner mound which which is surroundedby a narrow trench. The other circle is not as well-defined.

Below the dump of battery sand are the remains of another cyanide vat.

To the NW of the dam, by the road, is a second dam. Close to its eastern corner is a spread of brick and stone rubble, probably all that survives above-ground of a machinery site. To the E of the rubble is a mullock heap.

PHOTOS: Photo 1: two circles on top of tailings dump.

ARTEFACTS: None visible

INTEGRITY/CONDITION: As a mine site the remains are in a poor state

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Social significance because of the importance of the site to the local or wider community. The mine site was, until 1986, the venue of the annual Dunolly Gold Rush Festival. [19]

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Flett, 1956
3 Flett, 1956
4 Mining Surveyors' Reports, Dec. 1878
5 Flett, 1956
6 Mining Surveyors' Reports, March 1880
7 Mining Surveyors' Reports, September 1880

8 *Dunolly and Betbetshire Express* , 25.2.1890
9 *Dunolly and Betbetshire Express* , 29.6.1890
10 *Dunolly and Betbetshire Express* , supplment, 23.12.1890
11 *Dunolly and Betbetshire Express* , 28.4.1891
12 *Dunolly and Betbetshire Express* , 2.6.1891
13 *Dunolly and Betbetshire Express* , 13.9.1892
14 *Dunolly and Betbetshire Express* , 6.3.1894
15 *Dunolly and Betbetshire Express* , 17.4.1894
16 *Dunolly and Betbetshire Express* , 26.6.1894
17 *Dunolly and Betbetshire Express* , 26.6.1900
18 *Dunolly and Betbetshire Express* , 5.2.1901
19 Tully (1988), p12

SITE NO. & NAME: 081 PUZZLE FLAT MINE SITE

LOCATION: **Puzzle Flat, Bealiba**

DIRECTIONS: W of Cochranes Street, 400 m S of the Railway line

MAP/GRID REFERENCE: Dunolly North 1:25,000 - 276.250

PARCEL NUMBER: P128317

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: McConville (1987) - Brick footings of battery

PRESENT MANAGEMENT/USE: LCC- no classification

HISTORY:

Sept 1871: At Bealiba an extended claim has been taken up on Puzzle Flat, and an endeavour is being made to trace the lead, which was formerly worked with good results; three shafts have been sunk, the deepest one being 101 feet. [1]

Dec 1887: The Puzzle Reef Co. (Banks and Hughes) had a crushing of 24 tons for 29ozs 10dwts. [2]

1913: The alluvial lead known as the Puzzle Flat, tending towards Archdale and Homebush is, according to report, carrying payable wash. The Bealiba Alluvial Company has sunk two shafts and bottomed at 100 feet. ...a winding plant is being erected, and later a cyanide plant will be put up to treat the slum from the puddlers.[3]

1914: Four companies have been engaged on the Puzzle Flat leads, but have not been in continuous work. The greater part of the year has been spent in securing and erecting machinery. [4]

1915: Bealiba - progress on this field has been slow; most of the year has been taken up in erecting plant, consisting of one battery, puddler, separators, filter presses, and cyanide plants... At present, 3 companies at work, employing about 60 men. [5]

1916: Three companies engaged opening up the shallow washes at Puzzle Flat closed down early in the year owing to low values.
A co-operative party of eight men is testing the ore of the central mine by cyanide treatment. [6]

DESCRIPTION OF PHYSICAL REMAINS:

The pumping works site may illustrate 3 different phases of pumping:
Phase 1 - brick well and engine bed (steam power)
Phase 2 - concrete well and iron stand (windmill)
Phase 3 - Diesel or petrol engine (pump shed)
The brick well and engine bed may well date to 1913-1915 when several companies were working alluvial wash at Puzzle flat. The concrete well and iron structure, and stationary engine would certainly post date this time.

Pumping site
On the NE corner of a large dam is a galvanised iron pump shed which is 4.1m (13ft) square. This shed contains the body of a Ronaldson Tippet stationery engine.
5m from the S side of the shed is a circular brick well (1.5m or 5ft diameter) associated a single brick engine bed. The brick foundation measures 3.7m (12ft) x 1.5m (5ft). The well and footing appears to have once been enclosed by a galvanised iron shed: the surviving outline suggests the shed was 6.1m (20ft) square.
E of the brick well and footing, towards the dam, is another circular well (diameter 3.6m or 12ft). This well has a concrete lining and surrounded by four concrete pads, each of which contain the stump of an iron leg (presumbably a water tower, or perhaps windmill, once sat above the well). The iron structure would have had a base 2.9m or 9 1/2ft square.
A wooden jetty near the site of the concrete well carries two different galvanised iron pipelines. The larger diameter (4 1/2 inch) runs to the pump shed. The other pipeline (2 3/4 inch) leads to the concrete well.
NW of the pumping works are large dumps of crushed and/or washed cemented gravels.
The surrounding area appears to have been extentsively worked by surfacing and shafts. Alot of the workings have been bulldozed and levelled.

PHOTOS: Photo 1: Pump shed and brick well. Looking W
Photo 2: Showing two wells. Looking E

ARTEFACTS: Body of stationary engine

INTEGRITY/CONDITION: What survives is in good condition and still retains considerable interpretative power.

THREATS: Scavenging for building material and artefacts

CULTURAL SIGNIFICANCE:

The site has:

- Scientific significance because it:
  a) represents an important mining technology, ie, the provision of water for the processing of alluvial wash.
  b) is historically representative: one of the few surviving sites marking the type of mining that predominated the mining history of Bealiba

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, Sept 1871
2 Mining Surveyors' Reports, Dec 1887
3 Mining Surveyors' Annual Reports, 1913
4 Mining Surveyors' Annual Reports, 1914
5 Mining Surveyors' Annual Reports, 1915
6 Mining Surveyors' Annual Reports, 1916

SITE NO. & NAME: **082 ADVANCED BEALIBA MINE SITE**

LOCATION: **Advanced Bealiba Reef, Bealiba**

DIRECTIONS: Approx 250m E from the SE corner of Allot 6, Parish of Bealiba.

MAP/GRID REFERENCE: Dunolly North 1:25,000 - 292263

PARCEL NUMBER: P132576

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: None, although Tinpot Hill, which lies to the W has been nominated by the LCC Study (Shafts, old unsurveyed township)

PRESENT MANAGEMENT/USE: LCC - NCR46

HISTORY:

18 April 1863: The Archdale Bridge is now finished but not yet open for traffic. It is indeed a very fine looking piece of work and reflects greatly on the workmen who erected it, especially on the principal carpenter, a skilful workman named Gouge ... Mr Nicholas Megreevey, of this town, is about to erect an hotel, at the end of the bridge, suitable in every respect to the requirements of the place ... In mining there is absolutely nothing new. The rush to the Bald Hills is about finished and there is no more new ground opening; the miners are returning to their old haunts in the hills. At Anderson's Hill a few are making small wages' the same at the Emu and Sinnott's ... Only one party is left working at Tunstall's Hill. [1] [Tunstall's Hill may be what is now called Tinpot Hill]

Sept 1870: Saturday last was a red letter day on Bealiba. On that day its inhabitants were convinced that a quartz reef, yielding upwards of four ounces to the ton, had been discovered. The reef was discovered by Mr Stevenson, a few days back, and is situated about 1 1/2 miles from the township, and is near Mr Coutt's Bealiba station. Several reefs have been prospected in this vicinity, but without success; some having paid as high as half an ounce to the ton, but were not remunerative, owing to the expense attatched to the working of them. But no doubt the present ground discovered, will lead to a thorough examination by practical men of our different reefs, which abound on all sides. The new reef has been appropriately named the "Advanced Bealiba" and the prospecting claim is held by four men. They have already crushed on Saturday at the Glamorganshire batteries and yielded the very handsome return of 37 ounces ... over 4 ounces to the ton ... Of course the ground all along the course of the reef is marked out for a considerable distance. [2]

30 Sept 1870: The Advanced Bealiba Reef is now ell opened out, and a considerable quantity of stone is now at grass ready for the mill. The stone still looks well and promises to yield as rich a return as the first crushing. Two other reefs have been opened up, or rather a continuation of the Advanced Bealiba. One was discovered by Mr Baxter, and the other by Mr. F Chapple. [3]

4 Nov 1870: Messrs Sutton, of the Advanced Bealiba prospecting claim, crushed about 40 loads of stone this week at the Glamorganshire batteries. The yield being 32 ozs some odd dwts. They are now down about 50 feet and the reef appears to be well defined. [4]

Sept 1871: This line of reef is looking very well, and is likely to be permanent. Goodman & party crushed 20 tons which gave 2-1/4oz per ton. Sutton & party, the prospecting claim, crushed 14 tons for 13-1/2 ozs. [5]

19 May 1871: Another new reef has been discovered at Beaaliba on the road between that place and Moliagul. The discoverers are Messrs Stephens and Sutton, who were the prospectors of the Advanced Bealiba Reef ... the new one is situated about half a mile from that one. [6]

March 1872: Baxter & Graham have had a crushing of 60 tons from their claim, which averaged over 1 ox per ton... They have purchased a crushing plant, which will shortly be at work. Boddy & Graham's claim is looking well. [7]

June 1872: Goodman & Baxter have sunk their shaft to a depth of 115 feet...and have erected a crushing plant. They are now reducing about 250 tons from their claim. [8]

December 1876: The Welcome Company have been driving & stoping the 210-foot level...also sinking the shaft, which is now 230 feet. [9]

June 1877: The Welcome Company, Advance Bealiba Reef, are idle at present, pending the erection of a pumping plant, for which they are negotiating. [10]

June 1879: Welcome Reef Company, Bealiba. The taking down and erection of the plant for this company is being rapidly proceeded with by the contractors, nine men being employed to complete the work.[11]

March 1880: Welcome Company - sinking the shaft deeper, present depth 240 feet. The company have just purchased a crushing plant which will be erected at once.[12]

June 1880: Welcome Reef Company, Bealiba - main shaft has been sunk a further depth and timbered, making a total of 300 feet from the surface. A heavy body of water was met with, which has since decreased, and the pumps have now complete control... The erection of crushing machinery is nearly completed.
North Welcome Company, Bealiba - sinking a main shaft, which is now down 65 feet, timbered and centred throughout. [13]

Sept 1880: Welcome Co., Bealiba - work suspended pending completion of plant. The battery is now finished.
North Welcome Co. have purchased pumping and winding machinery, and are about to call tenders for its removal and re-erection. [14]

Dec 1881: Royal George Co. have had some crushings about 8 dwts per ton; but the water being too strong to carry on work to advantage with a whim, they have suspended operations pending the erection of steam machinery. [15]

March 1882: George Reef Company, Bealiba, have completed the erection of their winding plant and 11-inch cylinder engine. They are now baling out the mine, and will commence breaking stone immediately and sinking the shaft deeper.[16]

Sept 1887: Cruickshank's Company are erecting a new winding plant, the purpose to sink the main shaft 100ft deeper. The work done by this company is purely prospecting. The Rising Star Company, two and a half miles north of this, are also sinking on a new line of country, and raising payable stone. [17]

June 1888: Cruickshank's Co., Bealiba - ...they are about to erect a crushing plant to treat the quartz raised (there being nothing of this kind in the locality). [18]

Dec 1888: Cruickshank's Co. have erected a crushing plant and are now raising stone yielding 3/4 oz to the ton. [19]

March 1889: Cruickshanks and Co. have been engaged in the erection of a new pump, to enable them to cope with the water, and sink their main shaft 100 feet deeper, which work was commenced on the 4th April. They have also been stoping from the shallower levels, 60 tons of stone crushed gave a yield of 29 ozs 10dwt of gold. [20]

June 1889: Cruickshanks Company have been extending its bottom level, and crushed 52 tons of stone for a yield of 173 ozs 12 dwt of gold. The country at this level having been somewhat disturbed, they are about to sink the main shaft deeper, and consider the prospects encouraging. Two new reefs have recently been discovered by Cruickshank and Son, who were assisted by the local Prospecting Association, situated south and west of and adjoining the Cruickshank Company's ground. From these reefs, and near the surface, very payable prospects have been obtained. [21]

18 Feb 1890: Rising Star, Bealiba: Crosscutting in whim shaft... Contractors have stack full height, and expect to finish building in boiler next week.[22]

25 Feb 1890: Rising Star - will open out on stone after we have cut the eastern reef.[23]

March 1890: Cruickshanks - During the fortnight the pistons of the engine have been taken out and put in first class order. [24]

April 1890: Engine and new boiler will be connected during the week. [25]

29 April 1890: Carpenter started on repairs and additions to battery table; sinking whip shaft. [26]

3 May 1890: Rising Star - tested the boiler before getting up steam in beginning of week; also started battery which is now working smoothly. [27]

13 May 1890: It was intended to crush 100 tons before cleaning up, but an accident to the winding engine

piston caused a stoppage, and this was followed by further delays through breakages of pump stays... Several tenders for pumping plant were received.[28]

May 1890: Cruickshanks ...have raised and crushed 24 tons quartz for 10oz 18dwt ... Have yet to treat the pyrites, which will bring the yield up to half an ounce per ton. [29]

June 1890: Cruickshank's Cos mine, Bealiba. The company intend completing the erection of machinery, and it is expected when this is done some excellent returns will be realised. [30]

Sept 1890: Cruickshanks Reef, Bealiba - Yield from 8 days crushing, 58 ozs from 88 tons. A tender excepted for carting plant from Loddon Reef Co's mine. [31]

Feb 1891: All the machinery bolted down and now busy building in boiler and erecting housing. [32]

1912: Nothing much doing. [33]

DESCRIPTION OF PHYSICAL REMAINS:

The dump of battery sand and associated mullock heap presumably dates to Cruickshanks original mine, which was the site of a battery erected on the line of the reef in 1888.

Battery site
Most dominate feature of the site is a shaft still surroundedon all sides by its mullock paddock. 20m N of this is what survives of a dump of battery. The area has been extensivley bulldozed and cleared.
To the E & W the ground appears to have been extensively surfaced and worked by shaft sinking. Some of the mullock paddocks still survive, but all the shafts have been filled. During a brief survey, four narrow rectangular shafts were found (minus mullock), presumably they have been filled, but are now subsiding.

PHOTOS: None taken

ARTEFACTS: None

INTEGRITY/CONDITION: Poor

THREATS:

CULTURAL SIGNIFICANCE:

Despite the destruction of the site and other workings along the line of reef, the area has:

- Historical significance because it was a success as a mine in terms of yields: Advance Bealiba reef workings mark the site of the only successful quartz mining carried at around the town of Bealiba.
- Scientific significance because of its historical representativeness: the reef workings mark the western boundary of quartz mining carried out in the Dunolly Division

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

1 *Dunolly and Burnt Creek Express* , 18.4.1863, p. 2
2 *Dunolly and Bet Bet Shire Express* , 20/9/1870
3 *Dunolly and Bet Bet Shire Express* , 30/9/1870
4 *Dunolly and Bet Bet Shire Express* , 4/11/1870
5 Mining Surveyors' Reports, September 1871
6 *Dunolly and Bet Bet Shire Express* , 19/5/1871
7 Mining Surveyors' Reports, March 1872
8 Mining Surveyors' Reports, June 1872
9 Mining Surveyors' Reports, December 1876
10 Mining Surveyors' Reports, June 1877
11 Mining Surveyors' Reports, June 1879
12 Mining Surveyors' Reports, March 1880

