

THE TUI MINES: A PORTION OF THE TE AROHA MINING DISTRICT

Philip Hart

Te Aroha Mining District Working Papers

No. 107

2016

Historical Research Unit
Faculty of Arts & Social Sciences
The University of Waikato
Private Bag 3105
Hamilton, New Zealand

ISSN: 2463-6266

© 2016 Philip Hart

Contact: prhart1940@gmail.com



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

THE TUI MINES: A PORTION OF THE TE AROHA MINING DISTRICT

Abstract: *After initial interest in it during the initial rush, the Tui portion of the Te Aroha field was largely ignored until Clem Cornes made a discovery in 1885 that produced great hopes for obtaining gold and silver. Investors were quickly interested, but raising sufficient capital was a continual problem; although in time British investors became involved, all the syndicates and companies were under-funded. In addition, there was no agreed method to treat the refractory ore, which was heavily impregnated with base metals, and several processes were tried without success. In addition, the topography of the area required the construction of an access track and, in 1889, of an aerial tramway to transport ore from high on the mountain to the flat. As usual, financial assistance from both local and national governments was sought, and a small amount was received.*

Many people were involved as prospectors, miners, investors, and treatment 'experts', but despite their efforts the early hopes were never fulfilled. By mid-1888 mining had faded because of the lack of a successful process, and although some London-based companies would be formed in later years, capital remained inadequate and development was minimal, for the basic reason that no suitable treatment had been discovered for the low-grade and complex ore.

FIRST EXPLORATIONS

During the Te Aroha rush, several claims were taken up in the Tui district, to the northwest of the settlement.¹ Partly because of the alarm created by the murder of Himiona Haira,² but mainly because there was little ore close to the flat land, by mid-1881 almost all prospecting ceased. After the original Tui claim was forfeited in January 1882,³ four claims were taken up on 30 August that year and another on 1 September.⁴

¹ See paper on the Te Aroha goldfield from its opening until Christmas 1880.

² See paper on mining at Te Aroha before the murder in February 1881.

³ *Waikato Times*, 31 January 1882, p. 2.

⁴ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 258-262, BBAV 11567/1a, ANZ-A.

Charles Henry Wilson, formerly a miner at Thames and Waitekauri,⁵ who had participated in the Te Aroha rush,⁶ was sole owner of the Royal Standard, which he abandoned on 19 September.⁷ Alfred Newdick, another early Thames miner,⁸ who had no previous involvement with mining at Te Aroha, was sole owner of the Black Prince Nos. 1-3.⁹ John Ryan, a farmer who had participated in the Te Aroha rush,¹⁰ and William John Lyons, a miner who earlier had acquired shares in five Waiorongomai claims and two companies,¹¹ owned the Three Mates (the third mate, if one existed, was not listed).¹² These four claims were all declared abandoned on 30 July 1883. All were close to the flat; the south-western peg of Wilson's claim was about 300 yards from the edge of the bush, and the Black Prince No. 2, to its south, was about quarter of a mile from a slaughterhouse.¹³

Only two claims were taken up in 1883, when on 4 December William Gibbons, a miner who for part of that year worked as a tramway hand,¹⁴ and Charles Henry Albert Tonge, a carpenter, contractor, and

⁵ See *Thames Advertiser*, 7 October 1876, p. 3, 20 October 1877, p. 2, 29 October 1877, p. 3, 12 July 1880, p. 2, 30 July 1881, p. 3, 4 April 1889, p. 2.

⁶ Te Aroha Warden's Court, Miner's Right no. 614, issued 25 November 1880, Miners' Rights Butt Book 1880, BBAV 11533/1e; Register of Te Aroha Claims 1880-1888, folios 176, 199, BBAV 11567/1a, ANZ-A.

⁷ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folio 258, BBAV 11567/1a, ANZ-A.

⁸ See *New Zealand Herald*, 14 February 1923, p. 3; *Observer*, 8 May 1930, p. 4.

⁹ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 259-261, BBAV 11567/1a, ANZ-A.

¹⁰ Te Aroha Warden's Court, Miner's Right no. 562, issued 29 November 1880, Miners' Rights Butt Book 1880, BBAV 11533/1d; Register of Te Aroha Claims 1880-1888, folio 172, BBAV 11567/1a, ANZ-A; *New Zealand Mining Standard*, 27 February 1897, p. 5; *Te Aroha News*, 23 March 1917, p. 2, 23 January 1929, p. 4.

¹¹ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folios 3, 6, 13, 55, 88, BBAV 11500/9a, ANZ-A; *New Zealand Gazette*, 10 August 1882, p. 1101, 17 August 1882, p. 1132.

¹² Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folio 262, BBAV 11567/1a, ANZ-A.

¹³ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 258, 259, BBAV 11567/1a, ANZ-A.

¹⁴ *Te Aroha News*, 16 June 1883, p. 2.

boardinghouse keeper,¹⁵ registered the Junction and Odd Whim.¹⁶ Two miners, Thomas Stewart Potts¹⁷ and Thomas Redmond,¹⁸ were Tonge's partners in the Odd Whim.¹⁹ Both claims were declared abandoned on 24 November the following year; that they were recorded as being near the Waiwera claim²⁰ indicated that others had pegged out but not registered their claims (not all notices of pegging out have survived).

THE 1885 DISCOVERY

In mid-September 1885, a Te Aroha correspondent reported excitement caused by a rumour of rich silver stone being discovered in an area 'which used to be such a favourite part of the field during the first rush'; much pegging out was taking place.²¹ A week and a half later, he reported that the prospector, Clement Augustus Cornes,²² having found good gold at the head of the Tui Creek on the top of the main range, had pegged out three claims. As the initial tests were encouraging, the reef reportedly being similar to reefs at Karangahake, other miners took up another five claims. 'Several influential men in Auckland' were interested in the discovery.²³ Another correspondent considered the discovery was

¹⁵ See *Te Aroha News*, Magistrate's Court, 29 September 1883, p.2, Warden's Court, 24 November 1883, p. 3, 15 March 1884, p. 2, 5 April 1884, p. 7, 4 December 1888, p. 2.

¹⁶ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 312, 313, BBAV 11567/1a, ANZ-A.

¹⁷ See Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 196, 209, 222, BBAV 11567/1a, ANZ-A; *Auckland Weekly News*, 2 April 1881, p. 20; Warden's Court, *Te Aroha News*, 24 November 1883, p. 3.

¹⁸ See Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 35, 205, 248, 300, BBAV 11567/1a, ANZ-A; Armed Constabulary Force, Report on Charges taken at Te Aroha Lock-up 1880-1903, no. 16, in private possession; Warden's Court, *Te Aroha News*, 24 November 1883, p. 3.

¹⁹ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folio 313, BBAV 11567/1a, ANZ-A.

²⁰ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 312, 313, BBAV 11567/1a, ANZ-A.

²¹ Te Aroha Correspondent, *Thames Advertiser*, 14 September 1885, p. 3.

²² See paper on his life.

²³ Te Aroha Correspondent, *Thames Advertiser*, 25 September 1885, p. 3.

certainly one of great promise, and present appearances justify the high hopes that are entertained, for without doubt the lode in its general statistics looks exceedingly favourable for both gold and silver and surpasses anything yet found on this side of the range. The outcrop can be traced some hundreds of yards and wherever broken into it shows stone of a most kindly quality.

The average width of the reef was five feet. Being in very rough country, the area was previously unknown to all 'save very few', and no large trial of the ore was possible, for pack horses could not get within a mile of it; 'everything will have to be carried on men's backs'. Small trials were being made, and samples had been 'taken from different parts of the reef by a gentleman from Auckland' who was 'in treaty with the discoverers for the purchase of a large interest'. Should the assay returns be 'as good as those said to have been obtained by the prospectors, the property will indeed be a most valuable one'.²⁴

On the same day, the local newspaper published its first article on the 'Valuable Find':

The sensation of the week in mining matters here has been the discovery of a large reef, supposed to contain the precious metals in highly payable quantity, at the summit of the main range near the head of the Tui Creek. It was whispered about early in the week that an important find had been made, and the appearance in the township of an old prospector and former resident here, tended to confirm the belief, but it was not till Wednesday evening [23 September] that the precise locality became generally known. The discoverers had then completed the pegging of the ground and, having given the necessary notice of marking out, were less reticent regarding the whereabouts of the reef, and the prospects they had obtained. On Thursday morning several of our townsfolk started off in search, and after a somewhat arduous journey succeeded in finding the spot. The position, as stated above, is at the head of the watershed into the Tui Creek, and about two miles north of the trig station on Te Aroha mountain. After dropping upon the reef no difficulty is found in tracing it, for in places it stands up prominently above the surface to a height of 10 or 12 feet, and is only partially hidden by the timber and the dense undergrowth in its neighbourhood. From the top of the range, near to which is the northern boundary of the prospectors' claims, it can be followed for hundreds of yards southward, varying in width from six to ten feet, and presenting everywhere admirable facilities for economical working. Here and there

²⁴ Te Aroha Correspondent, *Waikato Times*, 26 September 1885, p. 3.

throughout this length the lode has been broken into, and in almost every place it shows stone of a most kindly character, and indeed nothing at all approaching it in promise or appearance had previously been found on this side of the range. Much of the quartz closely resembles the best of the gold-bearing stone found in the Colonist mine [at Waiorongomai], and other portions of it bear a similarity to the stuff obtained in some of the richer silver lodes at Karangahake. There is every probability that the reef will be found to contain both of the precious metals in paying quantity. Of its actual value nothing as yet is absolutely known, further than that the few samples of the stone which have been tested by competent assayers have given most satisfactory results. From information afforded by one of the owners we learn that one sample yielded bullion to the amount of fifty seven ounces per ton, while from another silver at the rate of over fifty, and gold exceeding seven ounces per ton were obtained. One test of an exceptionally rich looking piece of stone gave bullion amounting to more than 140oz, but that, of course, cannot be accepted as any criterion by which to estimate the value of the lode. Should the average yield, however, approach any way near even the poorer tests the fortunate shareholders will have reason to congratulate themselves on acquiring possession of a magnificent property. The chief, and indeed the only, drawback to the working of the ground is its present almost inaccessible position. Access to it can now only be gained by climbing one of the long and difficult spurs on the west side of the range. The most practicable of these is the one on the north side of the Tui Creek, where there is a good bridle track to the Maori clearing on the edge of the bush. From thence the journey must be continued on foot and some idea of the nature of the country to be travelled over may be gathered from the fact that though the distance from the township to the prospectors' claim is only some 3 or 4 miles, it takes fully two hours to accomplish the ascent. Over this track everything required for the working of the claims (of which some ten or twelve have been taken up) will have to be carried, and, under such conditions, it is impossible to conduct operations satisfactorily. Mr Clem Cornes (a late resident amongst us), is the prospector and fortunate finder of the newly opened reef, the discovery of which is likely to further, to a very large extent, the prosperity of this township, and we are sure every one will be pleased to know that his energy and perseverance are likely to bring him a rich reward. Besides Mr Cornes, those who have been most conspicuous in the new rush are - Messrs John Chambers (Auckland), J[ohn] E[dward] Banks and D[aniel] H[enry] Bayldon (Thames). These gentlemen spent all Wednesday and Thursday on the ground, leaving Te Aroha again on yesterday morning. Mr Chambers took with him a box of stone obtained from different parts of the reef, for the purpose of further testing, which will be

done at the Thames and also in Auckland. This party pegged off the first four claims, also a water-race on the Tui Creek, and appear to have the fullest confidence that this new discovery will prove of very great value; in fact all practical men in mining matters who have seen the reef speak of it as being of most promising appearance both for gold and silver.²⁵

On the same day, George Wilson, the mining inspector,²⁶ informed Harry Kenrick, the warden,²⁷ that as several reliable tests gave a return of from 20 to 60 ounces of bullion per ton the 'valuable discovery' was 'a very encouraging prospect'.²⁸

THE ORIGINAL INVESTORS

Chambers, Banks, and Bayldon were not miners; their role was to provide capital. John Chambers had been apprenticed as an engineer in England, where for three years he ran his own engineering firm before arriving in New Zealand in 1864.²⁹ For some years after 1871 he was a partner in E. Porter and Company,³⁰ a leading Auckland firm of ironmongers, hardware merchants, and importers. When the mercantile firm of T. & S. Morrin was reconstructed in 1882 and he became its managing director, a newspaper commented that it was 'not likely to diminish in his hands'.³¹ In 1886, he established John Chambers and Son, a 'flourishing engineering and mining machinery importer's business' with branches in Dunedin and New Plymouth in addition to the head office in

²⁵ 'Valuable Find at Te Aroha', *Te Aroha News*, 26 September 1885, p. 2.

²⁶ See paper on his life.

²⁷ See paper on his life.

²⁸ George Wilson to Harry Kenrick, 26 September 1885, Te Aroha Warden's Court, Letterbook 1883-1900, p. 84, BBAV 11534/1a, ANZ-A.

²⁹ Obituary of John Chambers, *New Zealand Herald*, 30 September 1902, Monthly Summary, p. 3; Addresses Presented to Sir George Grey on his 74th Birthday, 14 April 1886, by European and Maori Residents of Auckland Province, pp. 184, 280, Grey New Zealand MS 275, Auckland Public Library.

³⁰ Obituary of John Chambers, *New Zealand Herald*, 30 September 1903, Monthly Summary, p. 3.

³¹ *Auckland Weekly News*, 8 July 1882, pp. 13, 16, 26 August 1882, p. 25; *Observer*, 1 July 1882, p. 252; Company Files, BADZ 5181, box 39 no. 249, ANZ-A.

Auckland.³² In the 1870s and 1880s, he attempted to create a steel industry using Taranaki iron sands, but was defeated not only by failing to discover a successful process but also by the manager of his ironworks being imprisoned for shooting a bricklayer.³³ From the early days of the Thames goldfield, he had invested in Hauraki mining.³⁴ Between 1881 and 1885, he was a director of four goldmining companies,³⁵ two coalmining companies,³⁶ the Auckland Native Lands Colonization Company,³⁷ the Auckland Coffee Palace,³⁸ and a provisional director of two proposed steamship companies.³⁹ He acquired shares in three Waiorongomai companies and was a director of the New Find Company.⁴⁰

In 1885, he was chiefly responsible for having smelting furnaces, invented by an American, John D. LaMonte, erected in Thames and Karangahake. In Australia, early that year, LaMonte personally supervised the erection of his water jacket smelters on the Sunny Corner silver field,

³² *Cyclopedia of New Zealand*, vol. 2, p. 377; obituary of John Chambers, *New Zealand Herald*, 30 September 1903, Monthly Summary, p. 3; *Cyclopedia of New Zealand*, vol. 2, pp. 368-369.

³³ J.M. Chambers, 'New Zealand Ironsands: An historical account of an attempt to smelt ironsands at Onehunga in 1883', *Transactions and Proceedings of the New Zealand Institute for the Year 1917*, vol. 50 (1918), pp. 223-230; for details of the fortunes of the Onehunga Ironworks, see *Auckland Weekly News*, 17 February 1883, p. 28 24 February 1883, p. 15, 12 May 1883, pp. 15, 20, 19 May 1883, p. 25, 27 September 1884, p. 22, 22 November 1884, p. 15, 5 December 1885, p. 19, 16 January 1886, p. 6, 8 May 1886, p. 27, 27 November 1886, pp. 14-15, 11 December 1886, p. 19; Company Files, BADZ 5181, box 43 no. 278, ANZ-A.

³⁴ For example, *Auckland Provincial Government Gazette*, 24 July 1868, p. 336, 7 July 1869, p. 546; *New Zealand Gazette*, 24 October 1878, p. 1458, 8 June 1882, p. 736, 7 September 1882, p. 1236, 28 September 1882, p. 1363, 31 May 1883, p. 722, 17 December 1885, p. 1475.

³⁵ Company Files, BADZ 5181, box 34 no. 208; box 48 no. 313, ANZ-A; *Thames Advertiser*, 7 March 1882, p. 3, 8 December 1885, p. 3.

³⁶ Company Files, BADZ 5181, box 45 no. 287; box 47 no. 306, ANZ-A.

³⁷ Company Files, BADZ 5181, box 41 no. 261, ANZ-A.

³⁸ *Thames Star*, 23 September 1881, p. 3.

³⁹ *Thames Advertiser*, 17 September 1881, p. 3; *Thames Star*, 25 June 1883, p. 4.

⁴⁰ *New Zealand Gazette*, 23 March 1882, p. 489, 19 October 1882, p. 1522, 22 November 1883, p. 1675; *Thames Advertiser*, 7 March 1882, p. 3.

and later supervised the erection of the Day Dream smelters at Silverton.⁴¹ The New Zealand Smelting Company was established in July to utilize this process, but when it proved uneconomic it was wound up in the following May.⁴² Shortly afterwards, Chambers sold LaMonte's Karangahake furnace to the Woodstock Company on 'generous terms'.⁴³ Next, he was associated with an Auckland invention, 'The Simoon Roasting Furnace',⁴⁴ and with Alexander Parkes' process (explained below). On his first visit to Tui, in September 1885, to arrange the purchase of 'a large interest', he was nearly knocked 30 or 40 feet down a precipice when a large block of stone being broken off the reef rolled by him. 'He sustained a few slight injuries, but was able after a little while to resume his examination of the reef'.⁴⁵

His only son, John Moginie Chambers, aged 22 in 1885,⁴⁶ was his partner in mining ventures at Tui and Karangahake. Like his father, he had trained as an engineer, in his case in the Birmingham works owned by Sir Richard Tangye.⁴⁷ In 1898, after completing his studies with this firm, he would marry the boss's youngest daughter.⁴⁸ One of his sisters married John Howard Keep, of another Birmingham engineering firm, in 1884.⁴⁹ Both these marriages resulted in financial assistance for John Chambers and Son.⁵⁰ Until the end of 1885 his only involvement in mining, apart from

⁴¹ Roy Bridges, *From Silver to Steel: The romance of the Broken Hill Proprietary* (Melbourne, 1920), pp. 113-114.

⁴² *Auckland Weekly News*, 11 April 1885, p. 20, 16 May 1885, p. 24, 30 May 1885, p. 20, 5 December 1885, pp. 18-19, 24 April 1886, p. 20, 20 November 1889, p. 14; Russell Stone, *Makers of Fortune: A colonial business community and its fall* (Auckland, 1973), pp. 82-83; Sybil M. Jack, 'The Introduction of Cyaniding in New Zealand: A Case Study in the Role of Technology in History', *Prometheus*, vol. 2 no. 1 (June 1984), pp. 21-22.

⁴³ *Te Aroha News*, 3 July 1886, p. 2; *Thames Advertiser*, 6 July 1886, p. 2, 21 July 1886, p. 2; *Auckland Weekly News*, 7 July 1886, p. 18, 24 July 1886, p. 22.

⁴⁴ *New Zealand Gazette*, 8 September 1887, p. 1179.

⁴⁵ Te Aroha Correspondent, *Waikato Times*, 26 September 1885, p. 3.

⁴⁶ Death Certificate of John Moginie Chambers, 6 March 1918, 1918/2167, BDM.

⁴⁷ *Cyclopedia of New Zealand*, vol. 2, p. 369.

⁴⁸ *New Zealand Times*, 9 March 1918, p. 3; *New Zealand Graphic*, 19 March 1898, p. 354; *Auckland Weekly News*, 4 October 1890, p. 1.

⁴⁹ Marriage Certificate of John Howard Keep, 10 July 1884, 1884/594, BDM; *Auckland Weekly News*, 19 July 1884, p. 1.

⁵⁰ Company Files, BADZ 5181, box 17 no. 95, ANZ-A; National Bank, Inspector's Report on Auckland Branch, 31 August 1896, 13 December 1897, National Bank Archives,

participating in his father's venture at Tui, was to acquire 1,000 shares in the Dubbo Company of Karangahake.⁵¹

John Howard Keep was aged 25 in 1885.⁵² The festivities on the occasion of his wedding, including a dinner for the 70 staff of T. & S. Morrin, indicated the social status of the Chambers family.⁵³ A similarly elaborate wedding celebration was held for the younger daughter in 1897; the ceremony was in the Bishop of Auckland's private chapel.⁵⁴ Keep was a shareholder in T. & S. Morrin,⁵⁵ and a year before his marriage had personally guaranteed a deed of John Chambers' valued at £800,⁵⁶ an indication of the capital he or his family possessed. When aged 23 he was a director of Chambers' New Zealand Iron and Steel Company.⁵⁷ During 1884 and 1885, he made small investments in goldmining companies in both islands.⁵⁸ For ten months in 1887 and 1888, he owned two claims at Waiomu.⁵⁹

In 1886, Keep had shares along with his brother-in-law in the Wharekawa Coal and Land Company, of which his father-in-law was a director.⁶⁰ In particular, he supported J.M. Chambers' Askham-Molloy Gold and Silver Extraction Company Limited, established in March 1888 to process the tailings on the Thames foreshore. Both men were directors, Keep having 2,000 of the 20,000 shares and his brother-in-law 4,000.⁶¹ When applying for a claim at Tui in 1888, the latter spoke on his behalf in the warden's court.⁶² Having assisted John Chambers to bring Alexander

Wellington; *Cyclopedia of New Zealand*, vol. 2, p. 369; *New Zealand Herald*, 7 March 1918, p. 6.

⁵¹ *New Zealand Gazette*, 17 December 1885, p. 1475.

⁵² Marriage Certificate of John Howard Keep, 19 July 1884, 1884/594, BDM.

⁵³ *Auckland Weekly News*, 12 July 1884, p. 24.

⁵⁴ *Observer*, 5 June 1897, p. 8.

⁵⁵ *Auckland Weekly News*, 12 July 1884, p. 24.

⁵⁶ Bank of New Zealand, Auckland Branch, Securities Held 1861-1895, folio 31, Bank of New Zealand Archives, Wellington.

⁵⁷ *Auckland Weekly News*, 19 May 1883, p. 25.

⁵⁸ *New Zealand Gazette*, 21 February 1884, p. 359, 13 August 1885, p. 967.

⁵⁹ Thames Warden's Court, Register of Licensed Holdings 1887-1891, folios 28, 30, BACL 14355/1a, ANZ-A.

⁶⁰ Company Files, BADZ 5181 box 47 no. 306, ANZ-A.

⁶¹ Company Files, BADZ 5181, box 52 no. 350, ANZ-A.

⁶² Warden's Court, *Te Aroha News*, 25 February 1888, p. 2.

Parkes to New Zealand, he considered this entitled him to the protection of his Tui Reduction Company claim in 1888.⁶³ Keep again assisted his brother-in-law by purchasing the LaMonte furnace in November 1888 to prevent it being taken by a creditor.⁶⁴ After 1890 Keep was no longer actively involved with the Chambers family's ventures, except perhaps as a shareholder, and moved to Sydney before returning to England.⁶⁵

Daniel Henry Bayldon was a Thames surveyor specializing in goldfield work.⁶⁶ He had shares in many mining companies,⁶⁷ and was a sleeping partner in claims he obtained on behalf of parties of miners.⁶⁸ In 1885, he obtained British capital for a Thames claim he owned with others.⁶⁹ In the Te Aroha rush, he surveyed many of the original claims.⁷⁰ Soon after mining started at Waiorongomai, he was 'asked to report generally on works completed, and in course of construction, as well as to offer suggestions as to what will be the best course to pursue to develop the mines at a minimum cost'.⁷¹ In 1882 he reported to the council on constructing roads and tracks,⁷² and in the following year surveyed the leading claims, advised on development, and made surveys needed so that underground work could begin.⁷³

⁶³ *Te Aroha News*, 12 May 1888, p. 2; Te Aroha Warden's Court, *Thames Advertiser*, 8 September 1888, p. 2.

⁶⁴ *Te Aroha News*, 9 January 1889, p. 2, 12 January 1889, p. 2; *Waikato Times*, 12 January 1889, p. 2.

⁶⁵ Te Aroha Warden's Court, Memorandum of 10 January 1891, Certified Instruments 1891, 1/1891, BBAV 11581/12a, ANZ-A; *New Zealand Herald*, 8 March 1915, p. 1, 7 March 1918, p. 6.

⁶⁶ See *Auckland Provincial Government Gazette*, 30 August 1871, p. 228; *Thames Advertiser*, 6 May 1874, p. 2, 6 March 1875, p. 3, 23 September 1875, p. 3 13 April 1878, p. 2; *Cyclopedia of New Zealand*, vol. 7, p. 49.

⁶⁷ For 1876, for example, see *New Zealand Gazette*, 11 May 1876, p. 350, 31 August 1876, p. 616, 14 September 1876, p. 643, 28 September 1876, p. 675, 12 October 1876, p. 694.

⁶⁸ For the period to 1885, see, for example, *Thames Advertiser*, 11 March 1876, p. 2, 29 September 1877, p. 2, 28 May 1878, p. 2; *Thames Star*, 20 October 1881, p. 3.

⁶⁹ *Thames Advertiser*, 19 August 1885, p. 3.

⁷⁰ *Thames Advertiser*, 6 January 1881, p. 2.

⁷¹ *Waikato Times*, 26 January 1882, p. 2.

⁷² *Waikato Times*, 28 January 1882, p. 2.

⁷³ *Waikato Times*, 17 April 1883, p. 2, 24 April 1883, p. 2; *Te Aroha News*, 14 July 1883, p. 2, 23 January 1886, p. 2.

Apart from the utilization of his mining and surveying skills in 1888,⁷⁴ Bayldon's involvement with Tui was brief, for he wanted to make a quick profit rather than retain interests. On 10 November 1885, he became one of the original owners of Keep It Dark, with one of the 15 shares, which he sold in December the following year for £20.⁷⁵ Also on 10 November, he was registered as sole owner of Champion Lode No. 4. He divided his interest into 16 shares, selling 14 by December 1886 for £60 12s and the remaining ones a year later for £50, which he had to share with two other owners.⁷⁶ On the same day, 12 November, he registered his ownership of the Champion Lode No. 4 Extended,⁷⁷ he unsuccessfully requested its protection; three months later Wilson declared it abandoned, shortly before Bayldon notified the warden that he had given it up.⁷⁸

John Edward Banks, also of Thames, from the time of the Thames gold rush was a storekeeper, wholesale seller of wines and spirits, auctioneer, cattle merchant, slaughterhouse proprietor, commission agent, and gum merchant.⁷⁹ He purchased shares in Thames and Ohinemuri mines,⁸⁰ and

⁷⁴ *Te Aroha News*, 4 August 1888, p. 2, 31 October 1888, p. 2.

⁷⁵ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folio 193, BBAV 11500/9a, ANZ-A.

⁷⁶ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folio 194, BBAV 11500/9a; Transfers of Shares in Champion Lode No. 4, Certified Instruments 1886, BBAV 11581/7a; D.H. Bayldon to J.H. Keep, 19 December 1887, Certified Instruments 1888, BBAV 11581/9a, ANZ-A.

⁷⁷ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folio 141, BBAV 11567/1a, ANZ-A.

⁷⁸ Te Aroha Warden's Court, Register of Applications 1883-1900, 57/1885, BBAV 11505/1a; Register of Te Aroha Claims 1880-1888, folio 141, BBAV 11567/1a; D.H. Bayldon to Warden, 4 March 1886, Notices of Abandonment of Claims 1886, BBAV 11583/3a, ANZ-A.

⁷⁹ See, for example, *Auckland Provincial Government Gazette*, 6 November 1871, p. 237, 5 September 1876, p. 344; *Thames Advertiser*, 9 December 1870, p. 2, 5 May 1873, p. 2, 14 June 1873, p. 2, 23 January 1874, p. 3, 7 October 1880, p. 2; National Bank, Inspector's Report on Auckland Branch, 9 July 1874: Parties liable to the Bank, National Bank Archives, Wellington; *Auckland Weekly News*, 10 July 1880, p. 14; obituary in *New Zealand Herald*, 1 May 1925, p. 10.

⁸⁰ For examples of Thames investments, see *Auckland Provincial Government Gazette*, 27 February 1869, p. 137, 15 September 1871, p. 237; for shares in companies formed after

in 1885 concentrated his investments in the latter.⁸¹ He was a director of two mining companies, the National, operating at Tairua in 1875, and in 1885 the Dubbo, at Karangahake.⁸² Before his involvement with Tui mining in 1885, he had had no association with Te Aroha apart from erecting unprofitable saleyards there in 1882.⁸³

Because of his almost permanently weak finances, Banks could not have provided much capital. In August 1876, the National Bank's inspector noted that his account was £667 4s 5d overdrawn. 'Always overdrawn - few payments to account and altogether a very unsatisfactory account only partly secured. Has been called up but time must now be given to prevent a loss'.⁸⁴ Four months later he was bankrupt, owing £3,300.⁸⁵ In June and July 1883 Banks received at least two solicitor's letters threatening legal action unless he met his debts, one being £241 9s 9d.⁸⁶ In September he called a meeting of his creditors which accepted his offer of 5s in the £, and 'transferred the whole of his estate to a friend as security for the payment of that dividend'.⁸⁷ This did not solve all his problems; in March 1884, for example, a brewery requested him to pay an account owing from January

Tairua opened, see *New Zealand Gazette*, 22 July 1875, p. 498, 29 July 1875, p. 510, 23 September 1875, p. 616;

⁸¹ *Thames Advertiser*, 22 August 1885, p. 3, 9 September 1885, p. 2, 24 September 1885, p. 2, 7 November 1885, p. 3, Warden's Court, 27 November 1885, p. 2; Thames Warden's Court, Register of Applications for Licensed Holdings 1878-1886, folios 129, 133, 140, BACL 14452/1a; Thames Claims Register 1884-1886, nos. 1365, 1402, BACL 14397/15a, ANZ-A; *New Zealand Gazette*, 17 December 1885, p. 1475.

⁸² *New Zealand Gazette*, 5 November 1875, p. 706; Company Files, BBAE 10286/161, ANZ-A.

⁸³ *Waikato Times*, 2 September 1882, p. 2, 17 March 1883, p. 2, 19 August 1886, p. 2.

⁸⁴ National Bank, Grahamstown Inspection Report, 7 August 1876: Overdrawn Accounts, National Bank Archives, Wellington.

⁸⁵ *Thames Advertiser*, 9 December 1876, p. 2, District Court, 14 December 1876, p. 3, District Court, 9 January 1877, p. 3, 12 January 1877, p. 3, 27 June 1877, p. 2, 2 August 1877, p. 2, District Court, 7 September 1877, p. 3; *Auckland Weekly News*, District Court, 14 July 1877, p. 16.

⁸⁶ Jackson and Russell to J.E. Banks, 4 June 1883, Letterbook no. 26, p. 513; Jackson and Russell to J.E. Banks, 11 July 1883, Letterbook no. 27, p. 14, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and Museum.

⁸⁷ *Auckland Weekly News*, 12 July 1884, p. 19.

the previous year.⁸⁸ Three months later, a gum merchant petitioned that he be declared bankrupt.⁸⁹ This merchant was owed £2,900, and his future partner at Tui, John Chambers, was jointly owed £1,200.⁹⁰ Banks informed the official assignee that Chambers 'held a bill of sale over the cattle and rolling stock on the farm for £500 cash, advanced for the purpose of stocking' it. His total liability was between £3,200 and £3,500, and he was managing his former gum business, now owned by his former partner.⁹¹ He was discharged as a bankrupt on 11 June 1885,⁹² three months before investing in Tui.

Banks' involvement with Tui was brief. On 24 September 1885, he applied for a short water race, but after a miner objected the license was refused.⁹³ The following month, he bought one of 15 shares in each of the Albion, Gladstone, Laura, and Langtry from a mine manager, Edward Cameron,⁹⁴ for £32.⁹⁵ On 10 November, he became one of the three owners of the Champion Lode Nos. 1-3, with a third interest.⁹⁶ In 1886, he owed Herbert Cyril Randolph, a remittance man who worked as a billiard marker,⁹⁷ £27, and his cheque was declined twice by the bank. After two more months without being paid, Randolph took him to court and won,

⁸⁸ Brown Campbell and Company to J.E. Banks, 10 March 1884, Letterbook 1882-1884, p. 705, Brown Campbell and Company Papers, MS 51/126, Library of the Auckland Institute and Museum.

⁸⁹ *Thames Advertiser*, 18 June 1884, p. 2.

⁹⁰ *Auckland Weekly News*, 5 July 1884, p. 22, 12 July 1885, p. 19, 4 October 1884, p. 15.

⁹¹ *Auckland Weekly News*, 6 September 1884, p. 3.

⁹² Auckland Supreme Court, Gillies J, Judge's Notebook, Bankruptcy 1884-1889, p. 56, BBAE A304/1088, ANZ-A.

⁹³ Te Aroha Warden's Court, Register of Applications 1883-1900, 37/1885, BBAV 11505/1a, ANZ-A.

⁹⁴ See paper on his life.

⁹⁵ Te Aroha Warden's Court, Transfer dated 4 October 1885, Mining Applications 1885, BBAV 11572/1a, ANZ-A.

⁹⁶ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folios 188-190, BBAV 11500/9a, ANZ-A.

⁹⁷ H.C. Randolph to Alexander Dewar, 12 April 1886, Te Aroha Warden's Court, Certified Instruments 1886, BBAV 11581/7a, ANZ-A; *Te Aroha News*, 25 December 1886, p. 2, Magistrate's Court, 28 May 1887, p. 2, 4 June 1887, p. 3, Magistrate's Court, 9 January 1889, p. 2.

Banks not having appeared,⁹⁸ and two days later the bailiff seized all Banks' interests in the Champion Lode Nos. 1-3, intending to sell them to meet the debt.⁹⁹ Thus encouraged, he paid up, retaining the shares, which he sold to J.M. Chambers on 3 July for £167.¹⁰⁰ On the same day he sold Chambers five shares in the Champion Lode No. 4 for £20, having purchased these from Bayldon for £7 16s two months previously.¹⁰¹ An indication of his shaky finances was that in March and April he had been sued because of two dishonoured cheques, the one to Bayldon being for £58 9s.¹⁰²

In November 1892, when he was a mining agent, Banks went bankrupt for the third and final time, having no assets at all. He explained that he had had over £2,000 to his credit in September 1887 but had advanced an unspecified sum to a friend, but as he did not return it he had been unable to continue his business ventures for the past five years, and instead had tried to make a living out of mining, unsuccessfully.¹⁰³

THE PROBLEM OF ACCESS

George Wilson described the discovery as having been made in an 'inaccessible' locality between 1,800 and 2,000 feet above sea level.¹⁰⁴ The *Te Aroha News* wanted a bridle path made from the flat and linked to the completion of a track from Karangahake.¹⁰⁵ In late October, Cornes, with two others, bought a tent and mining tools in readiness for bringing down

⁹⁸ Te Aroha Warden's Court, Register of Applications 1885-1892, folio 44, BBAV 11505/7c, ANZ-A.

⁹⁹ Te Aroha Magistrate's Court, Home Warrant Book 1883-1928, 5/1886, BBAV 11498/1a; Te Aroha Warden's Court, Certified Instruments 1886, 66/1886, BBAV 11581/7a, ANZ-A.

¹⁰⁰ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folios 188-190, BBAV 11500/9a; J.E. Banks to J.M. Chambers, 3 July 1886, Certified Instruments 1886, BBAV 11581/7a, ANZ-A.

¹⁰¹ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folio 194, BBAV 11500/9a; Transfers dated 12 May 1886, 3 July 1886, Certified Instruments 1886, BBAV 11581/7a, ANZ-A.

¹⁰² Thames Magistrate's Court, Plaintiff Book 1884-1887, 73/1886, BAAC 13737/13a; Civil Record Book 1885-1887, 174/1886, BAAC 13735/2b, ANZ-A.

¹⁰³ *Thames Advertiser*, 10 November 1892, p. 2, 15 November 1892, p. 3.

¹⁰⁴ George Wilson to Harry Kenrick, 10 April 1886, *AJHR*, 1886, C-4A, p. 6.

¹⁰⁵ Editorial, *Te Aroha News*, 26 September 1885, p. 2.

samples for testing. He convened a public meeting about the ‘urgent necessity’ of a pack track to the head of Tui Creek, and was elected to a committee to seek government aid.¹⁰⁶ With two other mine managers, Thomas Gavin¹⁰⁷ and Edward Cameron, he was selected to choose the best line for it. Each claim was to contribute £1 to meet the cost of surveying.¹⁰⁸ Estimating the cost at from £200 to £250, Cornes suggested all the claim holders ‘put on a man or two each to form the track’, for ‘at present it was next to impossible to get tools and provisions on the ground’.¹⁰⁹ William Larnach, the Minister of Mines, offered a subsidy of £2 for every £1 the Ohinemuri County Council contributed (the track being just inside its boundary), and a good route was found ‘starting into the bush at the Maori clearing, about a mile from Aroha township’.¹¹⁰ This clearing, known as ‘Tui Spur’, contained a hut and ‘Maori plantations’.¹¹¹

By the end of the month, Francis Pavitt,¹¹² engineer for the Te Aroha Riding of the Piako County Council,¹¹³ had surveyed a route, 93 chains long, to Cornes’ find, now known as the Champion Lode Nos. 1 and 2, where it would branch north and south to reach other claims. Three contracts would be let to ensure speedy construction.¹¹⁴ The specifications required an average grade of one in four and a half, meaning that for every four and a half feet travelled there would be a rise of one foot. It was to be six feet wide in the solid, trees being cleared back ten feet on the upper side and four on the lower, and was to be completed within three weeks, otherwise a penalty of £5 a week would be imposed.¹¹⁵

Possibly because of the terrain and the very short time allowed, fewer tenders were received than expected, and prices were ‘a little higher’ than estimated; the lowest tender was accepted in each case.¹¹⁶ Although work started in early November, supervised by an engineer approved by the

¹⁰⁶ *Te Aroha News*, 24 October 1885, p. 2; *Waikato Times*, 22 October 1885, p. 2.

¹⁰⁷ See paper on his life.

¹⁰⁸ *Thames Advertiser*, 23 October 1885, p. 3.

¹⁰⁹ *Te Aroha News*, 24 October 1885, p. 2.

¹¹⁰ *Te Aroha News*, 24 October 1885, p. 2.

¹¹¹ *Te Aroha News*, 31 October 1885, p. 2.

¹¹² See *Cyclopedia of New Zealand*, vol. 2, p. 825.

