

THE HISTORY OF GOLD MINING

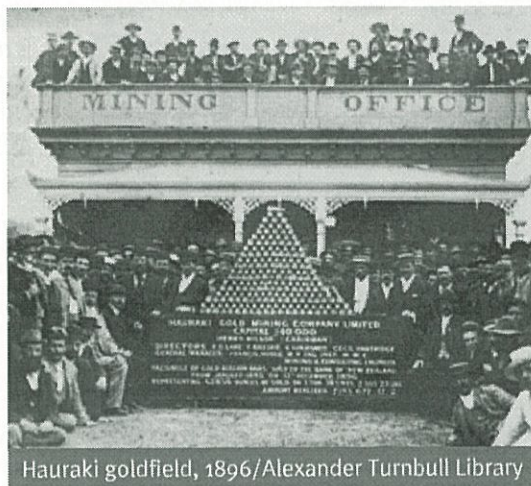
Gold mining has made a large contribution to the economic development of New Zealand, particularly during the last half of the 19th century. New Zealand's recorded production of gold up to 2004 is about 1000 t, but there was probably a large additional quantity undeclared, particularly during the early gold rushes.

Gold was first reported in New Zealand when a group of convicts, ship deserters and whalers who had settled in the 1830s on Beesons Island near the entrance to Coromandel Harbour discovered gold, but this and other reports about this time attracted little interest.



Gold dredge, Clutha River/Archives New Zealand

It was the discovery of gold in the South Island that led to a series of gold rushes and the establishment of what soon became a major industry. In 1856, gold was found in the Aorere Valley, and a gold rush to the Collingwood-Takaka district followed. Gabriel Read reported the discovery of gold in the gravels of the Waitahuna and Tuapeka rivers in 1861, and a major gold rush to Central Otago followed. There was a smaller rush to Marlborough the following year, and rushes to finds on the West Coast



Hauraki goldfield, 1896/Alexander Turnbull Library

in 1865 and 1866. Recorded gold production in 1866 reached 735,000 ounces (over 22 tonnes), an annual level that has not been exceeded since then.

The early miners used primitive equipment, gold pans and sluice boxes with the gold-bearing gravel being shoveled by hand. Hydraulic methods using high-pressure water were developed to work elevated terrace deposits, and water races were built over long distances, often through rough terrain, to convey water to the mine sites. As the more accessible, near-surface deposits were worked, attention turned to the large gravel deposits along the main rivers, particularly the Clutha River and its tributaries in Otago.

After numerous unsuccessful attempts, the first steam powered dredges started work on the Clutha River in 1881. The world's first commercially successful gold dredge was the Dunedin, which continued to operate in the Clutha River until 1901 by which time it had recovered 17,000 ounces (528 kg) of gold. More than 200 gold dredges operated in Otago and Southland between the 1890s and 1915.

Hard rock gold mining took longer to get established, requiring capital and expertise beyond the capacity of the alluvial miners. Gold production from quartz vein deposits commenced in the early 1860s with rock crushing batteries being set up to crush the gold-bearing rocks to allow the gold to be recovered. In 1867 the goldfield at Thames started producing, and in 1875 the Waihi area became open to prospecting. A gold rush followed but the miners failed to recognise the potential of the quartz vein deposits they discovered, including the Martha vein, discovered at Waihi in 1878.

NEW ZEALAND MINERAL RESOURCES



Restoration following alluvial gold mining,
Arahura River, Westland

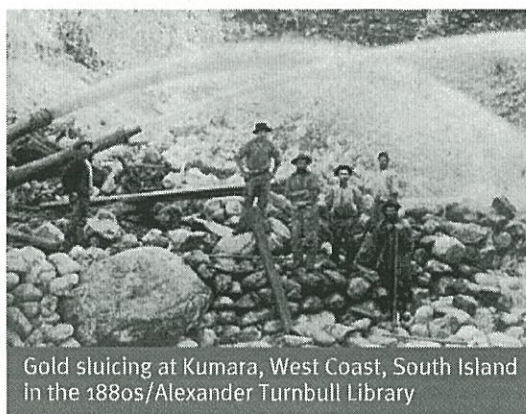
Gold in the quartz veins of the Hauraki district is very fine grained and was difficult to recover using the methods available at the time. The first commercial use of a new process using cyanide solution to recover gold was at the Crown Battery at Karangahake in 1889. The Government bought the New Zealand rights to the cyanide process, and users had paid off the Government investment by 1905.

The success of the cyanide process led to a major expansion of the Martha mine, which by 1903 was the largest gold mine in New Zealand. The Victoria battery at Waikino was expanded, the Cornish pump house (which is still standing) was completed and new underground workings were developed. By 1911 Waihi had a population of 6500 and was the largest town in the region. When the Martha mine eventually closed in 1952 it had produced about 5 million ounces of gold (155 tonnes) and 35 million ounces (1088 tonnes) of silver from nearly 11 million tonnes of ore which was mined almost exclusively by underground methods. The mine is worked today as an open pit.

