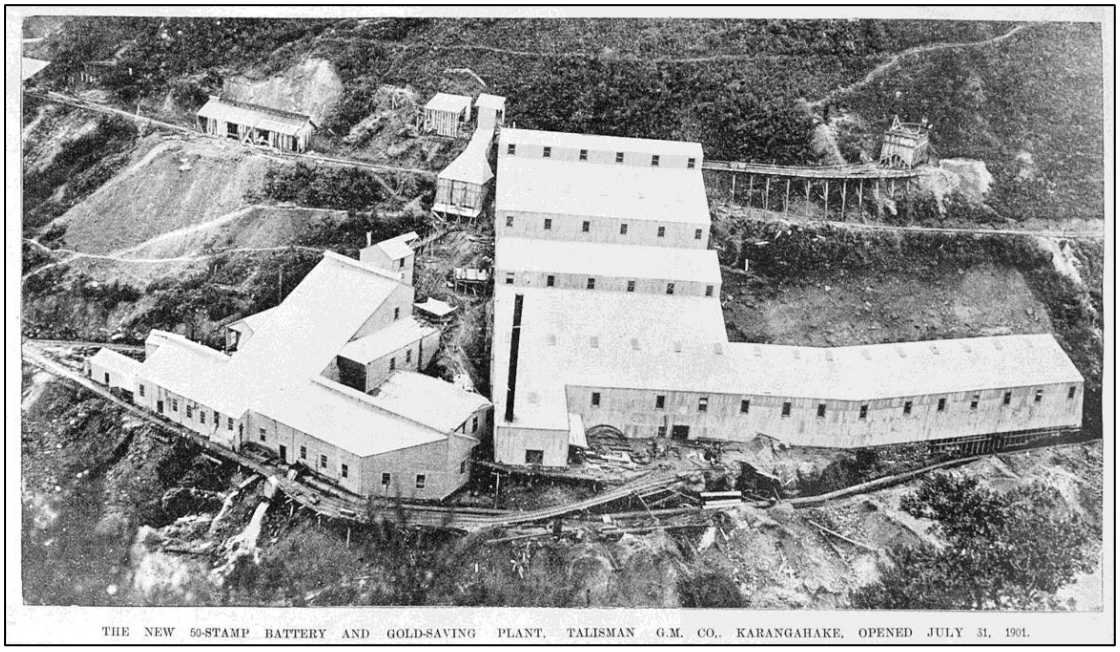
Talisman battery site



THE NEW 50-STAMP BATTERY AND GOLD-SAVING PLANT, TALISMAN G.M. CO,. KARANGAHAKE, OPENED JULY 31, 1901.

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Eric Lens 2024

Of the three big companies mining at Karangahake, the Talisman were the last to install a battery.	
1895	Late February. Talisman battery erection underway (10 stamps). [1] November. Talisman battery completed, but not working.[2]
1896	Talisman. A self-acting aerial tramway and hoppers has been erected, connecting the No. 4 level with the battery, a distance of fully 3000 feet. A substantial iron water-race has been erected to bring in the water. A contract has been let to cut and deliver 2000 tons of firewood to dry the ore. [3] September. Talisman Company to erect Howe Truss bridge across the Waitawheta River, to connect battery with Special site. [4] October. The Talisman put in one kiln, add 10 head stamps[5] November. Electric lighting for all three batteries. [6] Windows tunnel created. [7] November. Talisman Company to erect at Karangahake mine an additional 10 stampers [as above] of the latest design, being double mortar discharging. In addition to this six cyanide vats are to be constructed. Mr Lloyd is also to erect a revolving ore driver [dryer]. This will bring the crushing power at this mine up to 20 head, and as the new stampers will be 1080lb weight each, a large quantity of ore should be put through.[8] From April to September, 1896, 285 tons of quartz was crushed[9]
1897	March. Talisman using old kiln as an ore hopper (or paddock). [10] April. A 4-inch diameter [4 foot?] pipe line has been put in from the Talisman dam, and also two Victor turbines, capable of developing 120 horse-power effective. There will be also an electric light installation. A revolving air dryer is being substituted for the kilns; this is now ready for running, and will mean considerable economy, and probably a better extraction. [11]

[1] https://paperspast.natlib.govt.nz/newspapers/AS18950227.2.25
Auckland Star, Volume XXVI, Issue 49, 27 February 1895, Page 5
[2] https://paperspast.natlib.govt.nz/newspapers/NZH18951101.2.57.16
New Zealand Herald, Volume XXXII, Issue 9966, 1 November 1895, Page 11 (Supplement)
[3] https://paperspast.natlib.govt.nz/newspapers/NZH18960215.2.40
New Zealand Herald, Volume XXXIII, Issue 10055, 15 February 1896, Page 5
[4] https://paperspast.natlib.govt.nz/newspapers/NZH18960904.2.58.4
New Zealand Herald, Volume XXXIII, Issue 10228, 4 September 1896, Page 1 (Supplement)
[5] https://paperspast.natlib.govt.nz/newspapers/BOPT18961012.2.7
Bay of Plenty Times, Volume XXII, Issue 3461, 12 October 1896, Page 2
[6] https://paperspast.natlib.govt.nz/newspapers/AS18961116.2.8
Auckland Star, Volume XXVII, Issue 272, 16 November 1896, Page 2
[7] https://paperspast.natlib.govt.nz/newspapers/NZH18961127.2.55.4
New Zealand Herald, Volume XXXIII, Issue 10300, 27 November 1896, Page 1 (Supplement)
[8] https://paperspast.natlib.govt.nz/newspapers/OW18961119.2.71
Otago Witness, Issue 2229, 19 November 1896, Page 19
[9] https://paperspast.natlib.govt.nz/parliamentary/AJHR1897-II.2.1.4.3/4
THE GOLDFIELDS OF NEW ZEALAND: REPORT ON ROADS, WATER-RACES, MINING MACHINERY, AND OTHER WORKS IN CONNECTION WITH MINING., Appendix to the Journals of the House of Representatives, 1897 Session II, C-03
[10] https://paperspast.natlib.govt.nz/newspapers/NZH18970319.2.78.4
New Zealand Herald, Volume XXXIV, Issue 10394, 19 March 1897, Page 1 (Supplement)
[11] https://paperspast.natlib.govt.nz/newspapers/NZH18970415.2.63.4
New Zealand Herald, Volume XXXIV, Issue 10417, 15 April 1897, Page 1 (Supplement)

	16 June. Talisman new 20 stamper underway, Howe Truss bridge connects to special site (vat house). Ore drier in use, instead of the in-ground kiln. [12]
1898	January. Trial of Krupp ball mill. [13] November. Talisman battery install 80 horse-power engine and boiler. [14] The milling machinery consists of two stone-breakers, twenty head of stamps, one Krupp ball-mill, six berdans, and fourteen vats (of 18 ft. and 22 ft. diameter), and also a revolving drying-furnace, with a capacity of 40 tons a day… and the ore is delivered at a small cost, being conveyed in buckets down a wire-tramway direct from the mine to the mill. [15]
1899	January. The Talisman Company propose to take over of the Talisman Extended Gold Mining Company's property, which consists of a special claim and battery site [16] April. Aerial cableway breaks [17] December. The proposed amalgamation with the Talisman Extended, Royal Mail, and Victor-Waihou is regarded with favour here, as it would not only add another area full of promise to the present acreage, but would also provide an additional battery site. [18]
1900	April. New Zealand Talisman Gold Mining Company amalgamate with Talisman Consolidated Company (Royal Mail, the Crown Extended, the Victor, and Waihou [19]). [20] May. Talisman to erect new battery (along side present mill [21]). [22] August. Talisman No. 8 level to be driven, about 200 ft below the No. 7. It will be the main outlet for the mine, as all the ore from the upper workings will be concentrated there, and sent on to the battery, one length of aerial tramline being sufficient to land the ore at the battery. [23]

[12] https://paperspast.natlib.govt.nz/newspapers/THA18970617.2.33
Thames Advertiser, Volume XXIX, Issue 8763, 17 June 1897, Page 3
[13] https://paperspast.natlib.govt.nz/newspapers/NZH18980121.2.58.3
New Zealand Herald, Volume XXXV, Issue 10656, 21 January 1898, Page 1 (Supplement)
[14] https://paperspast.natlib.govt.nz/newspapers/NZH18981125.2.83
New Zealand Herald, Volume XXXV, Issue 10919, 25 November 1898, Page 1 (Supplement)
[15] https://paperspast.natlib.govt.nz/parliamentary/AJHR1899-I.2.1.4.3
THE GOLDFIELDS OF NEW ZEALAND: REPORT ON ROADS, WATER-RACES, MINING MACHINERY, AND OTHER WORKS IN CONNECTION WITH MINING., Appendix to the Journals of the House of Representatives, 1899 Session I, C-03
[16] https://paperspast.natlib.govt.nz/newspapers/NZH18990120.2.96.4
New Zealand Herald, Volume XXXVI, Issue 10965, 20 January 1899, Page 1 (Supplement)
[17] https://paperspast.natlib.govt.nz/newspapers/NZH18990414.2.86.3
New Zealand Herald, Volume XXXVI, Issue 11037, 14 April 1899, Page 1 (Supplement)
[18] https://paperspast.natlib.govt.nz/newspapers/NZH18991222.2.55
New Zealand Herald, Volume XXXVI, Issue 11252, 22 December 1899, Page 1 (Supplement)
[19] https://paperspast.natlib.govt.nz/parliamentary/AJHR1900-I.2.1.4.3
THE GOLDFIELDS OF NEW ZEALAND: REPORT ON ROADS, WATER-RACES, MINING MACHINERY, AND OTHER WORKS IN CONNECTION WITH MINING., Appendix to the Journals of the House of Representatives, 1900 Session I, C-03
[20] https://paperspast.natlib.govt.nz/newspapers/NZH19000413.2.59.4
New Zealand Herald, Volume XXXVII, Issue 11345, 13 April 1900, Page 1 (Supplement)
[21] https://paperspast.natlib.govt.nz/newspapers/NZH19000413.2.59.4
New Zealand Herald, Volume XXXVII, Issue 11345, 13 April 1900, Page 1 (Supplement)
[22] https://paperspast.natlib.govt.nz/newspapers/NZH19000511.2.55.3
New Zealand Herald, Volume XXXVII, Issue 11369, 11 May 1900, Page 1 (Supplement)
[23] https://paperspast.natlib.govt.nz/newspapers/NZH19000831.2.70.4
New Zealand Herald, Volume XXXVII, Issue 11465, 31 August 1900, Page 1 (Supplement)

1901	February. Crushing operations in the old mill were stopped on February 16… a final clean-up of the plant was completed on March 18. [24] July 31. New battery underway, 50 stamps, crushing wet. [25] December. "The bullion returns since the commencement of crushing operations at the new mill have been very disappointing so far".[26]
1902	May. the Talisman has temporarily suspended milling, pending erection of electrically powered air compressor at the mine. [27] October. Mill will resume crushing operations on the 20th of the present month…past six months, during which time the mill has been closed down… underground haulage to No. 8 level will be resorted to and a large hoisting plant is now being erected in that working, and an incline shaft proceeded with. [28]
1904	June. Talisman buy Woodstock for £7000. [29]
1906	New air compressor ordered for old Woodstock battery. [30] [31]
1907	Additional installations are being made to the power and treatment plant. [32]
1908	August. Lower levels of mine flooded. [33] October. The new power plant will be in readiness to commence operations in a month from now. [34] November. The installation of the new air-compressor plant at the Talisman mine is now completed. [35] This may be at the powerhouse. AJHR. A Riedler compressor with a capacity of 3,100 cub. ft. of free air per minute has been erected during the year, also four Babcock and Wilcox boilers and a 100-kilowatt generator, to supply power to the mine. [36] This at the powerhouse.
1909	AJHR. At the battery a new 500-horse power Fraser and Chalmers'

[24] https://paperspast.natlib.govt.nz/newspapers/NZH19010412.2.77
New Zealand Herald, Volume XXXVIII, Issue 11625, 12 April 1901, Page 1 (Supplement)
[25] https://paperspast.natlib.govt.nz/newspapers/NZH19010816.2.70.3
New Zealand Herald, Volume XXXVIII, Issue 11734, 16 August 1901, Page 1 (Supplement)
[26] https://paperspast.natlib.govt.nz/newspapers/NZH19011220.2.69.3
New Zealand Herald, Volume XXXVIII, Issue 11842, 20 December 1901, Page 1 (Supplement)
[27] https://paperspast.natlib.govt.nz/newspapers/NZH19020516.2.100.3
New Zealand Herald, Volume XXXIX, Issue 11967, 16 May 1902, Page 1
[28] https://paperspast.natlib.govt.nz/newspapers/NZH19021009.2.78.3
New Zealand Herald, Volume XXXIX, Issue 12091, 9 October 1902, Page 1 (Supplement)
[29] https://paperspast.natlib.govt.nz/newspapers/NZH19040603.2.64
New Zealand Herald, Volume XLI, Issue 12590, 3 June 1904, Page 6
[30] https://paperspast.natlib.govt.nz/newspapers/NZH19060803.2.8
New Zealand Herald, Volume XLIII, Issue 13246, 3 August 1906, Page 3
[31] https://paperspast.natlib.govt.nz/parliamentary/AJHR1907-I.2.2.2.6
MINES STATEMENT. BY THE HON. JAMES McGOWAN, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1907 Session I, C-02
[32] https://paperspast.natlib.govt.nz/parliamentary/AJHR1908-I.2.2.2.4
MINES STATEMENT BY THE HON. JAMES McGOWAN, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1908 Session I, C-02
[33] https://paperspast.natlib.govt.nz/newspapers/OG19080821.2.9
Ohinemuri Gazette, Volume XVIV, Issue 2390, 21 August 1908, Page 2
[34] https://paperspast.natlib.govt.nz/newspapers/AS19081024.2.30
Auckland Star, Volume XXXIX, Issue 255, 24 October 1908, Page 6
[35] https://paperspast.natlib.govt.nz/newspapers/NZH19081117.2.11
New Zealand Herald, Volume XLV, Issue 13909, 17 November 1908, Page 3
[36] https://paperspast.natlib.govt.nz/parliamentary/AJHR1909-II.2.2.2.5
MINES STATEMENT, BY THE HON. RODERICK McKENZIE, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1909 Session II, C-02

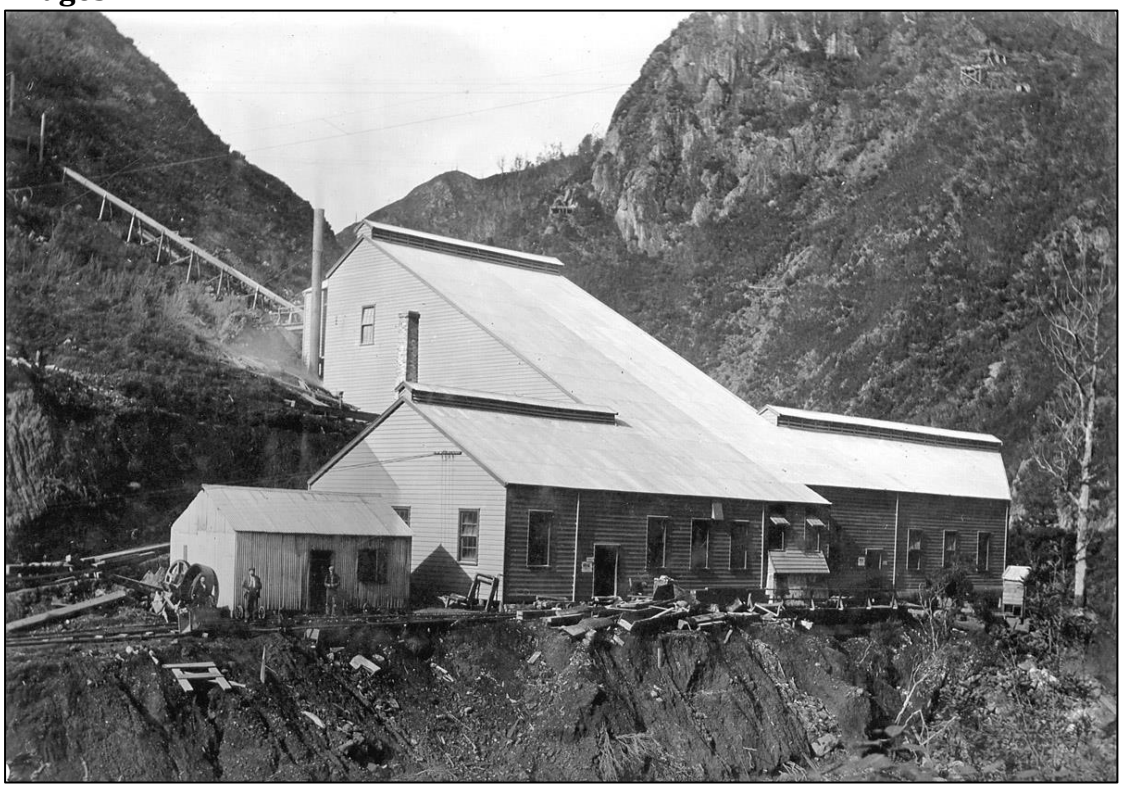
	compound engine has been erected. A new surface condensing plant for main engine and auxiliaries has also been installed. Additional boilers will be installed at the power plant during the next year. The following additions have been made to the treatment plant: Complete new assay office with latest appliances; new smelting-room, with tilting, oxidising, and bullion furnaces; slag reduction plant and prospecting stamps: new slimes, Spitzkasten's; eight new pneumatic slime-agitators, each 30 ft. by 8 ft.; one new slime-dewateriser; three tube mills, each 4 ft. by 12 ft., on the Abbe roller principle; also five classifiers and two sand-elevators. [37]
1910	April. Flood damages old Woodstock battery. [38] August. At the reduction works, three new tube mills and eight pneumatic slimes agitators have been installed, and further additions have been contemplated.[39] 15 September. Fire destroys Woodstock battery building. Included three air compressors and two steam engines. The new air compressor is situated in the other part of the plant (powerhouse), and by means of this the water in the mine was being kept down to-day. [40]
1911	3 February. Australasian Institute of Mining Engineers' Conference. The mining delegates left Waihi this morning by special train, stopping at Karangahake to inspect the Crown and Talisman mines.[41] Jarman presents his paper on the Talisman Company operations.[42] Three tube mills, two vacuum filter-vats, and two B. and M. agitating-tanks have been installed and employed. A new Ingersoll-Sergeant [or Rand] air-compressor, with a capacity of 3,700 cubic feet of free air per minute, will be installed early in 1911[at the Powerhouse]. [43]
1919	Talisman. As the ore reserves had become exhausted, milling operations were suspended last [this October] October, and will not be again commenced unless the development work undertaken by the company justifies resumption.[44]
1920	16 December. In view of the unsatisfactory nature of development work