13 Mining Surveyors' Reports, June 1880
14 Mining Surveyors' Reports, September 1880
15 Mining Surveyors' Quarterly Reports, December 1881
16 Mining Surveyors' Quarterly Reports, March 1882
17 Mining Surveyors' Quarterly Reports, September 1887
18 Mining Surveyors' Quarterly Reports, June 1888
19 Mining Surveyors' Quarterly Reports, December 1888
20 Mining Surveyors' Quarterly Reports, March 1889
21 Mining Surveyors' Quarterly Reports, June 1889
22 *Dunolly & Bet Bet Shire Express* , 18.2.1890
23 *Dunolly & Bet Bet Shire Express* , 25.2.1890
24 *Dunolly & Bet Bet Shire Express* , 25/3/1890
25 *Dunolly & Bet Bet Shire Express* , 24/4/1890
26 *Dunolly & Bet Bet Shire Express* , 29.4.1890
27 *Dunolly & Bet Bet Shire Express* , 3.5.1890
28 *Dunolly & Bet Bet Shire Express* , 13.5.1890
29 *Dunolly & Bet Bet Shire Express* , 6/5/1890
30 *Dunolly & Bet Bet Shire Express* , 10/6/1890
31 *Dunolly & Bet Bet Shire Express* , 5/9/1890
32 *Dunolly & Bet Bet Shire Express* , 24/2/1891
33 Mining Surveyors' Annual Reports, 1912

SITE NO. & NAME: **083 TUNSTALL'S DIGGINGS**

LOCATION: **Bealiba**

DIRECTIONS: 4km NW of Bealiba. Dirt road leads to the site.

MAP/GRID REFERENCE: Dunolly North 1:25,000 - 294.285 (GR corrected to agree w/ map location.)

PARCEL NUMBER: P120235 and P120237

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest/Unreserved Crown Land

EXISTING HERITAGE CLASSIFICATION: McConville(1987) - Signs of buildings/street plan

PRESENT MANAGEMENT/USE: LCC - NCE10

HISTORY:

March 1867: A rush has taken place three miles north west of Bealiba, where about 1500 miners are engaged, many of whom are realising fair wages. [1]

June 1867: Tunstall's Rush - is still supporting about 800 miners. [2]

June 1868: At Tunstall's the shallow alluvial ground is pretty well worked out, and the population is decreasing. [3]

DESCRIPTION OF PHYSICAL REMAINS:

Sinkings and exposed artefacts appear consistent to the time that the area was first rushed in late 1860s. The rock mounds (probably fireplaces) run along the perimeters of the sinkings. They appear to line up, suggesting a street pattern.

Alluvial workings

Band (approx 300m wide) of alluvial sinkings that run for some 2km. The band exists on both side of the track. The sinkings on the S side of the track are fairly evenly spaced (between 5 to 7m apart) and each has its own substantial mullock paddock. The sinkings N of the road appear to have a strip of more intense sinkings runninbg along the W side of the band.

On both sides of the band are a series of rock mounds (slightly raised above ground level). A brief survey counted 15 mounds. Some of the mounds appear to line-up as if related to a street. Areas surounding some of the mounds have been excavated by bottle hunters. The artefacts left behind (mainly thick black bottle glass) appears to be uniformerly mid to late 19th century in date.

Apart from evidence of recent camping, no signs of any 1930s 'Sustenance working' was found.

PHOTOS: None taken

ARTEFACTS: Mainly botle glass

INTEGRITY/CONDITION: Good

THREATS: Treasurehunting and surface mining

CULTURAL SIGNIFICANCE:

The Tunstall's diggings have:

- Historical significance because they are part of a group pf sites, the totality of which is considered to be significant
- Scientific significance because they represent an important mining technology: the sinkings and associated fireplaces appear to original late 1860s workings.

Significance ranking: Regional

CONSERVATION POLICY:

The significance of the site comes from its intactness, age and ability to illustrate the nature of mid to late 19th century alluvial rush.

RECOMMENDATIONS FOR IMPLEMENTATION:

Detailed archaeological survey carried out and the township site containing the rock mounds and sinkings protected from surface mining.

Assessor: David Bannear Date: May 1991

1 Mining Surveyors' Reports, March 1867
2 Mining Surveyors' Reports, June 1867
3 Mining Surveyors' Reports, June 1868

SITE NO. & NAME: **084 DEASON & BROOKER CYANIDE VATS**

LOCATION: **Deason & Brooker Reef, Moliagul**

DIRECTIONS: SW of junction of Bendigo-St Arnaud Road and Bealiba-Moliagul Road. Moliagul

MAP/GRID REFERENCE: Rheola South - 360.302

PARCEL NUMBER: P124952

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCJ5

HISTORY:

No history collected

DESCRIPTION OF PHYSICAL REMAINS:

Remains belong to cyaniding operations carried out in the 20th century. Surviving on the site is a dam, a partly excavated tailings dump, and three partly exposed G.I. cyanide vats.

PHOTOS: None taken

ARTEFACTS: None visible

INTEGRITY/CONDITION: Average

THREATS:

CULTURAL SIGNIFICANCE:

Site holds some local significance due to the survival of the cyanide vats and its proximity to the Welcome Stanger site.

Significance ranking: Local

CONSERVATION POLICY:
None required

RECOMMENDATIONS FOR IMPLEMENTATION:
None

Assessor: David Bannear Date: May 1991

SITE NO. & NAME: **085 BET BET LEAD PUDDLER**

LOCATION: **Bet Bet Lead, Dunolly**

DIRECTIONS: 500m north along the Maryborough Maind Road from its junction with the Bromley Road. Site located 200m south west of the main road.

MAP/GRID REFERENCE: Dunolly South - 447.126

PARCEL NUMBER: P121980

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1853: Burnt Creek, the creek itself, was so-called before gold digging started, but Burnt Creek goldfield, situated about two miles south of Dunolly, started with the discovery of gold early in 1853, and at a rush later that year ... Between August and October 1853 the Commissioners' Camp at Jones Creek was shifted to Burnt Creek, where there had been a rush ... By April 1854 there had been an increase in population at Burnt Creek, and there were 400 diggers there in July. Digging was going on in Quaker's Gully and two large nuggets were found there in 1854, by October there were 900 on the rush, and the Bet Bet reef was discovered. By November 1854 the gold workings extended three miles from Bet Bet to Burnt Creek and a Commissioners' Camp was started at Bet Bet, near where Grant's hotel was later. This rush collapsed soon after and the Camp was broken up in December. [1]

The Bet Bet Lead was worked in 1854, as probably were Barbers Gully and those closer to the railway. At the foot of the hill, during the rush, was a short-lived township. This included Tom Curran's public house, boxing saloon and 30 yards away a billiard saloon. This was replaced by George Hutchinson's Horse and Jockey Hotel in the late 1850's and 1860's. [2]

1864: In December 1864 two diggers, Clegg and Anderson, opened Cockatoo Flat at Bet Bet, and in April 1866 the same lead, after being lost, was re-discovered. There were also rushes to Bet Bet in 1870 and 1873. [3]

1903: At the Duke and Main leads Consol work has been confined exclusively to extending the lower and intermediate levels, and draining the lead by means of bores. Twenty four men are employed, 16 of whom are working underground..
Main Leads North mine, adjoining, there drainage operations will greatly assist the unwatering of this section of the lead system... during the year 3,765 ounces of gold were won, average of 90 men were employed, 70 of whom worked underground.[4]

1909: Duke and Mail Lead Consols Co. - continue to open up large areas of washdirt, which has proved payable... The underground haulage, by electric power, of the washdirt to the main shaft has been completed. Three electric locomotives are in use taking place of horse-power. One electric motor for puddling purposes and one No. 4 Berdan pan has been added to the treatment plant. [5]

1911: Mine continues to open up well, and from all appearances, there are many years of profitable work ahead.[6]

1913: Number of men employed 140. [7]

1918: Alluvial mining was actively carried on by the Duke and Main Leads Consol Company, at Bet Bet, until the close of the year, when operations were suspended, and the mine and plant sold. The company during its existence worked a length along the lead of 4 miles, 2 miles on either side of the shaft, and from the gold produced paid about £80,000 in dividends... There is another mile of solid ground along the lead from the north workings to the old Burnt Creek workings. [8]

DESCRIPTION OF PHYSICAL REMAINS:

Although no references were collected for this site, it would most certainly date to the early 20th century, perhaps to the time when the Bet Bet lead was being worked by large deep lead mining companies.

