

Victoria Battery Cyanide Tank Holders, Waikino



Location: Pukekauri Rd, Waikino

Heritage Status

Historic Places Trust Registration Number: 4678

Historic Places Trust Category: Category 1 - Registered Historic Place

HDC Heritage Category: A - Heritage Feature. National or Outstanding Regional Significance

Other:

Physical Description: Associated with the Victoria Battery, originally designed to support the cyanide tanks.

Other known names:

Notable features:

Style:

Materials: Concrete

Date of Construction: c 1910

History: The Victoria Battery complex at Waikino was built in 1897, to process ore being produced at the Martha, Waihi and Grand Junction mines. The MacArthur-Forrest cyanide process for the extraction of gold and silver from crushed ores was developed in Scotland in 1886. The patent was owned by the Cassel Gold Extraction Company. In 1889 the Crown Company of

District Plan Schedule

Number: HAU022

Heritage Category: A

Heritage Type:

- Wahi Tapu
- Cultural Landscape
- Building
- Group of Buildings
- Structure
- Monument
- Historic Place
- Archaeological Site
- Other

Date Period:

1881-1910

Significance:

- Archaeological
- Architectural
- Cultural
- Historic
- Scientific
- Technological

Thematic Context

- Maori
- Early Settlement
- Industry
- Industry (mining)
- Extraction
- Forestry
- Agriculture
- Transport
- Communication
- Commerce
- Residential
- Social/Cultural
- Civic
- Health
- Educational
- Church/yard
- Other

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Number: **HAU022**

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Karangahake carried out the first field trials of the process by which 92% of the gold and 54% of the silver content of the ore was recovered, in contrast to the 60% of the gold and 35% of the silver which was recovered by the previous pan amalgamation process. In 1897 the New Zealand Government purchased the patent rights for the process for £10,000. This money had been recouped by 1905 from the small royalty charged to the users.

The local invention in 1902 of the Brown (or B & M) agitator tanks (known in some countries as Pachuca tanks), facilitated this increase in the extraction rate. The process involved cylindrical tanks in which the mix of pulverised ore and cyanide solution was agitated by charges of compressed air forced through the inverted conical bases. This air also provided a supply of oxygen which further improved the extraction of the metals. The Tanks which were built at the Victoria Battery between 1902 and 1910 were steel cylinders 4.5 metres in diameter and about 15.25 metres high which stood on the concrete holders or bases remaining at the site. Elsewhere tanks were made of wood or concrete. A spectacular set of concrete tanks survives at the Union Hill, Waihi. These cyanide tank holders make full use of the plastic qualities of poured concrete in the form of interlocking hexagonal elements. This is a unique structure not repeated at other gold producing plants.

The holders and adjacent ruins indicate the large scale of the gold mining enterprise at Waihi and Karangahake.

Architect:

Designer:

Builder:

Engineer:

History of changes:

Condition: All the superstructure and ancillary plant has been removed.

Integrity: substantially altered

Current Uses: Historic Reserve

Former Uses: Cyanide Vats (Mineral processing)

Registered owner: Department of Conservation

Legal Description: Sec 1 SO 59644 Blk XIV Ohinemuri SD Rec. Res.

Reference Source: NZHPT Building Record Form

Associated Pictures: