



Heritage Notes for the 10 Eureka Reef Heritage Walk

Castlemaine Diggings National Heritage Park

The Eureka Reef Walk takes you back through 140 years of mining history. This self-guided walk through relaxing bushland, rich in birdlife and wildflowers, helps you see the forest through the eyes of the Dja Dja Wurrung people, alluvial gold diggers and quartz reef miners. These notes describe the features along the walk and provide some wider context about the gold rush for visitors keen to learn a bit more.



Womindjika (Welcome)

The Castlemaine Diggings are part of the traditional lands of the **Djaara** (Dja Dja Wurrung People) whose rights were recognised through a Recognition and Settlement Agreement with the State of Victoria in March 2013. **Djaara** maintain a close and continuing connection to **Djandak**, their traditional Country.

Djandak is a cultural landscape that includes both tangible objects such as scarred trees, cooking mounds, rock wells, and stone artefacts, and intangible stories. **Djandak** is a living entity, which holds stories of creation and histories that cannot be erased.

Learn more about **Djaara** and **Djandak** in the Central Diggings from signs in the carparks at Eureka Reef, the Forest Creek Gold Diggings, Herons Reef Gold Diggings, and the Spring Gully Mines. And also at the Garfield Water Wheel, Monster Meeting Site and Burns Hill, Specimen Gully Hut, and Nimrod Reef Mine and Welsh Village in the Northern Diggings. Look for the handprint symbol on park maps.

Parks Victoria pays our respects to **Djaara** Elders, past, present, and future, and asks that visitors

do the same. Aboriginal artefacts are protected by law, and it is prohibited to disturb them.

Gold was first discovered by Europeans in the Castlemaine area at Specimen Gully in July 1851. The discovery triggered the Mount Alexander goldrush, bringing flocks of migrants from around the world, hoping to strike it rich, and changing the physical and cultural landscape forever.

The gold rush, and the social and political changes it triggered, helped to shape the Australia we know today.

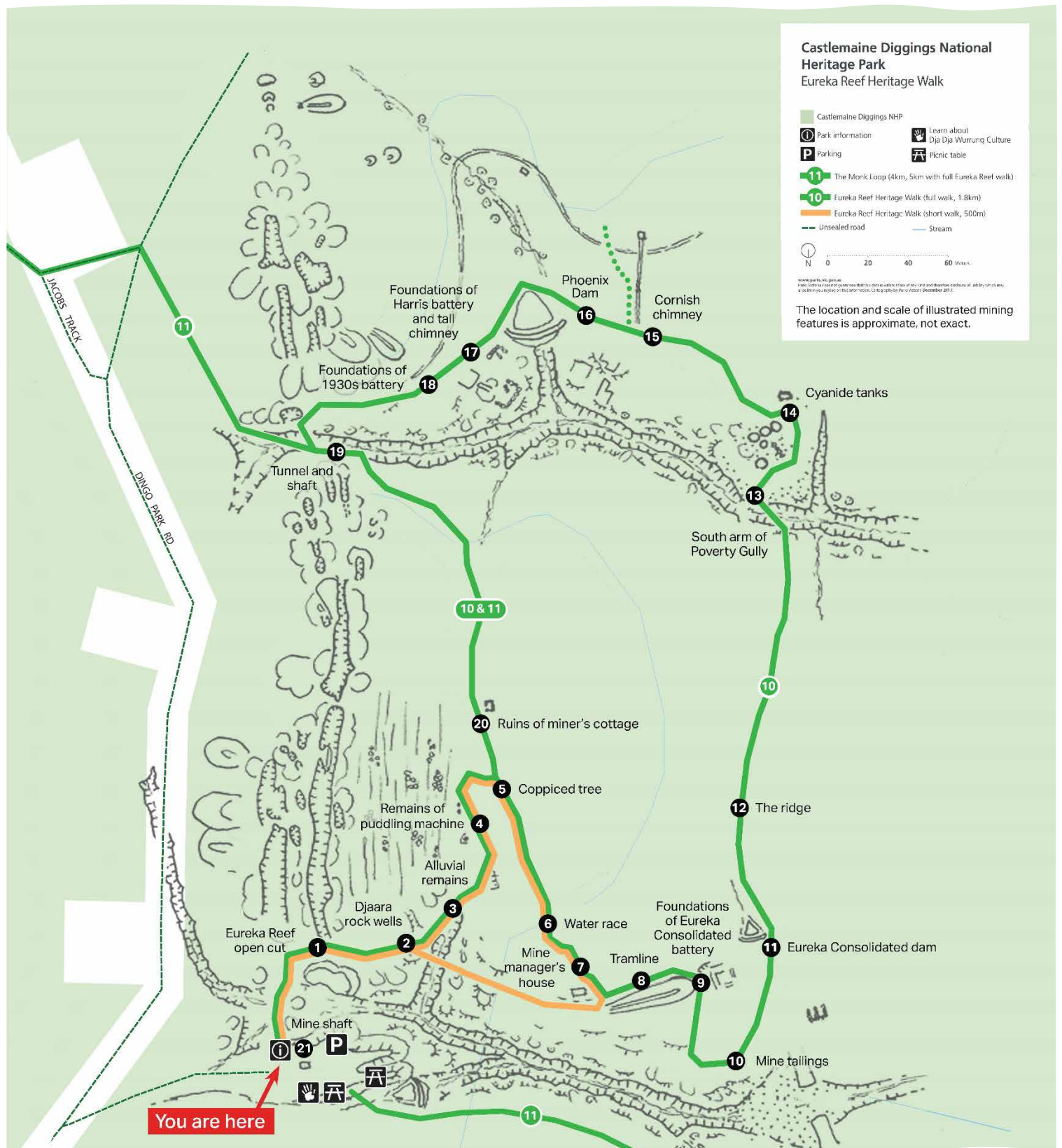
This remarkable story is etched into the landscape of the Castlemaine Diggings, one of the best preserved mid-nineteenth century goldfields in the world, and Australia's first National Heritage Park. Peel back the layers of history as you explore the sites and walks in the Central Castlemaine Diggings.

10 Eureka Reef Heritage Walk



Grade 3, 1.8km loop, 1-1.5hrs, or 500m shorter loop, 30-45 mins

Earth and gravel path, gentle hills with a few slightly steeper sections, uneven ground, a few



steps and obstacles. Some bushwalking experience is recommended but not essential. Suitable for most ages, with moderate fitness levels, including children with close supervision. Dogs are permitted but must be kept on a lead.

Numbered features on the map and on posts along the track correspond to the descriptions in this factsheet.

Stay safe, be prepared



Hérons Reef and Golden Gully were heavily mined and have a variety of ongoing hazards, including uneven and unstable ground, mineshafts, open cuts, quarries, and mine tailings. For your own safety, do not climb cliffs

or around barriers and fencing. Take great care if leaving the mapped track and closely supervise children.

There are no toilets at Eureka Reef. The nearest public toilets are on Cribbes Street, Chewton, behind the Town Hall, approximately 10 minutes away by car.

This walk is in a remote and highly forested area. Check the forecast before you set out and do not undertake this walk on days of high fire danger or when storms or high winds are forecast. Trees and branches may fall at any time. Wear sturdy shoes, clothing appropriate for the weather, and carry plenty of water.

Mobile phone reception is unreliable. You may need to move to higher ground to get a signal.

Emergencies

For emergency assistance call Triple Zero (000) or 112 from a mobile to access any available network.

Eureka Reef is in the North Central fire district. Bushfire safety is a personal responsibility. Anyone entering parks and forests during the bushfire season needs to stay aware of forecast weather conditions.

Check the Fire Danger Rating and for days of Total Fire Ban at emergency.vic.gov.au, on the VicEmergency smartphone app or call the VicEmergency Hotline on 1800 226 226.

On Catastrophic Fire Danger Rating days this Park will be closed for public safety. Do not enter the Park. Check the latest conditions at parks.vic.gov.au or by calling 13 1963.

The rush for gold

Relics of the earliest quartz mining operations in the country are found at Eureka. Quartz mining was slower and more complex than digging for alluvial gold, so many miners came with their families and built homes at Eureka. Once there was a village here and the sounds of machines filled the air.

However, the glory days were short-lived and by the 1870s most of the mines had closed.

Prospectors have returned to Eureka many times since – including during the economic depressions of the 1890s and 1930s – hoping to discover the gold that their predecessors missed, but without much success.

When the gold was gone there was little to keep people in villages like Eureka. As they left in search of new opportunities, many small mining towns and villages simply faded away, homes and businesses slowly crumbling to rubble. Today, the only sounds you'll hear at Eureka are the sounds of insects, birds and the wind in the trees.

Nature's resilience

The forest at Eureka is different now than it was before the gold rush. The Box-Ironbark forests that covered these hillsides then contained fewer but larger old trees. However, the demand for fuel and building materials led to the forests being stripped bare.

The loss of mature trees with nesting hollows, combined with habitat fragmentation and introduced predators has taken a toll on native birds and animals.