¹¹³ *Te Aroha News*, 6 September 1884, p. 2.

¹¹⁴ *Thames Advertiser*, 31 October 1885, p. 3.

¹¹⁵ *Te Aroha News*, 31 October 1885, p. 2.

¹¹⁶ Te Aroha Correspondent, *Waikato Times*, 5 November 1885, p. 2.

council,¹¹⁷ it was not completed within the time limit, partly because of bad weather.¹¹⁸ Not until mid-December did the track reach the top of the range.¹¹⁹ Wilson reported that it had been ‘formed fairly well considering the rough nature of the country’.¹²⁰ The final cost was £306, half of which was met by the government. It was quickly realized that it had been ‘laid off in a haphazard manner, with grades far too steep to allow the track to be of any real value’.¹²¹ Wilson considered about a third was too steep to be widened into a useful road.¹²² Bayldon described it as ‘so steep as to be almost useless except for the purposes of bringing down small trial parcels’.¹²³

At the end of 1885, shareholders in Champion Lode Nos. 1 and 2 began extending the track to their workings to enable them to send down a trial parcel immediately after the holidays.¹²⁴ The *Te Aroha News* wrote in February 1886 that ‘great credit’ was due to Cornes

for the pluck and energy he has displayed by forming a branch track some forty chains in length to No. 3 Champion Lode claim on his own responsibility. The track is a very useful one, and would no doubt have been made by the county sooner or later, but Cornes being anxious to at once get out a quantity of quartz, decided to form the track forthwith himself, and so get as much quartz as possible conveyed to the flat during the dry weather; and has applied to the county to recoup him for his outlay.¹²⁵

¹¹⁷ George Wilson to Harry Kenrick, 22 December 1885, Te Aroha Warden’s Court, Letterbook 1883-1900, p. 85, BBAV 11534/1a, ANZ-A.

¹¹⁸ *Thames Advertiser*, 6 November 1885, p. 2, 7 November 1885, p. 3; *Te Aroha News*, 7 November 1885, p. 2, 21 November 1885, p. 2.

¹¹⁹ *Te Aroha News*, 19 December 1885, p. 2.

¹²⁰ George Wilson to Harry Kenrick, 22 December 1885, Te Aroha Warden’s Court, Letterbook 1883-1900, p. 85, BBAV 11534/1a, ANZ-A.

¹²¹ H.A.Gordon to Minister of Mines, 5 May 1887, *AJHR*, 1887, C-5, p. 2.

¹²² George Wilson to Under-Secretary, Mines Department, 22 January 1887, Te Aroha Warden’s Court, Letterbook 1883-1900, p. 129, BBAV 11534/1a, ANZ-A.

¹²³ D.H. Bayldon to Warden, 20 June 1888, Te Aroha Warden’s Court, Applications to Construct a Road 1888, BBAV 11289/12a, ANZ-A.

¹²⁴ *Te Aroha News*, 26 December 1885, p. 2.

¹²⁵ *Te Aroha News*, 27 February 1886, p. 2.

In that month, John Allan Dobson,¹²⁶ a miner who was sole owner of one Tui claim and part owner of another,¹²⁷ asked the council to extend the road by 25 chains to claims north of the prospectors' claims, to construct a 40-chain branch track to claims to the south of these, and to form connections at the lower part of the new road, in all a distance of 30 chains, producing a total cost, including the engineer's charges, of £145. Pavitt, now the Ohinemuri County Engineer, considered the price to be fair, and that until these roads were made ore could not be taken out of most claims.¹²⁸ Early in February, Cornes employed up to eight men making a branch track suitable for sledges to the Champion Lode No. 2 and other mines, the council contributing £50.¹²⁹ The average cost for construction was from £1 to £2 a chain.¹³⁰

In March, the council informed the Tui track committee that if it wanted more aid it should approach the government.¹³¹ The following month, it was stated that a good road was needed urgently.¹³² A miners' meeting in May called for a 'really serviceable road' and asked the government for £200.¹³³ The justification for seeking more money was that, although 20 claims were occupied, they could not be profitably worked without an adequate road. The cost of using the existing bridle track, almost £3 per ton, was 'entirely prohibitory', but with a proper dray road the cost would not exceed 6s. A road one and a half miles long should have a gradient of one in ten.¹³⁴ Because of the value of the discovery, Kenrick supported the miners' and residents' petition seeking assistance.¹³⁵ The

¹²⁶ See paper on his life.

¹²⁷ Te Aroha Warden's Court, Licensed Holdings Grant Book 1882-1886, nos. 175, 176, BBAV 11549/1b, ANZ-A.

¹²⁸ *Thames Advertiser*, 4 February 1886, p. 3.

¹²⁹ *Te Aroha News*, 6 February 1886, p. 2, 13 February 1886, p. 2; *Thames Advertiser*, 15 February 1886, p. 2, Ohinemuri County Council, 16 March 1886, p. 3.

¹³⁰ *Thames Advertiser*, 4 February 1886, p. 3.

¹³¹ Ohinemuri County Council, *Thames Advertiser*, 16 March 1886, p. 3.

¹³² *Thames Advertiser*, 2 April 1886, p. 2.

¹³³ *Waikato Times*, 22 May 1886, p. 3.

¹³⁴ *Te Aroha News*, 22 May 1886, p. 7.

¹³⁵ Harry Kenrick to Minister of Mines, 17 June 1886, Mines Department, MD 1, 86/1122, ANZ-W.

Mines Department awaited an application from the council indicating how much it would contribute,¹³⁶ but as it did not apply this road was not made.

The council granted a mere £5 in June for repairs enabling Cornes to take out ore for testing, and decided it could not afford to make the dray road requested because it was already committed to making a sledge track from Tui to the terminus of the Waiorongomai tramway.¹³⁷ This track, two miles long, was envisaged as both a prospecting track and a way of getting the ore to the Waiorongomai battery.¹³⁸ Whilst miners awaited its construction, the main track deteriorated. In July, it was 'almost impassable', making it 'most disheartening and expensive work to bring down quartz'.¹³⁹ Pavitt asked permission to employ one man on it because of its 'very dilapidated state', but was told 'there were no funds available'.¹⁴⁰ Pavitt did put some men on to repair it a couple of months later, asking the council to pay their wages once the work was completed.¹⁴¹

TESTS

At the beginning of October 1885, some tests were made 'of an eminently satisfactory character'.¹⁴² Cornes later that month told a meeting that the lowest results from tests at the LaMonte smelter recently erected at Thames contained over 1oz of gold and 20oz of silver to the ton; the best result was 7oz of gold and over 30oz of silver.¹⁴³ A later account gave the highest result as 12 1/2oz of gold and 300oz of silver.¹⁴⁴ In the view of a local correspondent, if the reef only gave 'an average return equal to the smallest of these', it would 'pay well for working'.¹⁴⁵ Pavitt was surveying the claims pegged out, but competition for the most promising ground

¹³⁶ Under-Secretary, Mines Department, to Warden, 21 June 1886, Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1886, BBAV 11582/3a, ANZ-A.

¹³⁷ *Te Aroha News*, 19 June 1886, p. 3, 17 July 1886, p. 3.

¹³⁸ H.A. Gordon to Minister of Mines, 5 May 1887, *AJHR*, 1887, C-5, p. 2.

¹³⁹ *Te Aroha News*, 3 July 1886, p. 3.

¹⁴⁰ Ohinemuri County Council, *Thames Advertiser*, 17 August 1886, p. 2.

¹⁴¹ *Thames Advertiser*, 13 October 1886, p. 2.

¹⁴² *Te Aroha News*, 3 October 1885, p. 2.

¹⁴³ Te Aroha Correspondent, *Waikato Times*, 22 October 1885, p. 2.

¹⁴⁴ *Te Aroha News*, 24 October 1885, p. 2.

¹⁴⁵ Te Aroha Correspondent, *Waikato Times*, 22 October 1885, p. 2.

meant ‘a great amount of litigation’ was ‘bound to keep the place back’.¹⁴⁶ By the middle of the month, although 12 claims and two water races had been applied for, there was ‘very little prospecting’ because of pending lawsuits.¹⁴⁷ At the end of the month, Cornes had two men breaking out stone for testing in the Thames furnace once the track was made.¹⁴⁸ When he visited early in November, Kenrick was shown a promising sample from Bayldon’s Champion Lode No. 4: as well as gold and silver, cinnabar (mercury in its ‘raw’ state) ‘formed a rather prominent constituent’.¹⁴⁹ A trial sample would be sent to LaMonte’s New Zealand Smelting Company’s smelter.¹⁵⁰ Cornes was obtaining similar ore: one lode was one-quarter mercury.¹⁵¹ ‘Competent judges’ declared it similar in appearance to Karangahake ore. He also took 200lb to Thames for Professor Frederick Brown, of Auckland University College,¹⁵² for experimentation.¹⁵³

In late November ‘the attention of the Te Aroha mining public’ was ‘concentrated on the Tui Reef and its great prospects’. One of the refiners working at the LaMonte furnace had visited, accompanied by speculators, and ‘the reef was pronounced similar in appearance’ to that ‘turning out so magnificently’ at Broken Hill. Some trial assays produced from 50 to 100 ounces of bullion to the ton. Te Aroha residents regarded Tui as ‘incomparably superior to Karangahake’.¹⁵⁴ When Professor James Black, of Otago University College,¹⁵⁵ visited on 6 December, he pronounced that the reef ‘contained gold, silver, lead, copper, mercury, zinc, iron, and much sulphur; the first four minerals being present in sufficient quantities to be profitably worked. From what he saw of the country in the vicinity of the

¹⁴⁶ Te Aroha Correspondent, *Thames Advertiser*, 3 October 1885, p. 3.

¹⁴⁷ Te Aroha Correspondent, *Thames Advertiser*, 17 October 1885, p. 3.

¹⁴⁸ *Thames Advertiser*, 31 October 1885, p. 3.

¹⁴⁹ For the implications of the presence of this mineral, see paper on ‘Pollution and Norpac: a chronology to 1980’.

¹⁵⁰ *Thames Advertiser*, 13 November 1885, p. 2.

¹⁵¹ *Thames Advertiser*, 23 November 1885, p. 3.

¹⁵² See *Cyclopedia of New Zealand*, vol. 2, p. 198.

¹⁵³ *Te Aroha News*, 21 November 1885, p. 2; see also *Waikato Times*, 21 November 1885, p. 2.

¹⁵⁴ Te Aroha Correspondent, *Waikato Times*, 24 November 1885, p. 2.

¹⁵⁵ See *Cyclopedia of New Zealand*, vol. 4, p. 154.

Tui he thought a great deal of it as a mineral district'.¹⁵⁶ In the Champion the gold was 'chiefly in the free state, the other metals being all combined with sulphur, as sulphides, with part of the lead also as sulphate. The mercury sulphide was in this lode a little apart from the other metallic sulphides, and was of a light porous texture and mixed with a good deal of oxide of iron'. Cornes and his party were 'intensely interested in the simple tests by which these metals can be distinguished side by side in such complex ores', for they could not be detected by the naked eye. He warned that a process 'well enough suited for extracting gold from clean-milling quartz' would not extract gold and silver 'bound up as we found them here'.¹⁵⁷

In February 1886, the *Te Aroha News* wrote that 'from the start' Cornes had 'practically evinced the greatest confidence' about 'the highly payable nature of his claims', and wanted the ore 'tested in every possible way'.¹⁵⁸ Nearly two tons from the Champion No. 1 had been tested by the Thames Furnace Company in January for a return of £21 10s a ton, and 30lb from No. 2 assayed at £22 17s. The newspaper was encouraged by this result and by shares being 'well held, the owners evincing no disposition to dispose of their property', which they were 'confident' would 'prove of great value'. Five men were working these two claims and a winze was being sunk on the ridge between them.¹⁵⁹ Different processes were to be tested; ten tons would be sent to the New Era battery at Waiorongomai, for example.¹⁶⁰ Thomas Kirker, an experienced Thames miner,¹⁶¹ whose only other local investment was in one Waiorongomai company.¹⁶² and who had been prospecting at the head of the Tui Creek for some time, announced late in February that he had found a large new reef about ten chains east of the Champion Lode mines.¹⁶³ His 'good-looking stone' closely resembled ore

¹⁵⁶ *Te Aroha Correspondent*, *Waikato Times*, 15 December 1885, p. 2; *Te Aroha News*, 12 December 1885, p. 2.

¹⁵⁷ J.G. Black to Minister of Mines, 24 May 1886, *AJHR*, 1886, C-4B, p. 8.

¹⁵⁸ *Te Aroha News*, 27 February 1886, p. 2.

¹⁵⁹ *Te Aroha News*, 23 January 1886, p. 2, 30 January 1886, p. 2.

¹⁶⁰ *Te Aroha News*, 9 February 1886, p. 2.

¹⁶¹ See Mines Department, MD 1, 92/32, ANZ-W; *Thames Advertiser*, 9 March 1874, p. 2, 21 December 1876, p. 3, 24 November 1877, p. 3, 5 March 1886, p. 2, 25 January 1893, p. 2; *Te Aroha News*, 25 April 1888, p. 2, 23 October 1889, p. 2.

¹⁶² *New Zealand Gazette*, 18 October 1883, p. 1518.

¹⁶³ *Thames Advertiser*, 26 February 1886, p. 3; *Te Aroha News*, 27 February 1886, p. 2.

from the Champion Lode No. 1, and as a sample gave 'a fair return of bullion' the discovery was 'likely to prove of some importance'.¹⁶⁴ His find prompted a small rush to peg out more claims, and 'several' visitors 'well schooled in mining' forecast 'a big future in store for the district'.¹⁶⁵

On 1 March, the discovery of a seam of iron ore near the field was reported.¹⁶⁶ Two days later, carbonate of lead worth £8 a ton was reported, which would be invaluable for the LaMonte furnace.¹⁶⁷ Nineteen tons tested for Cornes by LaMonte produced an average value of £9 10s per ton; 'an unlimited supply of similar quartz' was available.¹⁶⁸ Although the *Te Aroha News* gave a lower average, £9 7s 6d, it considered that result 'a truly grand one'.¹⁶⁹ A correspondent wrote that as the ore 'was only very roughly picked' and 'taken from the whole reef the yield must be regarded as exceedingly satisfactory and the richness as well as the permanency of the lode' was 'now in a great measure ... assured'. However, excessive smelting charges were 'a great drawback' and 'must be reduced' if the mines were to 'go ahead as they ought'.¹⁷⁰

A VISIT

A Thames Advertiser reporter visited at the beginning of March:

Within the last few weeks the drooping spirits of those connected with the mining industry at Te Aroha have been revived by what promises to be an exceedingly valuable discovery of metalliferous ores, on one of the western spurs of the Mountain of Love, situated near the head of Tui creek. Favourable estimates formed by the prospectors of the locality have already been confirmed by practical tests, and few persons who have visited the mines can entertain any doubt that the district is richer in precious metals than most people either at the Thames or in Auckland are yet prepared to believe....

The prospectors' claim is known as the Champion Lode, and consists of three mining areas, each containing fifteen men's

¹⁶⁴ Te Aroha Correspondent, *Waikato Times*, 27 February 1886, p. 2.

¹⁶⁵ *Te Aroha News*, 27 February 1886, p. 2.

¹⁶⁶ *Thames Advertiser*, 1 March 1886, p. 3.

¹⁶⁷ *Thames Advertiser*, 3 March 1886, p. 2.

¹⁶⁸ *Thames Advertiser*, 5 March 1886, p. 2.

¹⁶⁹ *Te Aroha News*, 6 March 1886, p. 2.

¹⁷⁰ Te Aroha Correspondent, *Waikato Times*, 9 March 1886, p. 3.

ground. It may be explained, in passing, that the regulations under which the Te Aroha field was proclaimed prohibit the inclusion of more than five acres in each lease, but there appears to be no objection to one party of men occupying three or four continuous claims, so long as a reasonable amount of work is carried on.... The main reef has been traced throughout the length of the three claims, its outcrop standing up sheer in many places for the height of 30 feet above the top of the spur. Its average thickness is 7 or 8 feet, and its course about north-east and south-west, with a north-westerly underlie. Operations were in the first instance carried on in a surface cutting situated upon No. 1 claim. Comparatively little ore was taken out, and a winze was sunk to a depth of some 20 feet. It was here that the two tons of ore, which, when treated at the LaMonte furnace, yielded bullion to the value of £21 per ton, were obtained. From the limited quantity of debris lying around it is evident that the stuff had been sent away almost indiscriminately, and without any care in selection, so that the return is considered a fair indication of the average value of the lode. The reef is bounded by a well defined hanging wall and footwall, and the small quantity of country broken reveals a favourable sandstone. During my presence on the ground visible gold was not looked for, and in order to arrive at an estimate of the value of the lode it was necessary to ascertain the nature of the argentiferous ore. The miners pointed out to me a number of blue-black veins in the quartz broken, which they assured me carried the silver, in the form of sulphide. To put the matter beyond doubt, a piece of stone of my own selection was placed in the smithy fire, and a number of tiny globules of silver were brought to the surface, an indubitable proof of the metalliferous character of the ore. Applying this test to the reef in the winze, it could be seen that the quartz was traversed in all directions by pretty regular seams of similar appearance to those already mentioned, their width varying from three quarters of an inch downwards, and the larger kind predominating. The workmen next conducted me along the outcrop of the lode through the No. 2 section of the claim. Stoppages were made at every half dozen yards to examine the lode, and in every instance more or less of the bluish sulphide was plainly visible, in both veins and blotches. Near the boundary of Nos. 2 and 3 sections, the reef junctions with another large body of stone on its hangingwall, the strike of which is slightly more to the eastward than that of the main body. In the neighbourhood of the junction considerable quantities of cinnabar, the ore of mercury, are discernible in the quartz. Proceeding still further south-west, we arrive at the workings on No. 2 lode, from which a 16-ton parcel has just been forwarded to the furnace, and is understood to have yielded £8 per ton. In order to convey the ore to the county road, Mr Cornes has been obliged to form a separate

track, about half a mile in length. At the time of my visit the men were engaged in breaking down the reef on the very road-side. The quartz appeared to average five feet in width, and its underlie corresponded with that of the main lode. The sulphide was present in large quantities, as was also the case in the quarry on the hill-side close at hand, where quartz is being broken for about 100 feet in length. Tests of small samples selected at random have yielded as high as 2oz gold and from 170 to 200oz silver per ton, but these results must not of course be regarded as the standard with which the returns from larger lodes are to be compared. The quantity of ore available is practically unlimited, and employment can be afforded on the surface for hundreds of men without any necessity for tunnelling, while the precipitous nature of the country will enable low levels to be opened with any extent of backs that may be considered desirable. Besides the minerals already named, there is a well defined vein of galena, nine inches in width, on the footwall of the reef on the reef southward of the present workings, and assays have proved it to contain a high percentage of metal.¹⁷¹

DEVELOPMENTS AND TESTS

Apart from the prospectors', the mine with the most promise was the Surprise, owned by four Te Aroha residents: George Robson, a chemist,¹⁷² who had invested in claims at Te Aroha, Waiorongomai, and Tui;¹⁷³ D'Arcy Texas McDougall, an invalid from Queensland visiting the hot springs,¹⁷⁴ who had shares in three other Tui claims;¹⁷⁵ Augustus Frederick James, storekeeper, mineral water manufacturer, and mining investor,¹⁷⁶ who

¹⁷¹ Own Reporter, 'The Tui Creek Mines', *Thames Advertiser*, 4 March 1886, p. 3.

¹⁷² See *Cyclopedia of New Zealand*, vol. 2, p. 829; *Waikato Argus*, 7 February 1912, p. 2.

¹⁷³ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 155, 163, 254, 269, 273, BBAV 11567/1a; Register of Licensed Holdings 1881-1887, folios 13, 88, 97, 133, 140, 144, 147, 148, 157, 166, 167, 171, 196, BBAV 11500/9a, ANZ-A.

¹⁷⁴ See paper on social relations and class divisions in the Te Aroha district.

¹⁷⁵ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folios 195-197, BBAV 11567/1a, ANZ-A.

¹⁷⁶ See *Te Aroha News*, 9 June 1883, p. 3, 29 August 1885, p. 2, 19 November 1887, p. 2, 17 December 1887, p. 2, 28 January 1888, p. 2.

invested in one Te Aroha, five Waiorongomai, and one other Tui claim;¹⁷⁷ and Thomas Kirker, the only miner.

The ground is situated south-east of Cornes and party's holding, and its mineral resources appear to be both extensive and valuable. The main lode is entirely distinct from the prospectors', being parallel with it, and several chains distant, while the underlie is in quite the opposite direction, namely, towards the south-east. Mr Kirker, who will be remembered by many of our readers as an old and experienced Thames miner, acts as managing shareholder, but as operations were only begun last week, the reef has not been developed to any extent. Its outcrop can, however, be traced along the ridge of the spur, and in some places its dimensions are prodigious. At one point it stands out boldly from the side of the hill, its walls being fully 30 feet apart. As regards its mineral characteristics the limited amount of work yet done upon it forbids any positive judgment, but the indications of silver are plentiful, and assay yields have shown high percentages of that metal. The blue veins of sulphide of silver can be found in every place where the reef has yet been exposed, but are less regular than in Cornes' workings, though it is impossible to predict what may be found when the lode is properly opened up. The claim derives its principal interest from the fact that in it the deposit of carbonate of lead lately reported was discovered. This substance occurs at the surface near the centre of the ground, in the form of a large layer, fully three feet in width, on the hangingwall of the lode, and is entirely distinct from the quartz. So tenacious is it that ordinary mining tools will not avail for breaking it out, and the most useful implements for this purpose are axes or mattocks. Several assays have been made within the last few days, and in each instance the yield of lead has been very large, while silver and gold are present in lesser proportions. The opinion of experts seems to be that the metal will undergo a transformation when worked below the surface, and become galena, or sulphide of lead, which in its turn will be serviceable and can be worked to advantage. Until the cap of the reef is uncovered for some distance the quantity of carbonate available cannot be estimated, but it will probably extend along the surface for some distance. Iron has also been found upon the claim in unlimited quantities, besides other minerals which have not yet been classified. The only work at present in progress is that of sinking a winze on the outcrop of the reef for the purpose of proving whether the argentiferous veins

¹⁷⁷ Te Aroha Warden's Court, Register of Te Aroha Claims 1880-1888, folio 285, BBAV 11567/1a; Register of Licensed Holdings 1881-1887, folios 57, 97, 133, 140, 145, 195, BBAV 11505/9a, ANZ-A.

continue downwards, and a parcel of stuff will probably be furnaced ere long.

On the course of the Champion lode, several claims have been taken up, at both sides of Cornes' workings.¹⁷⁸

One of the claims on the northeastern strike of the reef was the Fortune, owned by Edward Quinn, a mine manager.¹⁷⁹ Assays of his reef yielded 50oz of silver and half an ounce of gold per ton.¹⁸⁰ Nearby claims were owned by Cameron, John Goldsworthy, another mine manager,¹⁸¹ and others. 'Abreast of the prospectors' claim, and on its north-western boundary', was the Mark Moon, owned by Henry Brett, proprietor of the *Auckland Star*,¹⁸² and another claim owned by Cameron. The latter, who had 'carried out a considerable amount of work', had found 'a number of fragments of quartz, heavily impregnated with silver sulphide. On the southward strike of the Champion lode', the hillside was 'occupied for a considerable distance'.¹⁸³ Amongst these claims was Bayldon's Champion Lode No. 4 plus the Keep-it-Dark, Hero, Tui, and Langtry, all owned by Te Aroha residents. On the line of the Surprise reef, William John Cornes, the eldest son of Clem,¹⁸⁴ had 'secured one or two mining areas' but had not registered them. 'One of the most promising features' was 'the profusion of minerals'. Previously only gold and silver had been sought, for miners were 'deficient in the knowledge which enables them to identify the baser kinds'. Alexander Montgomery, 'the well-known geologist',¹⁸⁵ then lecturing at the new Thames School of Mines, had 'a high opinion' of the district 'from both the geological and mineralogical points of view'. The *Te Aroha News* wished the prospectors 'the substantial reward which their enterprise deserves',

¹⁷⁸ Own Reporter, 'The Tui Creek Mines', *Thames Advertiser*, 5 March 1886, p. 2.

¹⁷⁹ See paper on his life.

¹⁸⁰ Own Reporter, 'The Tui Creek Mines', *Thames Advertiser*, 5 March 1886, p. 2.

¹⁸¹ See chapter on the Goldsworthy Brothers.

¹⁸² See *Observer*, 19 January 1926, p. 4, 2 February 1927, p. 4; Michael Brett, 'Henry Brett', *Dictionary of New Zealand Biography*, vol. 2 (Wellington, 1993), pp. 56-57.

¹⁸³ Own Reporter, 'The Tui Creek Mines', *Thames Advertiser*, 5 March 1886, p. 2.

¹⁸⁴ See Warden's Court, *Thames Advertiser*, 1 November 1881, p. 3; *Waihi Daily Telegraph*, 17 October 1929, p. 2.

¹⁸⁵ See *AJHR*, 1886, C-4B, p. 21.

and hoped the district would ‘fulfill the undoubtedly rich prospect which it now holds out’.¹⁸⁶

In early March, three tons rich in carbonate of lead were broken out of Kirker’s reef.¹⁸⁷ In mid-March, Alexander Saunders and John Chambers inspected the claims in which they held interests.¹⁸⁸ Saunders, an Auckland sharebroker and commission agent,¹⁸⁹ with interests in four Waiorongomai claims and seven Te Aroha and Waiorongomai companies,¹⁹⁰ helped Chambers form the New Zealand Smelting Company, and was a director, but quickly sold some of his shares.¹⁹¹ His only purchase of interests in the Champion Lode Nos. 1-3 was made in June 1886, when he bought ten shares from J.M. Chambers for £20, later transferring them back for £50.¹⁹² He seems to have continued to provide financial support for Chambers, in 1888 being referred to as a principal holder of Tui shares.¹⁹³

Near the end of March, LaMonte visited and took samples. Earlier parcels he had smelted at Thames had produced 386 ounces of gold, valued at £4 per ounce, and 772 ounces of silver, valued at 4s, a total value of about £1,698 10s. He spoke ‘in eulogistic terms’ of the district for ‘containing a large percentage of almost self-fluxing ore’.¹⁹⁴ ‘With good and careful management’, no doubt provided by him, the reefs would ‘eventually yield large returns’.¹⁹⁵ It was estimated that, once an adequate road was made, 100 tons could be sent to Thames daily at a cost for breaking down, cartage

¹⁸⁶ Own Reporter, ‘The Tui Creek Mines’, *Thames Advertiser*, 5 March 1886, p. 3.

¹⁸⁷ *Te Aroha News*, 13 March 1886, p. 2.

¹⁸⁸ *Te Aroha News*, 20 March 1886, p. 2.

¹⁸⁹ See *New Zealand Herald*, 4 July 1891, p. 5.

¹⁹⁰ Te Aroha Warden’s Court, Register of Licensed Holdings 1881-1887, folios 12, 14, 27, 50, BBAV 11500/9a, ANZ-A; *New Zealand Gazette*, 30 December 1889, p. 1796, 27 April 1882, p. 646, 22 June 1882, p. 895, 17 August 1882, p. 1131, 19 October 1882, p. 1522, 14 December 1882, p. 1884, 22 November 1883, p. 1675.

¹⁹¹ Company Files, BADZ 5181, box 48 no. 316, ANZ-A; *Te Aroha News*, 11 April 1885, p. 2, 24 April 1886, p. 2; *Auckland Weekly News*, 30 May 1885, p. 20.

¹⁹² Te Aroha Warden’s Court, Register of Licensed Holdings 1881-1887, folios 188-190, BBAV 11500/9a; Transfers of Champion Lode Nos. 1-3 shares, Certified Instruments 1886, BBAV 11581/7a, ANZ-A.

¹⁹³ *Te Aroha News*, 3 March 1888, Supplement, p. 8.

¹⁹⁴ *Te Aroha News*, 27 March 1886, p. 2.

¹⁹⁵ Te Aroha Correspondent, *Waikato Times*, 9 March 1886, p. 3.

to the river, and transportation by river of £1 per ton.¹⁹⁶ A correspondent commented that until a furnace was erected nearby the reefs could 'only be worked at an immense disadvantage', as the cost of sending ore to Thames was 'absolutely ruinous'. Once cheaper treatment was provided, the area would go ahead 'with rapid strides'. In mid-April, a new reef was discovered in the Keep It Dark, running parallel with and a short distance from the main reef. This vein was 'being stripped of the surface earth, showing a strong body of almost pure galena', which had been followed for about 20 feet, averaging nearly a foot in thickness. The find was 'a very valuable one'. Nearby mining was giving 'most satisfactory results', and three of the LaMonte furnace staff who had visited were 'most favourably impressed', for the ores were 'more suitable for the furnace method of treatment than any other yet seen in the colony'.¹⁹⁷ More men were being employed.¹⁹⁸

All 11 samples Cornes sent to the Thames School of Mines before winter contained much more silver than gold: 17dwt of gold per ton to 75oz of silver per ton; 1oz 12dwt 16gr to 145oz 8dwt 23gr; 1oz 17dwt 13gr to 154oz 15dwt 4 gr; 2 oz 18dwt 19gr to 97oz 16dwt 17gr; 1oz 15dwt 22gr to 81oz 19dwt 21gr; 7dwt 11gr to 21oz 13dwt 13gr; bullion 12 oz 17dwt 1gr, 'Gold - too little to weigh - about 2dwts per ton perhaps'; 2oz 0dwt 19gr to 122oz 19dwt 20gr; 'Highly mineralized', bullion 3oz 10dwt 5gr, 'Good trace of Gold - too small to weigh - about 1 1/2 dwt per ton perhaps'; 6dwt 6gr to 2oz 16dwt 18gr; and bullion 1oz 7dwt 18gr, 'Gold too small to weigh'.¹⁹⁹ Although these results did not indicate a 'highly payable' goldfield, other minerals could produce a good return, given cheap carriage and treatment. Wilson, writing in April, considered the prospects were 'very good', for there were 'apparently large deposits' of carbonate of lead, which was 'a valuable flux'.²⁰⁰ Later that month, Kenrick described Cornes' discovery as 'very valuable', especially because it helped

to prove the existence of the auriferous belt from Te Aroha to Karangahake. On the surface there is a very large outcrop (extending over a considerable area) on a well-defined line or lead of carbonate of lead, containing a large percentage of silver. The

¹⁹⁶ *Thames Advertiser*, 25 March 1886, p. 2.

¹⁹⁷ Te Aroha Correspondent, *Waikato Times*, 15 April 1886, p. 2.

¹⁹⁸ *Te Aroha News*, 10 April 1886, p. 2.

¹⁹⁹ Thames School of Mines, Assay Book 1886-1887 [no dates or pagination], one sample, followed later in book by samples numbered 1-10, School of Mines Archives, Thames.

²⁰⁰ George Wilson to Harry Kenrick, 10 April 1886, *AJHR*, 1886, C-4A, p. 6.

assay-value of this is some £6 to £8 per ton. As it is followed down from the surface it appears to change its character, and becomes almost galena-ore. The reef itself contains a considerable percentage of silver in combination with other minerals. Small veins and pockets of cinnabar are found in the stone. Two parcels of five tons sent down to the Thames furnace were sold at their assay-value of £22 10s per ton. I need scarcely say that nothing like this return could have been obtained at the battery.

The stoppage of the LaMonte furnace at Thames had 'seriously affected' the mines, closing 'the market for their particular class of stone'.²⁰¹ LaMonte would leave for Australia, where he was manager for the North Broken Hill Company until the following year.²⁰²

A DETAILED REPORT

A special reporter believed that, 'however expensive or unsatisfactory' the LaMonte process might be, it had 'saved gold which the melting process could not extract, while its suitability for silver ores' was 'claimed to be unquestionably the best'. There were moves to modify this smelter to increase its capacity, and increasing interest was being taken in the ore because it contained 'all the elements of successful smelting. Hitherto the ores treated have been especially deficient in lead', which had to be purchased at great expense. Ironstone found 'in the neighbourhood of Paeroa and Te Aroha' provided 'the remaining element needed in the reduction of the ore. With lead and iron at command, and railway trucks running daily direct to Te Aroha, how simple and inexpensive should be the work of treating the quartz compared with the unforeseen difficulties' existing elsewhere. An alternative to erecting a smelter at Te Aroha was erecting an aerial tramway to take the ore to the river for barging to Thames. He considered there was 'every promise of a big industry' being established:

Even if the gold and silver ores cannot at this period be treated locally with success, there is now every encouragement to forward it to the large reduction works in Great Britain, as large quantities are regularly forwarded from all parts of the world;

²⁰¹ Harry Kenrick to Under-Secretary, Mines Department, 27 April 1886, *AJHR*, 1886, C-4A, p. 6.

²⁰² Google: 'The Silver City: Mining History'.

and it may be noted that it would cost Messrs Cornes and party less money to send their ore from the mine to England with such a tramway completed than it cost them at first to get it down to the foot of the range, as they absolutely had to work the sledges themselves over the precipitous country. Once they tried a bullock, but he slipped over a declivity, and took the quartz with him. The first cost was £3 per ton to the river.

Although some 30 tons had been conveyed down the 'very fair road', a 'more direct and serviceable road' could be constructed 'from the flat along the bed of the creek, and an easy connection' made with the highest mines 'by means of short wire tramways'. With the railway line being close to the hillside, iron said to 'abound in the district', and coal obtainable cheaply from the Waikato, there was 'every requirement at hand, or obtainable at cheap cost', and the Tui mines promised to be 'the backbone of mining operations in this district'.

The ground shows that a considerable amount of prospecting has been done - quite as much as could be expected when it is considered that tracks and other preliminary works have but recently been completed. Mining operations on the Champion lode have not consequently assumed the appearance of systematic work carried out on a defined plan; but now the actual value of the ore has been ascertained, it has led to a commendable decision to open up the mine thoroughly and work out the reef in blocks.

NO. 1 CHAMPION LODGE - On this ground the main reef is exposed on the crown of the range at a height of 2,000 feet. In addition to various cuttings into the cap of the lode, a winze is down some 50 feet on the hanging wall, in excellent country for gold, of which a few colours are reported to have been seen in recent shifts. Its appearance in the winze is assuring, and when the shareholders have gone the required distance, and start to break through the reef, it will not be surprising to learn that valuable ore is coming up from the deepest workings of the Tui Creek mines. A parcel of two tons from No. 1 gave 2oz 2dwt of gold and 67oz 12dwt 9gr of silver, the ore being valued at £22 per ton.

NO. 2 CHAMPION LODGE - On this ground the rich galena lode junctions with the Champion toward the upper boundary, and is in places a regular mass of mineral, particularly where exposed on the hill-side near the track, presenting the appearance of a solid face of 2 feet in width of this metal, while the uninitiated get a double surprise when assaying to lift a pretty big lump. The returns from treating a parcel of six tons from No. 2 were 6oz gold, 234oz silver, value £70 15s 6d.

NO. 3 CHAMPION LODGE - Galena ore is also obtainable on this ground, the outcrop of the two reefs being discernable and their characteristics similar to those of No. 2. From the above leases 28 tons of ore has been sold, averaging £12 per ton, which it is considered fairly represents the value of the general stuff as far as it has yet been broken out. It may here be stated that when the trial parcel was sent from No. 2, it was forwarded to the furnace as broken out - several critical miners proceeding to the ground after the stuff had been taken from the mine, to see if the lower grade ore had been left behind; and they were satisfied that it had been sent exactly as it had come down without any picking at all.

The reporter also investigated a rich find of silver in Cameron's May Bell and his attempts to trace the main reef, so far unsuccessfully. Prospecting had started in the Mark Moon, but

the almost impenetrable mass of trees, parasites, and verdure of all kinds which covers the rugged mountain side makes progress slow and difficult; but judging from the appearance of the quartz boulders on the surface, a reef is not far distant which should pay to work. Even the quartz strewn on the surface contains apparently so much silver as would pay to gather together and forward to the furnace.²⁰³

SEEKING THE RIGHT PROCESS

Reports continued of encouraging tests and good ore. When Kenrick visited in mid-May, he was so impressed with a 'large block of carbonate of lead, very valuable in quality and weighing about 40 pounds', taken from the Surprise No. 1, that he had it sent to the Colonial Exhibition in London.²⁰⁴ But in late May, Cornes successfully applied for three months' protection for his Champion Lode Nos. 1-3; until the road was formed four men would prospect the reef.²⁰⁵ The following month, he requested reduced railway charges for taking 100 tons to Auckland for sending to Swansea or

²⁰³ Special Reporter, 'Tui Creek', *Auckland Star*, 30 April 1886, p. 4, reprinted in *Te Aroha News*, 8 May 1886, p. 4.

²⁰⁴ *Te Aroha News*, 15 May 1886, p. 2; Te Aroha Correspondent, *Waikato Times*, 20 May 1886, p. 3.

²⁰⁵ Te Aroha Warden's Court, Application for Protection, 26 May 1886, Applications for Protection 1886, BBAV 11289/11a, ANZ-A.

Freiberg for furnace treatment.²⁰⁶ The new warden, Harry Aldborough Stratford, in supporting this request, noted that no claim owner appeared likely to seek such assistance. That Cornes was sending ore to England which could not be 'profitably dealt with by any of the processes' used in Hauraki might lead to 'a considerable export of ores to England or Germany and open up a market for ores to the advantage of this district - and of the Colony'.²⁰⁷ Charges were reduced, and the New Zealand Shipping Company also gave 'favourable rates'. If 'the present experiment' was successful there was 'no doubt the shipments of low grade quartz will be frequent', opined the *Waikato Times*.²⁰⁸

Although work was suspended on some claims in June because the ore could not be treated,²⁰⁹ the Surprise and Champion mines 'hailed down' ore to the flat. The Surprise ore contained 'a very large percentage of lead' and was 'rich in silver', and should the result of the Auckland tests be 'at all satisfactory' a 'small smelting furnace' would be erected 'in the neighbourhood'.²¹⁰ In early July, the *Thames Star* was shown the result of assays made by 'an eminent firm in San Francisco' of four samples from the Champion Lodes Nos. 1 and 2: two gave good values of gold and silver, the third was 'barely payable', and the fourth was galena. The firm recommended amalgamation for the first two samples and the others to be concentrated before smelting, the pan process or roasting to be used depending on the amount of silica present. Another 25 tons had been sent by Cornes' party to Swansea for treatment; as they had 'spent over £700 in opening up the mine, roads, &c, they have decided to obtain protection' until receiving the result. The newspaper wondered how to could discover 'the most effective and economic means of extracting gold and silver', for these assays proved that if the Champion ore was treated by 'some of the processes' used in America 'it would be very profitable and payable'.

But containing, as it does, such a very large proportion of silver in the form of sulphurets [sulphur in combination] and sulphides, in the battery nearly all the silver is lost. They did send a small quantity to the [New] Era battery, which realized 12oz bullion,

²⁰⁶ *Te Aroha News*, 12 June 1886, p. 2.

²⁰⁷ H.A. Stratford to Minister of Mines, 25 October 1886, Thames Warden's Court, Letterbook 1886-1893, pp. 1-2, BACL 14458/2b, ANZ-A.

²⁰⁸ *Waikato Times*, 6 July 1886, p. 2.

²⁰⁹ *Te Aroha News*, 19 June 1886, p. 2.

²¹⁰ Te Aroha Correspondent, *Waikato Times*, 1 July 1886, p. 3.

the estimated return being £6 or £7 per ton. The furnace again is too costly, and will not guarantee more than 80 per cent, less charges.

It was the government's 'duty' to send samples of low grade ore to the United States for testing 'by some of their cheap processes', thereby making American capitalists aware of 'what an opening there exists here for the introduction of such a process, at the same time offering a bonus sufficiently large to bring about such a very desirable result'. The government should also consider sending a New Zealand expert to the United States to report on the most appropriate process, and, 'if necessary', might 'even offer a reward of say £10000'. As well, the Agent-General should enquire into European methods of treatment.²¹¹ The government did not respond to this (typical) request for financial assistance.

Although in early July Cornes denied a report he would cease mining for a time,²¹² there were few reports of any work for the remainder of that year. In August, several mines were breaking out galena for testing in the Woodstock furnace at Karangahake,²¹³ and Cornes sent another large parcel to Britain, the results being awaited 'anxiously', for upon them depended 'to a very large extent the immediate prosperity' of the district.²¹⁴ By October, 30 tons had arrived in London, another 30 were en route, and another 50 were at the Te Aroha railway station. Sixteen leases had been taken up, but the only ones working were the Champion Lode mines, which were only breaking out ore for testing.²¹⁵ That Cornes had been asked to send another large parcel was encouraging.²¹⁶ The results of tests done in October on ore taken by Henry Hopper Adams²¹⁷ to America were released in late November, revealing the different amounts saved and the varying values attained by the processes used. A San Francisco expert warned that ordinary battery amalgamation did not extract the valuable metals and that concentration did not work either. Using one process he obtained 83

²¹¹ Editorial, *Thames Star*, 7 July 1886, p. 2.

²¹² *Te Aroha News*, 10 July 1886, p. 2.

²¹³ *Te Aroha News*, 14 August 1886, p. 2.

²¹⁴ Te Aroha Correspondent, *Waikato Times*, 24 August 1886, p. 2.

²¹⁵ Te Aroha Correspondent, *Thames Advertiser*, 8 October 1886, p. 3.

²¹⁶ *Te Aroha News*, 9 October 1886, p. 2.

²¹⁷ See paper on his life.

per cent of the value, but the Nevada Metallurgical Works could only obtain 53 per cent. Suggestions for suitable methods of treatment were given.²¹⁸

The only other newspaper report for that year was on 4 December, when a correspondent repeated a rumour that ‘interests of some value in the Tui Creek mines’ had recently changed hands. It was ‘also said that the infusion of new blood’ was ‘likely to lead to greater enterprise’ in developing the mines, and ‘possibly to the introduction of English capital’.²¹⁹ The basis for this report must have been a letter written two days previously by John Chambers explaining that the Keep It Dark, Gladstone, Albion, and Champion Lode No. 4, all contiguous to the Champion Lode claims, had been purchased ‘to enlarge the holding now offered to an English syndicate’, which wanted a larger area to justify erecting an expensive plant. ‘We are spending much money in trials, experiments, in both Europe and America. I may say that the success of our company is assured now, and that one half of the shares will be held in New Zealand’.²²⁰ It was to be some time before this flotation became a reality, but, recognizing that a company with a large capital was needed, the *Te Aroha News* greeted the new year with the hope that the mines would be placed on the London market.²²¹

THE MINES AT THE START OF 1887, AND PLANS FOR THE FUTURE

At the beginning of February 1887, Stratford, who had been asked to provide information for the *Handbook of New Zealand Mines* and to inquire into Cornes’ application for interim protection, was guided over the field by Cornes. Part of his report was published in the *Handbook*:

I devoted 13 hours on Monday [31 January] to travelling, and inspecting The Tui Creek mines, and was accompanied by Mr C.A. Cornes who is Manager and principal shareholder in the Champion Lode Company. Mr Wilson, Mines Inspector, and a few other gentlemen interested in these mines, which consist of The Champion Lode Nos. 1, 2, 3, The Albion, and Gladstone, the last two named having been recently purchased by Messrs Cornes and

²¹⁸ *Auckland Weekly News*, 27 November 1886, pp. 9, 34.

²¹⁹ Te Aroha Correspondent, *Waikato Times*, 4 December 1886, p. 2.

²²⁰ John Chambers to George Wilson, 2 December 1886, Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1886, BBAV 11582/3a, ANZ-A.

²²¹ *Te Aroha News*, 8 January 1887, p. 2.

Company and amalgamated with The Champion claims as one parcel of ground under one proprietary.

The original Champion Lode claims (1, 2, 3) are 5 acres each (15 acres in all) and three reefs in them - 2 separate lodes - were discovered by Mr C.A. Cornes the prospector.... Since he has published this discovery about 12 months ago he has obtained from the late Warden Kenrick licenses for the above named 15 acres, and kept continuously employed 12 men to open up the lodes - A drive of 60 feet through the solid rock has been made, and a winze of 60 feet in depth sunk - 100 tons of quartz has been brought to grass - of these two tons were purchased by the Thames Furnace Company for £22.10/- a ton - And later on 25 tons were sold by Mr Cornes at £12.10/- a ton - As I have already stated these are two separate lodes running parallel bearing about N.E and varying in thickness from 8 to 14 feet.

150 tons of ore have been sent to England (by Mr Cornes) of which 75 tons have been tested, and the results Cablegraphed a few days since - as follows - Value £11.10/- to £12.19/- per ton Gold, Silver and other metals. I may here mention Mr Cornes estimates the entire cost of transmission from Tui creek (No. 3) to England and testing to be 50% of the ore - The Modus operandi up to the present time has been of a most primitive description - Tunnelling, and stoping to a small extent. Stripping the naked reef and surface work. The quartz has had to be conveyed one mile down a steep rugged dangerous track with a gradient of about one foot in 8 (The Country densely timbered, and precipitous) and from the base of the mountain it (quartz) has been conveyed one mile over a fair dray road to Te Aroha Railway Station, and from thence by rail to Auckland (116 miles)

There is no battery or furnace in connection with Cornes' mines. He had therefore been obliged to send his Quartz to Thames 36 miles (by river steamer) or to Auckland.

As to his future intentions Mr Cornes referred me to Mr Price Williams, an English Gentleman of considerable experience as a mining Engineer who has quite recently travelled over the length, and breadth of this colony inspecting our mines, and mineral resources,²²² and to whom I had the good fortune to be introduced at Te Aroha later on the same day, and from whom I learnt that The Champion Lode Company [Chambers' and Cornes' syndicate] had consulted him with the view to obtain English capital, but nothing more definite had yet occurred than a promise from the Company to make an offer to Mr Williams before he left the colony - as to what capital it will require - Mr Williams did suggest to Mr Cornes' Company the advisability of combining its

²²² See *Thames Star*, 13 December 1886, p. 2, 3 January 1887, p. 2, 28 January 1887, p. 2; *New Zealand Herald*, 7 February 1887, p. 3; *Otago Daily Times*, 20 February 1896, p. 4..

scheme with that of Mr J.C. Firth's [battery]²²³ instead of erecting special machinery for its own use at Tui Creek - The combination if agreed to would necessitate the construction of an incline tramway a distance of about 6 miles from the Champion Claim Tui Creek to Mr Firth's battery at Waiorongomai - along the sideling of the Karangahake range and Te Aroha Mountain.

Mr Williams stated he was of opinion that the necessity of sending ores to England to be treated no longer existed, as the newest best methods are known and have been proved at Mr J.C. Firth's battery at Waiorongomai - This method as far as I understand is by a course of gradual roasting and by which 85 to 90 per cent of assay is realized instead of 60 per cent as formerly. This testing has been in a small plant, but larger furnaces will shortly be erected and as it is not necessary that the quartz should be crushed very fine the battery will put through larger quantities.

With regard to the Tui Creek workings other mines have been opened up and are being worked assiduously since Mr Cornes has published his discovery. The Govt. and County Council have expended £200 in constructing a mountain track to the claims for temporary use, and Mr Cornes has contributed about £100 in labour in improving it.

The discoveries at Tui by Mr Cornes have been firstly gold then silver in payable quantities, Galena and Cinnabar in abundance, but whether payable or not is a problem at present unsolved. The Champion Lode prospecting claim stands about 2,400 feet above the level of the sea on the main range of the Karangahake - about 2 1/2 miles from Te Aroha with a watershed on both sides of the Range (Shedding E and W). Mr Cornes states that water power is available from the Waihou (or Upper Thames) on the West and from the Waitawheta on the East side of the range, but he is reticent as to the costs; Judging from appearances of the general contour of the country through which a race would have to be cut and flumed the great distance up the Waihou constructors would have to go to find a source to carry a fall, and the fluming necessary to carry the watercourse the broken Country I should say "Le Teu ne vaut pas le Chandelle" [the game is not worth the candle], and that steam power would be much cheaper.²²⁴

(Patrick Galvin, editor of the *Handbook of New Zealand Mines*, made the marginal note 'Done nothing of the kind' beside the statement that Price

²²³ See paper on the Firth and Clark battery at Waiorongomai.

²²⁴ H.A. Stratford to Minister of Mines, 2 February 1887, Mines Department, MD 1, 87/89, ANZ-W; mostly reproduced in *The Handbook of New Zealand Mines* (Wellington, 1887), pp. 321-323.

Williams had inspected mines and mineral resources throughout New Zealand.)²²⁵ Stratford had revealed the minimal amount of mining done, Cornes' syndicate concentrating on finding a suitable process in readiness for selling the property to English capitalists. Although claims of having found the perfect one were premature, the quality of the stone was recognized, Cornes receiving a diploma and medal from the Colonial and Indian Exhibition in London for his exhibits of argentiferous ores.²²⁶ This was likely to create interest amongst English investors.

MORE TESTS, MORE ATTEMPTS TO RAISE CAPITAL

Henry Andrew Gordon, Inspecting Engineer for the Mines Department, tested ore exposed when Cornes cut a road through 'a compact galena lode containing a good deal of iron-pyrites', proving 'the poverty of these lead-ores in silver and gold' in the Champion and Surprise claims:

Accompanying this lead are a good many patches of cinnabar - too small, however, to be of any practical value. The country in the vicinity is well worthy of prospecting, many fine reefs outcropping from which stones may be picked giving very fair assay-value; and the same remark applied to a great deal of loose stone lying on the surface for a long way down the mountain.²²⁷

In April, 'very great interest was manifested' on the Auckland Stock Exchange when a 51oz bar of bullion was displayed; it had been extracted from two tons Cornes sent to George Fraser's experimental plant in Auckland.²²⁸ 'The parcel was not 'picked stone' but a fair sample out of 150 tons which the company have recently sent to London', Cornes having taken material from each shipment to ascertain its value. The process used included amalgamation in McKay pans, and produced

over 25oz per ton, against 4oz by the raw process. The value of the bullion has not yet been assayed; but, whatever it may be, there can be no doubt that the result is very satisfactory. The cost of treatment, on a moderate scale by this process, we understand,

²²⁵ Patrick Galvin, marginal note on H.A. Stratford to Minister of Mines, 2 February 1887, Mines Department, MD 1, 87/89, ANZ-W.

²²⁶ *Waikato Times*, 12 April 1887, p. 2.

²²⁷ H.A. Gordon to Minister of Mines, 5 May 1887, *AJHR*, 1887, C-5, p. 59.

²²⁸ See paper on Peter Ferguson and his New Era.

would not exceed 40s per ton, and to this company - possessing as they do an enormous body of stone, with unusual facilities for breaking out quartz at a very low price - the possession of such a plant adjacent to their mine would be an immense boon.

The reef had been tested 'over 12 chains in length at three different levels, with results that would satisfy the most sanguine speculator'. Under the usual process, 'the ore would not realize more than a few pennyweights per ton', being 'heavily charged with sulphur and other base metals, while the silver is in the shape of sulphides, and the gold in a microscopic state, that, like scores' of Hauraki mines, mercury had 'scarcely any affinity whatever for the precious metals' without some previous treatment such as Fraser demonstrated. 'By the judicious outlay of a little capital on a tramway', ore could be broken out and sent to a mill erected beside the river 'at a cost not exceeding 9s per ton', and Cornes had guaranteed to Price Williams that, if an English company accepted his proposals for erecting a mill and tramway, he would deliver 'from 700 to 900 tons per week' for this cost.²²⁹ Stratford cautioned that each mineral required 'its own special treatment, and suitable machinery must be erected, involving the expenditure of a large amount of capital. A greater extent of land may possibly be required to justify the expenditure by any single company'.²³⁰

Despite Price Williams' claims, he failed to provide capital for either Cornes or Firth.²³¹ That more financial backing was needed was illustrated when, in July, a Te Aroha ironmonger sued 'Messrs Chambers Cornes and Co' for £65 5s for dynamite and other mining requisites supplied and for another £30 advanced as rent on the leases. As only £16 18s 5d was paid into court, the balance was ordered to be paid.²³² No further news was published until October, when Cornes resumed work, having obtained protection to work with six men 'in consequence of non-completion of arrangements with an English Company'.²³³ Under his direction, a main low level was started in the Champion Lode No. 3 to drive 150 feet to the

²²⁹ *Auckland Weekly News*, 23 April 1887, p. 21.

²³⁰ H.A. Stratford to Under-Secretary, Mines Department, 7 April 1887, *AJHR*, 1887, C-6, p. 7.

²³¹ See paper on the Battery Company.

²³² Te Aroha Warden's Court, Plaints 1887, 3/1887, BBAV 11572/1a, ANZ-A.

²³³ *Te Aroha News*, 15 October 1887, p. 2, 23 October 1887, p. 2.

reef.²³⁴ By mid-December, when in 80 feet, it was described as ‘a very large main tunnel to cut the reef, which would give about 500ft of backs’, and ‘be one of the main outlets from the mine’. Several tons had been sent to Adelaide ‘for treatment by some of the most approved processes’, indicating that suitable one had not been found.²³⁵

The following year commenced with more expectations of success. Work was ‘steadily progressing’ in the Champion, ‘with excellent prospects’, while Cameron had obtained ‘some first-class looking stone’ in the May Bell and Mark Moon.²³⁶ In February, J.M. Chambers applied for renewed protection for the Champion Lode Nos. 1-3 and the Gladstone and Albion. The ore was to be treated by the Parkes process, and as protection would enable the conclusion of arrangements to form a company, it was granted in May.²³⁷ Keep applied for a 50-acre special claim comprising Tui, Keep It Dark, and Surprise Nos. 1 and 2. When the warden ‘remarked on the smallness’ of the working capital, J.M. Chambers responded that the ore was ‘of a very refractory character, and it was not the same as if quartz rich in gold was to be treated’.²³⁸ Cornes continued developing his mine, and at the end of February took some samples of galena from the Champion Lode No. 3 to Auckland, where they ‘attracted a great deal of attention’.²³⁹ The *New Zealand Herald* published an article under the headlines, ‘Hills of Lead: The Tui Mines at Te Aroha: Important Find: Big Boom Coming’:

The sound of the big drum of commercial revival is every day growing louder and coming nearer. The latest bang of the drum comes from the Tui Mines at Te Aroha, where a very important find seems to have been made lately. Mr C.A. Cornes, mining manager, brought some 80lb of galena ore yesterday, and had it exhibited at the office of Mr J[oseph] F[riar] Clarke [a mining agent],²⁴⁰ Insurance Buildings [Auckland]. It is extremely heavy, and consists of almost solid masses of steel-grey crystals of galena, or sulphuric lead, containing in parts crystals of copper

²³⁴ *Te Aroha News*, 29 October 1887, p. 2.

²³⁵ *Te Aroha News*, 17 December 1887, p. 2.

²³⁶ *Te Aroha News*, 21 January 1888, p. 2.

²³⁷ Te Aroha Warden’s Court, Applications for Protection 1888, BBAV 11289/12a, ANZ-A; Warden’s Court, *Te Aroha News*, 25 February 1888, p. 2.

²³⁸ Warden’s Court, *Te Aroha News*, 25 February 1888, p. 2.

²³⁹ *Te Aroha News*, 3 March 1888, p. 2.

²⁴⁰ See *New Zealand Herald*, 5 August 1895, p. 3; *Thames Star*, 9 May 1900, p. 4; *Auckland Weekly News*, 11 May 1900, p. 21.

sulphite. It is evidently extremely rich in lead. Mr Cornes states that similar ore was obtained some distance from the spot where this was found, and gave in addition 13dwt of gold and 17oz of silver. No analysis of the present ore has yet been made, but it is expected to contain at least 60 per cent of lead. Pigment lead is worth some £15 per ton, so this ore should pay if worked for the lead alone. This rich find has been discovered in the Champion No. 3 lode, at Tui Creek, being cut in a level 200 feet below the upper workings, which, with the underlay, will give 200 feet of backs, as it is nearly perpendicular. The lode has been cut into for a distance of five feet, but the inner wall has not yet been reached. This lode runs for about half a mile along the outcrop of the Champion reef, and the outcrop is in some places 60 feet high, from 8 to 14 feet wide, showing very rich ore. The same lode has been traced through the Earl of Aberdeen claim next to the Champion, and the Keep It Dark, Langtry, and the Laura mines. Through all these properties the "lode outcrops in a way that there is no getting out of," as Mr Cornes puts it.²⁴¹

During March, new finds meant more claims were pegged off because of the 'very confident feeling' that extensive mining would start soon. The reef cut in the Champion low level was reportedly 'highly mineralized'.²⁴² In April, the new warden, Henry William Northcroft, showed signs of impatience with claims being shepherded while foreign capital was sought, often for neighbouring claims. When Dobson applied for protection to work his Ruakaka with two men instead of the current four, Northcroft refused, even though Dobson claimed that 'arrangements were being made for working the claim on a large scale'. He had 'been over your ground, and although you have been following up the reef, still I must see more real permanent work done before I can grant protection'.²⁴³

The 150 tons Cornes sent to England 'were treated at different places with varied success'. The mineowners had made arrangements with Alexander Parkes to examine the reefs and decide on 'a process of smelting the ore, he having treated portions of the ore sent to England successfully by smelting'.²⁴⁴ Only two samples were tested for Cornes at the Thames

²⁴¹ *New Zealand Herald*, 29 February 1888, p. 5; reprinted in *Thames Advertiser*, 1 March 1888, p. 2

²⁴² *Waikato Times*, 22 March 1888, p. 2; *Te Aroha News*, 17 March 1888, p. 2, 31 March 1888, p. 2.

²⁴³ Warden's Court, *Te Aroha News*, 25 April 1888, p. 2.

²⁴⁴ George Wilson to Under-Secretary, Mines Department, *AJHR*, 4 April 1888, C-6, p. 12.

School of Mines in 1888, both on 11 April. Neither were encouraging: one had a trace of bullion in some 'silver ore' and the lead sample had 2dwt 12gr of silver and was 18 1/4 per cent and 15 per cent lead.²⁴⁵ Early in May, another journalist was shown over the mine by Cornes, who was waiting to receive funds from the new company being formed to enable him to 'thoroughly open up the mine. He had done a considerable amount of dead work, and had the road well in hand, ready to commence operations on a large scale'.²⁴⁶ In June, Bayldon informed Northcroft that mining was unprofitable because there were neither suitable treatment works nor proper access. 'A large amount of capital' was required to develop the mine and make a 'satisfactory' connection with 'the flat country'.²⁴⁷

Wilson had noted in April that 'as no suitable method of treating the complex ores' had been found, 'until lately' capitalists had 'been chary of investing money'.²⁴⁸ By May, there were prospects of Australians investing. Jonathan Seaver, an Australian mining engineer, mine manager, and later a company director and promoter of New Zealand mines in London, at that time was a partner in Cox and Seaver, a Sydney firm of mining engineers, with New Zealand geologist S. Herbert Cox.²⁴⁹ Seaver, who was inspecting mines mainly in Ohinemuri for a Sydney syndicate,²⁵⁰ briefly visited on 30 April, mostly to inspect the Earl of Aberdeen, which had been offered to it.

²⁴⁵ Thames School of Mines, Assay Book 1887-1889, entry for 11 April 1888, School of Mines Archives, Thames.

²⁴⁶ 'A Tramp, Esq', 'Casual Ramblings', *Auckland Weekly News*, 12 May 1888, p. 7.

²⁴⁷ D.H. Bayldon to Warden, 20 June 1888, Te Aroha Warden's Court, Applications for Protection 1888, 9/1888, BBAV 11289/12a, ANZ-A.

²⁴⁸ George Wilson to Under-Secretary, Mines Department, 4 April 1888, *AJHR*, 1888, C-6, p. 11.

²⁴⁹ For example, letter from Jonathan Seaver, *South Australian Advertiser*, 27 December 1882, p. 7; *Bathurst Free Press and Mining Journal*, 28 March 1885, p. 2; *Australian Town and Country Journal*, 18 September 1886, p. 24, 5 March 1887, p. 11; *Argus* (Melbourne), 4 August 1887, p. 6; *Sydney Morning Herald*, 3 September 1887, p. 13, 8 September 1887, p. 9, 6 October 1887, p. 9, 10 April 1888, p. 5, 3 April 1889, p. 9, 27 March 1890, p. 2; *Barrier Miner* (Broken Hill), 7 October 1891, p. 2; *Auckland Star*, 23 March 1895, p. 2, 11 September 1895, p. 5, 18 November 1895, p. 4, 23 March 1896, p. 4, 9 April 1896, p. 5, 29 April 1896, p. 5.

²⁵⁰ *Thames Star*, 20 January 1888, p. 2, 28 January 1888, p. 2, 7 February 1888, p. 2, 11 February 1888, p. 3, 28 February 1888, p. 2, 3 March 1888, p. 3, 8 March 1888, p. 2, 4 May 1888, p. 2, 10 May 1888, p. 2.

Although he was ‘not one to freely express his opinions’ because he was ‘acting on behalf of others’, the local newspaper understood that he would soon return for a fuller investigation.²⁵¹ Seaver did not return, although the owners, Nicholas Cleary, a policeman-turned-miner,²⁵² and his sleeping partner, Auckland merchant George Edward Ireland,²⁵³ still hoped to float it and the adjoining Riverdale Nos. 1 and 2, as Cleary explained in July. Not having a track to get out their ore, they had applied to the council for a 70-chain track. They had ‘a good show’, but at present there was no process to treat it. ‘We have already spent a considerable amount in prospecting the holdings - the property is now under offer in Sydney’.²⁵⁴ They retained the Earl of Aberdeen until October 1889, when Cleary ‘was desirous the claim should be forfeited as he was not intending to do any more work’.²⁵⁵ They forfeited the Riverdale claims in January 1890 for the same reason, for by then Cleary had been attracted to the false promise of the Puhipuhi gold and silver field, where for a while he was a mine manager.²⁵⁶

In mid-1888, Wilson found few men working and little being achieved. Six men were working in the Champion Lode, five in the Ruakaka, four in the Earl of Aberdeen plus Riverdale Nos. 1 and 2, two in the May Bell and Mark Moon, and two in the Gulgong.²⁵⁷ As no miners were working the Tui Reduction Works Company’s ground, his report prompted Northcroft to warn it was liable to be forfeited.²⁵⁸ The Tui Reduction Works was the special claim granted to Keep, and on his behalf J.M. Chambers in September asked for an additional three months’ protection.

²⁵¹ *Te Aroha News*, 2 May 1888, p. 2, 9 May 1888, p. 2.

²⁵² See *Thames Advertiser*, *Te Aroha Correspondent*, 3 February 1882, p. 3, 8 November 1882, p. 2, *Te Aroha Correspondent*, 8 June 1886, p. 3.

²⁵³ See *Auckland Weekly News*, 1 March 1890, p.20; *Cyclopedia of New Zealand*, vol. 2, p. 380.

²⁵⁴ Nicholas Cleary to Warden, 27 July 1888, *Te Aroha Warden’s Court*, Applications for Protection 1888, BBAV 11289/12a, ANZ-A.

²⁵⁵ *Te Aroha Warden’s Court*, *Plaint Book 1880-1898*, 32/1889, BBAV 11547/1a, ANZ-A; *Warden’s Court*, *Te Aroha News*, 5 October 1889, p. 2.

²⁵⁶ *Te Aroha Warden’s Court*, *Plaint Book 1880-1898*, 2/1890, BBAV 11547/1a, ANZ-A; *Te Aroha News*, 12 April 1890, p. 2, 16 April 1890, p. 3.

²⁵⁷ George Wilson to Warden, 2 July 1888, *Inspector of Mines*, *Thames*, *Letterbook 1888-1892*, p. 52, YZAB 1240/72, ANZ-A.

²⁵⁸ *Warden’s Court*, *Te Aroha News*, 11 July 1888, p. 2.

The Warden, addressing Mr Chambers, said: This claim was granted on 21st February last, since which time you have taken protection up to now, when you come and ask me to legalise it. But I say no. You cannot prove to me that a pick has been put in the ground all this time. Mr Chambers: I cannot say there has, but we were under the impression up till July, when we put in the application for protection, that a special claim did not need protecting in the same way as an ordinary claim. The Warden: If you read the conditions attached to the license you would see that a special claim is subject to the same provisions as a licensed holding in that respect; there is no clause giving special exemption from working. Mr Chambers: We were under the impression we had to expend a certain amount of money within a certain period and were prepared to do so. We have expended a great deal of money in bringing Mr Parkes out from England to erect a plant to treat the ore on this ground, which contains a great deal of lead, and is very poor in silver, and cannot be treated by any ordinary process. The Warden: I told Cornes long ago this ground would have to be manned. Mr Parkes is engaged at Karangahake, not at Te Aroha, and you ask me to grant you protection because you have got a man working for you seventeen miles off. Application refused.²⁵⁹

Thus obliged either to work his claim or lose it, Keep employed prospectors who soon found good galena ore.²⁶⁰

In early September, after a block of quartz rich in silver and some gold was displayed in the Melbourne Exhibition, the Ruakaka and Mikado were bought by a Melbourne syndicate for £15,000. The owners were to receive £2,000 in cash and the remainder in paid-up shares. £500 was received immediately and the remaining cash would be sent when the mine was floated. The syndicate had 12 months to float or otherwise dispose of the property, in the meantime spending £30 a week in prospecting. Should the syndicate fail to complete the purchase, they would forfeit the £500 and the mines would revert to the original owners.²⁶¹ The syndicate, whose members were never identified, did not float a company.

FORMING THE CHAMPION GOLD AND SILVER MINES OF NEW ZEALAND COMPANY

²⁵⁹ Warden's Court, *Te Aroha News*, 5 September 1888, p. 2.

²⁶⁰ *Te Aroha News*, 6 October 1888, p. 2, 17 October 1888, p. 2.

²⁶¹ *Waikato Times*, 11 September 1888, p. 2; *Te Aroha News*, 12 September 1888, p. 2.

Cornes and his party did manage to sell their property in England. Referring to the hopes raised by the earlier visit by Price Williams, in February 1888 the *Thames Advertiser* wrote that their claims were ‘offered in London some time ago and the negotiations almost completed, but for some reason it was not closed’.²⁶² This time a different outcome was anticipated, for ‘it was arranged by the vendors that the mines should not be brought before the London public, until sufficient shares had been taken up privately to ensure success’.²⁶³ The principal members of the syndicate were now Cornes, J.M. Chambers, Thomas Morrin, an Auckland merchant,²⁶⁴ Adam Porter, a prominent miner,²⁶⁵ Joshua Jackson, a mining reporter turned sharebroker and mining agent,²⁶⁶ Joseph Friar Clarke and Alexander Saunders, also sharebrokers and mining agents, Briggs and Rogers (who have not been identified), and James McCrea Brigham, secretary of the Auckland Harbour Board,²⁶⁷ an investor in mining at Waiorongomai, Tui, and elsewhere in Hauraki.²⁶⁸ How the 80 shares were distributed amongst the syndicate’s members was not revealed.²⁶⁹ Cornes seemed to regret that overseas interests would purchase his mine, lamenting that ‘all the best mines’ would ‘soon be owned by English and Australian capitalists’, and Aucklanders would ‘wake up when it will be too late to secure any of the rich prizes which are scattered in abundance throughout the Thames and Te Aroha mining districts’.²⁷⁰

In late February, a London correspondent reported that the company being formed in London would be called the Champion Gold and Silver

²⁶² *Thames Advertiser*, 21 February 1888, p. 2.

²⁶³ *Auckland Weekly News*, 25 February 1888, p. 17.

²⁶⁴ See *Cyclopedia of New Zealand*, vol. 2, pp. 660-661.

²⁶⁵ See paper on his life.

²⁶⁶ See *Cyclopedia of New Zealand*, vol. 2, pp. 469-470; *Observer*, 28 December 1907, p. 5.

²⁶⁷ See *Cyclopedia of New Zealand*, vol. 2, p. 140; *New Zealand Herald*, 15 December 1910, p. 6.

²⁶⁸ For Waiorongomai, see *New Zealand Gazette*, 11 October 1883, p. 1487; for Tui, see Te Aroha Warden’s Court, Register of Licensed Holdings 1881-1887, folios 193, 194, BBAV 11500/9a, ANZ-A; for Thames, see *Auckland Provincial Government Gazette*, 5 December 1868, p. 562, 15 July 1869, p. 588, 1 September 1869, p. 889, 29 June 1871, p. 161; *New Zealand Gazette*, 20 May 1880, p. 789, 6 April 1882, p. 564, 28 September 1882, p. 1363, 7 December 1882, p. 1852, 11 January 1883, p. 45.

²⁶⁹ *Auckland Star*, 28 February 1888, p. 5.

²⁷⁰ *Auckland Weekly News*, 3 March 1888, p. 20.

Mines of New Zealand Company. With a capital of £75,000 in 75,000 shares, it would use Alexander Parkes' system of gold extraction.²⁷¹ This report was premature, for the company was not floated until August.²⁷² The *Te Aroha News* praised John Chambers for 'endeavouring to solve the problem of how best to treat our refractory ores'. He was 'supervising the erection of a plant, known as the Askham-Molloy process, at Thames', and had induced Parkes, 'the inventor and patentee of another process of gold saving which promises to prove of great value', to come from England to inspect Tui. It was 'mainly' because of Chambers that the company was registered. 'Some time ago' Chambers asked the Battery Company 'if they would let him have a site on their ground at Waiorongomai' to install the Parkes process, and let him use the water race and assist to meet the cost of connecting the mine with the tramway. Adams made the 'exceedingly liberal offer' of a site for two years at a nominal rental of one shilling a year, a connection with the water race for £50 and no charge for water for two years, and a connection with the tramway for about £50. It was 'gratifying' to see the Battery Company 'exhibiting such a very friendly spirit towards others who may propose to assist the gold mining industry, by the introduction of new methods of treating our ores'.²⁷³

In June, Chambers, 'in view of the early erection of smelting works at Te Aroha' by Parkes, drafted a scale of prices for purchasing ore.²⁷⁴ In late July, Cornes applied for protection to work the Champion Lode Extended Special Claim with six men for three months, informing Northcroft that in three months' time Parkes' plant was 'expected to be in course of erection'.²⁷⁵

ALEXANDER PARKES AND HIS PROCESS

²⁷¹ London Correspondent, *New Zealand Herald*, cited in *Te Aroha News*, 4 April 1888, p. 2.

²⁷² *Mining Journal* (London), 11 August 1888, p. 908.

²⁷³ *Te Aroha News*, 21 April 1888, p. 2.

²⁷⁴ *Te Aroha News*, 23 June 1888, p. 2.

²⁷⁵ C.A. Cornes to Warden, 25 July 1888, Te Aroha Warden's Court, Applications for Protection 1888, 57/1888, BBAV 11289/12a, ANZ-A.

Alexander Parkes, head of the Parkes Gold and Silver Smelting Company of London,²⁷⁶ was described by John Chambers as an ‘elderly gentleman who has been one of the most successful inventors of this Century’.²⁷⁷ When he died in June 1890, aged 76, an obituary stated that ‘even as a schoolboy he displayed a remarkable inventive genius, and as an apprentice the same faculty displayed itself, and throughout a long life his active energies were ever on the alert devising improvements and perfecting inventions in almost every branch of industry’.²⁷⁸ One reporter described him as ‘one of the greatest chemical and gold experts of the day’.²⁷⁹ Another who met him in Wellington in May 1888 discovered that he was

a professional metallurgist of upwards of 50 years standing. His whole life, it may be said, has been passed in smelting, assaying, and refining metalliferous ores and their products.... He has been associated with a great many improvements in metallurgical processes and chemical solvents. He is the inventor of several commercial articles of general use, which have originated in combinations suggested by working in his laboratory at East Greenwich. The substance known as parkesine, which resembles tortoise-shell, and is found in the windows of fancy goods shops, was invented by him. The utility of the invention brought to the patentee a sum of £20,000.

Parkes had first tested New Zealand ore 40 years previously. Being ‘a practical chemist as well as a metallurgist, his scientific interests extended beyond mining’. He expressed ‘great interest’ in the refrigerating process used for sending frozen meat to England.²⁸⁰ Parkes claimed to know of a process whereby ironsands could ‘be converted into the best of iron, and very profitably’.²⁸¹ As an example of his versatility, he had patented an insulating material partly made from kauri gum.²⁸² His 1850 invention of a

²⁷⁶ *West Coast Times*, n.d., cited in H.A. Gordon to Under-Secretary, Mines Department, 1 May 1888, *AJHR*, C-5, p. 22.

²⁷⁷ John Chambers to Minister of Public Works, 7 May 1888, Mines Department, MD 1, 89/8431, ANZ-W.

²⁷⁸ *Thames Star*, 22 August 1890, p. 2.

²⁷⁹ Special Reporter, *Waikato Times*, 4 October 1888, p. 2.

²⁸⁰ *Auckland Weekly News*, 5 May 1888, p. 21.

²⁸¹ Special Reporter, *Waikato Times*, 4 October 1888, p. 2.

²⁸² *Thames Star*, 22 August 1890, p. 2.

‘zinc process’ to treat silver-lead bullion was the first to be used by the Broken Hill Proprietary in New South Wales, in 1890.²⁸³

When John Chambers and his son were staying at the Hot Springs Hotel in February 1888, they told the *Te Aroha News* that ‘about two years’ ago the latter had gone to London ‘in order to avail of the best medical service obtainable’ for an injured foot. Whilst staying in England for over a year and a half, he had ‘devoted a very large proportion of his time in investigating the respective merits of all the most modern and improved appliances to be found in London, Glasgow, France, or Germany, for the treatment of gold and silver ores’, testing samples from Tui and elsewhere. This led him to conclude that Molloy’s Hydrogen Amalgam process, patented in October 1887, was ‘far superior’ for treating ore in which gold and silver was found in a metallic state. Appointed sole New Zealand agent for the sale of the Hydrogen Amalgamation Company’s machinery, he erected a plant in the South Island and another at Thames. The latter was expected to start working in six weeks’ time, when parcels from Tui would be processed. To treat ‘the more refractory ores’ present ‘in such vast quantities at Tui Creek’, an expert was coming from England ‘to make personal and thorough inspection and investigation, both as regards the ore, its characteristics, situation, cost of bringing it out, etc, with a view to the erection of a suitable plant, embracing the most modern improvements’. The newspaper thanked both Chambers for their efforts and hoped their new plant would ‘fully come up to expectations’.²⁸⁴

As an example of his testing of ore and machinery, in July 1886 J.M. Chambers had acquired the New Jerusalem claim, at Waiotahi Creek at Thames, solely ‘for the purpose of taking out base minerals for shipment to England’.²⁸⁵ Early in 1888, in asking the harbour board for assistance and concessions when erecting a plant using the Parkes process his father wrote that, after for ‘some time’ trying ‘to induce English capitalists to establish reduction works’, a ‘leading metallurgist’ was ‘on the way out to see what we can offer as inducements’. The new system would ‘be the means of doing more good to our goldfields than anything else’.²⁸⁶ In February, J.M. Chambers told the warden that he was arranging for the introduction of

²⁸³ Bridges, p. 189.

²⁸⁴ *Te Aroha News*, 11 February 1888, p. 2.

²⁸⁵ Thames Warden’s Court, Thames Claims Register 1886-1888, no. 1515, BACL 14397/17a, ANZ-A.

²⁸⁶ *Te Aroha News*, 4 February 1888, p. 2.

English capital and the treatment of ore by the Parkes Gold and Silver Ore Extraction Company. He had paid a deposit of £1,000 to Parkes 'to induce him to come out to New Zealand and practically prove' his process was the best one.²⁸⁷

In April, Parkes applied for a New Zealand patent for his 'Improvements in the Extraction of Gold and Silver from Ores or Compounds containing the same, and in Solvents for such Metals'.²⁸⁸ Before travelling to Hauraki, he explained to Gordon that he could smelt ore containing as much as 97 per cent of silica for no more than £2 per ton. 'The great success claimed for the process is that the ores can be smelted in a cupola without any condensing-chambers to collect the fumes, and that none of the metals are carried away'. Gordon was 'very doubtful' it could be used 'with New Zealand ores at a cheap rate. The cost of obtaining necessary fluxes will always make it an expensive process here'. Despite his doubts, Gordon hoped for success, for it would mean 'large bodies of ore worked at a profit, which are now being cast into the waste-heap as worthless material'.²⁸⁹ In May, Gordon's questioning of Parkes was published in question and answer form:

"You are aware, Mr Parkes, that a very large proportion of the ores in these districts are 'refractory' ores and some are low grade ores?"

"I am aware of the fact, but I have had most of these ores through my laboratory. Various parcels have been sent to me from time to time. I have, I think, been successful in treating them. I have in most cases saved all the gold they contained. A very small percentage, indeed, in any case, was unaccounted for. Nothing is allowed to escape. What is contained in the ores goes into the slag."

"You are aware that these ores contain a large amount of silver, lead, and other metals; do you save them all by your process?"

"Yes; we lose nothing. If there is any loss, it is so small as to be inappreciable. I may say, in point of fact, that we lose nothing."

"Is your method a smelting process?"

"Yes; but I have also a wet process, which I am not just now in a position to explain. The reason I cannot explain it, is because it was only just before leaving London that the patent for it was applied for."

²⁸⁷ Warden's Court, *Te Aroha News*, 25 February 1888, p. 2.

²⁸⁸ *New Zealand Gazette*, 19 April 1888, p. 463.

²⁸⁹ H.A. Gordon to Under-Secretary, Mines Department, 1 May 1888, *AJHR*, 1888, C-5, p.

“Do you calcine the ore?”

“No; I do not calcine, and I do not use mercury. I do not believe in calcining ores. They must be broken, of course, but I believe that calcining ores very often does more harm than good. I rely very much on the fluxes I use. There are many things which I use as fluxes which other people throw away. It is owing, I believe, to the skill I have acquired in preparing and using fluxes that I have had such successful results. Of course, there are things which I use that other people set no value upon. I have been fifty years engaged in this business of metallurgy, so that I have acquired much experience. I have had metalliferous ores sent to me from all parts of the world, including New Zealand. As I have already said, some of these ores held a great variety of metals in the same matrix. I have treated them all successfully.”

“A great deal, I suppose, would depend on the material used as fluxes in the neighbourhood?”

“Yes; but of course in preparing the fluxes I may use many ingredients that may not be found in the neighbourhood. With respect to these ores, lime would be used and sulphate of sodium. This latter article can be had for a few shillings a ton in England. If they have not got it here, I will show them how to make it.”

“What will be about the cost per ton of ore treated by your process?”

“In England I have treated refractory ores successfully for about 25s per ton, some less. The cost here in New Zealand will be, I suppose, about 40s a ton.”

“The wet jacket process has been applied in New Zealand, but I cannot say that it has been very successful.”

“In my wet process I depend chiefly upon the strength of the solvents I employ. I cannot say more about that at present.”

“But in your smelting process, if I understand you, nothing is lost?”

“We get a fine slag which contains everything metalliferous that the ore contained. From this slag I afterwards separate the various metals the slag contains. What was in the ore and the metals of the slag are separated by metallurgical processes.”

“Does that apply to silver, to lead, and other metals as well as gold?”

“Yes. I save all the metals the ore contains. If it contains a high proportion of silver, that is saved the same as the other metals.”

“Do you propose to remain long in New Zealand?”

“I am going to Auckland to put them in the way of using the process there. I came to the colony in the hope of doing good by teaching the people here how to save the precious metals from these refractory ores, many of which are exceedingly rich in various kinds of metal. I have every reason to believe that I will succeed. I shall be two months, perhaps, in Auckland superintending the erection of the necessary buildings and

machinery, and also instructing those concerned how to use the process.... I shall visit, in all probability, other goldfields in this colony.”²⁹⁰

The process was described at length in the press, and great hopes expressed that it would solve the difficulties of treating refractory ores.²⁹¹ As Gordon wrote in his 1889 report, ‘any one reading a description of the successful manner in which Parkes’s process treated refractory ores’ sent to London would ‘naturally’ expect it would come make their mines valuable. He quoted at length a statement by the Parkes Company describing its success with refractory ores at its experimental works at East Greenwich, and commented that Parkes arrived with ‘such a flourish of trumpets’ that ‘many believed a new era had dawned’ and that the languishing mining industry ‘would soon become a prosperous one’. Chambers had ‘perfect confidence’ that Parkes would be successful.²⁹²

SEEKING GOVERNMENT ASSISTANCE

Like most if not all those involved in the mining industry, Chambers considered that the government should provide financial assistance, especially when a new process was being introduced. For example, in October 1887, on behalf of ‘a London firm engaged in copper-smelting’, he discussed (unsuccessfully) with the minister a proposal for smelting quartz, the company planning to build a reduction works on condition the government gave a bonus.²⁹³ The following May, Chambers wrote to the Minister of Public Works about Parkes; the appropriate minister was the Minister of Mines, but the former was Edwin Mitchelson, and the letter’s being sent to him may indicate that he was already interested in investing in Tui mines, which he did in later years.²⁹⁴ To find the best process for

²⁹⁰ *New Zealand Herald*, 1 May 1888, p. 5.

²⁹¹ For example, *Auckland Weekly News*, 10 March 1888, p. 19; *Te Aroha News*, 4 April 1888, p. 2.

²⁹² H.A. Gordon to Minister of Mines, 8 June 1889, *AJHR*, 1889, C-2, pp. 39-41.

²⁹³ *Auckland Weekly News*, 15 October 1887, p. 10.

²⁹⁴ For his investments, see for example *Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1896*, 167, 169/1896, BBAV 11582/4a; *Mining Registrations 1928*, 12/1928, *Mining Registrations 1929*, 6/1929, BCDG 11288/9a; *Mining Registrations 1931*, 28/1931, BCDG 11288/10a, ANZ-A.

smelting Hauraki ores, he had brought out ‘probably the greatest expert in this particular branch of metallurgy in England’, who would erect trial works once he found good fluxing ore.

My son has been the means of bringing out Mr Parkes and had to deposit £1,000 before any thing could be done and now I think it is only right that the Government should assist in encouraging such a work, and to do this no risk will be taken by the Government even if a bonus should be offered of some £5000 or even double as the Government will pay nothing until the system has been proved a success.

This bonus should be given only when the process had saved 90 per cent of the bullion from 500 tons of ore at a cost not exceeding £3 per ton. If it was offered, he assured Mitchelson that he could float a company to erect a plant which would make reefs containing 6dwt of gold pay.²⁹⁵

His letter was passed on to the Minister of Mines with Mitchelson’s non-committal note: ‘What do you think of this proposal?’ His colleague immediately responded: ‘The proposal as stated is ridiculous’.²⁹⁶ The reply to Chambers omitted this opinion but rejected the request, particularly because the cost of treatment was expected to be so high, but raised the possibility of a bonus if 90 per cent of the assay value was obtained at a cost of 15s per ton.²⁹⁷ Chambers responded that such a cost was unattainable, for low-grade ore could be treated only by the ‘slow and expensive’ fire process. He had had to pay £6 for the treatment of 100 tons sent to Britain, and suggested other ways whereby the government could give financial assistance to encourage the introduction of new machinery.²⁹⁸ Asked for his opinion, Gordon pointed out that Chambers’ first suggestions meant a subsidy of £13 a ton, ‘which would enable anyone to use costly fluxes’.²⁹⁹ A

²⁹⁵ John Chambers to Minister of Public Works, 7 May 1888, Legislative Department, LE 1, 1888/127, ANZ-W.

²⁹⁶ Edwin Mitchelson to G.F. Richardson, 14 May 1888; G.F. Richardson to Edwin Mitchelson, 14 May 1888, Mines Department, MD 1, 89/843, ANZ-W.

²⁹⁷ Minister of Mines to John Chambers, 15 May 1888, Legislative Department, LE 1, 1886/127, ANZ-W.

²⁹⁸ John Chambers to Minister of Mines, 21 May 1888, Mines Department, MD 1, 89/843, ANZ-W.

²⁹⁹ H.A. Gordon to Under-Secretary, Mines Department, 31 May 1888, Mines Department, MD 1, 89/843, ANZ-W.

final letter assured Chambers that the proposals would be considered, but that any bonus would be given only for treating low-grade ore.³⁰⁰ In 1897 Chambers would urge the Auckland Chamber of Mines to appoint a 'first-class analytical chemist, who would examine the ores, and report as to their constituent parts', so that 'correct decisions' for treatment could be made, which would benefit both mining companies and the government.³⁰¹

Whilst Chambers was trying to obtain public funds to assist his private venture, he took Parkes on a tour of the Tui and Waiorongomai mines.³⁰² Within a couple of days of arriving at Te Aroha, Parkes sat at the top table at a banquet honouring Cornes, who described him as 'one of the greatest scientific men of our day'. New machinery was needed for successful treatment, and he believed Parkes was 'likely to solve this difficult matter'. After Adams called him 'a king of inventors', Parkes said that 'he considered they had everything that could contribute to their prosperity. He had never before seen such an abundance of mineral wealth in one place in his life'. Before leaving London, he had experimented with 'a good many tons of Tui ore' and had 'succeeded in satisfactorily dealing with it. He had succeeded likewise with other refractory ores elsewhere, and he hoped to succeed' at Te Aroha. After reminding them that he had been treating such ore 'for the past 50 years or more', he concluded by stating that 'he was delighted beyond measure at the warm reception he had received from the district'. For his part, John Chambers thanked the gathering 'most sincerely for the hearty manner in which they had drunk the health of himself and also his son'. He claimed to recognize the faces of most of those present, and predicted a great future for the township because as well as mines it had hot springs and farms. 'He had done his best to push the place forward with respect to mining', and hoped with Parkes' assistance 'to get the right process for treating the vast mineral wealth that existed at Te Aroha'.³⁰³

After visiting Ohinemuri, by the end of May Parkes was considering possible sites to erect his plant. As Parkes and Chambers intended to purchase ore from all mining districts, to keep transportation costs down

³⁰⁰ Minister of Mines to John Chambers, 6 June 1888, Mines Department, MD 1, 89/843, ANZ-W.

³⁰¹ *Auckland Weekly News*, 2 October 1897, p. 30.

³⁰² *Te Aroha News*, 9 May 1888, p. 2.

³⁰³ *Te Aroha News*, 12 May 1888, p. 2.

they wanted it accessible.³⁰⁴ The Woodstock Company at Karangahake declined Chambers' offer to erect a plant to treat their ore at a cost not exceeding £4 per ton, guaranteeing a return of 90 per cent of the assay value, for the price was too high. Chambers defended the price because of the site's inaccessibility, and said at a more suitable one the price would be £3. Accordingly, he and Parkes decided to erect a small plant at Te Aroha to treat six tons per day and be 'capable of extension as required'. Its furnace would be 'the same as that used at Swansea, with all its working appliances', but plant, 'although perfect in itself', would be 'more in the nature of an experimental plant, and to demonstrate the process, and the main works as originally intended' would be 'erected at a central site' beside the river.³⁰⁵

A site was chosen at the foot of the hillside adjoining the racecourse at Ruakaka, near the northern edge of the township.³⁰⁶ One week later, the *Te Aroha News*, in reporting that Parkes would erect a 'small experimental plant' at Karangahake in connection with the Woodstock furnace, insisted this would not prevent the erection of a plant at Te Aroha. There would 'be no connection whatever between the two plants', and 'the permanent plant' would be erected at Te Aroha, where several tons of chemicals had already arrived.³⁰⁷ However, Parkes concentrated on supervising the erection of his furnace in the former LaMonte furnace house at Karangahake, promising that, should it be successful, a large plant would be erected near the junction of the Waihou and Ohinemuri rivers.³⁰⁸ A Paeroa resident's handbook on Hauraki mining stated that Karangahake was 'honoured with the presence of Mr Parkes, one of the most able of living metallurgists.... May he succeed!'³⁰⁹ J.M. Chambers was 'supervising operations generally' for Parkes, the *Te Aroha News* believing that the first months of experimentation would 'be conducted privately'; if satisfactory, several similar furnaces would be built 'so that operations may be carried on

³⁰⁴ *Te Aroha News*, 30 May 1888, p. 2.

³⁰⁵ *Te Aroha News*, 9 June 1888, p. 2.

³⁰⁶ *Te Aroha News*, 13 June 1888, p. 2, 16 June 1888, p. 2, editorial, 23 June 1888, p. 2.

³⁰⁷ Editorial, *Te Aroha News*, 23 June 1888, p. 2.

³⁰⁸ *Te Aroha News*, 30 June 1888, p. 2.

³⁰⁹ Thomas M. Humphreys, *Handbook of the Auckland Goldfields, New Zealand* (Auckland, 1888), p. 23.

without intermission'.³¹⁰ Parkes described the Karangahake plant as 'a private speculation' unconnected with Tui.³¹¹

The Karangahake furnace was erected by the beginning of August. Parkes insisted that, once it was working successfully, 'nothing would induce him to leave New Zealand until he has erected the proposed plant at Tui, of the future of which district he has formed an exceedingly high opinion'.³¹²

THE CHAMPION GOLD AND SILVER MINING COMPANY

In August, the *Mining Journal* of London announced that the Champion Gold and Silver Mining Company had been floated, with a capital of £75,000. It had purchased the 23 acres at Tui owned by Cornes' syndicate, and the vendors were instructed to acquire 13 adjacent acres for 'actual expenses', the cost not to exceed £200. The prospectus claimed the valuable ore could be worked cheaply, basing these statements on reports by Price Williams and Daniel Rowe, a New Zealand mining engineer (whose inspection of Tui was not publicly recorded), along with extracts from Mines Department reports. Price Williams estimated a yearly profit of over £50,000 would be made 'on an output of only 10,000 tons', and Rowe had 'seen no mining property more worthy of capital and attention'. An annual profit of £49,000 was anticipated, meaning a dividend of over 60 per cent on the capital. The purchase price was £45,000, the vendors receiving £25,000 in fully paid up shares; the balance of £20,000 would comprise either cash or shares as the British directors determined.³¹³

In practice, no cash was ever paid to the vendors, who received paid up scrip to the value of £43,000.³¹⁴ 'The directors and their friends' subscribed £11,000 of the capital. The English directors included James Cockburn, already a director of the Kapanga Company of Coromandel.³¹⁵ The initial shareholders included two men and one company who were associated with J.M. Chambers: James Wilson, a farmer of Ayr in Scotland, had 1,000 shares, as did Keep Bros of Birmingham, and Howard Childs Parkes, a

³¹⁰ *Te Aroha News*, 11 July 1888, p. 2.

³¹¹ *Te Aroha News*, 17 October 1888, p. 2.

³¹² *Te Aroha News*, 11 August 1888, p. 2.

³¹³ *Mining Journal*, 11 August 1888, p. 908.

³¹⁴ H.A. Gordon to Minister of Mines, 8 June 1891, *AJHR*, 1891, C-4, p. 54.

³¹⁵ *Mining Journal*, 11 August 1888, p. 908.

London accountant, had 250.³¹⁶ Alexander Parkes was the company secretary in 1892, if not earlier.³¹⁷

John Chambers was the local secretary,³¹⁸ and the local directors were Edwin Mitchelson, John Chambers, John Howard Keep, George Beetham, and Adam Porter, who was appointed as chairman. Beetham and Mitchelson, both members of parliament, had no previous involvement with Te Aroha mining. Beetham had been Member for Wairarapa from 1877 to 1879 and Wairarapa North from 1881-1884,³¹⁹ not a goldmining district, and would cease to be involved with Tui mining after the 1890s; Mitchelson was to be involved off and on until 1933.³²⁰

The *Te Aroha News*, in its first editorial on the flotation, believed that £12,000 in cash had been paid for the property. The company had been ‘the chief topic of conversation amongst local residents during the week’, for during the past couple of years there had been several reports that the property was ‘as good as floated’, but as it had never happened ‘folks at last began to get sceptical’ about these hopes. It had a working capital of £15,000 to develop the mines and erect a plant.³²¹ At a meeting of the syndicate in Joseph Friar Clarke’s office in Auckland, they agreed to the terms of the purchase, namely that all their shares would be fully paid up. A committee comprising Porter, John Chambers, Josiah Clifton Firth, Keep, and Alfred Bell, a settler living at New Plymouth,³²² was appointed to make preliminary arrangements for development, and asked Bayldon to report on the mines.³²³

³¹⁶ List of Shareholders, Tui Gold Mines Ltd, Company Files, BT 31/6888/48453, The National Archives, Kew, London; Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, List of Secured Creditors in Estate of J.M. Chambers, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

³¹⁷ *Mining Journal*, 6 February 1892, p. 142.

³¹⁸ *New Zealand Gazette*, 19 March 1891, p. 383.

³¹⁹ *New Zealand Parliamentary Record* (Wellington, 1913), p. 66.

³²⁰ For the end of his involvement, see Te Aroha Warden’s Court, Mining Applications 1933, 1/1933, BCDG 11289/2a, ANZ-A.

³²¹ Editorial, *Te Aroha News*, 4 August 1888, p. 2.

³²² Te Aroha Warden’s Court, Register of Licensed Holdings 1881-1887, folios 166, 167, BBAV 11500/9a; Certified Instruments 1886, nos. 22/9, 23/10, 24/10, BBAV 11581/7a, ANZ-A.

³²³ *Te Aroha News*, 4 August 1888, p. 2.

The application list for shares closed in London on 16 August.³²⁴ As it was not fully subscribed, the directors postponed allotting shares until 4 September.³²⁵ It was now revealed that ‘the shareholders in the Parkes syndicate in London’ were ‘to a great extent identical with the shareholders’ in the new company.³²⁶ Only 14,323 shares were sold and the New Zealand directors were not informed how many individuals had bought these.³²⁷ Of all the under-capitalised British mining companies floated in the 1880s to work in New Zealand, this had the second-smallest capital.³²⁸

RECOMMENDED DEVELOPMENTS

By October, Bayldon had surveyed the mines and was preparing a map showing ‘all the reefs, levels, and workings to enable the directors the better to formulate a system for future operations’.³²⁹ His report, completed on 23 October, provided a good illustration of the methods adopted in this district:

Your mine embraces an area of 36a[cres] 1r[oods], situated on the main range or spur of the Te Aroha mountain. The ground is intersected by numerous small watercourses, and is heavily timbered.

The highest point on the line of the Champion reef is nearly 2100 feet above the flat, or the point where it is proposed to erect the reduction works....

The principal reef is known as the Champion lode. It is of large size, ranging from 8 to 20 feet thick. It boldly outcrops in several places, by which means it is easily traceable from end to end of the property; there is 2300 feet on its strike in your mine. It lies in a channel of tufaceous sandstone, favourable for the deposition of the precious metal. Its strike is generally N.E. and S.W., with a N.W. underlie.

³²⁴ *Te Aroha News*, 15 August 1888, p. 2; *Auckland Weekly News*, 22 September 1888, p. 21.

³²⁵ *Te Aroha News*, 10 October 1888, p. 5.

³²⁶ *Te Aroha News*, 31 October 1888, p. 2.

³²⁷ *New Zealand Gazette*, 19 March 1891, p. 383.

³²⁸ H.J. Hanham, ‘New Zealand Promoters and British Investors, 1860-1895’, in *Studies of a Small Democracy: Essays in honour of Willis Airey*, ed. Robert Chapman and Keith Sinclair (Auckland, 1963), pp. 64-65.

