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# ROBBINS HILL CYANIDE VATS

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## Location

HUNTLY-FOSTERVILLE ROAD, FOSTERVILLE

## Municipality

## Level of significance

Heritage Inventory Site

## Heritage Inventory (HI) Number

H7824-0110

## Heritage Listing

Victorian Heritage Inventory

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## Statement of Significance

Last updated on - April 14, 2023

### What is significant?

The site comprises well-preserved examples of late 19th-century gravity fed cyanide process facility at Robbin's Hill, Fosterville.

### How is it significant?

The cyanide vats site is of local historical and scientific significance.

### Why is it significant?

The cyanide vats site is of historical and scientific significance for its association with late 19th and early 20th century small scale gold mining in regional Victoria.

Gold mining in Fosterville was characterised by less wealthy companies (in comparison to places such as Ballarat) who nevertheless managed to implement the latest mining techniques through a combination of ingenuity and utilising local resources (Snoek 1988, p.10). The cyanide vats site is representative of this adaptation of new technology in the Fosterville goldfields and has the potential to yield further information about the resourcefulness of the local goldminers.

Interpretation of Site	Mid to late 19th century land use of the area was predominantly pastoral. The land was owned by J. Robbins, who is believed to have conducted pastoral activities as well as alluvial gold mining at the site. In the late 19th century pastoral activities continued; however, gold mining became prolific throughout the area. Small mining operations utilised their capital to expand, the Robbins Hill Mine was registered in 1898; however, mining was undertaken in this area by the Robbins' as well as other small operations prior to 1898. In the early 20th century, the township of Fosterville declined as many of the larger mines closed; however, cyanide works continued to operate until 1939. It is unclear when the Robbins' Hill mine closed. Mid 20th century land use was predominantly agricultural. The water races and dams established for mining were reused for agricultural activities. In the late 20th century gold mining was reestablished in Fosterville resulting in extensive disturbance to the wider landscape. Large pits were excavated to the northeast and west of the site at this time; however, the cyanide vats site itself appears relatively undisturbed. Modern gold mining activities continue within the area to the present day. The site comprises three intact, circular galvanized iron cyanide vats, with the remains of a fourth vat. The vats were gravity fed and inflow/outflow pipes are evident within the site. The vats are situated to the north of a dam, which likely provided water for the cyanidation process. The vats were likely constructed in the 1890s and may have continued to be utilised into the 1930s. The site has become overgrown by vegetation since first being surveyed in 1988 and elements such as the brick and concrete bases of the vats (Snoek 1988, p15 and 45) could not be observed; however, they likely remain under the vegetation. The site consists of a typical representation of cyanide vats and is in good condition. The site has high potential for archaeological deposits and features associated with the late 19th and early 20th century mining activities.
Other Names	Site 3 - Cyanide Vats,
Hermes Number	209506
Property Number	

## History

The majority of the following background history is drawn from the land use history developed for the Historical Heritage Technical Report (Geiberras and Hocking 2022) prepared for the Fosterville Gold Mine Environmental Effects Statement. European settlement in the area began in the late 1830s with squatters breeding sheep for their hides, wool and meat (Marshall 1996, p.3). The main township of Fosterville (formerly Ellesmere) was situated to the south-west of the site (Figure 6). Gold was discovered in Fosterville in the early 1850s, from this period alluvial mining, including gold panning and shallow diggings took place; however, land use remained predominantly pastoral until the 1890s (Marshall 1996, p.3). The site was within Allotment 42a of the township of Fosterville, which was occupied by John Robbins by 1876 (Figure 5). The Robbins family were early settlers in Barnedown (immediately north of Fosterville) and active members of the community. They had large holdings of mining land at what would become Robbin's Hill (Bendigo Advertiser 1899, p.2). By 1894 the township of Fosterville had been formalised, and the small alluvial mining operations had given way to deep lead and open cut industrial scale mining (Ballinger 2020, p.44). The initial miners were instrumental in the development of the township of Fosterville and the surrounding goldfield, using the capital they raised from the small mines to expand their operations (Snoek 1988, p.11). The first large mining company, Ellesmere Gold Mining Company, was registered in 1895 (Snoek 1988, p.11). By 1896 there were at least 300 residents in Fosterville (Snoek 1988, p.12). There were at least six batteries operating in Fosterville; however, due to lack of water only two were crushing at any given time until 1896 (Bannear n.d., p.140). The hand excavation of a 26 mile (41.8km) channel resolved water supply issues with at least eleven batteries operating by 1897 (Bannear and Watson 1994, p.38). The batteries crushed ore for multiple mines including: Thomas United, Stewarts Extended, Fosterville and Daley and Watsons. Miners laid primitive tracks so mine carts could be used to transport large quantities of ore to the batteries and/or cyanide works for processing (Ballinger 2020, p.45). Following the expansion of the water races, mining companies were further expanded and established, including but not limited to: Daley and Watson's, F. Thomas, Bloomquist and Party, Brooks and Jones, Worcester Brothers, Thomas Brothers- H. Hunt, and Robbins