Although mining had a detrimental impact on Box-Ironbark forests in the short term, it has also contributed to their protection in the long term. To ensure timber was available for mining needs, areas that might otherwise have been converted to farmland were set aside as forest reserves.

Today, the forests are regenerating, and Eureka is a beautiful place to appreciate both nature's resilience and the extraordinary story of the gold rush. In late winter and early spring, the forest comes alive with wildflowers, and with different species of eucalypts and wattles flowering throughout the year, there is always something to appreciate.

Heritage features

1. Eureka Reef – a golden opportunity

A reef of white quartz once filled this chasm. 400 million years ago, the reef would have been

about 20km below your feet, lying on the bottom of the ocean between layers of sandstone (the walls of the chasm you can see today) that slowly rose up to form land.

Quartz is a hard mineral, and quite resistant to erosion. Before miners arrived, there would have been a huge outcrop of quartz here – about 20 metres in width and as high as the treetops, extending in a ridge across the hills.



FISSURED CENTRE COUNTRY, WITH LARGE BODY OF QUARTZ, EUREKA LINE OF REEF.
Looking south; quartz up to 40 feet wide, centre portion not stoped. Walls diverge in depth, forming east and west legs of a saddle reef.

The open cut at Eureka Reef in 1902. The exclamation 'Eureka!' comes from Ancient Greek and means 'I found (it)'. It became a familiar cry during the gold rushes of Victoria and California, and was adopted as a name by many places associated with gold mining. Source: Castlemaine Historical Society.

The rich veins of gold in this reef were discovered in the early days of the 1850s gold rush. The first miners to arrive were looking for the alluvial (or surface) gold that had been washed down into the gullies by rain and wind slowly eroding the reef over centuries.

At first, they tried to chip away at the veins of gold by hand, trying to release the gold from the quartz. It was not an easy task.

When the alluvial gold of the valleys became harder to find, miners grouped into small companies to tackle reefs like this. In the 1850s and the 1860s, they mined the reef as an open cut, breaking up the rock, loading it onto carts, and pushing it in tramcars to the crushing

batteries that did some of the hard work for them.

The miners used wooden braces or struts to stabilise the walls of the cut and reduce the risk of rocks falling on them as they worked. Platforms and ladders helped them work further into the sides of previously mined sections. They also dug shafts and tunnels nearby to reach deeper veins of gold.

This type of mining was slower and more complex than digging for alluvial gold, so many miners came with their families and built homes.

Once there was a village here, and the sounds of machines filled the air: the thumping of eleven batteries crushing quartz; trolleys trundling along tramlines; horses pulling carts; people digging, building dams, making stone walls and huts; the cries of children and barking of dogs.

“On the west side, and at the foot of Monk's hill is situated Eureka Reef. Here... a thriving village has sprung up. Numerous neat weatherboard buildings meet the eye, where one would have expected at the best to see frame tents. It can also boast a rather superior hotel, kept by Mr Carah. About 100 miners (principally Cornishmen) are prosecuting mining on this reef. Two or three claims on which an immense amount of labour has been expended have as yet yielded very little, but being practical men... they go ahead with as much spirit as those who have been highly successful.”

Mount Alexander Mail, 21 August 1857

Source: TROVE / National Library of Australia.

The community was short-lived. By the late 1870s most of the mines had closed down.

Prospectors have returned to Eureka many times since – including during the depressions of the 1890s and 1930s – hoping to discover the gold that their predecessors missed.

Today, the miners have long gone. All that remains are the sandstone walls of the chasm – the best example of an open cut remaining in Victoria – and the relics of the earliest quartz mining operations in Australia.

2. Aboriginal rock wells – water for the Dja Dja Wurrung People

The small depressions in the surface of the exposed slab of sandstone here are rock wells.

Djaara (Dja Dja Wurrung People) created them to collect rainwater by enlarging natural holes. They placed rocks over the holes to prevent animals, leaves and debris from polluting the water.

The marks from the chipping are still visible. At the smaller hole there are grooves from grinding and shaping small stones.

The wells didn't provide a permanent water supply for a community, but there were many such wells throughout the area, allowing **Djaara** to travel, even in relatively dry times.

Djaara travelled on foot over long distances to visit different parts of their Country, rather than settling in one place. There would be seasonal meetings with other clans, or, when a food supply began to run out, they would move on to where food was more plentiful.

Despite the devastating impacts of colonisation, **Djaara** continue to maintain a close connection to **Djandak**. You can learn more about **Djaara** history and culture from the sign in the picnic area here, and at other sites in the park.

3. Alluvial remains – gold in the grass

Over millions of years, the exposed quartz reef on the hilltop had eroded very slowly. Bits of quartz and gold could be found in the soil of this hillside, and were eventually washed into the creek below. From there, gold was carried down to the river flats of Campbells Creek. This was some of the alluvial gold that caused the rush of 1852 when tens of thousands of diggers flocked to the area.

In 1854, when diggers had exhausted the river valleys, some started excavating the surface soil on these higher slopes. They gathered the rocks in their way into piles (which can still be seen on the top of the hill above), and carted the topsoil away to wash.

Imagine this hill with a hundred or so miners picking and digging the earth, wheeling it away in wooden barrows, and washing the dirt by hand in cradles and panning dishes or in puddling machines.

Before long they had stripped the hill of soil, and the mounds of fine silt (which can be seen immediately above and to the right of the numbered post at this site) were once the unwanted slurry (thick watery mud) released from the puddling machine which flowed downhill to fill up the gully.



Wood engraving of prospectors panning for gold in the 1860s, by Nicholas Chevalier, published in The Australian news by Ebenezer and David Syme, 1864. Source: State Library of Victoria.

In the 1870s, after most of the quartz batteries had shut down, diggers reworked this area for alluvial gold.

4. Remains of a puddling machine – technology to speed things up

To the left of the track is the remains of an 1870s puddling machine. Panning for gold is a slow process. To speed it up, diggers constructed circular ditches nearly a metre deep with a small island in the middle (where a large gum tree is now growing).

On the island was a pivot post that supported a long strong pole pulled around the edge of the ditch by a horse. Paddles (bars of steel or weighted logs) or iron rakes hung from the pole to stir the soil and water into a slurry. The heavy gold sank to the bottom.

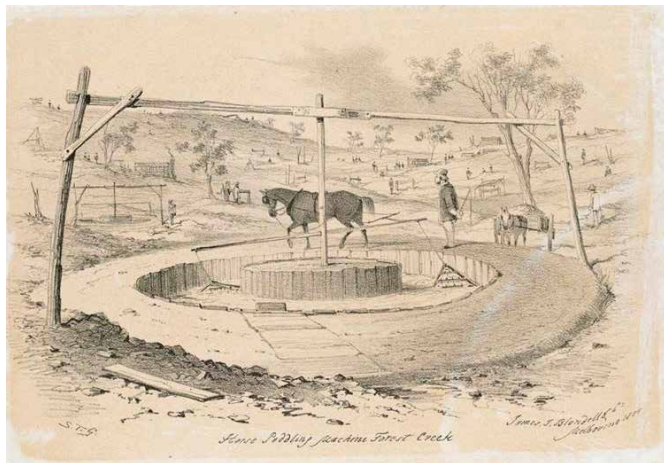
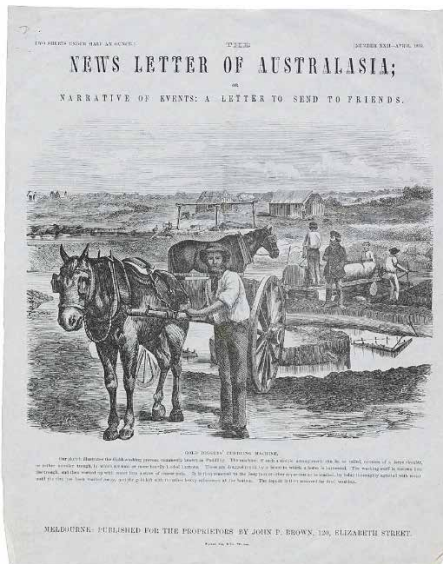


Illustration of a typical puddling machine at nearby Forest Creek, by S. T Gill for James J. Blundell & Co. 1855. Source: State Library of Victoria.

When the slurry drained away, the miners removed any larger rocks (which you can still see nearby, covered in lichen) and panned or cradled the sludge at the bottom to retrieve the gold.

The piles of silt near Stop 3 came from this puddling machine. A little way up the hill you can see where the soil was excavated.

There are similar puddling machines throughout the goldfields. In 1857, there were ten other puddling machines close to this one, each requiring a licence to use water from the dams.



A horse and his handler delivering wash dirt to a puddling machine while another horse pulls the pole and paddles. By Frederick Grosse for the News Letter of Australia, April 1858. Source: TROVE / National Library of Australia.

5. Coppiced Trees – surviving fire and felling

Where the track divides, there is a clump of trees growing in a circle. Although they look like separate trees, they are actually multiple trunks of a single Red Ironbark, **yirrip** in Dja Dja Wurrung language.

The tree probably began its life around 500 years ago, and originally had a trunk about one metre in diameter. Cut down near the base during the goldrush, the tree grew new shoots from an underground lignotuber, which acts a bit like the bulb of a tulip or daffodil. The shoots developed into multiple new trunks, and the original trunk rotted away.

This is known as ‘coppicing’ – a natural mechanism for eucalypts, enabling them to survive after fire.



A) original tree, B) tree cut down near its base, C) new shoots appear around the rim, D) the shoots grow into multiple trunks and the old trunk rots away. Illustration by Robert Avitabile. Source: Discovering the Mount Alexander Diggings, Mount Alexander Diggings Committee, 1999.

Coppiced trees with multiple trunks are common on the goldfields. Coppicing has been used to sustainably harvest wood for centuries in Europe, but the miners working here were thinking only of their immediate needs.

The high demand for fuel and building materials lead to the surrounding hills being stripped bare. Miraculously, the forest has regenerated,

6. The water race – and the race to end the drought

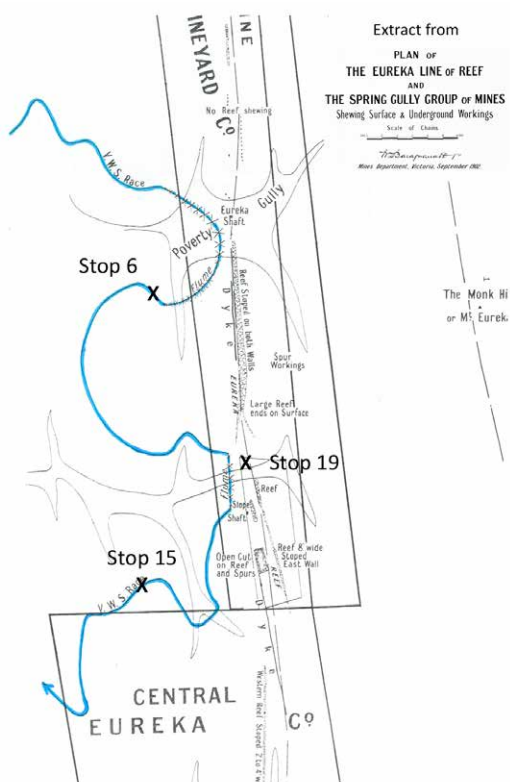
This channel is part of a water race that was constructed in the 1860s and 1870s to bring water from the Coliban River. When water is released into the system, it still appears here, as if by magic.

Water was crucial to life on the diggings. It was needed for washing and puddling earth, sluicing (rinsing or hosing down) new and old diggings, for the steam boilers driving the stamping batteries (quartz crushing machines), as well as for more mundane things like drinking, growing vegetables, and making cups of tea. However, droughts plagued the diggings, and sometimes work had to stop due to lack of water.

“It would be impossible to convey in anything we could write an accurate impression of the alarm that prevails throughout the district in the absence of rain. Everywhere it is the chief topic of conversation, and by everybody is discussed with an earnestness and sense of helplessness that bodes how darkly the disaster looms, and how little is the prospect of evading it.”

Bendigo Advertiser, 16 October 1865

Source: TROVE / National Library of Australia.



Extract from a September 1902 survey map showing the water race (marked in blue) and the open cut mine at Eureka (centre). The crosses indicate the best stops on the heritage walk to view the channel. Adapted from *Plan of the Eureka line of reef and the Spring Gully Group of Mines*, Mines Department, Victoria, 1902 *Underground Survey of Mines, Castlemaine*. Source: Geological Survey of Victoria.

Competition and innovation

In 1862, the Victorian Government offered a prize of £500 for the best solution to deliver water from the Coliban River near Malmsbury to Castlemaine and Sandhurst (renamed Bendigo in 1891). In 1864, the prize was awarded to a civil engineer named Joseph Martin Brady who had submitted plans for a system of channels.

Born in Ireland in 1828, Brady arrived in Australia in 1850, just before the gold rush, and worked on several water and railway schemes, before designing and overseeing the Coliban Water Works. Lack of funds slowed down construction, so it wasn't until 1877 that water finally flowed into the main channel.

A miracle of engineering

It is an incredible feat of engineering, and Brady has been described by one biographer as “probably the most accomplished civil engineer to have worked in Australia”. The races are virtually flat, dropping only a few feet per mile. No pumps were used – only the force of gravity allowed water to flow from the highest point (the reservoir) gently downhill along the races.

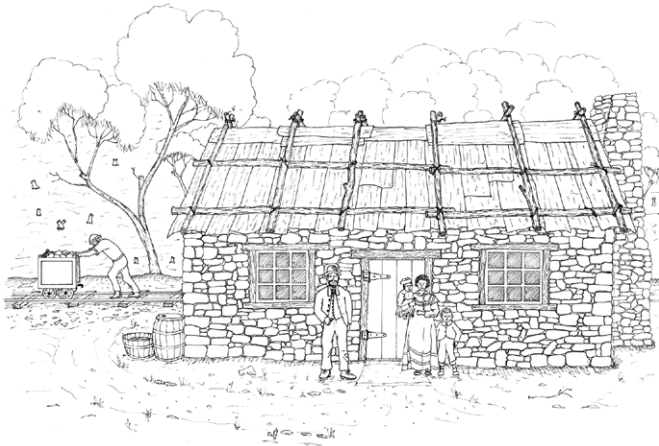
If the calculations or construction had been slightly off, the water would not have flowed, or flowed too quickly, scouring out the sides and bottom. To achieve the very gradual slope required, the water races were constructed to wind around the sides of hills, following the contours. Where a steeper section was necessary, the race was lined and reinforced with stonework.

In the 1870s, water came to this spot via a high wooden bridge (also known as an aquaduct or flume) from the race on the northern side of the gully. Later, the flume was replaced by an under-ground pipe (a siphon).

Remarkably, 140 years later, many parts of the race still supply water to 130,000 people in the Bendigo, Castlemaine and Kyneton areas, managed and maintained by Coliban Water. The channel flows during the irrigation season and at other times of the year as needed to replenish urban supplies.

7. The mine manager's house

This unusually large four room stone cottage was built sometime between 1850 and 1855 by Captain John Whitehead for his wife Ann Swan and their children, Esther, Charles, Robert and Clara. Their youngest daughter, Ellen was born here – the first of at least eight children (of three different couples) believed to born in the house!



Reconstruction of the mine manager's house beside the tramway by Robert Kaufman.

Originally from Hull in the UK, the Whiteheads arrived in New South Wales in 1850 after living in Mumbai, India, for a while. By 1853, John was mining here, one of the original prospectors, along with Stephen Rodda and Bastian & Co, who combined their leases to form the Eureka Consolidated Mining Company. He became its first manager.

In 1859, management passed to Mr J B Edwards, and by 1861 the Whiteheads had left Eureka and moved to Castlemaine. John continued to be involved in mining, and also began selling hay, corn and bone-dust (a fertiliser). He died of bronchial pneumonia on Christmas Eve 1862, at the age of 50. Ellen was only four years old, and Clara seven.

Also in 1859, at the age of sixteen, Esther Whitehead married William Palliser, an English miner and neighbour. When the rest of her family moved to Castlemaine, the couple rented the family home from its new owner, Mr Padley. Two of their children were born here. By 1864, William was working as a teacher in Moonlight Flat and by 1865 they had moved out.

The cottage was on the Eureka Consolidate lease, so later owners and tenants (including John Baird Rennie and a Mr O Pennall) were likely associated with the company. With the tramway running beside it, it would have been ideally located to keep an eye on the company's gold as quartz was pushed from the mine to the battery!

8. Trolleys and tramlines – smoothing the way

Alongside the mine manager's house was a tramline. Every day, trolleys moved tons of ore from the reef to the crushing plant. The wooden rails have rotted away, but the solid embankment remains. You can still see blocks of quartz on the ground nearby that may have fallen off an overloaded trolley.

The trolleys were boxes on four wheels (about the size of a modern supermarket shopping trolley), designed to be pushed by one man. When fully loaded with quartz, they would have been quite heavy to push along, but the miners did this all day long.

To make it easier, the track was built with a slight downhill slope from the open cut to the crushing plant, and the wooden rails were greased with beef or mutton fat to make it easier to roll the trolleys towards the battery. The return journey with an empty trolley was only slightly uphill.

The many uses of sheep

Sheep farming was already well-established in Victoria, so mutton was readily available from butchers on the goldfields, and often eaten by diggers. Very little of an animal was wasted. In addition to providing meat, and fat to grease the tramway rails, the skin was tanned for leather.

Imagine pushing a trolley up and down these tracks all day and night.

A good pair of leather boots were highly prized by the diggers. Cobblers (bootmakers and repairers) provided a valuable service on the goldfields, keeping them well shod.

Boots were often stolen by those who had unsuitable footwear, or whose boots had worn

out on the rugged ground. Miners with good boots guarded them zealously, which sometimes had dire consequences for would-be boot robbers!