[37] https://paperspast.natlib.govt.nz/parliamentary/AJHR1910-I.2.1.4.9
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1910 Session I, C-03
[38] https://paperspast.natlib.govt.nz/newspapers/AS19100402.2.47
Auckland Star, Volume XLI, Issue 78, 2 April 1910, Page 8
[39] https://paperspast.natlib.govt.nz/newspapers/AS19100813.2.27
Auckland Star, Volume XLI, Issue 191, 13 August 1910, Page 5
[40] https://paperspast.natlib.govt.nz/newspapers/OG19100916.2.20
Ohinemuri Gazette, Volume XXI, Issue 2693, 16 September 1910, Page 2
[41] https://paperspast.natlib.govt.nz/newspapers/AS19110203.2.80
Auckland Star, Volume XLII, Issue 29, 3 February 1911, Page 6
[42] Mining and Ore-Treatment at the Talisman Mine, Karangahake, New Zealand.
By: Arthur Jarman.
Presented at the Australasian Institute of Mining Engineers Thames 1911.
[43] https://paperspast.natlib.govt.nz/parliamentary/AJHR1911-I.2.2.3.17
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1911 Session I, C-03
[44] https://paperspast.natlib.govt.nz/parliamentary/AJHR1920-I.2.1.4.5
MINES STATEMENT BY THE RIGHT HONOURABLE W. F. MASSEY, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1920 Session I, C-02

	carried on up to the present the directors of the Talisman Consolidated, Limited, have decided, with a view to curtailing expenses under these circumstances, that the mine shall be closed down as soon as the material in the underground workings can be withdrawn.[45]
1926	8 January. The Talisman Dam. Demolition by Dynamite. Water Released Safely. After functioning for nearly twenty years the Talisman dam, situated in the Karangahake Gorge across the Ohinemuri River, was freed by Mr E. Shaw, Ohinemuri county engineer, and his staff on Wednesday… Much valuable timber will be taken from the dam when it drains sufficiently. This has been purchased by the county council, and will be useful for bridge repair work.[46]
1937	7 June. Talisman Dubbo Gold Mines Ltd. Start on erecting their own mill at old Talisman powerhouse site.[47]

[45] https://paperspast.natlib.govt.nz/newspapers/AS19201216.2.63
Auckland Star, Volume LI, Issue 300, 16 December 1920, Page 5
[46] https://paperspast.natlib.govt.nz/newspapers/HPGAZ19260108.2.18
Hauraki Plains Gazette, Volume XXXVII, Issue 4923, 8 January 1926, Page 2
[47] https://paperspast.natlib.govt.nz/newspapers/HPGAZ19370607.2.23
Hauraki Plains Gazette, Volume 47, Issue 2630, 7 June 1937, Page 5

Images



The earlier of two images of the smaller Talisman battery, based on the lack of the extra outbuilding of the next image. Photograph taken from across the Waitawheta River, on the Crown tramway. Staples Collection.

The two tone roof suggests that this is already the larger 20 stamp battery, with the right hand portion recently added? The pipe chimney, top left, must be from the ore dryer, and is discharging smoke. The additional ten stamps, and ore dryer, were erected late 1896, so the image is at least this.

The square brick chimney is for the smelt house.

A 19 May 1896 Warden's Court entry talks of the need to construct a chute over the proposed Woodstock tramway, to facilitate ore into the battery. [48] This could be the wooden chute we see on the slope above the battery.

For a short time the kiln was used. Ore was delivered to the kiln by cable, and brought into the battery via a tunnel under the kiln. We can see this just to the left of the round chimney. The kiln, replaced by an ore dryer within the building, is now a storage hopper. The wooden chute allows ore to bypass the kiln entirely.

It may also facilitate sending firewood to the ore dryer. 2000 tons was ordered for the kiln, delivered to the "kiln tram line" level, but now must be being used for the dryer.

There are three cableways visible above the battery, two tandem sets and a single wire. For ore or timber is not clear. Notice also the ore hoppers either side Pudding Hill/Woodstock Blow. These are probably Talisman and Woodstock aerial tramway heads, the one to the left of the Blow being the Woodstock No.2 Level.

What might be electrical wires (4) exit the left hand end of the battery wing, heading down stream to the Special Site? The smaller turbine from the water race was to generate electricity, for lighting the battery, for driving pumps at the Special Site. This turbine pit remains today.

The large water race pipe might be visible in front of the right hand extension of the battery. Discharge at river level, out of shot.

The Howe truss bridge to the Special Site would be well out of shot to the left of picture.

Three workers can be seen outside the building on the left. This may be a workshop, though it has no chimney.

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[48] https://paperspast.natlib.govt.nz/newspapers/OG18960520.2.6
Ohinemuri Gazette, Volume VII, Issue 241, 20 May 1896, Page 2

1897

19 June

The following is a description of the new 20 stamp battery.

The plant on the company's machine site consists of an ore breaker of reciprocating jaw type ; a revolving ore drier, capable of treating from 40 to 50 tons per day, which is a great improvement on the kiln system of drying; 10 heads of 850lb stamps with single discharge mortars (these stamps forming part of the mill as originally erected); 10 heads of 1000lb stamps with double discharge mortars supplied by the Union Iron Works of San Francisco, per their Auckland representative, Mr Bruce Lloyd, who also supplied the ore drier; 2 wooden cyanide vats each 16 feet in diameter (part of the old plant), and 4 new cyanide vats each 22 feet in diameter, into which the pulverised ore is fed by means of a revolving ore conveyor, which obviates the necessity for the use of trucks and greatly reduces the amount of dust in the atmosphere of the building. The tailings, after treatment by the cyanide process, pass over amalgamated copper plates for the extraction of the coarser gold, and blanketings are subsequently treated in Berdan pans, of which there are three, 3 feet in diameter, on the machine site.

Water for the driving of the mill is conducted from the dam on the Waitawheta River, first through a short tunnel about 90 feet in length, then through an open cutting 20 feet in length, passing finally into a wrought iron pipe, 4 feet in diameter and 925 feet in length, delivering the water into a concrete-walled turbine pit, 28 feet in depth. The motive power is generated by two Victor vertical turbines, 20 inches and 12 inches in diameter respectively, the latter being used for the operation of a dynamo generating electric light for the works on the machine and special sites, offices, etc;, and for transmitting power for various purposes to the special site. Such pulverised ore as cannot be dealt with by the cyaniding plant on the machine site will be conveyed by covered tram across the Howe truss bridge erected over the Waitawheta River to the entirely new cyanide works on the company's special site, an area which had to be utilised owing to the limited size of the machine site.

Cyanide plant on the special site, Battery Flat.

The cyanide plant on the special site consists of 6 wooden vats each 22 feet in diameter, with the usual accessories, including amalgamated copper plates and three 4-feet Berdans. The sumps are substantially built of concrete. The centrifugal and vacuum pipes on this site are driven by an electric motor operated by the dynamo on the machine site. Water for vat sluicing, etc, is brought to the special site from the Hauraki Creek by means of a pipe 3 inches in diameter. The turbines, dynamo, motor and electric light fittings were supplied by Messrs John Chambers and Son, Auckland, represented by Messrs Ernest Fenn and Frank Roach, who also constructed the substantial turbine pit. The water race was constructed by Messrs Seagar Bros., of Auckland. The remainder of the work was executed by Mr J. J. Payne, of Auckland.

It is expected that the mill will be able to treat a minimum of 25 tons a day, and it is hoped that the stamps will prove equal to as much as 30 tons per day. A No. 5 Krupp Ball mill has been received from England and will be erected at the first opportunity, and will largely increase the output of the works.

In addition to the buildings, machinery and plant, bridge, etc., above referred to, suitable office premises and residences for the mine manager (Mr W.

> Goldsworthy) and the battery manager (Mr C. H. Taylor) have been erected since the property was taken over by the new company...[49]

This mechanically reproduced image has 1897 in the file name, and may have that date printed in the text at bottom. There are small additions to the battery building, immediately behind the round chimney, and to the right of the main roof. These additions can be viewed from the other side in the image of the construction of the new battery September-October 1900.

A No. 5 Krupp ball mill, was installed in early 1898, and was expected to increase the crushing-capacity of the plant by at least 20 tons per day. This might account for one or more of the extensions. A 80 horse-power engine and boiler were added at end 1898.

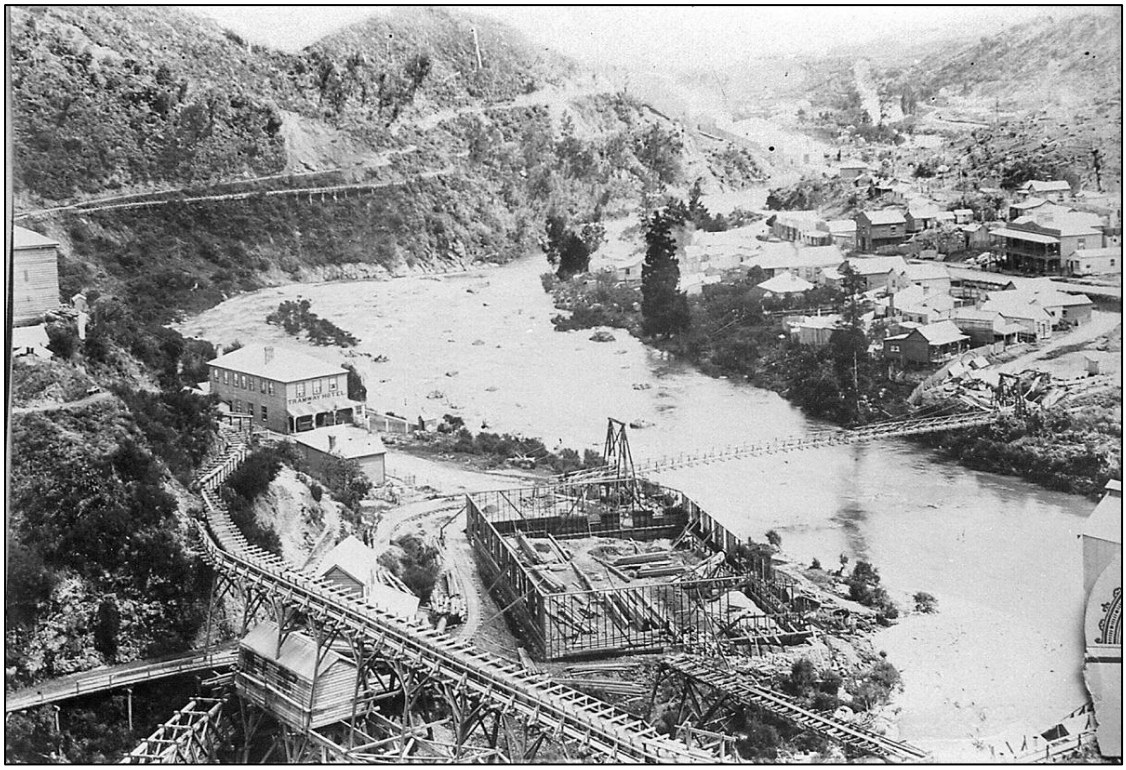
There is also an additional outhouse, with small chimney.

Photograph taken from across the Waitawheta River, on the Crown tramway, but a little further downstream than the above image.

What appears to be an ore hopper has replaced the chute, and maybe a building now covers the kiln (to keep the ore dry?). The hopper may collect ore directly from a cableway?

Staples Collection.

[49] https://paperspast.natlib.govt.nz/newspapers/OG18970619.2.18
Ohinemuri Gazette, Volume VII, Issue 400, 19 June 1897, Page 5

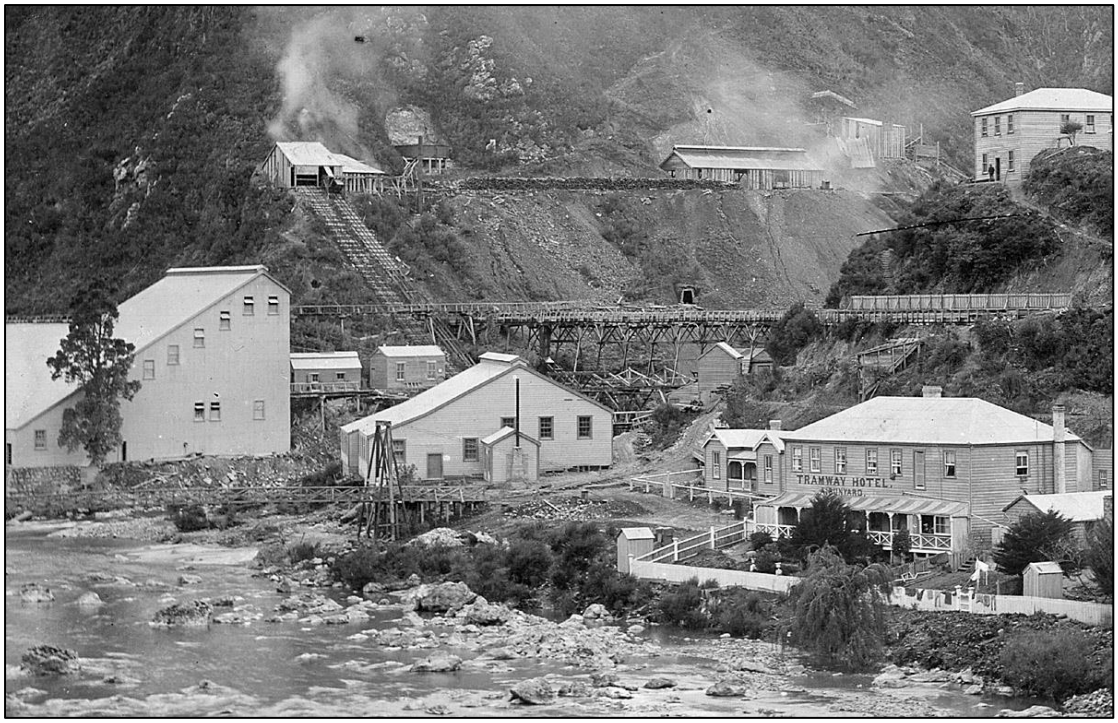


Talisman Vat House on Special Site under construction, early in 1897 [50]

Crown water race in foreground, to its right the remains of the tramway to the Ivanhoe battery (removed 1890).

Staples Collection.

[50] https://paperspast.natlib.govt.nz/newspapers/NZH18970319.2.78.4
New Zealand Herald, Volume XXXIV, Issue 10394, 19 March 1897, Page 1 (Supplement)



Talisman cyanide vat house on Special Site.

The cyanide plant consists of 6 wooden vats each 22 feet in diameter, with the usual accessories, including amalgamated copper plates and three 4-feet Berdans, and more.[51]

This image before 2nd suspension bridge, the Traffic Bridge, of August 1898 (ie between c. June 1897 (completion of Vat House) and August 1898). Photograph taken from above the road in the township.

The Talisman battery, and the Howe Truss bridge, are hidden behind the ridge with the boarding house on it, at right. However, some infrastructure above the kiln site can be made out. The battery would still be the original 20 stamper.

The full image (Control/click the image) shows at least two cableways. Are either of them supplying ore to the Talisman battery hopper? They may be both Woodstock cableways. There is a hint of a closer cableway just to the right of the top house. It would be at an angle that could reach the Talisman battery.

The Woodstock kilns are in action; note the stacked firewood.

The General Office of the Talisman Company is the building to the left of the Tramway Hotel, the Assay Office site is obscured by the hotel, but has not been built yet[52].

In front of the vat house is a small building with fire place and pipe chimney, purpose unknown. The crushed ore comes from the battery via the Howe truss bridge, and appears to enter the vat house from the right hand end (closest to battery). A light coloured sand bar at the edge of the Ohinemuri River may be the spent tailings discharge point.

Staples Collection.

[51] https://paperspast.natlib.govt.nz/newspapers/OG18970619.2.18
Ohinemuri Gazette, Volume VII, Issue 400, 19 June 1897, Page 5
[52] Photo: Scotsman Gully and Tramway hotel from S.E

1900

Construction of new 50 stamp battery. Old battery behind, vat house beyond the Crown Company water race.

Photograph taken from Plum Pudding/Woodstock Blow

September-October 1900[53]

The temporary bridge across the Ohinemuri for the rail tunnel can be seen to the right of the Crown battery. It was constructed early 1900. [54]

Staples Collection.

AJHR 1901

> Talisman Consolidated. —… new reduction plant. This will comprise rock-breakers of the Blake type, fifty heads of gravitation stamps, amalgamating, concentrating, and cyaniding plant, and is expected to be completed about the month of April. The new mill will be of the wet-crushing type, and the number of stamps will be gradually increased with the increase of output from the mine. [55]

[53] https://paperspast.natlib.govt.nz/newspapers/NZH19000928.2.58.3
New Zealand Herald, Volume XXXVII, Issue 11489, 28 September 1900, Page 1 (Supplement)
[54] https://paperspast.natlib.govt.nz/parliamentary/AJHR1900-I.2.2.2.1
PUBLIC WORKS STATEMENT BY THE HON. W. HALL-JONES, MINISTER FOR PUBLIC WORKS, 28th SEPTEMBER, 1900., Appendix to the Journals of the House of Representatives, 1900 Session I, D-01
[55] https://paperspast.natlib.govt.nz/parliamentary/AJHR1901-I.2.2.2.4
THE GOLDFIELDS OF NEW ZEALAND: REPORT ON ROADS, WATER-RACES, MINING MACHINERY, AND OTHER WORKS IN CONNECTION WITH MINING., Appendix to the Journals of the House of Representatives, 1901 Session I, C-03

1901

1 August

The plant is erected on the Talisman Extended special site immediately adjoining the company's old machine site [Is this why the Talisman Company had to erect the vat plant at Battery Flat? They could not extend their battery upstream, as they have done now?], on the right bank of the Waitawheta River, near its junction with the Ohinemuri River, at Karangahake, and is connected with the mine, by means of an aerial tramway. The cyaniding shed is more than 300 ft in length, with a span of 56ft. The ore is delivered by an aerial tramway from a station at No. 8 level, to a large storage hopper outside the mill, whence it is trucked a distance of about two chains to the breaker-house. The rock-breaking plant consists of two 10in by 16in Blake crushers of improved type, and one 10in by 7in Blake crusher. The hopper under the crushers is 90ft in length, and is capable of holding over 1000 tons of ore. The crushed ore is fed to the stamps by Challenge automatic feeders. The pulverising plant consists of 30 gravitation stamps; each weighing 1050lb. and 20 stamps, weighing 900lb, the latter being placed at the further end of the line. The stamps are erected in batteries of 10, of which each five heads are run independently. The mortar-blocks are from 18 ft to 20ft in length, some in two pieces and some in one piece, of first-class kauri, firmly embedded in a concrete pit, extending the whole length of the battery of stamps. The stamp framing is of the front-and-back-knee type, and the counter-shaft, from which the cam-shafts are driven, is fitted with Imperial friction clutch pulleys.
The ore, after pulverisation by the stamps, passes through the screens of the mortar boxes over amalgamated copper plates, for the recovery of the coarser particles of gold, the pulp then passing to classifiers, which separate the coarse and fine sands, which are then caused to flow through launders, to the, concentrators, on a lower terrace. The slimes escaping from the classifiers go through a launder to pyramidal boxes, or spitzkasten, by means of which a large proportion of the water is separated; and the slimes, thus thickened, pass to the agitators for treatment with cyanide. The agitating plant consists of four wooden and two steel vats, 22ft diameter by 5ft deep, forming part of the cyanide plant in the company's old mill, on the immediately adjoining machine site. It is intended to operate the concentrators and centrifugal and vacuum pumps by water power, and a new turbine is in course of erection for that purpose. The steam power plant consists of two 86 horse-power Babcock-Wilcock boilers, with Snow Co.'s duplex feed pump, the engine being a Wheelock-Corliss single cylinder horizontal engine, with automatic expansion gear, and Blake condenser. The whole of the works are electrically lighted with incandescent and arc lamps. It is intended to increase the number of stamps as soon as the outputting capacity of the mine justifies any addition. The present concentrating plant is equal to the requirements of 70 stamps, while the cyaniding and combined steam and waterpower plants are equal to 100 heads of stamps.[56]

[56] https://paperspast.natlib.govt.nz/newspapers/NZH19010801.2.66
New Zealand Herald, Volume XXXVIII, Issue 11721, 1 August 1901, Page 6

The new Talisman battery is complete, so late 1900 or 1901. There is no large chimney on the Woodstock battery; this was also erected late 1900, or 1901. So the larger Talisman battery is quite new in this image. The photograph is taken from the County Road.

Note the suspension bridge across the Ohinemuri River, upstream from the Woodstock battery (early 1896).

Below is an enlargement of part of this image.

The Vat House remains relatively unchanged, but it has acquired a small building at the far right hand end (but it may be hidden in the earlier image).

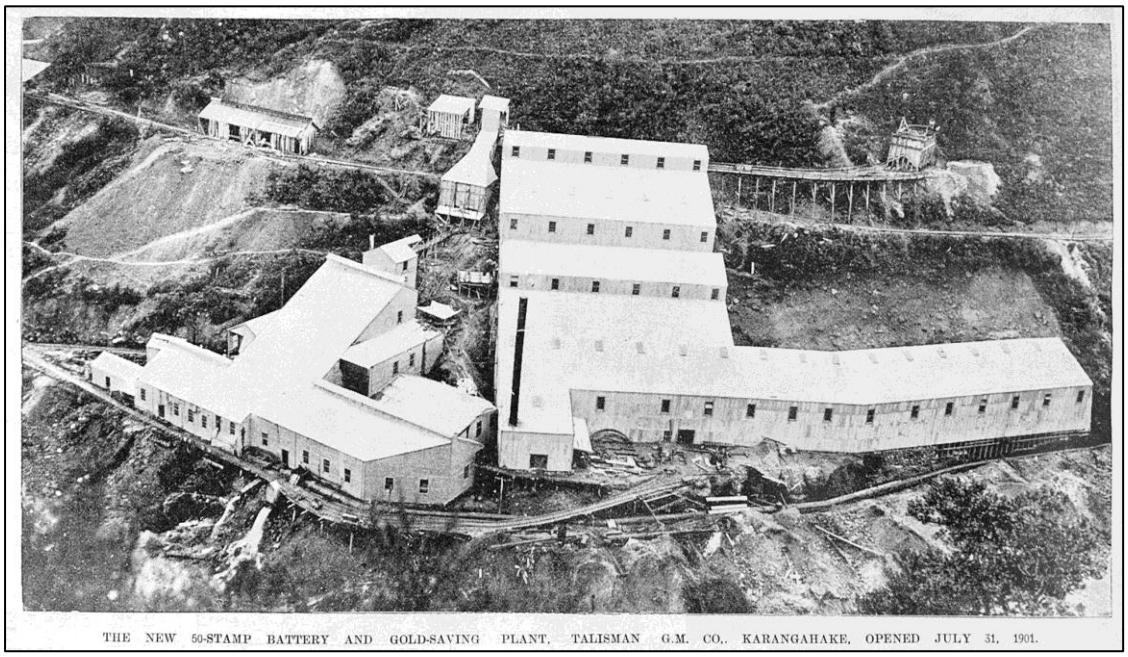
The portion of the Talisman battery we see is the stamper building (50 stamps in a line). Notice that the top section has no windows, they will arrive later. The battery is crushing wet[57].

The structure to the left of the battery is the terminus of a cableway. This is possibly for the old 20 stamp battery, and it (the old battery) may still be operating dry. “Crushing operations in the old mill were stopped on February 16”.[58] From the terminus, the ore drops by covered way to a large ore bin. It appears that a short tramway (on trestle) allows the ore to be trucked into the (old) battery.

As the new battery gets underway, and presumably as the old stampers become redundant, the cableway terminus is repositioned to the other end of the battery. The new building may actually be in the way of the cableway.

Further left is a building over the kiln.

Staples Collection.



THE NEW 50-STAMP BATTERY AND GOLD-SAVING PLANT, TALISMAN G.M. CO., KARANGAHAKE, OPENED JULY 31, 1901.

1901 08 09 Auckland Libraries Heritage Collections AWNS-1901 08 09-12-03

Not long after the battery commenced crushing. Photograph taken from high across the river, the old and new batteries together.

The chimney locates the boilers, and presumably the engine. Coal was delivered by a tramway glued to the river bank and edge of old battery. Did the heavy items come by the same route?

To the top left of the new building are the covered ore chute/hopper for the old battery (crushing dry). A short tramway connects to the battery. Crushing is no longer occurring in the old plant.

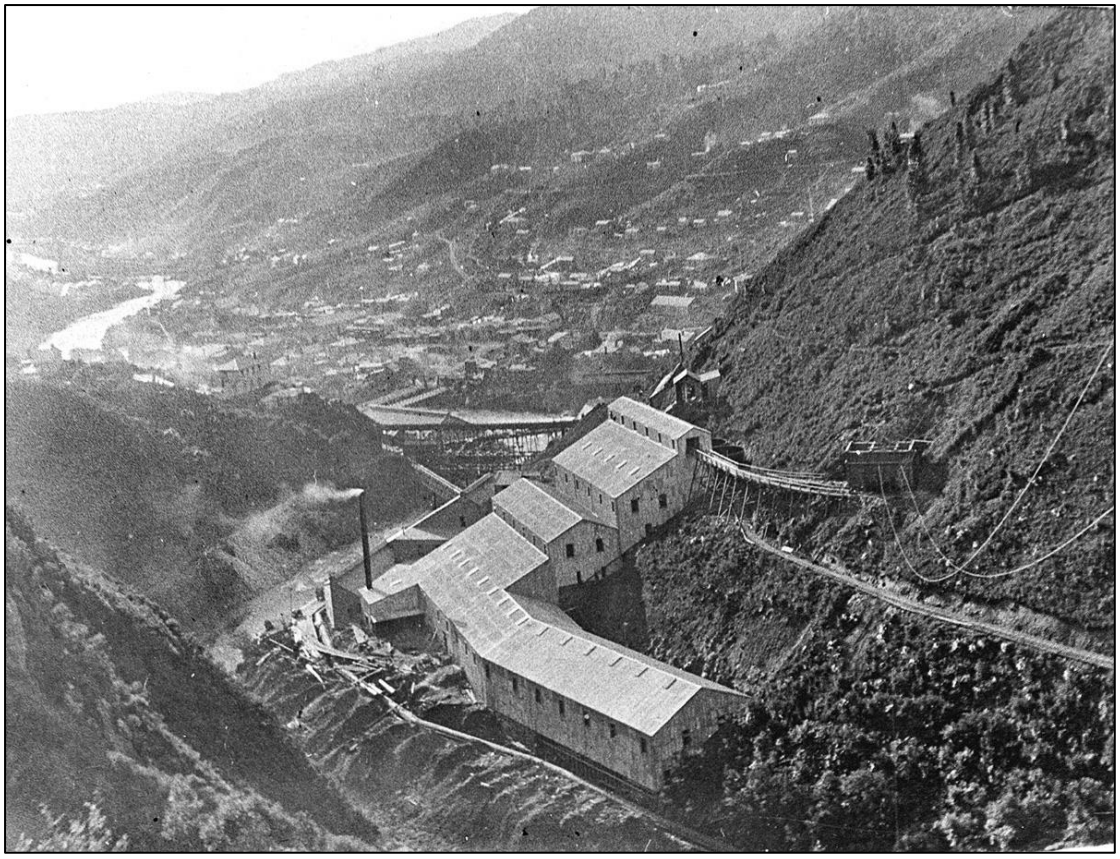
Why is the cableway terminus hopper some distance from the new battery building? Presumably to align with cableway/s. This gets changed by 1907.

[57] https://paperspast.natlib.govt.nz/newspapers/NZH19000928.2.58.3
New Zealand Herald, Volume XXXVII, Issue 11489, 28 September 1900, Page 1 (Supplement)
[58] https://paperspast.natlib.govt.nz/newspapers/NZH19010412.2.77
New Zealand Herald, Volume XXXVIII, Issue 11625, 12 April 1901, Page 1 (Supplement)

26 July 1901

> The new battery for the Talisman Consolidated is now practically complete, and a run has been taken out of the shafting, belting, etc., and the whole of the machinery works smoothly and well. The rock-breakers have also been crushing ore during the last week preparatory for the stamps, which will also commence running on Wednesday next. Altogether the plant is most up-to-date, and the company have an advantage in the fact that their reduction works were erected for wet crushing, so that now no alterations in the matter of a conversion from dry to wet process will be necessary. [59]

[59] https://paperspast.natlib.govt.nz/newspapers/NZH19010726.2.78.3
New Zealand Herald, Volume XXXVIII, Issue 11716, 26 July 1901, Page 1 (Supplement)



The Talisman battery viewed from beside and below a hopper from the No. 8 level. The battery hopper is well away from the battery, connected by a trestle tramway. This hopper will be moved to the battery building at a later date. There are two sets of cables delivering to the hopper; less obvious are the cables coming from the top of the image. Are they the control cables for this cableway, or a different cableway altogether?

There are two large vats to the right of the top of the battery building. Process water storage?

The cyaniding shed is the large structure in the foreground.

The chimney locates the boilers in the battery, the engine probably adjacent. There is no engine house at the top of the battery, and no large chimney at the powerhouse on Battery Flat; they come later (1909).

Two suspension bridges across the Ohinemuri, the second, the Traffic Bridge of August 1898.

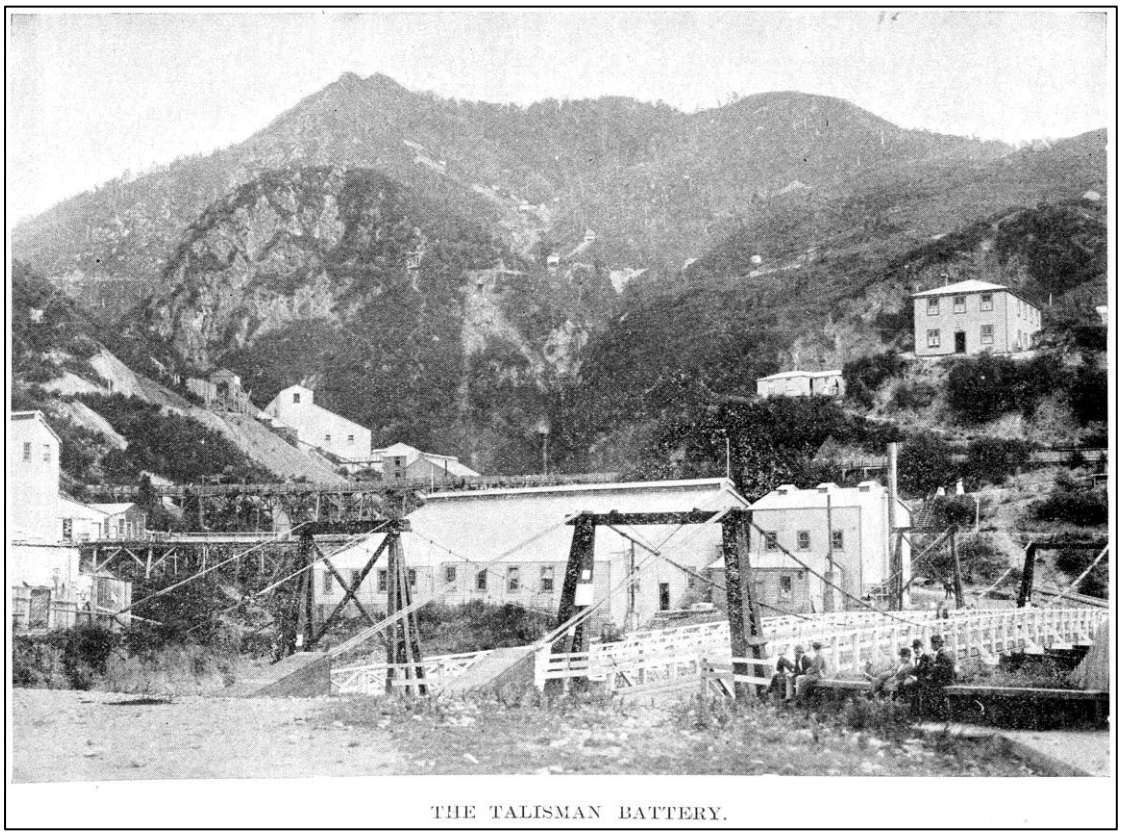
The water race pipe can be seen between the battery and the river.

Date 1901? Photographer unknown. DoC Thames.

The same image was published in the NZ Graphic, dated 10.08.1901. It was captioned: General view of the new mill buildings – Showing delivery of ore by aerial tramway from No. 8 Level to a hopper outside the breaker.[60]

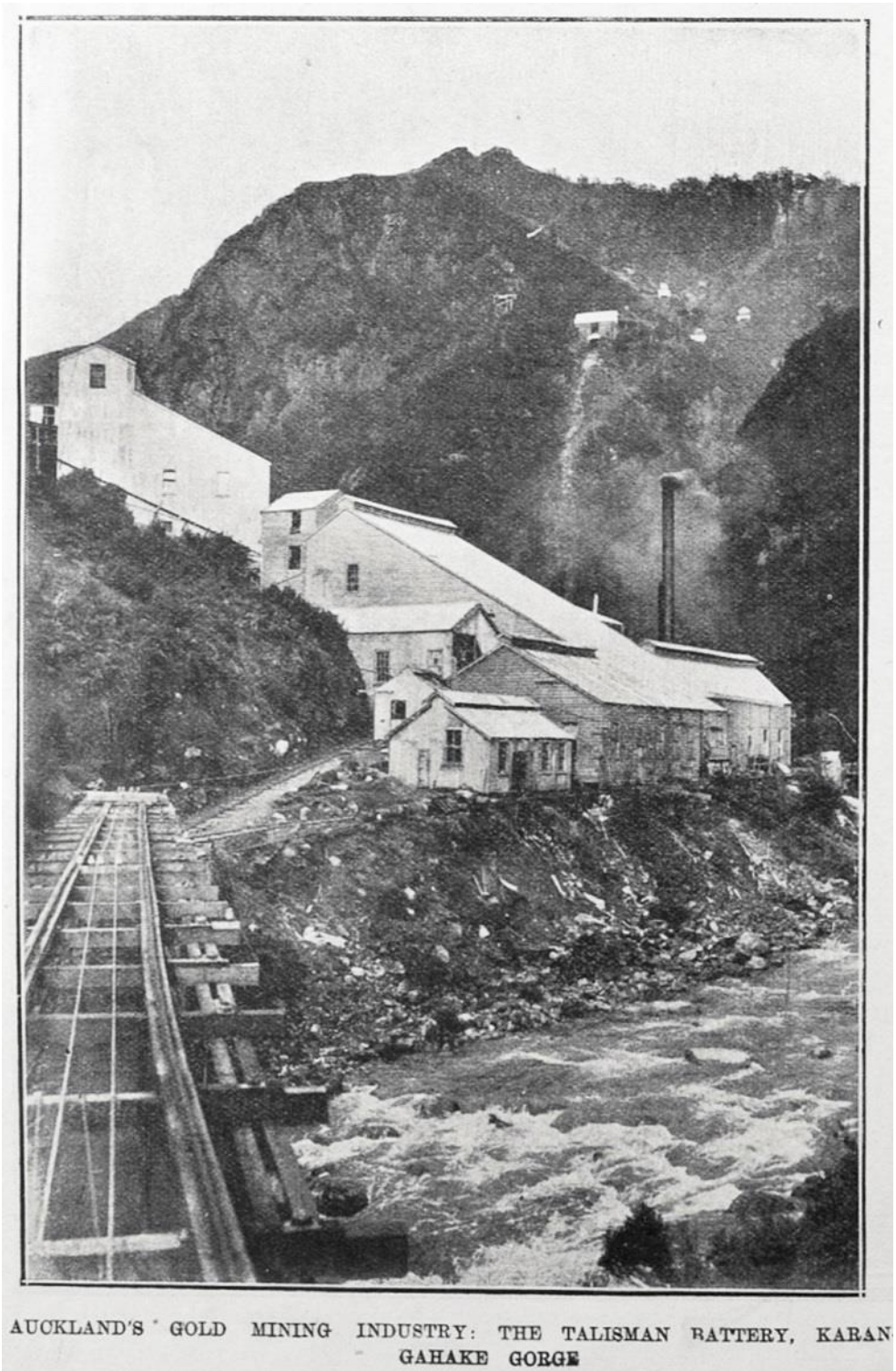
[6060] 1901 08 10 Auckland Libraries Heritage Collections NZG-19010810-0266-01

1902



1902 03 22 Auckland Libraries Heritage Collections NZG-1902 03 22-0553-04
A larger boiler house has been added, behind the small earlier one, to the right of the vat house.
Two suspension bridges, six photo-bombers.

1904



AUCKLAND'S GOLD MINING INDUSTRY: THE TALISMAN BATTERY, KARAN GAHAKE GORGE

AWNS 7.7.1904

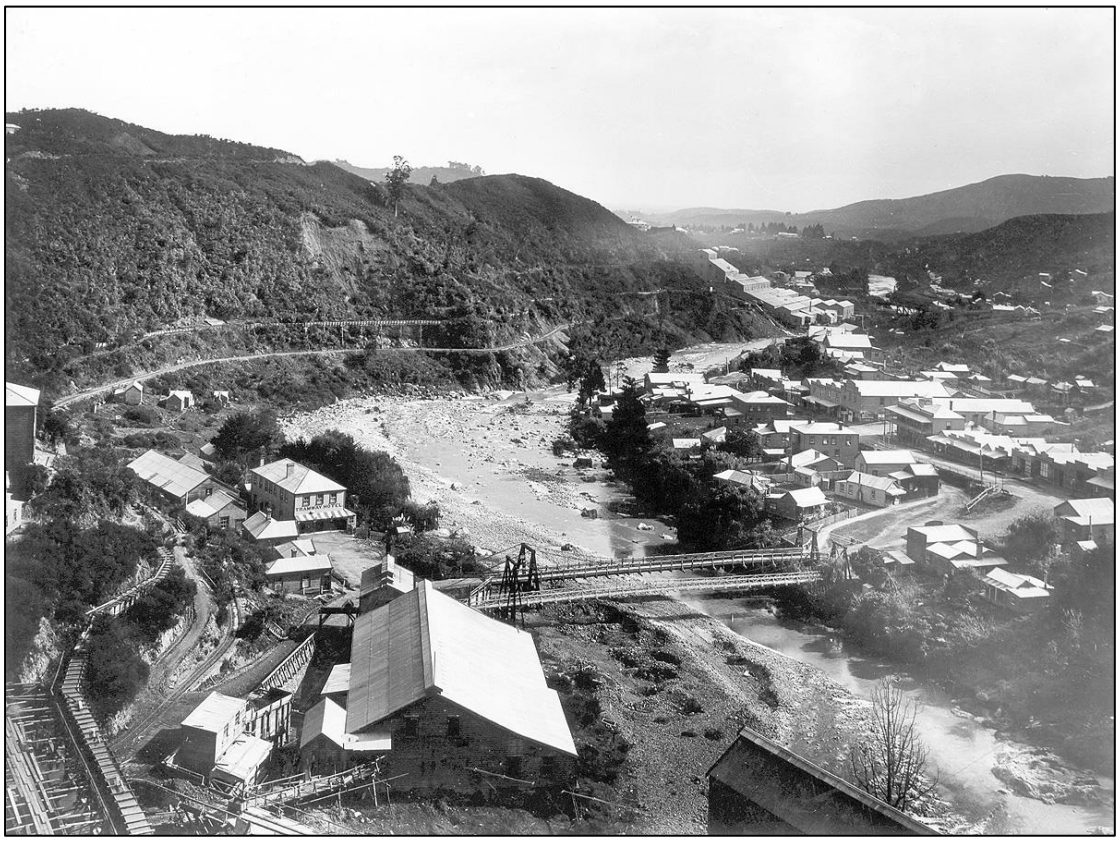
Photograph taken from the Howe Truss bridge.

Note that the top of the bridge has rails, but they don't go anywhere.

Windows in the uppermost portion of the stamper shed.

Boiler chimney prominent.

1906



Winkelmann photograph, 1906, W1213.

Photograph taken from the Taukani ridge above the Woodstock battery (roughly where their first kiln was, and our current look-out).

In the foreground is the Talisman vat house. A bigger boiler house has been added at the rear, close to the two suspension bridges. The vat house may no longer be used for processing (no sign of tailings discharge); it will soon have boilers, engines and compressors installed.

The Crown battery in the distance. The lowest bench on the hillside is the new, level, tramway. Where it disappears near the battery is where it is tunnelled through the spur. Above this is the water race flume. The large slip scar is the 1901 slip? The company's response to that slip was obviously to support the flume on trestle legs. The flume is discharging water at the battery via the bye wash.

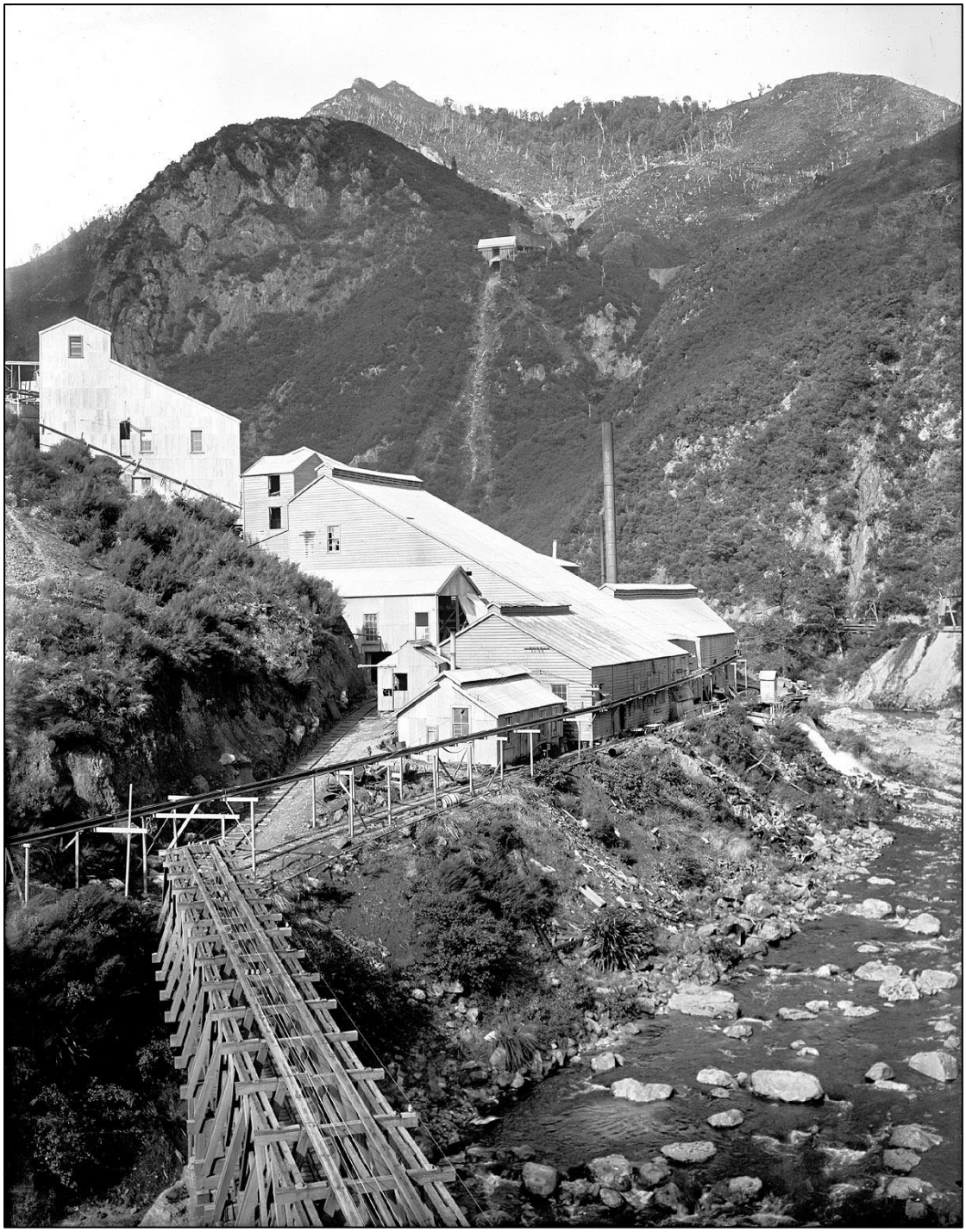
Above this again the remains of the high tramway, abandoned in 1899. At the very top of the hill is the County Road.

The Tramway Hotel (the version we see here) is destroyed by fire 16 September 1906. [61]

Karangahake has become a busy place.

Staples Collection.

[61] https://paperspast.natlib.govt.nz/newspapers/THS19060917.2.22
Thames Star, Volume XLIII, Issue 10597, 17 September 1906, Page 2



1907-8?

Photograph taken from the bank/headland above the Howe Truss bridge.

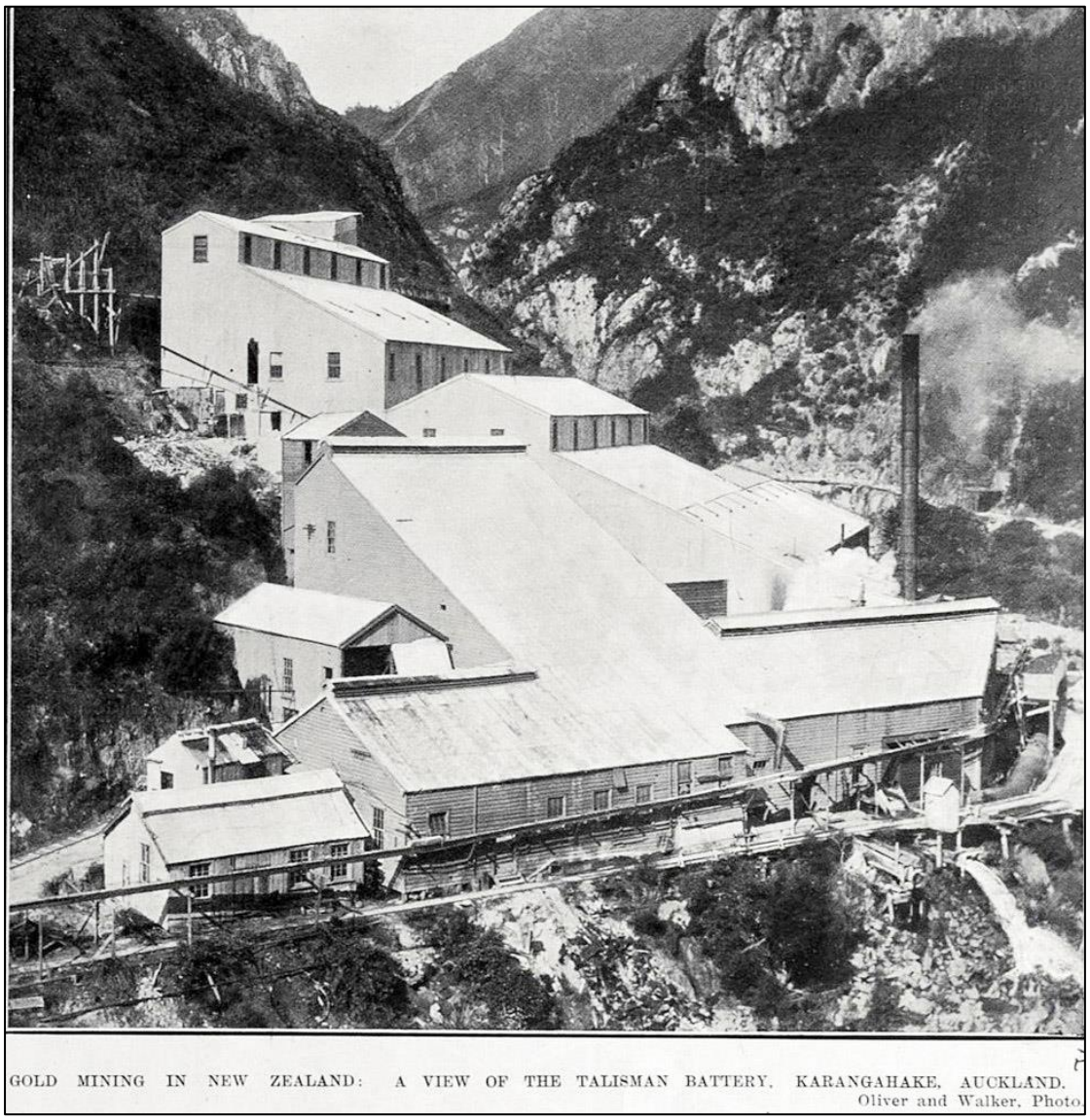
The top layer of the bridge has had its rails removed, and is still used for electrical cables. The bridge will be connected to an incline up to the top of the battery to transport the steam engine installed in 1909.

A light wooden launder has been installed. What is it? The 1909 photograph shows it heading to the Woodstock battery building.

The No.8 Level aerial cableway top hopper is prominent, as it is in very many photographs for many years. The cableway can just be made out, in a graceful arc to the battery hopper. Intriguingly, there is a pair of cables stretched much more tightly, that go to two poles to the left of the hoppers on the hill. Are these the electrical cables from the battery to the electrically powered air compressor erected in the mine in 1902? Or they may be cables from an earlier cableway?

Additionally, a small pipe descends the hillside beneath the ore hoppers. Compressed air to No. 8 level?

Auckland Institute Museum.



Oliver & Walker AWNS 13.6.1907

Photograph taken from the bank/headland above the Crown tramway.

At the very top of the building is a new roof structure. This is the ore cableway terminus moved to beside the battery building.

1907: This from the 1908 AJHR:

> additional installations are being made to the power and treatment plant. [62]

It appears that this presages changes at the vat house, with images after 1908 showing the large chimney that dominates the landscape in this location. Boilers are required to power the large steam engine installed at the battery during 1909.

1908: This from the 1909 AJHR.

[62] https://paperspast.natlib.govt.nz/parliamentary/AJHR1908-I.2.2.2.4
MINES STATEMENT BY THE HON. JAMES McGOWAN, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1908 Session I, C-02

> A Riedler compressor with a capacity of 3,100 cub. ft. of free air per minute has been erected during the year, also four Babcock and Wilcox boilers and a 100-kilowatt generator, to supply power to the mine. [63]

This must be in the powerhouse on Battery Flat.

1909.

> Regarding the present power, the management is satisfied that the air-compressing plant possesses ample capacity for supplying all power that will be required. The new compressor, recently installed, continues to render an excellent account of its capabilities, but if necessity arises, the original machine can be brought into requisition at any time. [64]

The original machine is in the old Woodstock battery.

> At the battery the company are installing three tube mills, eight B. and M. agitating tanks, a vacuum filter plant, and a new mill engine. With these improvements an increase in extraction is assured. [65]

This from the 1910 AJHR:

> Treatment Plant. —Considerable additions and alterations to this plant have been made. In consequence of this rearrangement of reduction plant, further power was required, and a new 500-horse power Fraser and Chalmers' compound engine has been erected and brought into use. This engine has cylinders of 18 in. and 35 in. respectively by 3 ft. 6 in. stroke, and runs at 75 revolutions per minute. A new surface condensing plant for main engine and auxiliaries has also been installed. Additional boilers will be installed at the power plant during the next year. Also, a new boiler plant is to be erected at Woodstock No. 5 level to supply steam for the Woodstock shaft pumping and winding machinery.
>
> The following additions have been made to the treatment plant: Complete new assay office with latest appliances; new smelting-room, with tilting, oxidising, and bullion furnaces; slag reduction plant and prospecting stamps: new slimes, Spitzkasten's; eight new pneumatic slime-agitators, each 30 ft. by 8 ft.; one new slime-dewateriser; three tube mills, each 4 ft. by 12 ft., on the Abbe roller principle; also five classifiers and two sand-elevators. [66]

The addition of tube mills to the flow sheet required considerable changes at the battery. Before the change, pulp from the stampers flowed immediately over amalgamated plates, then to vanners, ie down hill towards the river. To incorporate the new tube mills, the pulp was discharged from the stampers on the uphill side, into a newly dug trench/launder which delivered to the tube mills. Discharge from the tube mills was then elevated so that it could flow back to the amalgamated plates, and so continue to the vanners. This trench/launder is clearly visible behind the stampers today.

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[63] https://paperspast.natlib.govt.nz/parliamentary/AJHR1909-II.2.2.2.5
MINES STATEMENT, BY THE HON. RODERICK McKENZIE, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1909 Session II, C-02

[64] https://paperspast.natlib.govt.nz/newspapers/WHDT19090223.2.31
Waihi Daily Telegraph, Volume VIII, Issue 2484, 23 February 1909, Page 2

[65] https://paperspast.natlib.govt.nz/newspapers/NZH19090814.2.68
New Zealand Herald, Volume XLVI, Issue 14139, 14 August 1909, Page 6

[66] https://paperspast.natlib.govt.nz/parliamentary/AJHR1910-I.2.1.4.9
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1910 Session I, C-03

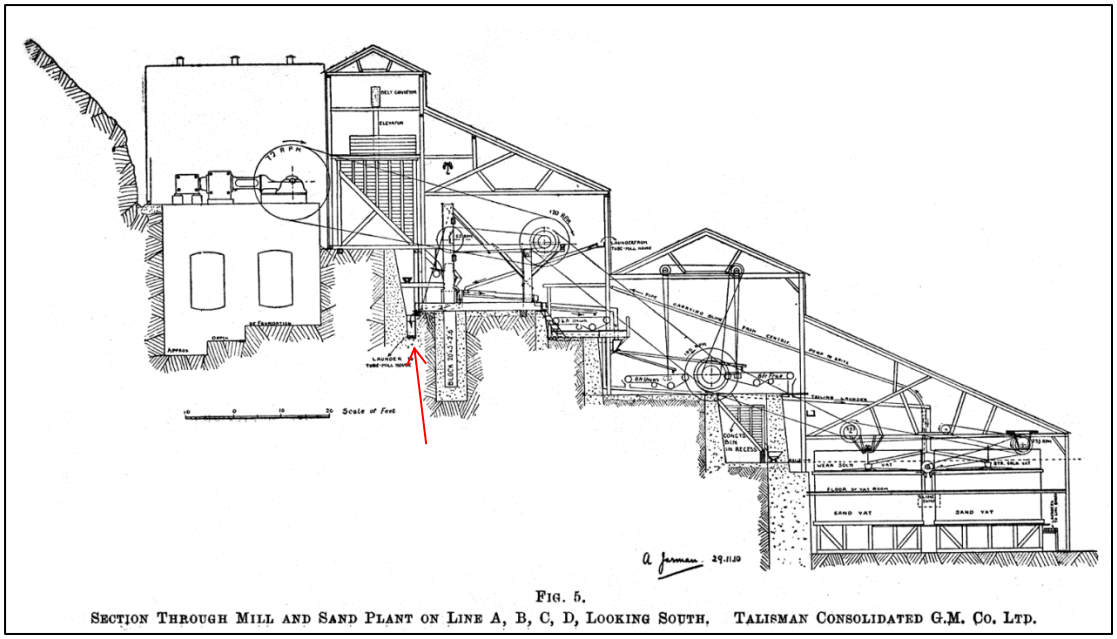


FIG. 5.
SECTION THROUGH MILL AND SAND PLANT ON LINE A, B, C, D, LOOKING SOUTH, TALISMAN CONSOLIDATED G.M. CO. LTD.

The new launder is arrowed.

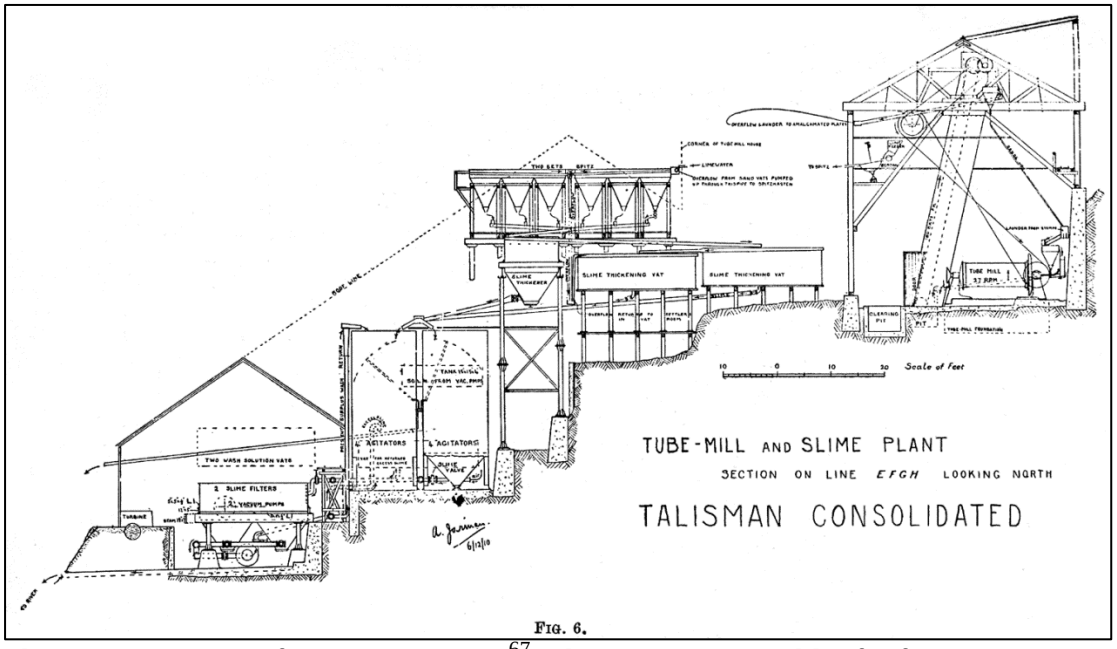
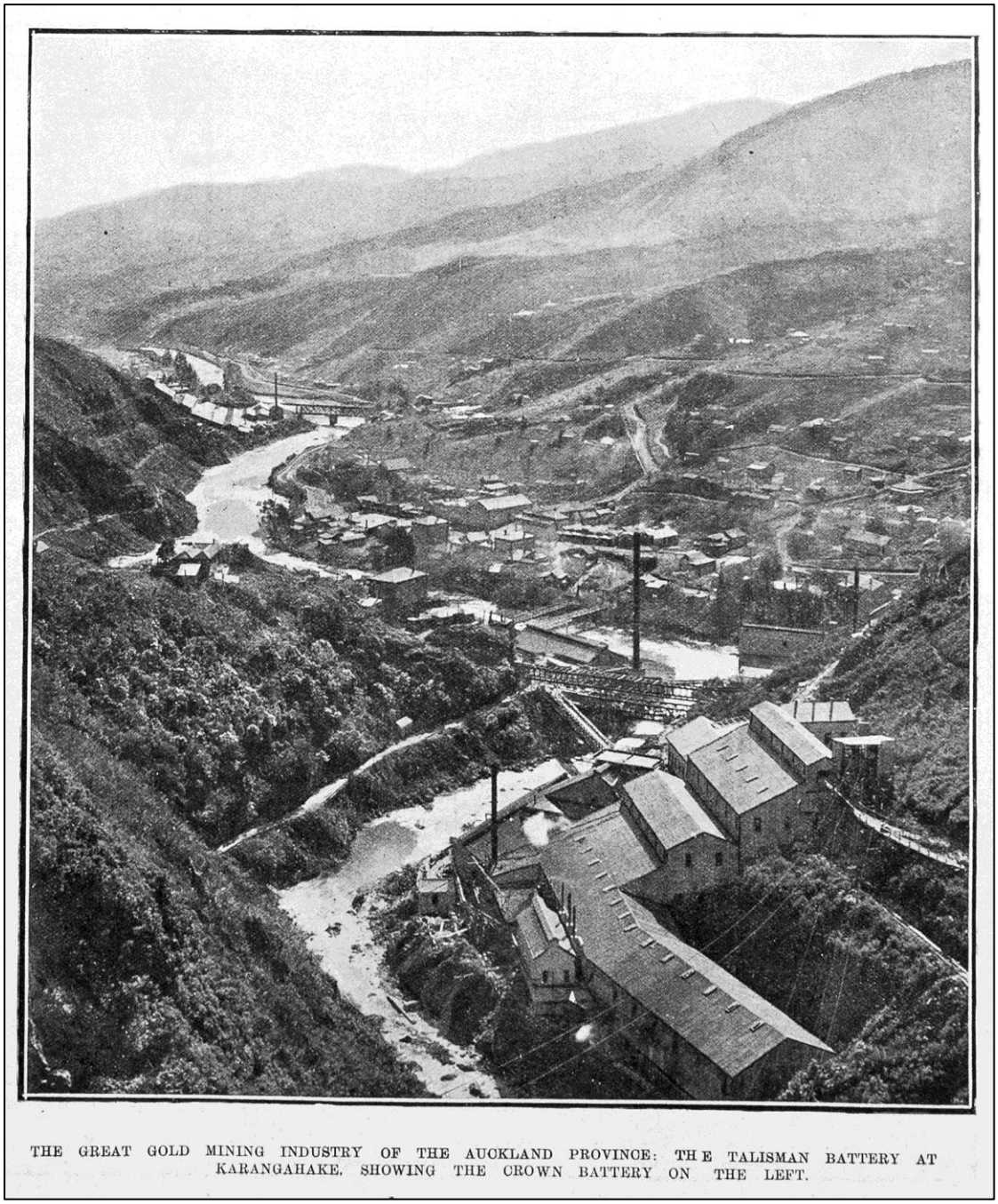


FIG. 6.

These cross-sections from Jarman 1910[67]. They contain a wealth of information.

[67] Mining and Ore-Treatment at the Talisman Mine, Karangahake, New Zealand.
By: Arthur Jarman.
Presented at the Australasian Institute of Mining Engineers Thames 1911.



THE GREAT GOLD MINING INDUSTRY OF THE AUCKLAND PROVINCE: THE TALISMAN BATTERY AT KARANGAHAKE, SHOWING THE CROWN BATTERY ON THE LEFT.

1909 09 02 Auckland Libraries Heritage Collections AWNS-1909 09 02-11-06

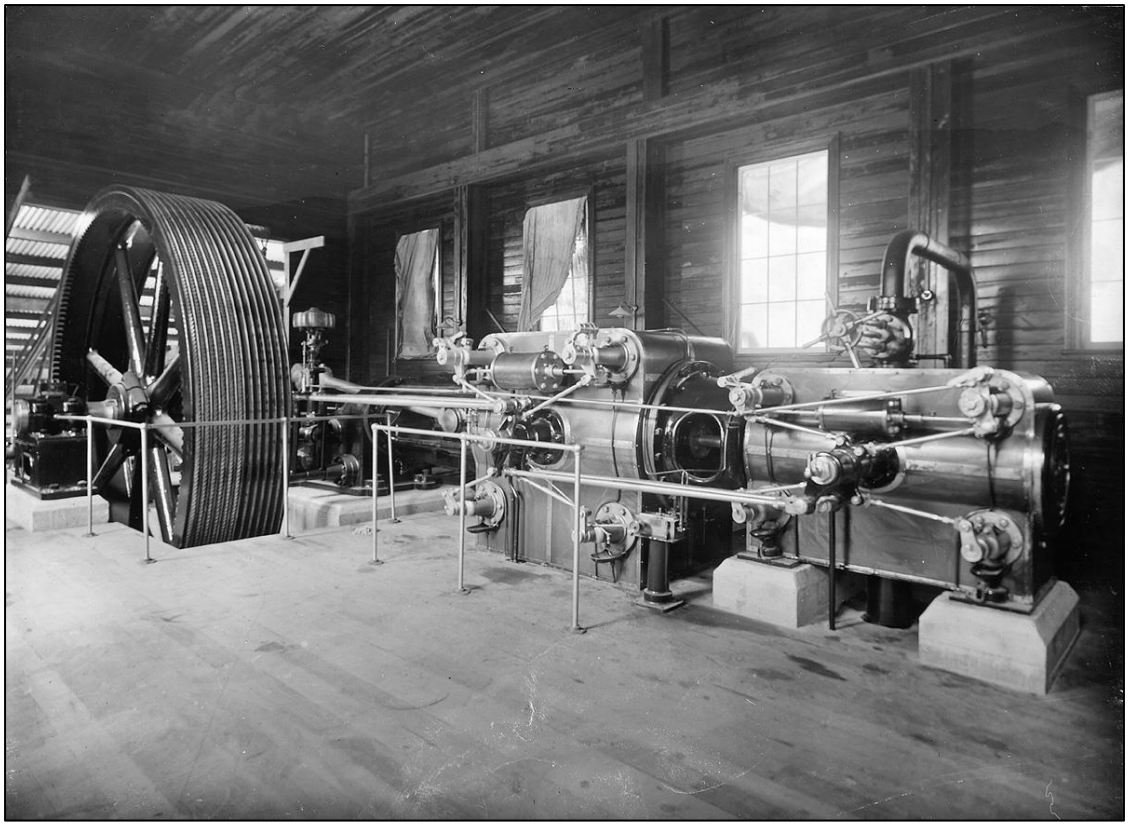
Photograph taken from Woodstock Blow area.

Engine shed is in place at the top of the battery, with three ventilation chimneys, and the tubemill building has been added down-slope of it.

Two cableways terminate at the battery.

Note that the substantial new chimney at the Powerhouse is set apart from the building. The building will be extended to the chimney, and beyond, in the future.

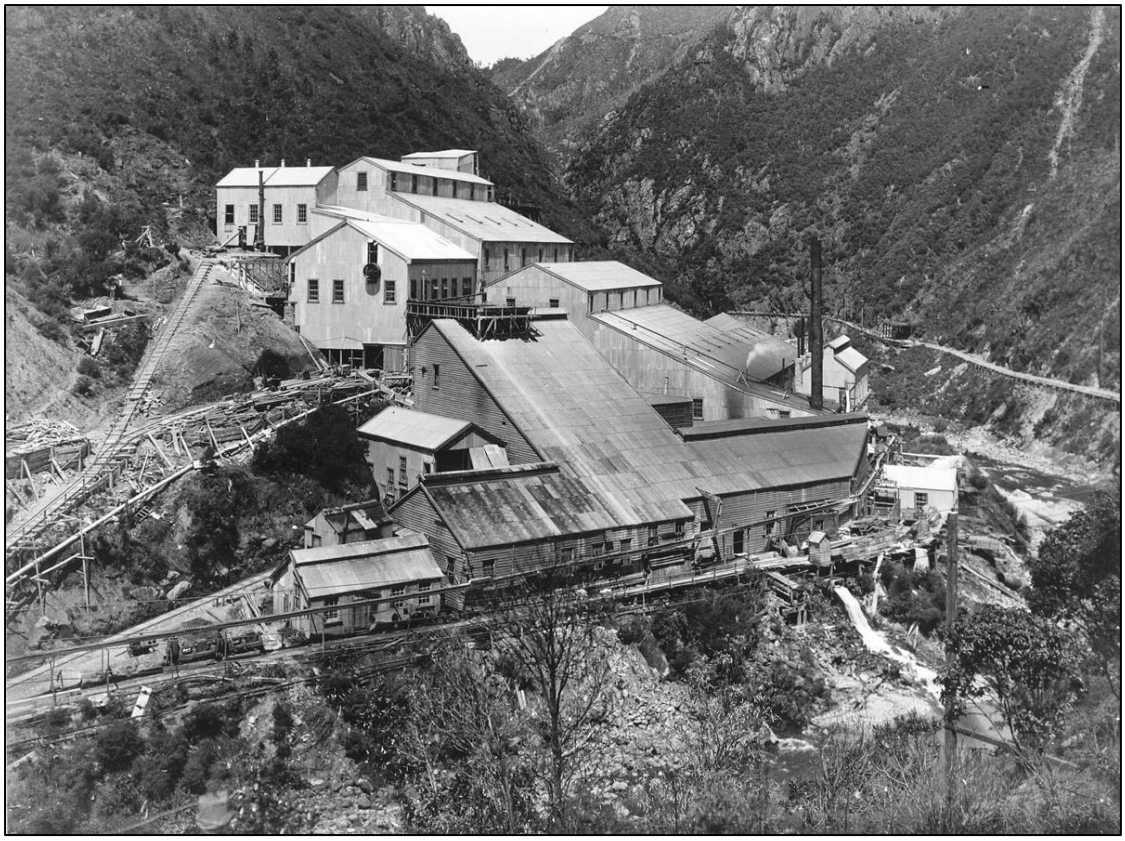
The Crown water race flume is missing from the structures crossing the Waitawheta, and also from the bench that used to carry it to the battery.



Talisman, compound tandem Corliss engine, 560 HP. Staples Collection. 1909 or a little later.

Compound in this case meaning a high and a low pressure cylinder.

The massive foundations of this engine, the main shaft and connecting rod remain today. The walkway passes through the right hand concrete mounting blocks.



Talisman Battery and buildings, 1909 Winkelmann W8409.

Photograph taken from the bank/headland above the Crown tramway.