Elsewhere in the Hauraki Goldfield, gold-silver production is recorded from several hundred mines working about 50 separate deposits. The total value of gold and silver produced from the Hauraki Goldfield is about \$6.7 billion at current metal prices.

While alluvial gold mining dominated in the South Island after the gold rushes, hard rock mines were developed in Nelson, Westland and Otago. The Reef ton Goldfield, on the West Coast of the South Island, produced more than 2 million ounces (62 tonnes) of gold from 1870 until 1951. The largest producer was the Blackwater mine at Waiuta. Gold was also produced from the gold-scheelite veins of Otago from the early 1870s but it was not until the Macraes mine was developed in 1990 that the region became a significant producer of gold from hard-rock mining.

For most of the 20th century, production declined due mainly to the falling real price of gold. Hard rock gold mines closed and gold dredging diminished, but rising gold prices from the mid-1970s led to a surge of investment in gold exploration. Production increased from less than 10,000 ounces (311 kg) in 1983 to 390,000 ounces (12 tonnes) in 1995.



Gold sluicing at Kumara, West Coast, South Island
in the 1880s/Alexander Turnbull Library

► Chronology of events in gold mining

1852

Charles Ring discovers gold at Coromandel

1856

Gold rush to Collingwood-Takaka

1861

Gabriel Read discovers gold in Otago, followed by a gold rush

1862

Gold rush to Marlborough

1865

Gold rush to West Coast

1866

Record gold production of 735,000 oz (over 22 tonnes)

1875

Gold rush to Waihi

1878

Discovery of Martha vein

1881

World's first successful steam-powered dredge begins work on Clutha River

1889

World's first commercial use of cyanide solution gold recovery at Karangahake

1951

Closure of Globe-Progress mine, Reefton

1952

Closure of Martha mine, Waihi

1972

Gold price \$US58

1973

Gold price floated

1975

NZ gold production falls below 2000 oz, the lowest since mining began

late 1970s

Resumption of hard rock gold exploration

1980

Gold price reaches \$US612

1988

Martha opencast mine opens at Waihi

1990

Macraes mine opens in Otago

1992

Production commences from Golden Cross mine in Coromandel

1997

Passage of legislation banning mining on DoC land on northern Coromandel and other areas

1998

Gold price falls below \$US300

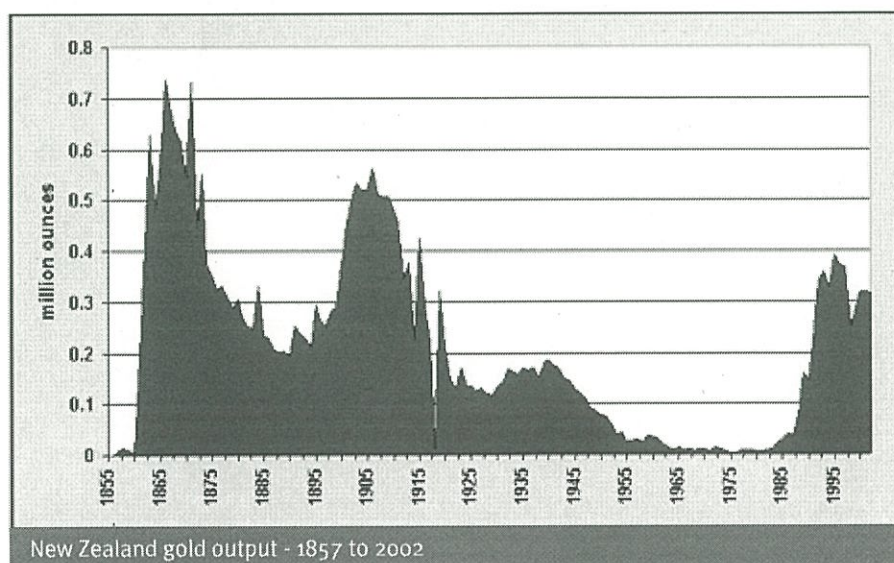
1998

Golden Cross mine closes in Coromandel

2000

Macraes and Martha mines each produce 1 millionth oz

► New Zealand gold output - 1857 to 2002



Chronology of the 1950s

1950	January 1 - New Year's Day	January 1 - New Year's Day
1951	January 1 - New Year's Day	January 1 - New Year's Day
1952	January 1 - New Year's Day	January 1 - New Year's Day
1953	January 1 - New Year's Day	January 1 - New Year's Day
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1997	January 1 - New Year's Day	January 1 - New Year's Day
1998	January 1 - New Year's Day	January 1 - New Year's Day
1999	January 1 - New Year's Day	January 1 - New Year's Day
2000	January 1 - New Year's Day	January 1 - New Year's Day

New Zealand gold output - 1950-1951