A butcher's shamble on the Victorian Goldfields, lithograph by ST Gill, 1852-3. Source: State Library of Victoria



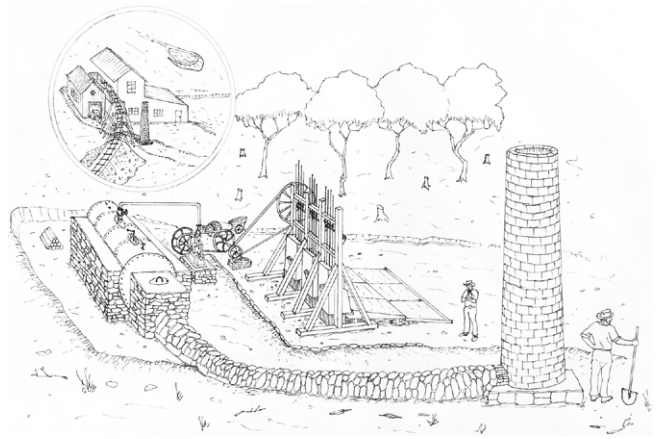
A good pair of boots made carrying that weight of gold more bearable!

9. The Eureka Consolidated Battery – crushing quartz into dust

Eureka Consolidated's quartz crushing plant operated here in the 1870s, after the company's original battery was sold off. Its foundations can be seen to the left of the track. This was a large operation for the times, and Eureka was the last publicly owned company in the area before it went broke in 1879.

A steam engine powered a system of pulleys and straps that operated twelve heavy iron stampers (hammers) which crushed the quartz to dust to extract the gold.

Day and night, six days a week, the sound of the battery's stampers would have echoed through the valley. The noise would have been deafening. And this was only one of eleven batteries located in a very small area at Eureka. Only Sunday was a rest day when they all fell silent.



Reconstruction of the Eureka Consolidated Battery by Robert Kaufman.

Steam-driven technology

The technology was introduced to Australia by Cornish miners from south west England. Cornish batteries were driven by steam. A fire was lit in a firebox at one end of a steel boiler. The steam escaped via a pipe straight into the steam engine below and to the side of the boiler. The steam engine powered a series of pulleys and straps that operated twelve stampers (heavy iron hammers, the height of two men) crushing the quartz to dust. The stampers were located where this panorama was photographed from.

The quartz dust was passed over small wells of mercury. The only thing heavier than mercury is gold, so it sank to the bottom. Then, the mercury was vapourised, leaving behind the gold.

Unfortunately, mercury vapour is highly toxic, and it is very likely that the miners suffered some neurological damage as a result of inhalation.

Mercury continues to be used in small-scale gold mining today, which is the main source of income for an estimated 10-15 million people in 70 countries. Research shows that miners and their children continue to be exposed to high levels of mercury pollution, affecting brain function, coordination, memory and mood, and sometimes even kidney and other organ functions.

As you continue down the track, look for bricks from the boiler's chimney lying across the path.

A chimney was needed to allow the smoke to escape from the firebox, but they were expensive to build. Cornish miners had an ingenious solution to keep costs down. They built chimneys like a tunnel along sloping ground, with just a small conventional upright chimney at the higher end.

Few brick chimneys from the old mines are left. When operations ceased at a mine, the plant was broken up and sold. The quickest way to dismantle the chimney was to blow it up, then the bricks could be cleaned and sold. The ruins at Eureka are a rare opportunity to see chimneys from the gold rush.

Although the chimney here is in ruins, there is a wonderful example of a mostly intact Cornish chimney at stop 15.

Fuelling the fires

Of course, a lot of wood was needed to fuel the fires needed to generate steam and power the battery, and that wood was taken from the Box-Ironbark forests around the mine.

“Unlike alluvial gold sinking, which required fire only to warm the digger and cook his meals, this new pursuit burns up a tree, as one may say, at both ends: one to roast the quartz and the other to boil the water. It is earnestly to be hoped that before the chimneys of boilers have become very numerous, some method of dispensing with so much fire will have been fallen on, or in a few years the wood crowned summits of our hills will look as desolate and barren as the flats and gullies do already.”

Mount Alexander Mail, 30 November 1855

Source: TROVE / National Library of Australia.

If you only want a short walk, turn around here and take the short-cut between the house and the tramway back to the carpark.

10. The tailings – an enormous pile of dust

What happened to all the quartz dust from the Eureka Consolidated battery?

If you stand near the fence here, you'll be standing on a huge pile of it! A wicker embankment (made of criss-crossed sticks and branches) at the narrowest point of the northern arm of Poverty Gully, trapped the tailings. The dam was breached long ago and most of the tailings have washed away, but you can still see some along the left bank of the gully.



The old mine tailings look like sand. Due to the gold extraction process, mine tailings often have a higher arsenic content than surroundings soils. Arsenic is a well-known poison, but exposure to small amounts of arsenic for short periods is unlikely to cause ill health. As long as the tailings are not disturbed, they pose no threat to visitors.

A little further down the gully you can see piles of rocks on each side of the creek. In the 1850s and 60s, when some of the first miners to come to Eureka dug out the creek bed looking for alluvial gold, they removed many of the rocks from the creek, piling them up to keep them out of the way while they panned and cradled.

11. The Eureka dam – no water, no life!

At Eureka, water wasn't just essential to the miners for their own survival, but also to separate the gold from the rocks and soil.

Water was precious and scarce, particularly in summer when the creeks rarely flowed. Work sometimes had to stop due to lack of water. The

native plants and animals were well adapted to the dry conditions, but the miners weren't!

"We met strings of diggers on the road every day returning from the diggings, who, when asked how things were looking at Forest Creek, replied: - "Plenty of gold, but no water." This was the invariable answer to our every-day enquiries, but the scarcity of water was of no consequence to us; what we wanted was gold!."

LH Seedorf, c. 1851

"The water was very bad at this time and many diggers were suffering from dysentery. It was the dry season and no rain fell till nearly the end of May. We dug a hole on the bank of the creek for water, and at 20 ft. we got about two bucketfuls a day, and to secure even this small quantity we had to get up before daylight, but despite this it was purloined by others on several occasions."

Thomas Carte, c. 1852

"Water was very scarce. The price being 6d. per bucket. A party of Germans sank a hole about 70 feet deep at the end of the Adelaide Flat, where they got a good supply, but it was very brackish. They hauled it up by windlass from morning till night, and sold it at 6d. per bucket - a nail can full."

AC Vandell, c. 1852

"The roads were dried up by the tropical summers sun, causing the dust to rise in clouds. Water, black with gum leaves, was being retailed at 2/6 a bucket, until a supply arrived from the Loddon."

JF Hughes, c. 1854

Source (all): *Records of the Castlemaine Pioneers*, The Castlemaine Association of Pioneers and Old Residents, Rigby Ltd, 1972

After the construction of the water races, water was supplied from the races to the dams.

Mining companies were charged by the dam-full, and each battery had its own dam. This one supplied the Eureka Consolidated Battery. Water was released to the crushing works by removing a plug from a hole in the dam wall.



The fine stonework of the outlet in the dam wall.

12. The ridge – a recovering forest

Box-Ironbark forests once covered 13% of Victoria, but now only 17% of those original forests remain.

During the gold rush, all the trees on this ridge would have been felled by miners for building and firewood. They needed wood not only for warmth and cooking, but also to fuel the quartz kilns and the boilers of the crushing plants. The forest around Eureka, which had been used sustainably by **Djaara** for thousands of years, was stripped bare in decades.

Although the forest was changed greatly by mining, many native plants have survived. The tussocks of fine grey-green grass seen here are Red-anther Wallaby Grass. It is one of many native Australian plants that are stimulated to flower and seed after fire has passed through.



Red-anther Wallaby Grass grows up to 1.5m high. When it flowers in late spring or early summer the bracts (the protective casing around seeds and flowers) open to display bright orange-red anthers. It is also known as Silvertop Wallaby Grass because of its bracts.

Trees

Eucalypts dominate the upper canopy, with many smaller species of trees and shrubs, like wattles, below.

A common tree here is the Long-leaf Box, which grows up to 15m high and produces white flowers between early autumn and mid-winter.



The leaves of the Long-leaf Box are small and round in young trees and on new shoots (left), which is why the tree is also known as the Cabbage Box, but become long, thin and drooping (right) in mature trees. The leaves of the Red Box look quite similar to young Long-leaf Box leaves, but have longer individual stalks.

The leaves can be distilled to make eucalyptus oil for flavouring, biopesticides, toiletries and medicines, so Long-leaf Box is often grown commercially.

Another tree found here with round grey-green leaves is Red Box, a eucalypt that grows up to 25m high. As the leaves mature, they become less circular and more oval in shape. It produces white flowers in spring or early summer.



The grey-green leaves of the Red Box look similar to young Long-leaf Box leaves. However, they have longer individual stems, and don't grow in clusters or have a blueish tinge.

As you move down the valley where there is more shelter and deeper soils, you can find the rougher-barked Yellow Box. It is popular with bee-keepers, producing an aromatic golden

honey with a very sweet taste. Yellow Box honey can be found in most supermarkets.

Yellow Box grows up to 30m high and has dense wood that is resistant to decay and has been used to produce posts and sleepers for railways, and bridges. It has light green or grey drooping leaves and produces creamy flowers in late spring or early summer. Young leaves are more oval, often with a blueish tinge.



The bark of the Yellow Box is highly varied in colour and texture from dark brown to yellow and many shades in between. It is usually rough and flaky at least part way up the trunk, which is smooth and yellowish underneath.

Wildflowers

In spring and summer, the forest floor is full of wildflowers, with species like Sticky Everlastings, Waxlip Orchids, Leopard Orchids, Creamy Candles, Pink Bells, Black-anther Flax Lilies, Chocolate Lilies, Tall Bluebells, Magenta Stork's-bill and many others.

Yam Daisies, **murna** in Dja Dja Wurrung language, have a small underground tuber which tastes like a sweet radish if eaten at the right time. **Djaara** cultivated them as a food source. Their smooth leaves and bent-over flower buds help to distinguish them from similar plants.

How many different species of wildflowers can you see? If you don't have a field guide, bring a camera or a sketchbook and see how many you can identify when you get home.

The Castlemaine Field Club have a wonderful website castlemaineflora.org.au that can help you name what you saw. Please tread lightly – all plants and flowers in the park are protected, and it is forbidden to remove or disturb them.



Top left: Pink Bells is a small shrub which grows up to 100cm high and flowers spectacularly in spring.

Top right: Yam Daisies, also known as native dandelions, grow up to 50cm high.

Bottom right: Waxlip Orchids are a widespread native orchid. Their star-shaped purple to mauve flowers emerge in late winter or early spring, and usually only last a few weeks.

Bottom left: The delicate star-shaped flowers of the Back-anther Flax-lily develop into purple berries that are eaten by many species of birds.

Centre: The long-lasting flowers and bright colour of Sticky Everlastings make them very attractive to insects like this forester moth. Their long thin leaves are very slightly sticky.

13. Poverty Gully – looking back through history

Why name somewhere with so much gold 'Poverty Gully'?

It was probably named by early prospectors to discourage their rivals! The south arm of Poverty Gully is one of the most complex mining sites in the Castlemaine Diggings National Heritage Park. As the track continues up the gully, you can find the relics of several waves of mining spanning a century from the 1850s to the 1950s.

The south arm of Poverty Gully is one of the most complex mining sites in Castlemaine Diggings National Heritage Park. Further up the gully you can find the relics of several waves of mining, including the remains of dam walls and diversion channels created by diggers mining alluvial gold here in the 1850s, traces of at least 3 water races, and mounds of tailings deposited from quartz batteries up the hill.



An early photograph of miners panning for gold in Victoria, by RO Bishop, published in the Illustrated Australian news by David Syme & Co, Melbourne, 1894. Source: State Library of Victoria



This photograph (dating from around 1854-1862 from an unknown location in Victoria) shows the kind of intensive mining activity that took place here: in the foreground, miners are using a gold washing cradle; behind them, a man is standing beside a puddling machine; and in the background there is a crushing battery and conveyor. Unknown photographer. Source: State Library of Victoria

The foundations of a multicultural nation

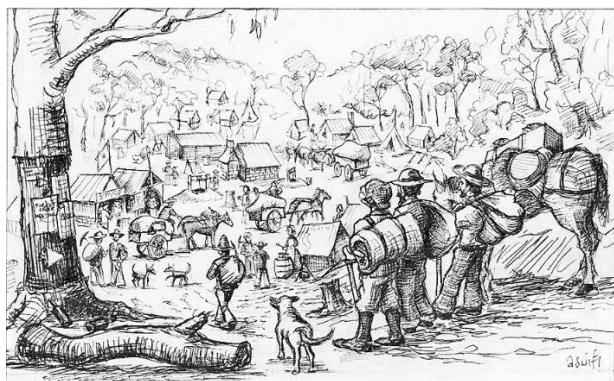
The more mining that took place, and the more gold that was shipped to London, the more people rushed to Australia.

The population trebled from 430,000 in 1851 to 1.7 million in 1871. The number of new arrivals was greater than the number of convicts who had been shipped to Australia in the previous 70 years, and they brought with them a whole new range of skills and professions.

The majority of migrants came from Britain but also from other European nations, America, New Zealand, and China. 40,000 Chinese people made

their way to Australia to join the gold rush, and by 1861, Chinese immigrants made up 3.3 per cent of the Australian population.

Most eventually returned to China, but a small number remained, despite attempts to drive them out of the goldfields, motivated by fear and racism. The foundations of modern, multicultural Australia had been laid.



94,644 new immigrants arrived in Victoria in the first year after gold was discovered, many bringing with them only what they could carry, and their dreams of striking it rich. Drawing by Andrew Swift.

Progress and democracy

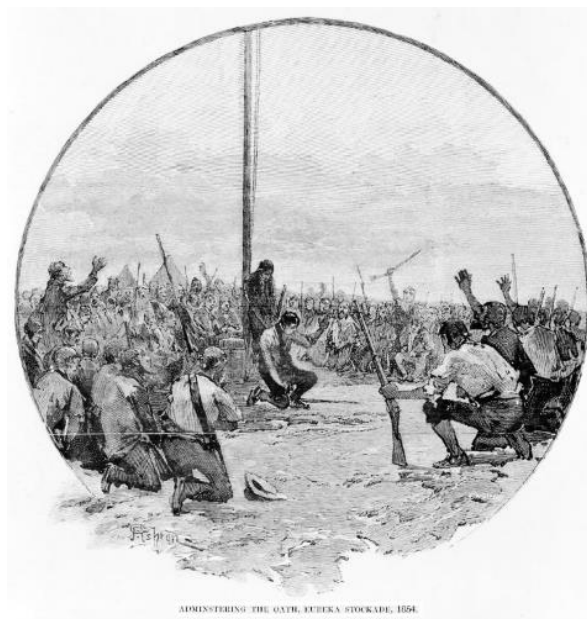
The rapid growth led to many tensions, but also to social and political progress. The first mass anti-government protest in Australia took place at nearby Forest Creek (now Chewton) on 15 December 1851, when 15,000 gold diggers attended 'The Monster Meeting'.

Clashes between the miners and the authorities increased as discontent grew over the gold licensing system. In December 1854, around 1,000 men gathered at another Eureka (on the outskirts of Ballarat) and swore to defend their rights and liberties.

On the morning of Sunday 3 December, troops overran their stockade, killing 22 of them, and charging 13 of their leaders with high treason. Martial law was declared. However, juries in Melbourne refused to convict them, and a Royal Commission condemned the goldfield administration.

The Eureka Stockade is the only example in Australian history of an armed rebellion leading to a change in the law, and some historians

consider the rebellion to be the birthplace of Australian democracy and identity.



On 29 November 1854 over ten thousand miners gathered at another Eureka, near Ballarat, and made an oath: "We swear by the Southern Cross to stand truly by each other and fight to defend our rights and liberties." Wood engraving by FA Sleaf published in the Supplement to the Illustrated Australian news by David Syme & Co, Melbourne, 1888. Source: State Library of Victoria

The end of convict shipments

The discovery of gold also contributed to the end of convict transportation. Why would convicts want to work for a living when a fortune awaited them on the goldfields? And why should the authorities provide free transport for convicts with so many people willing to pay for their own passage to Australia?

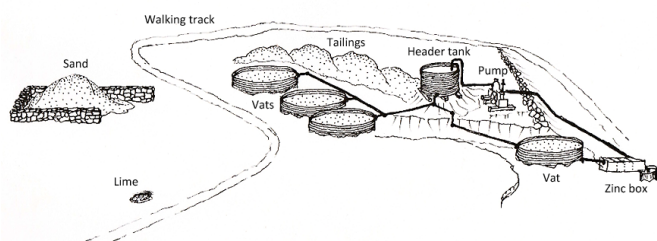
By the mid-1800s there were enough settlers in Australia for the colonies to sustain themselves and continue to grow. The convicts had served their purpose. The last convict shipment occurred in 1868.

14. The cyanide tanks – a poisonous past

In the 1890s, a process was developed to extract gold from the tailings of earlier diggings using cyanide. Cyanide is a poison, most famously used to murder the Russian monk, Rasputin.

A cyanide plant was first established at Eureka in the 1890s. It was reworked in the 1930s and 1950s, which is when the tanks you can see today were used.

The cyanide was formed into triangular blocks and transported to Eureka in drums. When it was needed, the cyanider took blocks out of the drum and mixed them with the correct amount of water.



Reconstruction of the 1950s cyanide plant at Eureka by Robert Kaufman.

The process of dissolving gold

The tailings were soaked in this cyanide solution in sand-filled vats with a porous base (wood or coarse-grained gravel covered by matting). The cyanide dissolved the gold and soaked through the matting, leaving the tailings on top. The dissolving part of the process took about three days, so the three vats here were filled a day apart to allow for continuous processing.

The dissolved gold passed through charcoal or zinc shavings, where it was trapped to create a muddy layer of 'slimes' or amalgam. This was collected and transferred to a crucible (off-site) and exposed to very high temperatures in a furnace. The heat transformed the slimes into a molten liquid which was poured into a mould.

As it cooled, the gold reformed as metal and dropped to the bottom to form an ingot with a layer of black glass-like waste on the top. When removed from the mould the waste was chipped from the ingot and discarded. The ingot was cleaned, stamped, and assayed (tested to assess the purity of the gold) to determine its value.

The cyanide solution was pumped back up to the header tank to be re-circulated through the vats. Additional cyanide was added to keep the concentration at the right level.

Finally, the cyanider received cash for his labours.

A chemical weapon

When combined with arsenic (another poison), cyanide generates mustard gas. Mustard gas can cause severe burns, loss of eyesight, respiratory problems, photophobia (intolerance of light), rashes, and blisters, causing extreme pain.

It was used with devastating effects in World War I and was one of the main reasons gas masks were issued to many people during World War II. However, despite widespread production, the fear of retaliation was enough to prevent it from being used in World War II.

The problem for the cyaniders is that gold-bearing rock often contains large amounts of arsenic. In fact, to find gold, prospectors often look for soil and water with a high arsenic content.

To prevent the production of mustard gas, the cyaniders added lime to the tanks to control the acidity during the soaking process. There is still a small heap of this lime, a white clay-like material, near the tanks.

Despite the presence of both cyanide and arsenic, the site poses no threat to visitors today as long as the cyanide workings and mine tailings are not disturbed.

15. An earth-bound chimney – a cost-effective solution

This 'Cornish chimney' is one of the earliest quartz mining relics in Victoria. It dates from the late 1850s when the Phoenix Mining Company (also known as Blight's) battery operated in the gully below.

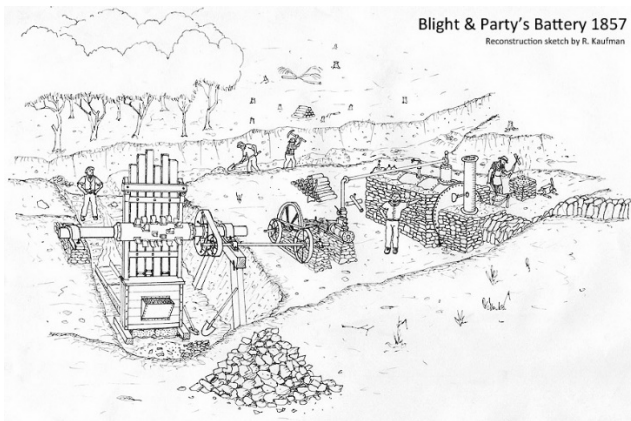
To avoid the cost and difficulty of building a tall chimney, Cornish miners built tunnels of bricks up the slope of a hill. The smoke drifted up inside the earth-bound chimney and emerged from a small upright section at the top.

Remarkably, the chimney is mostly still almost intact, apart from a small section near the top where the water race was cut through it a decade

or so later. The small vents were probably used for cleaning.

Joseph Blight was a Cornishman who arrived in Australia in 1855. The large blocks in the gully below, which bore the battery's stampers, are made of granite. They would have been carted by bullock dray from Mount Alexander, where Blight later established a quarry that provided granite for the Melbourne-Echuca railway.

The remains of the old boiler house and its chimney are still visible at the bottom of the hill.



Reconstruction of Blight's crushing battery by Rob Kaufman, with the start of the Cornish chimney on the right.

Finding a home in an altered landscape

Take a short detour up the hill beside the chimney to see the full length of the chimney and admire the forest and spring wildflowers at the top.

The chimney is probably occupied by forest animals – insects, reptiles, rodents, or perhaps even a small marsupial – making use of the vents or sections where the bricks have caved in.

Many animals would once have made their home in hollows in the grand old trees abundant here before the gold rush. Marsupials like the remarkable Brush-tailed Phascogale, or **Duwan** in Dja Dja Wurrung language, are now rare in Victoria. It is one of many native animals that require hollows in old trees to survive.

These small nocturnal hunters grow up to 30cm long and have a brush-like tail that makes up about half of their length. They live in small populations and require a relatively large home range per animal (up to 100ha for males and

70ha for females). Their diet consists mainly of insects, spiders and centipedes, but they also eat other small animals and the nectar from flowering trees.



The Brush-tailed Phascogale uses its sharp claws to tear through tree bark and search under leaf litter for insects. These small marsupials live fast and die young, males only surviving a year. © Wayne Williams.

The slow road to recovery

Although the forest is regenerating, it will be a long time before most of the trees are old enough to develop nesting hollows suitable for native animals and birds.

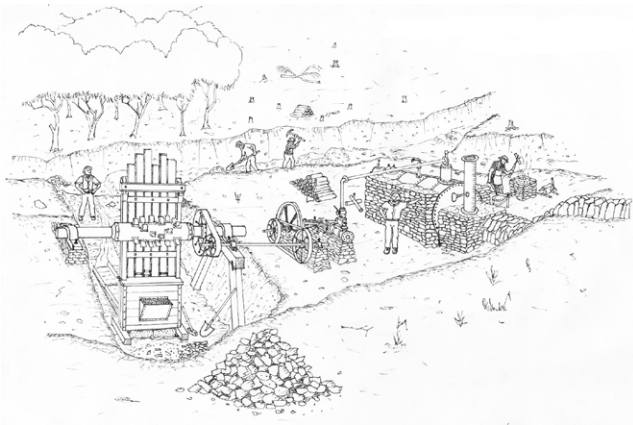
The lack of suitable hollows due to logging, along with other threats, including habitat fragmentation and introduced predators (like cats, dogs and foxes) have taken a heavy toll on native species.

Parks Victoria is working with community groups trying to restore and improve habitat through activities like tree planting and installing nest boxes. If you would like to help threatened species, why not find out if there is a local field

naturalists club, wildlife rescue organisation or Friends group that you can support?

16. The Phoenix dam – being reclaimed by nature

This dam wall was probably constructed by the Phoenix Quartz Mining Company in the 1850s, before the system of water races was built, to catch rainwater flowing down the gully. The impressively-constructed stone retaining wall is still visible, but the dam itself has silted up.



Reconstruction of the Phoenix Mining Company (or Blight's) Battery by Robert Kaufman.

Birdlife

Look on the slopes nearby for large Red Ironbark trees, **yirrip** with deeply rutted bark. They produce a very hard, strong timber which was used to shore up mineshafts. Their blossoms attract a wide variety of native birds, like the endangered Swift Parrot.



A Swift Parrot feeding on Golden Wattle blossoms.

The Swift Parrot is critically endangered. The habitat they depend on has been greatly

depleted by logging, and they've also suffered heavy predation by sugar gliders at their nesting sites in Tasmania. Scientists and community groups are working hard to save these beautiful parrots, but in November 2017 it was estimated that less than 2,000 birds survive in the wild.

A wide variety of native birds can be seen at Eureka, including cockatoos, rosellas, galahs, pardalotes, thornbills, robins, magpies, ravens, currawongs and honey-eaters. Some woodland birds are resident all year-round, while others migrate, following the blossoms.

As you explore Eureka Reef, stop and listen. How many different species of birds can you see or hear calling? You can learn more about Victoria's bird life from [Birdlife Australia](#).

Bring your binoculars and a bird guide, and look up into the canopy, on the tree trunks, in the grasses and on the ground.

17. A tall chimney – an expensive endeavour

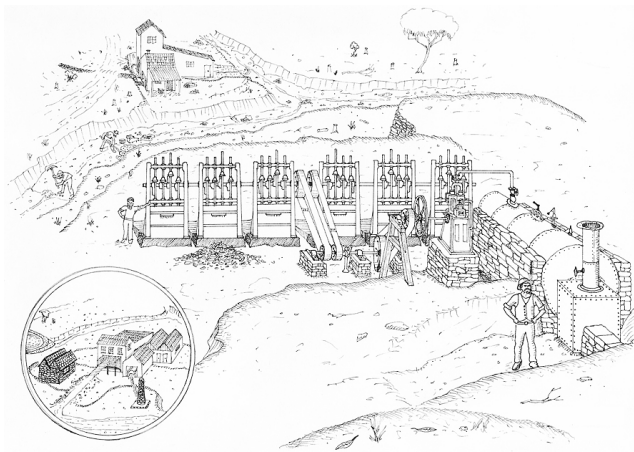
This is the site of a battery owned by a Mr Harris. On the left of the track as you approach the viewing area, are the brickwork foundations of a blacksmith's workshop.

Blacksmiths provided essential services to both miners and farmers, creating and maintaining smaller tools like picks, pick axes, hammers, branding irons, horseshoes, rakes, wheel rims and the heavy machinery required for crushing quartz. Without them, work on the goldfields would have quickly ground to a halt.

To the right of the viewing area are the remains of a vertical chimney, which was once 12m high. It cost £100 to build – a huge sum of money in those days. The battery and stampers were in the gully below.

Can you imagine the sound of two steam batteries operating within 50 metres of each other here?

It would have been impossible to hear yourself think! Harris and Blight eventually combined their operations and made a lot of money. However, the supply of gold could not continue indefinitely.



Reconstruction of the Harris Battery and tall chimney by Robert Kaufman.

Nothing gold can stay

When all the quartz had been removed from a pocket in a reef, unwanted mullock had to be removed to locate the next promising deposit. Costs increased and gold became scarce. Water seeping into underground workings required costly, continuous pumping. Mining became unprofitable, and one by one, the mines closed down and silence engulfed the diggings.

With each closure, the owners salvaged as much as possible, selling off what they could. Buildings were dismantled and moved to new locations. The massive engines that drove all the machinery, were broken up by scrap merchants, and taken to the smelters to be reincarnated as shiny new components on modern machinery.

Chimneys crumbled to the ground, reduced to a pile of rubble after their foundations were blasted from beneath them. The bricks were sold or carted off to a new location.

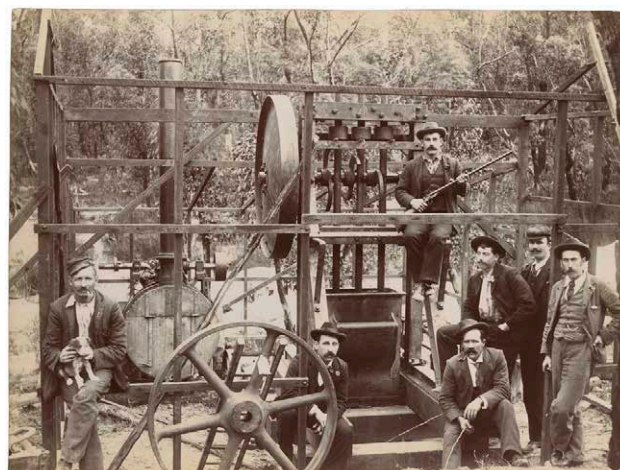
The heavy wooden foundations of the batteries, which had become embedded with very fine particles of gold after years of crushings, were much sought after. The timber was burnt, and the ashes were panned to retrieve the gold.

18. 1930s stamping battery – a relic of the Great Depression

Eighty years after mining began at Eureka, a new battery was built here. In the economic depression of 1889 and the early 1890s, and the Great Depression of the 1930s, prospecting was more appealing than unemployment. Many mines reopened.

Unfortunately, the price of gold was very low at the time, and the ore was low-grade and unprofitable. However, desperate times called for desperate measures.

In the 1930s the sound of ten stamping heads would have echoed through this gully, supported by two blocks of concrete that formed the foundations.



A photo of men at a similar battery on the Mafeking and Mount William goldfields in 1890. Photo by W Hale. Source: State Library of Victoria.

The Great Depression

The Great Depression was a time of extreme hardship for many Australians. Even before the devastating stock market crash on Wall Street, unemployment in Australia was already at ten per cent. After the crash, it swiftly increased, reaching a peak in 1932, when almost thirty-two per cent of Australians were out of work.

The Bank of England advised the colonial governments to implement a deflationary policy, contending that wages must be 'depressed' (i.e. cut) to make exports more competitive and to raise profits. The Bank advised savage cuts in

social services, while demanding that Australia not default on her loan obligations to Britain.

The Great Depression's impact on Australian society was devastating. Without work many people lost their homes and were forced to live in makeshift dwellings with poor heating and sanitation.

There was no federal assistance for the unemployed, so people relied on charitable organisations or state government funded construction projects.

Many men left their homes and families during the Great Depression in search of casual work, some turned to crime, and others returned to the goldfields, hoping to turn their fortunes around. Women did whatever they could to earn extra cash, and children were forced to drop out of school and look for work. Resentment against non-British immigrants increased.

Many Australians lost confidence in the government, and radical political organisations sprang up at both ends of the political spectrum.

19. Tunnels and bats – finding a niche below the reef

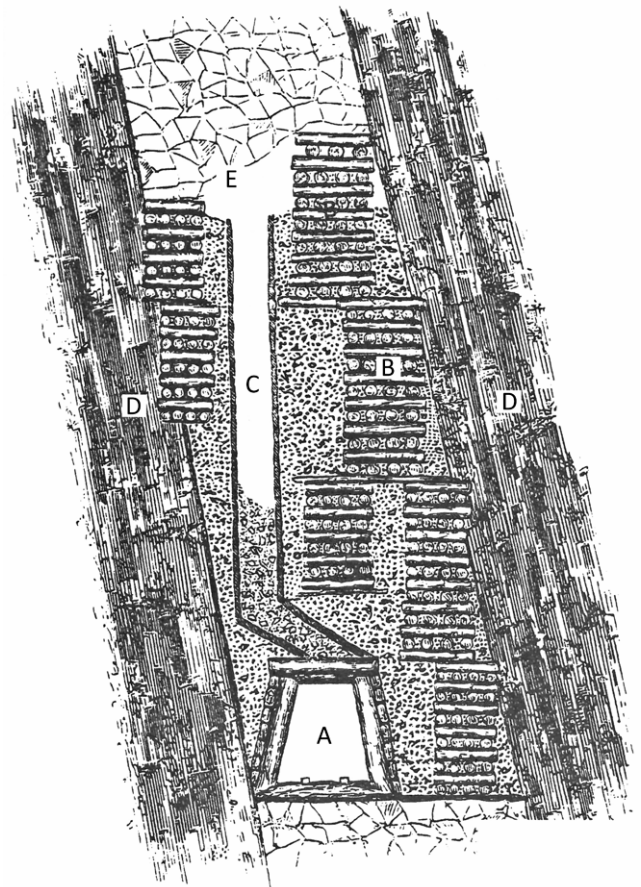
In the 1930s, this tunnel (known as an 'adit') was dug into the sandstone below Eureka Reef. About 150 metres in, a vertical shaft (a 'stope') was constructed, allowing the reef to be mined from below.

The mined quartz was loaded onto trolleys and pushed out of the tunnel on a tramway. Working in such a confined space was difficult and dangerous work, with the ever-present threat of becoming trapped by the walls or roof caving in.

For safety, the adit and stope are closed to visitors. However, there is another reason for not entering the tunnel. It is now a roosting site for the Common Bent-wing Bat, the only bat known to colonise caves and mines in Victoria. Despite their name, they are not common in Victoria.



Common Bent-wing bat. Photo © Lindy Lumsden.



Working a stope: A) the tunnel or 'main drive'; B) supporting stacks of timber and rubble; C) the 'pass' leading to the quartz reef; D) the 'walls' of the reef; E) the quartz reef yet to be mined. Illustration by Robert Avitabile. Source: *Discovering the Mount Alexander Diggings*, Mount Alexander Diggings Committee, 1999.

At breeding time, Common Bent-wings must fly hundreds of kilometres to one of only two caves in the state with the right temperature and humidity to rear their young. Nocturnal and fast flying, they feed on moths, beetles and other flying insects.

About ten other species of bats are found around Eureka, all competing for a few tree hollows, or sometimes sheltering under a flap of bark. After dark you might hear or feel them rushing past you at up to 50km per hour, flitting this way and that, using echolocation to hunt the insects they eat mid-flight.

The bats are sacred to **Djaara**, who call them **yaranmilawit**. Bats watched over weary travellers, warning them of danger and guiding them to safety.

To the left of the tunnel is another shaft and a headframe constructed in the 1950s used to access the same reef. It was probably used as a ventilation shaft, but might also have been used for removing dirt from the tunnel. Miners would have hoisted up quartz in a bucket using a winch below the headframe which still stands over it.

Just beyond the tunnel and shaft, to the right of the track, is another section of the water race.

There would once have been a wooden bridge (also known as a flume or aqueduct) here that carried water across the gully to the race on the southern side. This was later replaced by a 'siphon' (an underground pipe). There are no pumps involved – just clever engineering and the force of gravity.

20. The miner's house – a clue to life on the goldfields

The ruins here were once home to a miner, and possibly his family. They remind us of the simple life people lived on the goldfields. The house was about 3m x 2.5m with a chimney at one end – about the size of a bathroom in a modern home.

That seems very small to us now, but during the gold rush this would have been considered a respectable home. The miner would have probably spent most of his time outside, sitting around an open fire at night perhaps reading passages from the Bible with his family, or singing or playing a much-loved musical instrument with friends.

From 1855, miners could take out a mining claim and occupy a Residence Area, a small parcel of

land on which they could establish a house and garden, under the provisions of their Miner's Right. As the alluvial gold ran out and diggers began the longer process of mining the reefs, tents gave way to more permanent dwellings like this house.

"On the (alluvial) diggings the treasure is speedily removed, and the digger strikes his tent and goes in search of a new field. On the reef the process of getting gold out is slow, and the idea prevails that the yield will hold out for years. The reefer feels more settled, and the tent is speedily exchanged for a comfortable cottage. Such cottages are now becoming numerous around the Eureka and we are informed that of the hundred men employed about this reef, some twenty have families settled with them. A village is forming here in the ranges, and soon a school house will be required."