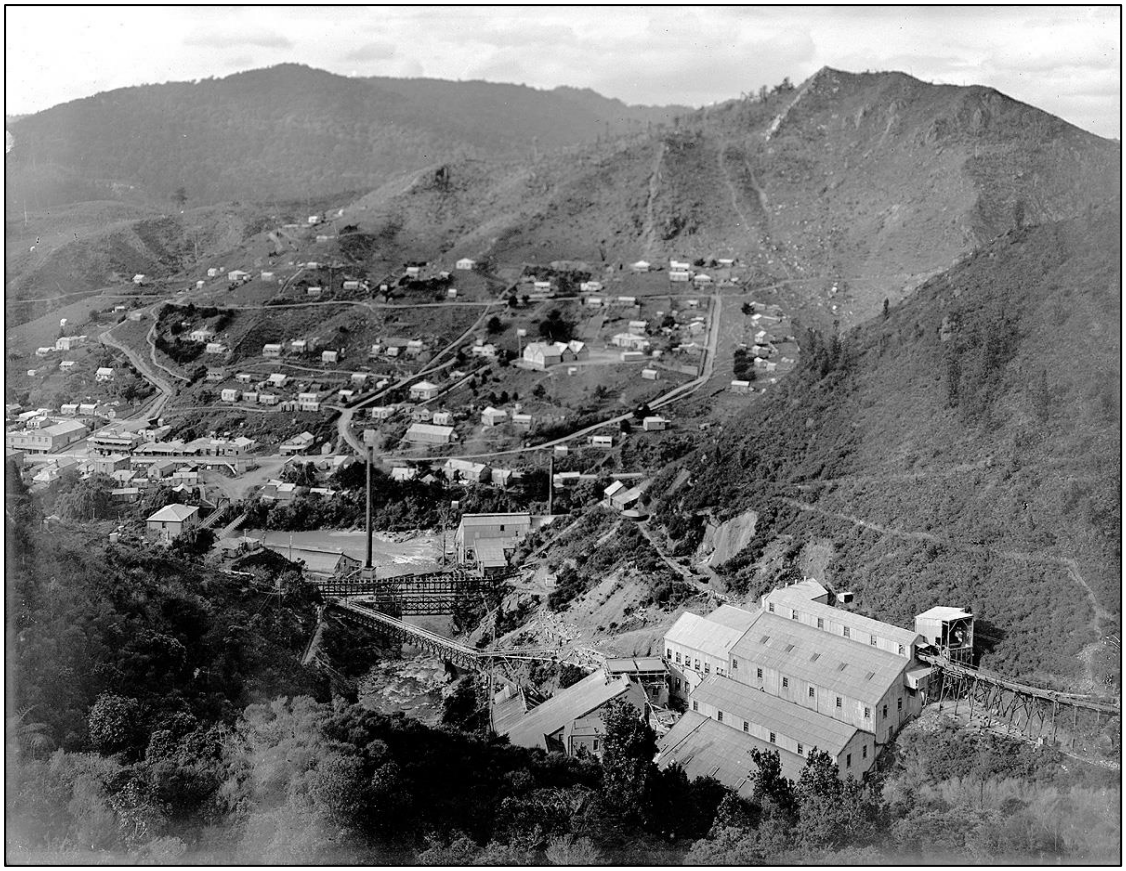
The new engine shed is top left, The “chimney” on the side of the building might be the steam exhaust pipe. The new tubemill building is below, and slightly to the right.

The newly constructed incline was used to bring the heavy machinery in to position. A new pipe comes from left of image, entering the battery beneath the tube mill building. Steam pipe for the new engine?

To the right of the tubemill building, on top of the old battery building are spitzkarsten, or V boxes, for classifying the ground ore using water. Or possibly for dewatering the pulp. This is part of the grinding circuit with the tubemills.

There is a man pushing an ore cart into the bottom of the tubemill building.

Staples Collection.



Auckland Institute and Museum. Winkelmann 1341 (4798), 1909.

Circa 1909. Looking down on the battery from the cliff top/County Road area.

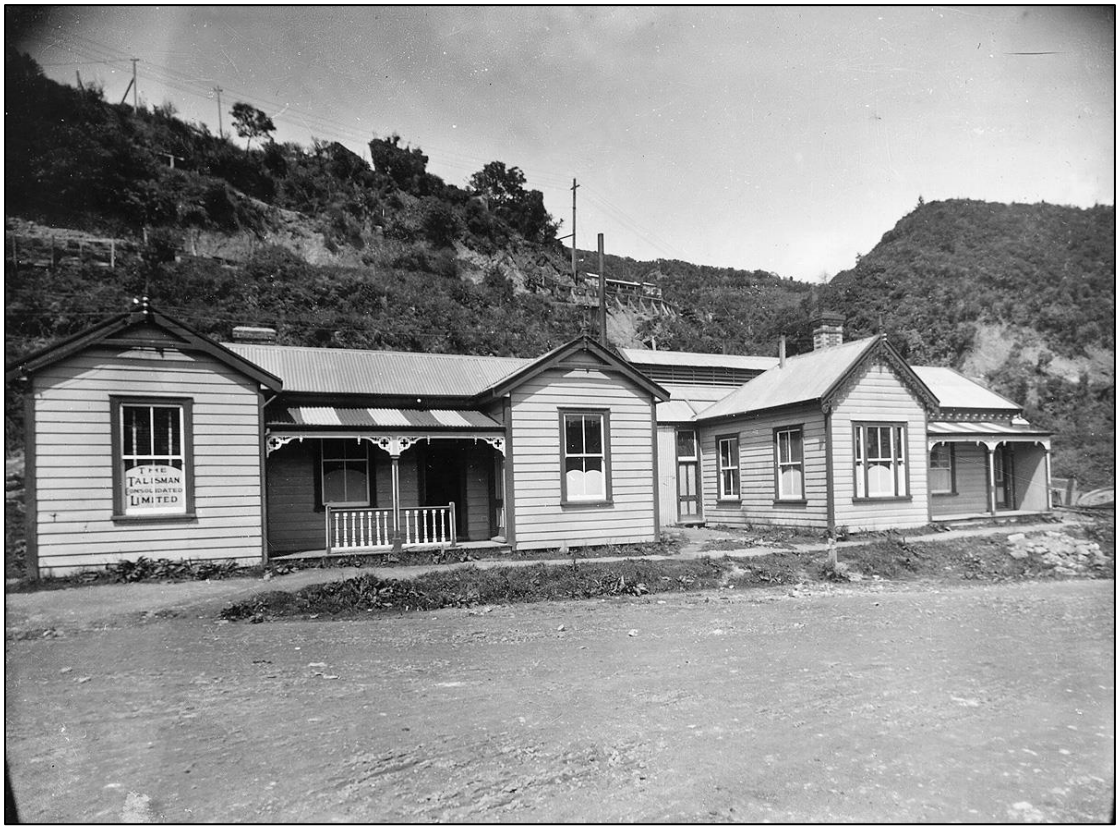
The new engine shed and tubemill buildings are complete, no sign of air agitation tanks which arrive 1910. The group of three Woodstock kilns can be seen, roofing removed. The steam pipe is mounted on top of double decker bridge.

Band Rotunda erected late 1908. Woodstock battery intact. The tree beside the Woodstock battery, prominent in earlier photographs, though still standing has died.

At the terminus of the aerial cableway can be seen an ore skip which has just discharged into the ore hopper, the bottom door hanging open. Also the cables extend through the shelter to anchoring points on the hillside.

The incline connects with the top level of the double deck bridge. Hand rails suggest that this is also used for pedestrian access to the battery.

The Woodstock battery buildings are still intact. They will burn down in September 1910.



Talisman G.M.Co. Office and Assay room, 1909 W4802. Winkelmann photograph.

Opposite the two swing bridges were these three buildings. On the left the General Office, right office, and behind the Office the Assay House.

Our present swing bridge exits in front of the General Office.

The right hand building (office), built c.1900, is now a residence just off the highway, to the right, as we approach Paeroa on SH 2[68]. It is painted blue.

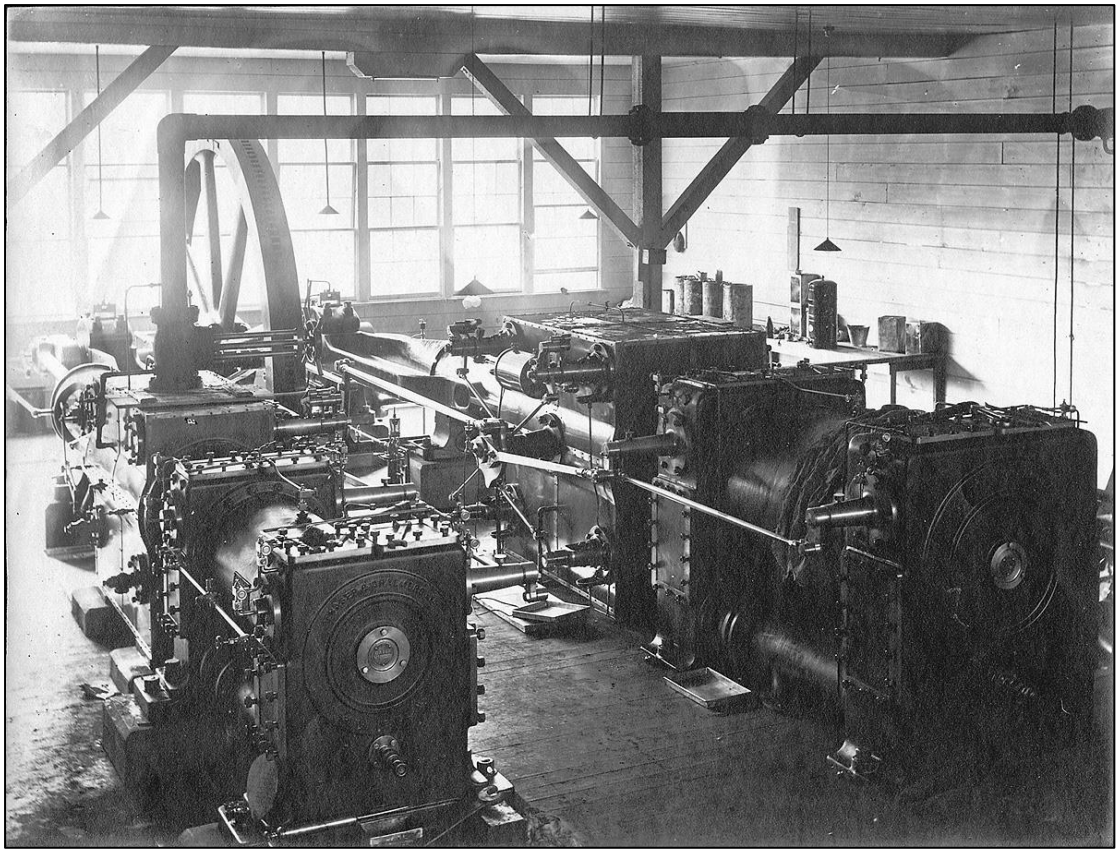
Assay house built later than the Office.

1909

The following additions have been made to the treatment plant: Complete new assay office with latest appliances. [69]

[68] Local folklaw.

[69] https://paperspast.natlib.govt.nz/parliamentary/AJHR1910-I.2.1.4.9
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1910 Session I, C-03



Talisman compressor, in the Powerhouse. 1908[70]

Mounting bolts and massive concrete foundations remain today. The windows in the background suggest that this installation is in the upstream end of the windowed addition to the powerhouse. This windowed addition to the powerhouse may be specifically to house the compressor(s). The boilers were installed in the main building (the expanded version of the original Vathouse).

Fraser and Chalmers are the maker, known as Riedler[71] compressors. This image may be showing installation of the machinery (the nuts or bolts are not tightened).

The fly wheel of this compressor, or possibly the next to be installed, is on display at Western Springs Museum (MOTAT?).[72]

This may be a Duplex Compressor.

> Two engines are placed side by side, each being complete in itself and consisting of tandem steam and air cylinders, with their cranks set at 90 degrees on a common fly-wheel shaft. Each side of the duplex is in effect a straight-line compressor. They are almost invariably horizontal, and the steam cylinders are always nearest the crank-shaft[73]

Of the Powerhouse, Jarman has this to say:

> There are four B. & W. [Babcock and Wilcox[74]] boilers with 1,619 square feet of heating surface and fitted with chain-grate mechanical stokers. Steam from these boilers is supplied to the mill engine by a pipe line about 660 feet long. This engine is a compound-tandem Corliss engine of 560 h. p. by Messrs Fraser & Chalmers. The cylinders are 18 inches and 34 inches in diameter

[70] https://paperspast.natlib.govt.nz/parliamentary/AJHR1909-II.2.2.2.5
MINES STATEMENT, BY THE HON. RODERICK McKENZIE, MINISTER OF MINES., Appendix to the Journals of the House of Representatives, 1909 Session II, C-02

[71] Designer/inventor

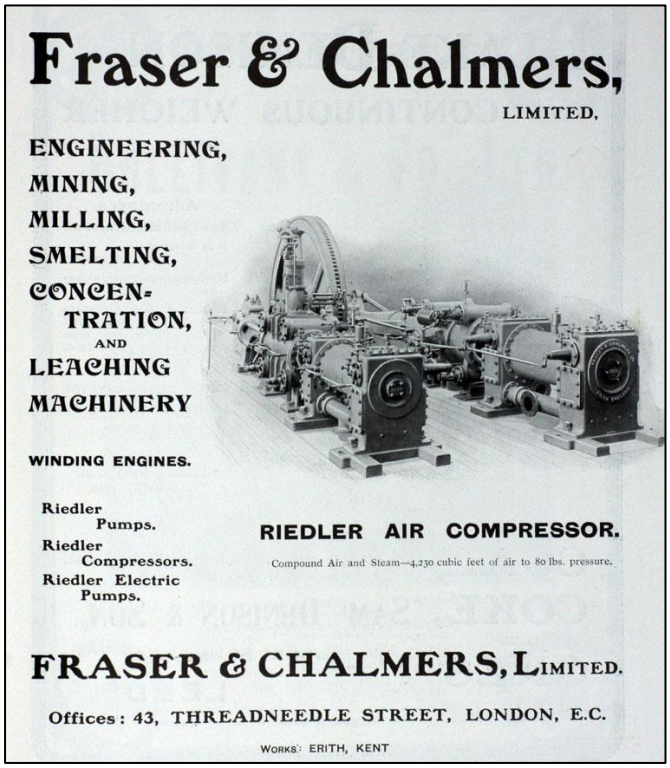
[72] Local folklore

[73] https://www.survivorlibrary.com/library/compressed_air_plant_1910.pdf

[74] For description see: https://testbook.com/mechanical-engineering/babcock-and-wilcox-boiler

with 42 inch stroke. It runs at 72 r. p. m. and drives the main shaft by 12 ropes 2 1/8th inches in diameter.
Compressed Air.
The B. & W. boilers also supply steam to a Riedler air-compressor having a rated capacity of 3,100 cubic feet of free air p. m., and the blow-off valve of the receiver is set at 100lb. per square inch. An Ingersoll Rand compressor of a capacity of 3,700 cubic feet p. m., has been ordered and will be installed alongside it. The power from the Ohinemuri dam is utilized to drive an Ingersoll Rand compressor giving 1,250 cubic feet free air p. m. at 90lb. pressure and also a Union Iron Works Co machine giving 600 cubic feet free air p.m. at 40lb.[75]

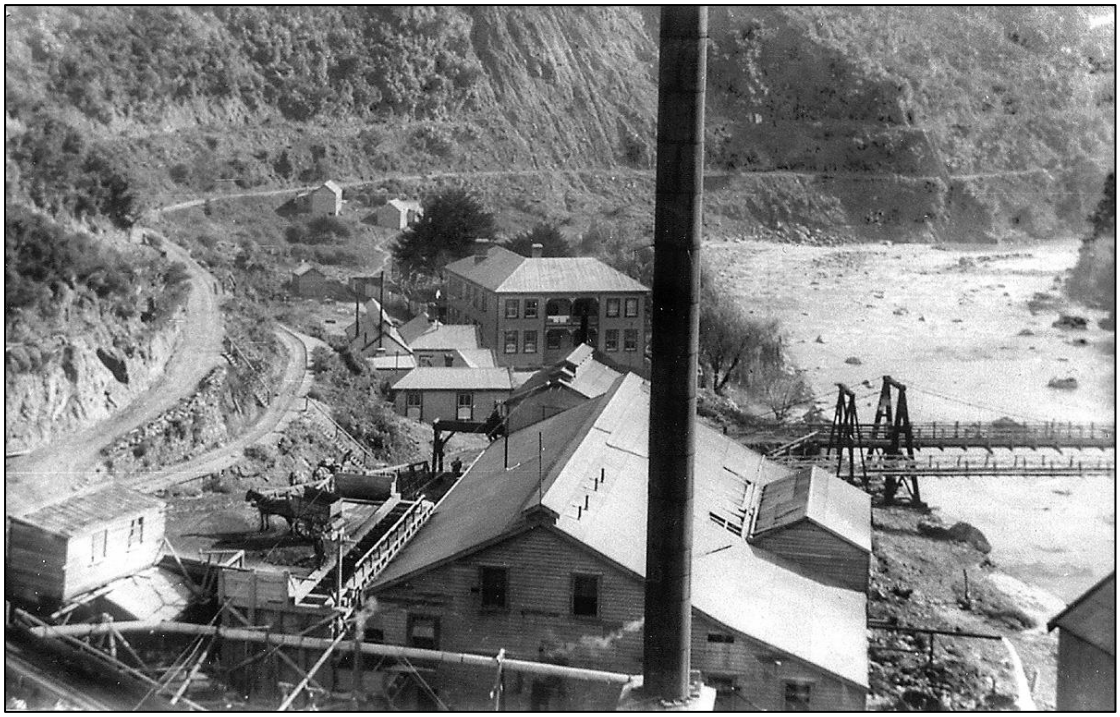
An Ingersoll Rand compressor to be installed beside the Riedler, in the downstream section of the windowed building. Hence the second pair of concrete foundations. This machine installed 1911.[76]



[77]

How was the compressed air conveyed into the mine? No mention found in the literature.
Images presented later in this document may help. A pipe appears to join the pipe coming up from the old Woodstock building, at the spot of the first Woodstock kiln. It must first cross the Waitawheta River on a bridge, and then follows the alignment of the old Woodstock water balance up the slope.

[75] Mining and Ore-Treatment at the Talisman Mine, Karangahake, New Zealand.
By: Arthur Jarman.
Presented at the Australasian Institute of Mining Engineers Thames 1911.
[76] https://paperspast.natlib.govt.nz/parliamentary/AJHR1911-I.2.2.3.17
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1911 Session I, C-03
[77] https://www.gracesguide.co.uk/Fraser_and_Chalmers



Talisman powerhouse, completed late 1908.

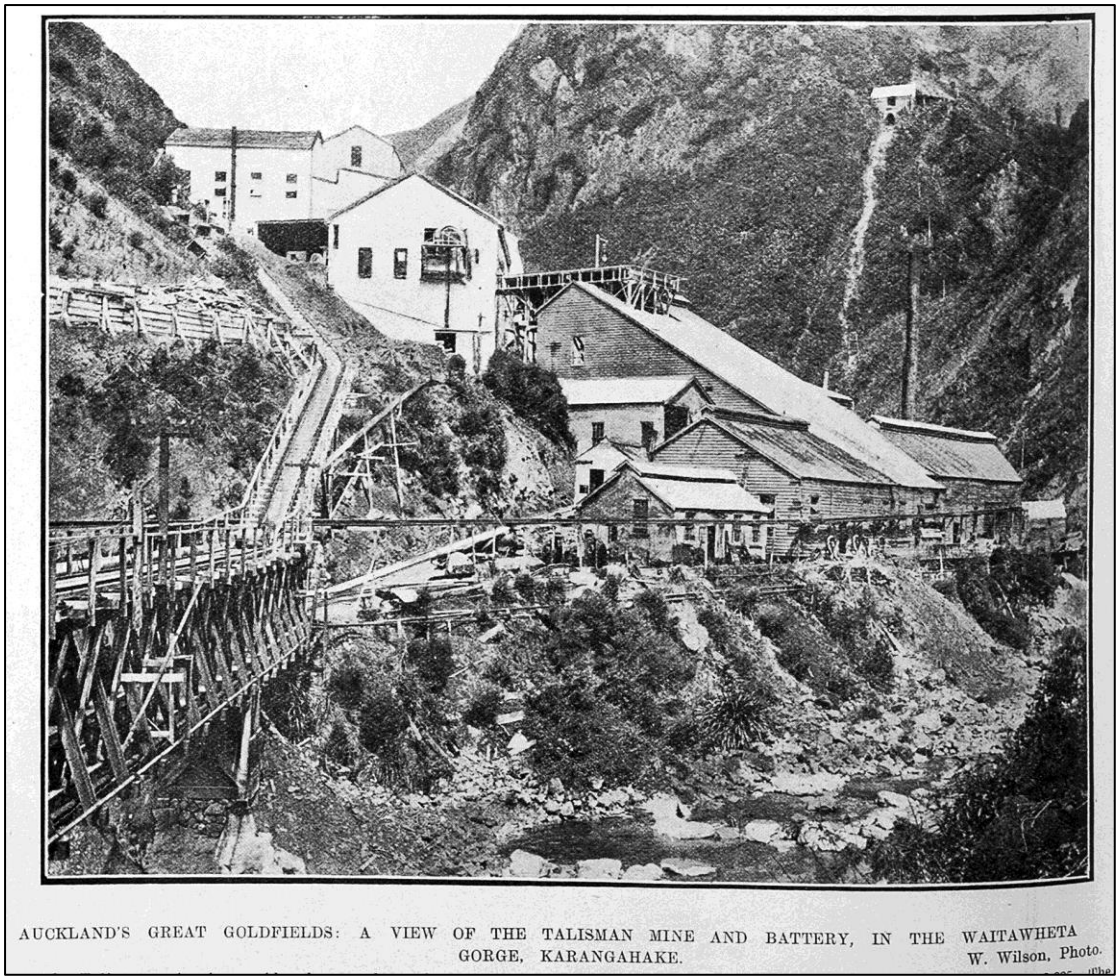
Hotel has been replaced after 1906 fire. The assay rooms have been added, so 1909 or shortly after. No soot on the roof yet.

On the right hand side of the powerhouse there is a raised section of roof which does not run to the far end. This is for the first air compressor. Later photographs show this section extended to the far end, to accommodate the new compressor, 1911. Water is discharging from a pipe; cooling water for the compressor?

On the left of the powerhouse can be seen the coal hoppers for the boilers. The boilers are evidently at this end of the building. Coal is delivered by horse and cart via the traffic (second) suspension bridge, and then up the hill to the hoppers. We walk up this road today. The Crown tramway and Scotchman's Gully tracks are here too.

The light coloured pipe in the foreground is the steam pipe heading to the new engine at the battery.

Staples collection.



1910 03 24 Auckland Libraries Heritage Collections AWNS-1910 03 24-06-06 W Wilson.

Photograph taken from the Crown tramway.

The large steam engine is installed in the new building top left. Foundations and crank shaft remain today. The top of the double decker bridge has been extended to an incline to facilitate its transport to the battery.

1910.

April. Flood. The Talisman Company at Karangahake will also lose a considerable amount of property. Their iron water race is destroyed, and the battery is very badly damaged [the old Woodstock battery].[78]
August. At the reduction works, three new tube mills and eight pneumatic slimes agitators have been installed, and further additions have been contemplated.[79]

Fire

September. Fire destroys Woodstock battery building. The plant destroyed included three air compressors and two steam engines. Part of the plant for treating the slimes, which is situated in this part of the works, was also destroyed. The new air compressor is situated in the other part of the plant

[78] https://paperspast.natlib.govt.nz/newspapers/AS19100402.2.47
Auckland Star, Volume XLI, Issue 78, 2 April 1910, Page 8
[79] https://paperspast.natlib.govt.nz/newspapers/AS19100813.2.27
Auckland Star, Volume XLI, Issue 191, 13 August 1910, Page 5

(powerhouse), and by means of this the water in the mine was being kept down to-day. [80]

Except the compressors, the contents of the old Woodstock mill were, it is stated, mostly old machinery, not at present in use. The compressors were driven by a Pelton wheel, and there was in the building a steam engine, that served as an auxiliary power, in the event of the water supply breaking down. [81]

The official report to the District Coroner, in connection with Woodstock battery fire at Karangahake, shows that the property destroyed or damaged includes the mill, a building of wood and iron, containing two engines, three air compressors, vats, stamps [Woodstock 40 stamps], and the electric light plant. Approximate value is £8000. The insurance is £4260, in the Victoria office. The estimated amount under insurance is £3700, but as it appears some of the machinery is only damaged, the loss will probably be under this figure. The origin of the fire is as follows:— Jas. Archer, engine driver, who was in charge at the time, states that a joint blew out over the air receiver, and everything near the receiver being saturated with oil, the hot air coming in contact with some waste immediately ignited it, and a blast of air escaping from the broken joint spread the flames to the woodwork which is very inflammable. The fire spread rapidly, and before the water could be turned on, the whole place was a mass of flames. [82]

December. The work of reinstating the air compressors and other plant destroyed by the fire in the Talisman Company's old Woodstock battery, has been practically completed. [83]

1911

AJHR 1911.

Three tube mills, two vacuum filter-vats, and two B. and M. agitating-tanks have been installed and employed.

A new Ingersoll-Sergeant air-compressor, with a capacity of 3,700 cubic feet of free air per minute, will be installed early in 1911. [84]

[80] https://paperspast.natlib.govt.nz/newspapers/OG19100916.2.20
Ohinemuri Gazette, Volume XXI, Issue 2693, 16 September 1910, Page 2
[81] https://paperspast.natlib.govt.nz/newspapers/NZH19100916.2.23
New Zealand Herald, Volume XLVII, Issue 14476, 16 September 1910, Page 5
[82] https://paperspast.natlib.govt.nz/newspapers/AS19100917.2.49
Auckland Star, Volume XLI, Issue 221, 17 September 1910, Page 8
[83] https://paperspast.natlib.govt.nz/newspapers/NZH19101227.2.8
New Zealand Herald, Volume XLVII, Issue 14562, 27 December 1910, Page 3
[84] https://paperspast.natlib.govt.nz/parliamentary/AJHR1911-I.2.2.3.17
THE GOLDFIELDS OF NEW ZEALAND (REPORT ON)., Appendix to the Journals of the House of Representatives, 1911 Session I, C-03

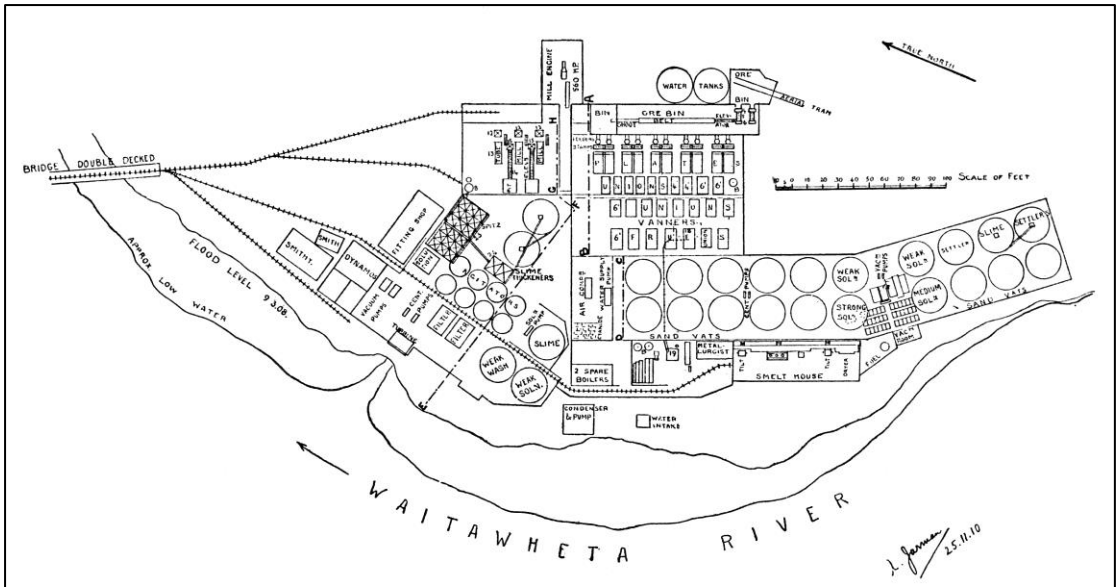
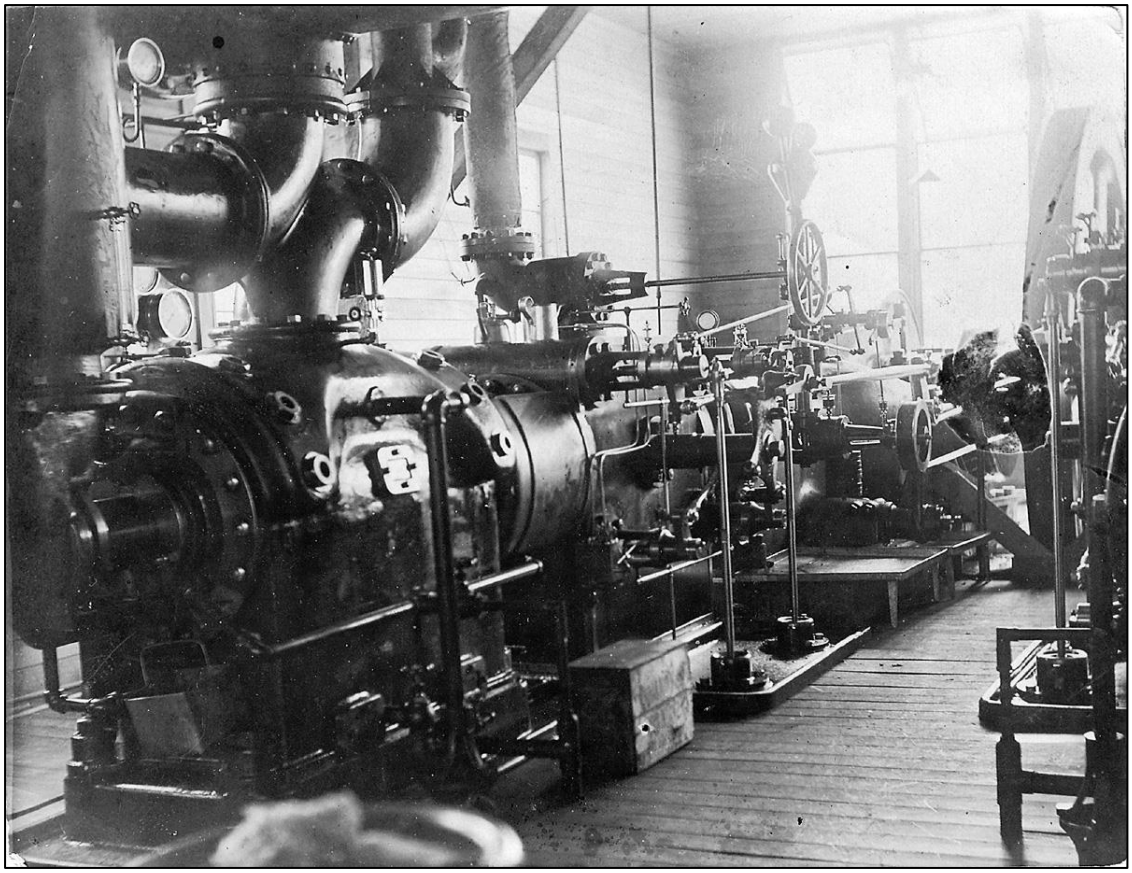


FIG. 4.
PLAN OF TALISMAN MILL.

At the Australasian Institute of Mining Engineers' Conference Jarman presents his paper on the Talisman Company operations.[85]
This is an important document and is available here.

[85] Mining and Ore-Treatment at the Talisman Mine, Karangahake, New Zealand.
By: Arthur Jarman.
Presented at the Australasian Institute of Mining Engineers Thames 1911.



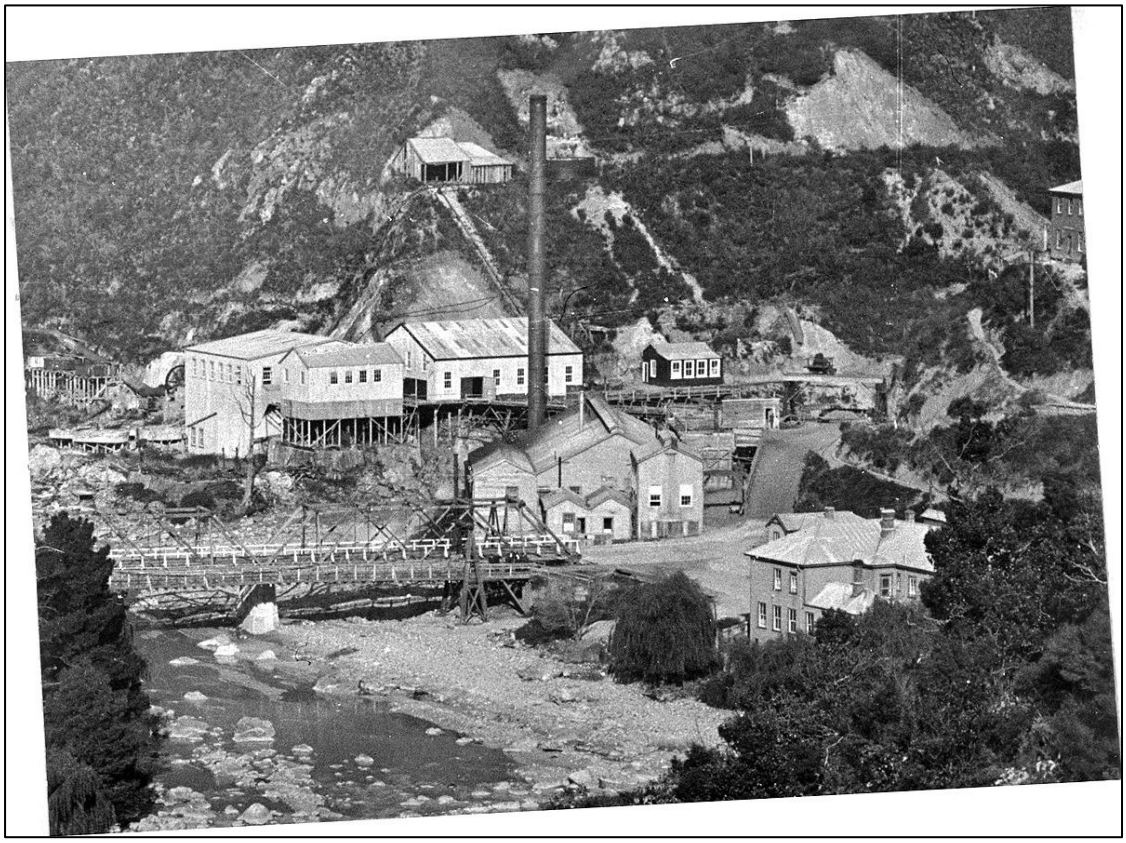
This may be the second compressor, installed 1911. It may also be a duplex machine, steam powered, only half being shown here. It appears not to be a Fraser and Chalmers compressor. Ingersoll Rand[86] identify their machines on the air output pipe, which we can't see (see compressor in the Woodstock document).