Puddler

150m south of the Bet Bet Reef battery site, on the north side of a shallow gully, is a well preserved puddler. The puddler is right on the dege of the treatment area of a working alluvial mine.
The puddler's inner mound has a diameter of 5ft which is retained by Gal. iron. There is no central pivot post, suggesting the puddler may have been steam driven. The puddling trench is 5ft wide, 2-3/4ft deep, and has has a concrete floor. The outer wall of the puddling trench comprises a concrete rendered stone wall.. The stone is set in a soft mortar. An iron pipe runs through the north side of the puddler. From the pipes position, near the top of the puddler, it is a water inlet. There is no wash surviving.
The gully below the puddler has been surface in recent times and revegetated.

PHOTOS:
1. puddling trench
2. puddler (general)
3. Inner mound and puddling trench
4. puddler (general)

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

The site has:

- Scientific Significance , because of its :
  a) rarity. The puddler is the only one of its kind yet found in the Central Victorian goldfields.
  b) intactness
  c) ability to demonstrate the variation in puddler design, construction and operation .
  d) proximity to other well preserved gold mining features, viz. Site 086

Significance ranking: National Estate

CONSERVATION POLICY:

Site's significance comes from its rarity, viz. its ability to illustrate a type of puddler type not previously recorded in the Central goldfields of Victoria.

RECOMMENDATIONS FOR IMPLEMENTATION:
Site be protected

Assessor: David Bannear Date: May 1991

1 Flett 1979, p276
2 Tully 1988, p27
3 Flett 1979, p277
4 Mining Surveyors' Annual Reports, 1903
5 Mining Surveyors' Annual Reports, 1909
6 Mining Surveyors' Annual Reports, 1911
7 Mining Surveyors' Annual Reports, 1913
8 Mining Surveyors' Annual Reports, 1918

SITE NO. & NAME: **086 BET BET REEF BATTERY**

LOCATION: **Bet Bet Reef, Dunolly**

DIRECTIONS: 600m north along the Maryborough Main Road from its junction with the Bromley Road. Site located 150m south west of the main road.

MAP/GRID REFERENCE: Dunolly South - 447.126

PARCEL NUMBER: P121980

MUNICIPALITY: Shire of Bet Bet

LAND STATUS: State Forest

EXISTING HERITAGE CLASSIFICATION: None

PRESENT MANAGEMENT/USE: LCC - NCE20

HISTORY:

1854: Discovered in 1854 - is about 1-1/2 miles NNW of the Bet Bet Bridge on the west side of the Dunolly Road. The prospectors, who were not named, took out 27lbs of gold but were swamped out at 40 feet.[1]

1854-1872: Found in 1854 this reef was worked on and off until 1872, usually averaging 1 oz/ton... When the Bet Bet Reef was first found there were no crushers available on the field. Some miners devised a new method of extracting the gold by melting quartz in a large furnace. Quartz was continually added to the boiling mixture, the excess drained out an overflow pipe. It was assumed that the gold, being heavy, would remain in the bottom. However, in the violently bubbling broth many flecks of gold found their way out the overflow and the process was abandoned.[2]

1857: In June 1857, George Hutchinson...took up the reef and sank to 100 feet and in August took out 2cwt of stone so rich it was advisable to take it home for crushing, getting 300oz from 15 tons, which aused a great rush to the reef in August. Mr Sutton had the next claim to the prospector.[3]

1858: Green Bros., with Sutton and Hutchinson, formed the Bet-Bet Reef Company.[4]

June 1859: Bet Bet Reef [Burnt Creek] - 3 claims, 100yds aggregate length.[5]

1859: By 1859 the reef was idle. It was taken up by Caithness and Co., who brought a 30 hp crusher there from Inglewood, then known as a Berdan machine. The crusher...was later discarded.[6]

June 1861: Started again...Caithness and Co. got a lease of 1500 yards of the reef in 1862. The reef was about 8 feet wide and the company, of which J.C. Patterson and David Kirk were directors, did well from the reef, taking out an average of 100 tons of stone a month that averaged nearly an ounce a ton. The Caithness Co. held the lease on this reef until 1872. The best yields were in 1865, but the company later let it out on tribute.[7]

1861: The battery was erected in 1861 and crushed not only for this reef but many of the surrounding ones.[8]

March 1867: The Company have let their mine and plant on tribute, for a period of 2 years.[9]

Dec 1871: Messrs Learmonth and Pritchard have purchased the plant and ground formerly belonging to the Bet-bet Company, and have erected some of Carpenter's Patent Separators for treating the tailings with.[10]

March 1874: The Bet-bet Company have 12 men at work, who are breaking out stone from the western reef, and now have about 120 tons of stone ready for crushing.[11]

4 Nov 1890: Meeting of the Bet Bet Reef Co. (Mr Crook's prospecting claim)...decided to start work.[12]

1 Sept 1891: Bet Bet Reef Co. - shaft now being timbered and centred.[13]

DESCRIPTION OF PHYSICAL REMAINS:

Battery appears to have been operated by the Bet Bet Reef Co. through the 1860s and 1870s.
Battery site

150m south from the Maryborough Road ia a battery site . The site has a 9-1/2 ft long line of 5 to 6 of relatively well preserved battery stumps (10-head of stamps). The stumps are approx 18 inches square. On the western end of the stumps is the largely buried remains of a stone engine bed. The bed measures approx. 4ft x 13ft and no mounting bolts survive. Running south from the western side of the engine bed is the outline of a stone boiler setting, which is 20 ft long and 9ft wide. The walls of the boiler seting are 2-1/2ft thick. The stonework for the engine bed and the boiler setting is set in a soft mortar. A short flue runs from the south est corner of the boiler setting to a largely buried circular stone chimnet stack base. Surrounding the stack base are some red, hand-made bricks.
The stack base appears to have been re-used for some purpose after the demolition of the brick stack.

Brick fireplace

20m north of the battery site is a small brick fireplace. Scattered around the fireplace are numerous red, hand-made bricks. Presumably this is a 20th century camp site, utilising bricks from the battery's stack.

Open cut

50m north of the battery, on the crown of a hill, is a 60m long open cut. The open cut is quite narrow (approx 10m wide) and has partly subsided. So far the open cut has escaped being ised as a local rubbish tip.

PHOTOS: 1. Battery site
2. Open cut

ARTEFACTS: None visible

INTEGRITY/CONDITION: Good

THREATS:

CULTURAL SIGNIFICANCE:

The site has:

- Scientific Significance , because of it:
  a) is one of the earliest surviving batteries in the Dunolly Mining Division. The other early batteries are Sheoak Reef battery (site 067) and Walkers Reef battery (site 077A).
  b) is fairly intact. The two other early battery sites are poorly preserved.
  c) has archaeological potential. as most of the site is covered by rubble.
  d) has a well defined open cut
  e) proximity to other well preserved gold mining features, viz. Site 085

Significance ranking: Regional

CONSERVATION POLICY:

Significance comes from the place's ability to demonstrate several features that characterised mid to late 19th century gold mining in the Central Goldfields.

RECOMMENDATIONS FOR IMPLEMENTATION:

Site be protected

Assessor: David Bannear Date: May 1991

1 Flett, 1956
2 Tully 1988, p27
3 Flett, 1956
4 Flett, 1956
5 Mining Surveyors' Quarterly Reports June, 1859, p15
6 Flett, 1956
7 Flett, 1956
8 Tully, 1988, p. 27
9 Mining Surveyors' Quarterly Reports, March 1867
10
11
12 *Dunolly and Betbetshire Express* , 4.11.1890
13 *Dunolly and Betbetshire Express* , 1.9.1891