Hill Mining Co; all of the companies utilised the batteries for crushing the quartz that they were mining. The Robbins brothers had pegged claims to the north and south of the O'Donnell's claims in 1894 (Snoek 1988, p.11); however, Robbins Hill Mine was established relatively late compared to the other mining companies in 1898 (Bendigo Advertiser 1898, p.4). The cyanide vats are believed to be associated with the Robbin's Hill Mine; however, it is noted in the Bendigo Advertiser that the area in which Robbins Hill Mine was established was occupied by small private parties and alluvial prospectors (Bendigo Advertiser 1898, p.4) and it is possible the cyanide vats were utilised by these smaller operations also. Private claims were common in the goldfields, with known workings by G. Brooks, Roberts and Collins, and Geirisch and Hinton operating along Hunt's line (Bannear n.d., p.149). Cyanidation was a very new process when it was first introduced in Victoria in 1896 (Ballinger 2020, p.44). The process was patented by Scottish chemists in 1887 and first implemented in the field in New Zealand in 1889 (Richie and Hooker 1997, p.18). Cyanidation processes were intensively utilised in Fosterville from the 1890s. The use of cyanidation on a commercial scale widened the possibilities for gold miners, as it enabled lower quality ores to be profitable with a 90% gold yield (Richie and Hooker 1997, p.18). The process required ore to be crushed, then added to a diluted potassium cyanide solution which was agitated for five days (Richie and Hooker 1997, p. 18). Once this was done, the solution was then drawn off and passed through wooden boxes where the gold content precipitated on zinc shavings (Richie and Hooker 1997, p.19). This allowed for extra gold to be recovered and this process was used to re-process old tailings in the early 20th century. Gold mining declined across Victoria in the early 20th century due to the price of gold, the intensive works required to obtain it and the onset of World War One (Ballinger 2020, p.45). The township of Fosterville began to decline in 1903 and mines began to close in 1906 (Snoek 1988, p.12). Mining in Fosterville had all but ceased in the early 20th century; however, cyanide works and ore treatment plants continued to operate until 1939 (Bannear n.d., p.197). It is unclear exactly when the Robbin's Hill Mine ceased operations, although it can be presumed that the cyanide vats continued to be utilised after the mining itself ceased. In 1937, Fosterville was included on the list of closed mines that was to be subject of the shaft filling scheme (Bannear n.d., p.196). This scheme involved the filling and securing of dangerous open shafts and commenced in 1935, funded by grants to create work during the depression (Bannear n.d., p.196). Although mining ceased in the area, the cyanide works and ore treatment plants continued to operate until 1939 (Bannear n.d., p. 197). In the late 20th century, interest in Fosterville was renewed and in 1996 an Environmental Effects Statement (EES) was commissioned to assess a gold mining venture utilising open-cut mining methods at Fosterville. The Cyanide Vats site was first identified during a survey for a 1988 Archaeological Study of Fosterville, Central Victoria (Snoek), associated with the EES for the Fosterville Gold Mine (at the time Bendigo Gold Limited). Snoek identified a series of archaeological features associated with the former Robbin's Hill Mine during this survey, these features included Site 1 – Whim, small open cut with loading ramp, Site 2 – Wooden Stamp Battery Frame, Site 3 – Cyanide Vats, Site 4 – Small open cut and loading ramp (Figure 9). The Cyanide Vats site is described in the Archaeological Study as follows; "Approximately 200m north of the battery frame a series of cyanide vats were recorded. The cyanide vats are all approximately 5 meters in diameter, constructed of galvanised iron, the bottom of the vats are bricklined and are on a concrete base." (Snoek, 1988 p.15). During a survey in 2022 by ALA only sites 2 and 3 were able to be reidentified (Geiberras and Hocking 2022). A separate site card is under preparation for Site 2 – Wooden Stamp Battery.

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