The windows behind indicate it is installed in the Talisman powerhouse.

Staples collection

[86] In 1905, Rand Drill Co. and Ingersoll-Sergeant Drill Co. were merged to form Ingersoll-Rand Co. http://vintagemachinery.org/mfgindex/detail.aspx?id=4159

1913



After 1913 (truss bridge), but the suspension bridge remains.

Photograph taken from the hillside a little above the Crown tramway.

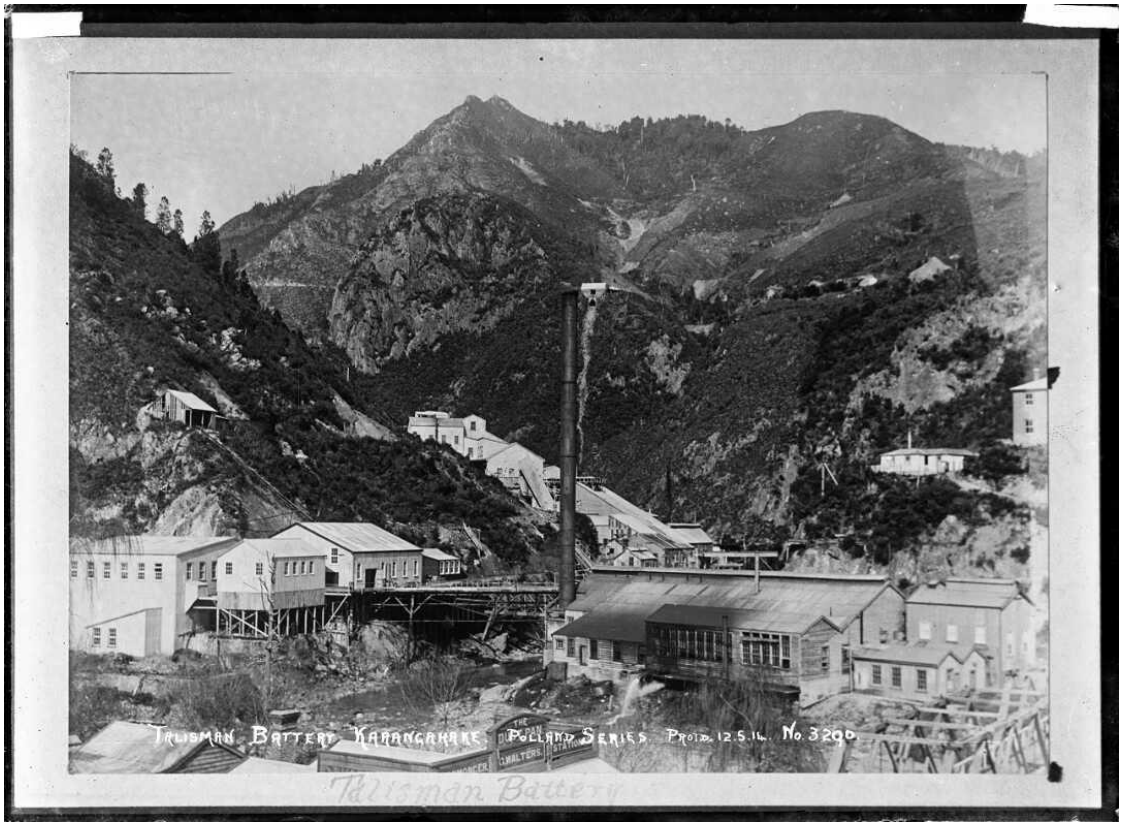
The vat shed is now truly the power house. The section of roofing on the side facing the river has been extended towards us to accommodate the new compressor (1911). It has what might be an exhaust steam chimney. Soot blackens the roof.

The Woodstock battery buildings burnt down in 1910. The replacement buildings seen here house air compressors powered by water from the Ohinemuri race.

Hotel in right foreground.

G. Capper.

1914

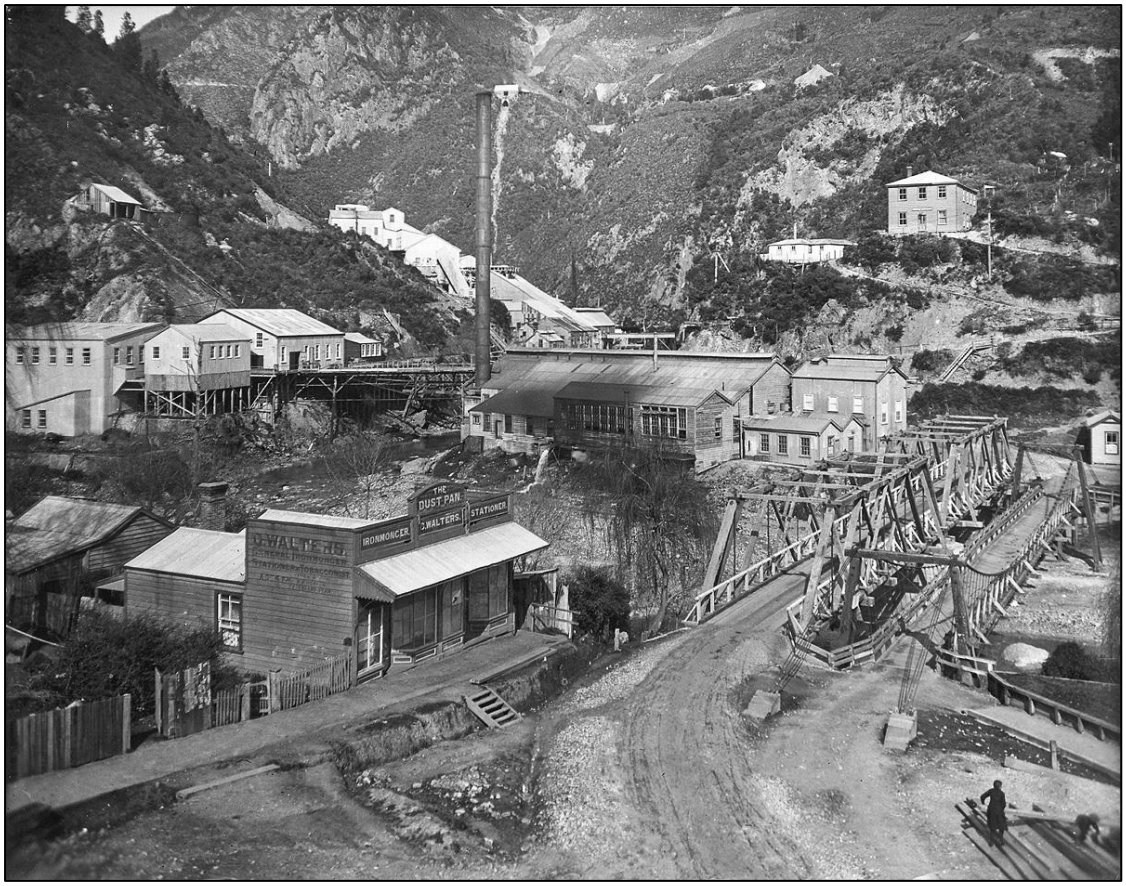


Alexander Turnbull Library.

Image dated 12 May 1914. Polland Series. No.3200.

The buildings at the left are the rebuilt and added to buildings on the old Woodstock site. Part of the Talisman Company since 1904.

Photograph taken from the township, near the band rotunda.



This appears to be a fuller version of the above photograph, though there are very subtle differences. This image is one half of a stereo pair. George Chappell took many stereo photographs at Karangahake. This popular image is rich with detail.

In fact taken from the bell tower?

The Dust Pan, for last minute supplies on your way to work.

New truss bridge, with concrete centre pier, completed early 1913. It is not clear how long the second suspension bridge remained beside the new truss bridge; months, a year? There was talk of removing it to the Waitekauri Stream on the Waihi-Waitekauri Road.[87] But never happened?

Photographer G Chappell. Staples collection.

7 February 1913

OHINEMURI COUNTY. MEETING OF THE COUNCIL

KARANGAHAKE BRIDGE. The Talisman Consolidated wrote asking that when the traffic bridge at Karangahake is completed the Council leave the present bridge to be used as a foot bridge. The letter stated that at the present time there are over 400 men crossing the bridge daily besides a large number of school children and that it was highly desirable for the safety of all that the bridge be left in its present position. To renew the bridge and re-erect elsewhere would cost at least £800 to £1000. [88]

[87] https://paperspast.natlib.govt.nz/newspapers/OG19120202.2.15
Ohinemuri Gazette, Volume XXIII, Issue 2899, 2 February 1912, Page 2
[88] https://paperspast.natlib.govt.nz/newspapers/OG19130207.2.14
Ohinemuri Gazette, Volume XXIV, Issue 3049, 7 February 1913, Page 2

1915?

Engine in place. After 1913 bridge, suspension bridge removed. Before late 1915 when the two storey boarding house is removed.

Photograph taken from the Woodstock Blow area, may be No.8 Level.

The tops of some of the new air agitation tanks are visible to the right of the battery chimney.

Note the narrow swing bridge across the river in the foreground. It shows in other photographs also. On the left of the bridge is a large tip head, with material tipped directly into the river. Where from? Is the roof to provide protection from material falling from the aerial cableway directly above? There is also a structure on the river bank directly across from the battery. What is it?

The powerhouse has now been extended beyond the chimney. The cableway from No.8 Level does not show.

Staples Collection.

1916

Settlement of Karangahake ATL APG-1202-1-2-G. 1916. J Agnew

What a wonderful photograph. Lots of backyard domestic detail, complete with chook. Photograph taken from Butler's track?

The hotel still there, so before Feb 1916. The two storey boarding house on the ridge above Scotchmen's Gully track has been demolished.

To the left of the Rotunda (built late 1908) are the charred remains of a fire. There were two fires reported in the press which may account for this; June 1914 and December 1915.[89]

Of the many features to be seen here, of note is the compressed air pipe scaling the cliff at the left hand end of the "Woodstock" building; some of it remains today; and the large fly wheel, belt or rope wheel from the old battery, now out in the open, unused. The massive mounts for this engine remain.

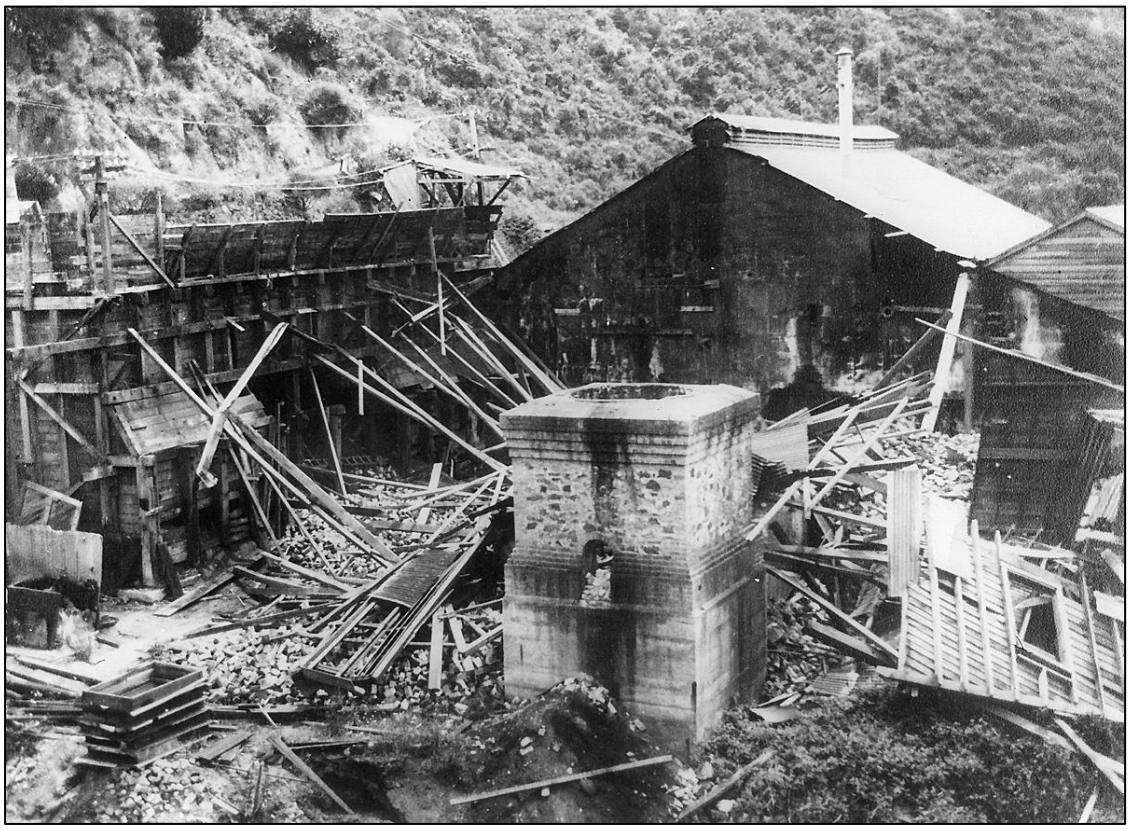
Now only the No.8 cableway visible.

Fire bell to right of rotunda.

The two house-like buildings on Battery Flat to the right of the bridge are the Talisman general office and to the right again the office and behind it assay rooms.[90] The right hand building (office) is now a residence just off the highway, to the right, as we approach Paeroa on SH 2[91]. It is painted blue.

[89] https://paperspast.natlib.govt.nz/newspapers/OG19140617.2.16
Ohinemuri Gazette, Volume XXV, Issue 3255, 17 June 1914, Page 2
https://paperspast.natlib.govt.nz/newspapers/NZH19151204.2.45
New Zealand Herald, Volume LII, Issue 16092, 4 December 1915, Page 7
[90] Map in Jarman.
[91] Local folklaw.

1927-28



Talisman Powerhouse under demolition. Circa 1927. ATL.

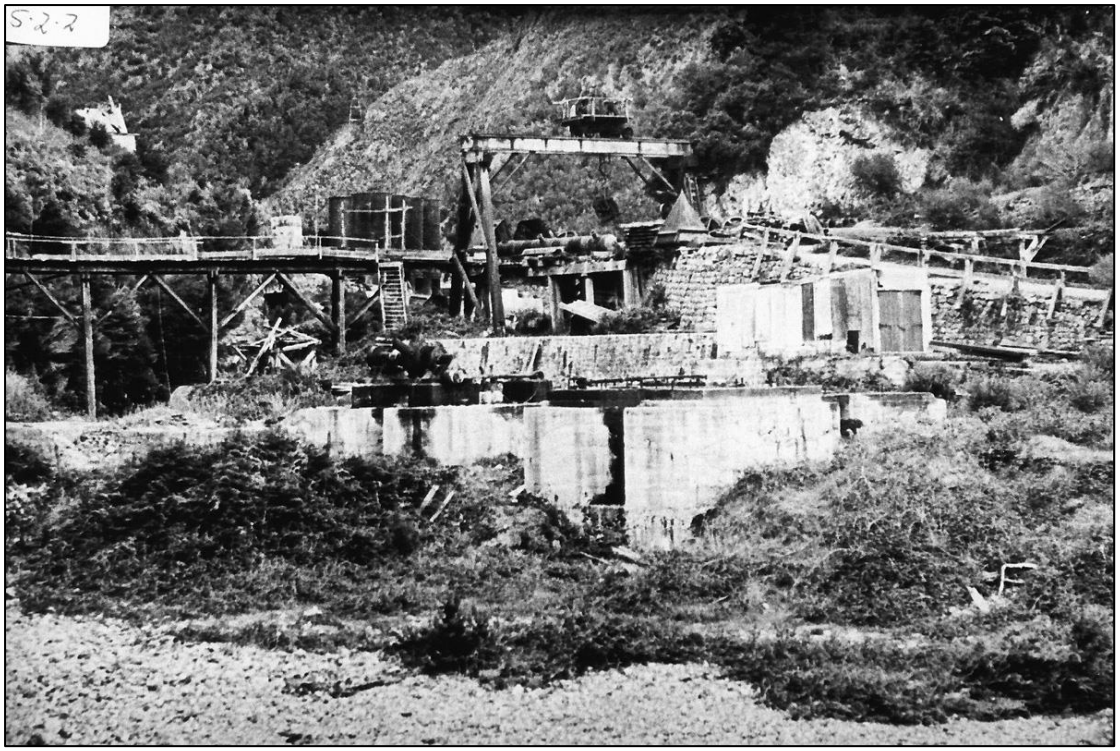
Viewed from the Woodstock battery side of the Waitawheta River, the massive foundation of the chimney is prominent. The piles of bricks suggest the boilers (4) have been removed. To the left are the coal hoppers, behind them the original vat house, and to right the compressor building.

Coal was delivered directly into the coal hoppers from the roadway which angled up from the bridge(s) over the Ohinemuri. It is part of the walkway to the Crown tramway and Scotchmen's Gully tracks today.

In front of the chimney foundation can be see a pile of soot and or ash that had been discharged from the aperture halfway up the foundation.

DoC Thames

Talisman battery under demolition.
c. 1928
Prominent are the air agitation tanks.
N. Ritchie



Talisman powerhouse under demolition. c. 1928

Foundations of the air compressors in the foreground, air agitation tanks at the battery in the background.

The concrete foundations/mounts we see today have been partially destroyed, possibly quarried during the construction of the Dubbo mill, c.1937. A 1938 photograph in the New Zealand Herald shows the damage done.[92]

Through, and behind the gantry, is a long cylindrical tank. An air receiver? It lies nearby to this day.

N. Ritchie

[92] https://paperspast.natlib.govt.nz/newspapers/NZH19380402.2.196
New Zealand Herald, Volume LXXV, Issue 23003, 2 April 1938, Page 19