Mount Alexander Mail, 3 April 1857

Source: TROVE / National Library of Australia.



A typical miner's house from the late 1800s or early 1900s. Photograph by John Henry Harvey. Source: State Library of Victoria

Women and children on the goldfields

More than 160,000 women were among the 600,000 people who arrived in Victoria between 1851 and 1860. However, in the early 1850s, miners felt that life on the diggings was too rough for women, and left their wives and children behind.

Many women moved into shared lodgings in the bigger towns for company and security. They were forced to take in laundry or do manual labour to support themselves and their children while their husbands were away seeking their fortune.

However, by the mid-1850s about a third of miners were accompanied by their wives. As alluvial digging gave way to the slower process of quartz-crushing, the miners were able to stay in one place for longer, and took the opportunity to build homes, and send for their wives. A regular wage from a mining company ensured miners could put food on the table and their families had clothes to wear.

Most women on the goldfields continued to carry out traditional domestic duties, often rising before dawn to stoke the fire and prepare breakfast, and spending their days cooking, cleaning, washing and mending clothes, gardening, and tending to children and animals.

However, in this era of rapid social change, a small number of women also became successful shopkeepers, entertainers and businesswomen.



A rare portrayal of a woman and child on the goldfields by ST Gill, 1852. Source: State Library of Victoria

“The thrifty miner who possesses the treasure, not less common on Australian goldfields than in other places, of a cleanly managing wife, is enabled to surround himself with rural privileges. A plot of garden ground, well fenced, grows not only vegetables but flowers, which a generation since were only to be found in conservatories ... the domestic miner is often seen

surrounded by his children, hoeing up his potatoes or cauliflowers, or training the climbing rose which beautifies his rude but by no means despicable dwelling.”

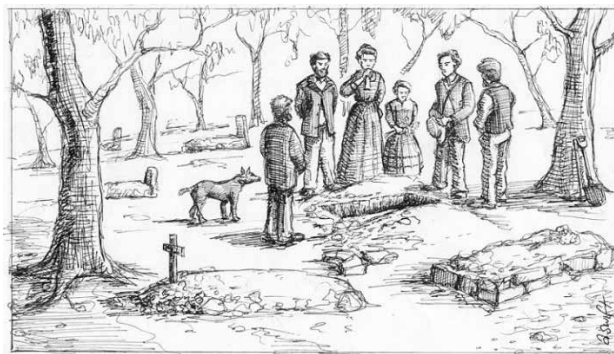
Rolf Boldrewood, The Miner's Right, A Tale of the Australian Goldfields

Source: Project Gutenberg Australia

Children were often used as a source of labour, and there would have been few opportunities for fun or education.

Children's weaker immune systems made them more susceptible to diseases like dysentery and cholera that swept through the goldfields, brought about by lack of water, poor sanitation, basic living conditions, and harsh weather. Influenza, pneumonia, and tuberculosis were also common.

Doctors were in high demand, but few who claimed to be doctors were actually qualified. A tragic reminder of the difficulties of life on the goldfields are the gravestones of more than 200 children buried at Pennyweight Flats Children's Cemetery in Castlemaine.



Life was hard on the goldfields, and infant mortality was tragically high. Even children born in the 1880s-1890s only had an average life expectancy of around 47 years for a boy and 51 years for a girl. Illustration by Andrew Swift.

Myths and realities

Many miners experienced bitter disappointment and depression, and some observers claimed that men literally died of broken hearts. Others turned to drink and gambling.

However, despite the harsh living conditions, it was a better life than many diggers had endured as factory workers in London or as convict

labourers. While the realities rarely lived up to the myths that had lured so many to the goldfields, freedom and independence were good compensation.

However, the glory days of the gold mines were short-lived, and once the mines closed and the equipment was sold off moved to a new location, there was little to keep people in villages like Eureka. As people left in search of new opportunities in bigger towns like Bendigo, Castlemaine, and Ballarat, many small mining towns and villages simply faded away, homes slowly crumbling to rubble.

Where there were once whole communities, now there are only ruins waiting to be rediscovered by a new generation of explorers – like you, perhaps?

21. The mine shaft – and multiple waves of mining

The Eureka Consolidated Company began a gold mining operation here in 1871. It continued for about seven years and extracted nearly 16,000 tonnes of ore, yielding 175 kilograms of gold (roughly the weight of two adult men). The concrete platform in the car park covers the shaft dug to get to the lower level of the reef, 150m below.

In a report made on 12 April 1875, the mining manager, Mr Betheras stated:

“Our present lease, or rather most of the ground, was formerly occupied by small companies, but about six years ago Mr Learmonth purchased several of these small claims, and applied for a lease of a larger area of ground. Mr Learmonth expended about £10,000 in the erection of large machinery and sinking a new shaft from surface to a depth of 280 feet, 11 feet x 3 feet in the clear,—this gives 80 feet of backs, being 80 feet below the old working. This piece of backs Mr Learmonth worked out with profitable results, and then sold the mine and plant to Mr Benjamin Spargo, who floated the present company.

This reef, from the surface down to the 360 feet level, will average about 12 feet thick,

well-defined, and perfectly regular in its course, and I think, without exception, it is one of the most solid and permanent-looking reefs that I have seen in the colony, and judging from appearances it is likely to go down to a very great depth. There is no reef in the district so worthy of being more thoroughly tested in the deep ground as the reef in this mine.”

Mr Betheras, Mining Manager, Eureka Consolidated Company, 12 April 1875

A few months later, the Mount Alexander Mail reported:

“The unexpected yet welcome changes in the prospects of the mine owned by the Eureka Consols Co. has caused quite a sensation in mining circles, and has helped in no little degree to revive the industry in this neighbourhood.”

Mount Alexander Mail, 29 June 1875

Source (both): TROVE / National Library of Australia.

In the 1980s, the shaft was briefly reopened to extract quartz for crushing into chips for the tops of graves. You can still see fine chips of quartz on the ground around you.

There’s a hole in the platform big enough to drop one inside. Listen carefully and you can hear how long it takes to reach the bottom.



The quartz mine operating at Eureka in the 1980s and 1990s. Photo by CE Wilmann, c. 1991.

Acknowledgements

The information in these heritage notes was drawn from multiple sources, including:

- *Discovering the Mount Alexander Diggings*, Robyn Annear, David Bannear and Philip Ingamells for Mount Alexander Diggings Committee, 1999
- *Gold Education Kit for Primary Schools*, Ian O'Halloran for Friends of Mount Alexander Diggings Inc., 2002
- *Living Stories of the Victorian Goldfields (Short Films and Podcast Tours)*, The Storyteller's Guide to the World and DAZ MEDIA for Mount Alexander Shire & City of Greater Bendigo, 2008
- historical accounts in local newspapers (via TROVE / National Library of Australia)
- extensive research by David Bannear, Donna Fearn, and Rob Kaufman

Photos without credits in the captions were taken by Parks Victoria staff.

11 The Monk Loop



Grade 3, 4-5km circuit, 2-3hrs

Gravel and earth path with gentle to moderate hills and some steps and obstacles. Some bushwalking experience is recommended.

This walk leads you through Eureka Reef up to The Monk, the highest point in the park, a special place for Djaara. Bushwalkers and nature-lovers will enjoy walking through Box-Ironbark woodland rich in birdlife and spring wildflowers.

Starting from the Eureka Reef carpark, follow the 10 Eureka Reef Heritage Walk to just after feature 18 then branch off onto 11 The Monk Loop (this makes the walk 5km). Or take the direct route (4km) by turning left at feature 5 and continuing to where 11 The Monk Loop branches off after feature 19.

Dogs are permitted on a lead at Eureka Reef and on ■ The Goldfields Track, but are not permitted on The Monk itself.

Taking care of the park



The ruins at Eureka are remarkably well-preserved and of enormous national cultural and historic significance. Left undisturbed, they will remain for many future generations to rediscover. You can help protect Eureka Reef by following these simple guidelines:

- Take all rubbish with you for recycling or disposal.
- Fires and firewood collection are prohibited.
- Vehicles, including motorbikes and trailbikes, are only permitted on formed roads, not on walking tracks.
- Aboriginal sites are scattered throughout this landscape. Please tread lightly and be mindful of conserving and protecting these important sites. All artefacts are of cultural significance and protected by cultural heritage laws.
- Please do not touch the ruins or disturb the ground. All plants, animals, historical and archaeological sites and geographic features are protected by law.
- Fossicking, prospecting and digging for gold are strictly prohibited. Penalties apply. The Heritage Act 2017, Section 89 (1) states that "A person must not remove, relocate or demolish, damage or despoil, develop or alter or excavate, all or any part of a registered place." Individuals may be fined 10 penalty units (several thousand dollars), groups or organisations may be fined 20 penalty units.
- Prospectors can access a prospecting map of the Castlemaine area showing where prospecting is allowed from local visitor information centres or parks.vic.gov.au

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