³²⁹ *Te Aroha News*, 6 October 1888, p. 2.

The reef has been stripped on the surface to a considerable extent, exposing fine bodies of quartz. In such places it is coloured deep vermilion on plan.³³⁰

From No. 2 drive easterly, the reef where exposed displays for the most part a free class or ore, containing gold, silver (sulphide) and oxide of iron, and near No. 2 drive strong traces of cinnabar are observable.

North-westerly from No. 2 drive the reef appears to be split; the hangingwall portion is 4 feet thick, and well impregnated with sulphide of silver and iron. The footwall portion is from 7 to 8 feet thick, showing strong seams of galena, copper pyrites, and zinblend. From the point mentioned to the south-west boundary the various ores appear to occupy in the reef in the order indicated.

About 60 feet south-west of No. 2 drive a portion of the cap of the hangingwall section of the reef has slipped out of position owing to the precipitous nature of the country; it is possible a fault has occurred. However, there is no certainty on that point until No. 4 drive has been extended sufficiently far to prove if such is the case or not. Irrespective of the Champion lode, there are three others traceable in the ground. No. 2 is about 4 feet thick, and is observable crossing the sleight track; it shows seams of galena interspersed with copper pyrites. No. 3 reef is a well-defined vein 2 feet 6 inches thick, but where opened shows no minerals. There is also a reef 3 feet thick crossing the saddle of the range near No. 1 drive; it is in good country, and has all the appearance of being gold-bearing. None of these subsidiary reefs have had any work done on them of any consequence; they are well-defined reefs, and there is every reason to believe, when they have been prospected, that they will prove valuable adjuncts to the property.

Several drives have been commenced at different points, which can be utilised in the future working and development of the mine.

At present I think it will be advisable to confine the development operations to the western section, viz from the winze on the apex of the ridge to the south-west boundary; the whole of this portion of the mine can, with a minimum of cost, be brought under command.

The following works for the full and satisfactory development of that section of the mine should be undertaken without delay, so as to form a system of connections from the top of the hill to the No. 4 level, from whence the ore will be forwarded to the reduction works. The plan and section will illustrate the proposed mode of operations.

Commencing at the top, the winze requires to be sunk 10 feet to be level with the back of No. 1 drive. From this winze, and its

³³⁰ No copy of this plan has been traced.

vicinity, the best gold and silver-bearing ore yet found in the mine has been obtained. If it is considered desirable to obtain the ore expeditiously, it will be necessary to extend No. 1 drive to intersect the lode near the winze, and then construct a light contour tramway to connect with a ground shoot and No. 2 drive.

To connect point B, where good ore is also showing, a short crosscut of about 30 to 40 feet can be put in, and on the level of the tramline. By this means the two most important points, so far as is known, in No. 1 block will be brought into touch with No. 2 block. The above-mentioned method is the most expeditious of getting the ore from points A and B. But for the permanent opening of No. 1 block it will be necessary to carry a drive along the course of the reef, which is the proper mode of proceeding. No. 1 drive on the line of reef should be put through the hill a distance of some 600 feet; it will give on an average 60 feet of backs. No. 2 drive is an important level: 80 feet vertical below No. 1 is now in 50 feet, and should be extended through the hill - a distance of 900 feet, and rises put up at intervals to open the block ready for stopping out. The first rise should be at point A; it will form the first section of a main pass to the lower workings.

A very important advantage to be gained by carrying this drive through to the eastern slope of the hill is that a very superior class of timber for mining purposes will be readily obtainable, the timber on the western slope not being of such good quality.

No. 3 drive is a crosscut, for the most part, in broken country. It was in a distance of 87 feet at the time of my visit; the face then appeared to be entering the solid rock, and the reef should be only a few feet ahead. This drive will prove to be of considerable service by dividing the block between Nos. 2 and 4 levels. It is 85 feet below No. 2, and 60 feet above No. 4 level. It should be extended 275 feet eastward, and a connection formed with No. 2 at the point I propose as a main pass.

No. 4 drive is a good piece of work. It is 6 feet wide, by 6 feet 6 inches high, well and substantially timbered where required, but it is minus truck and rails. The crosscut is in a total distance of 150 feet. At 87 feet a reef 3 feet thick was passed through, supposed to be a continuation of No. 2 reef; at 135 feet the hangingwall of the Champion lode was intersected, and the balance of 15 feet was continued in the reef towards the footwall. The reef has been driven on 11 feet east, and 48 feet west; the whole width of the drives is in ore, showing a strong body of galena, interspersed with copper pyrites and zinblend.

A rise has been commenced in connection with No. 3 drive, and the ore body looks strong and well defined.

This drive will for a very considerable time be the main adit level of the mine. It should be extended both north-east and south-west, and connected with the blocks above, so forming the main artery of the mine. Towards the south-west a winze has been

sunk 17 feet from the surface, showing a good body of galena. This winze should be continued and connected with the No. 4 level, and the drive then continued from the winze to the boundary, a further distance of 300 feet. The winze will require to be sunk 70 feet deeper to meet the back of No. 4 level. The works above enumerated, when carried out, will place at your disposal an unlimited supply of different classes; clean ore, containing gold, silver, and iron, from eastward of No. 2 drive, and westward from that point more complex ore, containing gold, silver, copper, lead, and zinblend. The May Bell drive is for the present not required, but will at some future time be valuable as an outlet.

The total cost of these works, including the tramway, was £7,000, and the New Zealand directors cabled to London 'for instructions to at once proceed'.³³¹ Cornes was appointed mine manager, and in November tenders were called for a drive of 110 feet to the bottom of the winze in the Champion Lode No. 1 mine, the most northerly, and then to drive 100 feet on the line of the reef; for a winze of 80 feet in Champion Lode No. 3; for a cross cut of 40 feet and a drive on the reef for 100 feet in Champion Lode No. 2; and to drive 250 feet on the line of the reef in Champion Lode No. 3. In the opinion of the 'Colonial directors', this would open up the mine 'in a thorough and systematic manner'. These contracts would provide full-time employment for 24 men, and about six more would be required to provide mining timber. Approval was also given by the 'Home directors' to erect an aerial tramway.³³² The development was designed so that all the tramways and workings started from one point on the No. 4 level, saving 'considerable expense' in 'tramming and handling the ore'. Nothing definite was decided about the most suitable treatment plant before the results of Parkes' experiments at Karangahake were known; should his process 'prove satisfactory in practical working', the *Te Aroha News* had 'no doubt a furnace on this principle will be promptly erected'.³³³

THE TUI TRACK

In March 1887, Cameron had sought assistance from the council to make the track to his May Bell claim 'practicable for traffic'; he estimated

³³¹ *Te Aroha News*, 3 November 1888, p. 2; also *Auckland Weekly News*, 3 November 1888, p. 30.

³³² *Te Aroha News*, 17 November 1888, p. 2.

³³³ *Te Aroha News*, 31 October 1888, p. 2.

the cost at £9, but, on the advice of the county engineer, £5 was granted.³³⁴ By October, the condition of the main track was 'simply abominable and it would be almost impossible to convey quartz, even in small quantities, to the flat until it had been repaired'.³³⁵ In the following month, Cleary's request for assistance to improve a track to his claim was refused because of lack of funds and the work being only 'of service to Cleary's claim until the track towards Karangahake was further extended'.³³⁶ By December Cornes' party had spent £20 improving the track to their mine; another £20 was needed to repair tracks to other mines, and upgrading the main track into a sleigh road was still required.³³⁷

On 21 May 1888, all those mining at Tui met to press for a better road, the present one being 'altogether inadequate'.³³⁸ A surveyor had informed Cornes that it was possible to construct one with a grade of 1 in 8 from the flat to 'Cameron's Whare, say a distance of 1 1/2 miles'.³³⁹ (Cameron's Camp, as this site was otherwise known, was about the halfway point of the future track.)³⁴⁰ Making the track another mile longer would create the easier grade of 1 in 10. A committee was formed to ask the council for assistance and to discover what it had done with the gold revenue received from Tui;³⁴¹ it was believed this had been spent elsewhere. Another reason for a better road was the intention to construct an aerial tramway, for it was 'feared that great difficulty will be experienced in getting the heavier portions of the gear to the mine'.³⁴² Dobson told the council that the track was 'in a most wretched condition' and only 'with the greatest difficulty' did horses get to the top of the hill. Before winter was over it would be 'impossible to get ore down from the mines or supplies up to them'. As the council had received £420 in revenue from Tui, it should pay for the road.

³³⁴ *Thames Advertiser*, 7 March 1887, p. 2; Ohinemuri County Council, *Te Aroha News*, 12 March 1887, p. 2.

³³⁵ *Te Aroha News*, 15 October 1887, p. 2.

³³⁶ Ohinemuri County Council, *Te Aroha News*, 15 October 1887, p. 2, 12 November 1887, p. 3.

³³⁷ *Thames Advertiser*, 5 December 1887, p. 2.

³³⁸ *Te Aroha News*, 19 May 1888, p. 2.

³³⁹ *Te Aroha News*, 23 May 1888, p. 2.

³⁴⁰ *Ohinemuri Gazette*, 17 February 1897, p. 2.

³⁴¹ *Te Aroha News*, 23 May 1888, p. 2.

³⁴² *Waikato Times*, 9 June 1888, p. 3.

After discussing this letter, the council asked its engineer to estimate the cost of a road with a gradient of 1 in 10.³⁴³

The survey was soon done,³⁴⁴ but Cornes informed the council's July meeting that the surveyed road was 'not going in the right direction, and had not been started high enough. If it had been commenced several hundred feet further up instead on at the corner of the bush it would have been of use. It did not go above Cameron's point, whilst the grading had been worked upwards instead of downwards'. Because of these mistakes, any money spent 'would be wasted'. The engineer disagreed and stated he had not been instructed to go above Cameron's point. The council's works committee was asked to consider the engineer's report and plan, and Cornes was granted £10 to assist him to form a road from 'the low level at the Tui to the old pack track, as he had to cart 25 tons of galena ore to Karangahake'.³⁴⁵ Because there was no further progress, in December, a deputation of men involved in Tui mining met the Minister of Mines, Cornes explaining the issues:

We have now been working up in the Tui district for about three years. The ore there is of a very refractory nature, and consequently very difficult to treat. About 200 tons have been shipped Home from the Champion Lode claims. The cost of getting ore to the railway station from the top workings was £3 10s per ton, and £1 5s per ton from the lower workings. The Tui district had been well prospected, and those interested there now wanted some assistance from Government in the form of a better road to get to the mines. A road was required on the eastern side of the ranges, but in order to get that, a good road required to be first made on this side. I represent the Champion Co, who have £12,000 available for working their property, and within the past week contracts have been let by this company to close on £2000, for the development of their property.

As 'very little assistance' had been given by the council, the miners 'had no chance of getting their quartz away'. Cameron said the road would need to be about one and a half miles long and end at an altitude of 1,300 feet.³⁴⁶ Because it was not constructed, the contractor building the aerial

³⁴³ *Te Aroha News*, 6 June 1888, p. 2.

³⁴⁴ *Te Aroha News*, 30 June 1888, p. 2.

³⁴⁵ Ohinemuri County Council, *Te Aroha News*, 11 July 1888, p. 2.

³⁴⁶ *Te Aroha News*, 26 December 1888, p. 2.

tramway had to sledge timber up the hill using bullocks.³⁴⁷ During the winter of 1889, the road caused accidents, the worst one involving ‘several bullocks newly broken in to the work’ that ‘got restive’ where the track had ‘a very awkward turn, the result being that some of the bullocks slipped over the side of the steep cliff, dragging the others with them’, killing three. The contractor had ‘previously lost several bullocks employed in sledging up timber’.³⁴⁸ In the same month as this accident, the contractor carting ore for the company asked the council to corduroy the track because of its ‘very bad state’. After a councillor confirmed that it was ‘almost impassable’, £10 was granted for repairs.³⁴⁹

THE TUI AERIAL TRAMWAY

On mid-September 1888, J.M. Chambers applied for a license for an aerial tramway starting near the portal of the low level drive of the Champion Lode Extended; it was granted in early November.³⁵⁰ Bayldon surveyed a line running directly from the mine to the machine site on the flat and drew up plans for its construction. The total length was 2,786.5 yards, and he did not anticipate any problems constructing it. ‘In the most exposed portions of the line, particularly where crossing spurs, it will be necessary that the timber should be cleared for a distance of about two chains wide’ to prevent timber falling on the tramway in windy weather; from 12 to 15 acres of bush would have to be felled. He expected the tramway to be ‘economical, both as regards construction and the cost of working’, and ‘capable of delivering daily about 50 tons of ore ... at a cost not exceeding 8d to 10d per ton’. His rough estimate of the cost was £1,500.³⁵¹ The *Te Aroha News* considered Bayldon had obtained ‘an excellent line’ with no engineering difficulties and an easy grade.³⁵² The highest trestle would be 28 feet high.³⁵³ ‘The greater portion of the plant’

³⁴⁷ *Te Aroha News*, 18 December 1888, p. 7, 3 April 1889, p. 2.

³⁴⁸ *Te Aroha News*, 29 June 1889, p. 2.

³⁴⁹ *Te Aroha News*, Ohinemuri County Council, 8 June 1889, p. 2, 19 June 1889, p. 2.

³⁵⁰ Te Aroha Warden’s Court, Register of Applications 1883-1900, 97/1888, BBAV 11505/1a, ANZ-A.

³⁵¹ *Te Aroha News*, 3 November 1888, p. 2, and *Auckland Weekly News*, 3 November 1888, p. 30.

³⁵² *Te Aroha News*, 6 October 1888, p. 2.

³⁵³ *Te Aroha News*, 31 October 1888, p. 2.

had 'been lying at Te Aroha for a considerable time' before being bought by a Waiomu mine, meaning 'new material of a more serviceable character' would have to be purchased.³⁵⁴ The local directors accepted Bayldon's plans, although they still had to check the costs.³⁵⁵ To reduce these, they offered to purchase an unused wire rope bought for the Waiorongomai tramway, 'asking that the price be made as low as possible'; it was sold for half-price.³⁵⁶

At the hearing to grant the tramway license, as Cameron objected to its going across his May Bell because it would interfere with his mining, the line was granted only 'as far as the May Bell drive, the upper portion being meantime refused'.³⁵⁷ In late December, Cornes announced that the English directors had sanctioned the erection of the tramway for the £1,500 estimate, 'if the contractor would guarantee to work it for three months, and that it would convey fifty tons of quartz per day of eight hours'.³⁵⁸

In February 1889, a contract was let to build both trestles and woodwork.³⁵⁹ In early March, because the 'precipitous' hillside prevented a ground tramway being used to connect it with No. 4 drive, it was decided to erect a 400-foot extension at an expected cost of £50.³⁶⁰ By early April, 'satisfactory progress' was reported, bullocks hauling up kauri timber for the trestles; one had 'already been erected on the Fern Spur, about halfway up the line'.³⁶¹ The remaining 12 trestles were erected over the next two months, as was the hopper 'at the mouth of the low level at the junction of the branch tramway with the main tram line'.³⁶² In July, as all the trestles were completed the wire rope was ready to be raised into position.³⁶³ The contract to erect the rope and machinery went to Robert James Johnson, a

³⁵⁴ *Te Aroha News*, 6 October 1888, p. 2, 13 October 1888, p. 2.

³⁵⁵ *Te Aroha News*, 31 October 1888, p. 2.

³⁵⁶ Piako County Council, Minutes of Meeting of 8 November 1888, Matamata-Piako District Council Archives, Te Aroha; Piako County Council, *Waikato Times*, 10 November 1888, p. 2.

³⁵⁷ Warden's Court, *Te Aroha News*, 7 November 1888, p. 2.

³⁵⁸ *Te Aroha News*, 26 December 1888, p. 2.

³⁵⁹ *Te Aroha News*, 21 January 1889, p. 2, 16 February 1889, p. 2.

³⁶⁰ Te Aroha Warden's Court, Register of Applications 1883-1900, 33/1889, BBAV 11505/1a, ANZ-A; *Te Aroha News*, Warden's Court, 6 March 1889, p. 2, 9 March 1889, p. 2.

³⁶¹ *Te Aroha News*, 10 April 1889, p. 2.

³⁶² *Te Aroha News*, 1 May 1889, p. 2, 5 June 1889, p. 2, 19 June 1889, p. 2.

³⁶³ *Te Aroha News*, 6 July 1889, p. 2, 27 July 1889, p. 2.

civil engineer from Greymouth.³⁶⁴ Presumably he was the ‘gentleman from the South’ with ‘considerable experience in the construction of aerial tramways’ in the South Island referred to earlier as planning to come to Te Aroha to consult with the directors.³⁶⁵ Wire rope specially imported from Britain was ‘tested to stand the strain many times in excess’ of what it would carry.³⁶⁶

In late August, the *Te Aroha News* described the almost completed tramway:

The total length of the line is about 1 1/2 miles. The rope used is made of plough steel (imported from London), total length, 16,600 feet. It is two inches in circumference, and weighs about 4 1/2 tons. Rope runs through what are termed “sheaves,” a kind of pulley, fixed on top of the trestles. The trestles, twelve in number, are each 30 feet high, and constructed of best heart of kauri, very strongly braced. At either end the rope travels round on what is known as the terminal “sheave” which is 10ft in diameter (something after the form of a huge wheel, with wrought iron spokes, and the grooves being cast iron). There is a direct fall from the upper to the lower terminal of 1,700 feet, and gravity is the motive power; the weight of the full buckets as they descend drawing up the empty buckets; in fact it is in this respect on exactly the same principle as a self-acting grade on a ground tramway. The quartz is carried in buckets, of which there will be 80 altogether, but at the start only about 58 will be attached. These buckets (or, more correctly speaking, circular bottom “skips”) are made of sheet metal, 1/8 inch thick, rivetted together, and are bow shaped, each 13 1/2 inches deep, 18 inches wide and 30 inches long. The buckets were constructed by Messrs Fairweather, of Auckland, from plans provided by Mr Johnson, and will carry about 200 pounds of ordinary quartz each. The “skips” will have each an iron bow handle, and these handles, or bows, are attached to the wire rope by means of what are termed “clips.” At both the upper and lower end of the tramway are paddocks for the quartz as it comes from the mine, and as discharged from the skip when the tramway is at work. The mode of working is simple in the extreme, although not easily described in words, without the aid of a plan. At the upper end of the tramline, on one side of the “terminal,” an overhead oval-shaped tramway is erected, resting on trestles, and 20 feet in length; on

³⁶⁴ *Te Aroha News*, 2 May 1889, p. 2; *Greymouth Electoral Roll, 1887*, p. 16.

³⁶⁵ *Te Aroha News*, 15 December 1888, p. 2; George Wilson to Under-Secretary, Mines Department, 25 April 1889, *AJHR*, 1889, C-2, p. 102.

³⁶⁶ *Te Aroha News*, 19 June 1889, p. 2.

which travels what is known as the filling skip. This skip runs round and under the shoot of the hopper connecting with the paddock of quartz, where it is filled, and is then passed round to the side of the terminal, and there awaits the arrival of the empty tram skips. Each tram skip as it travels round, takes told of the full skip by means of an automatic arrangement, and both travel together the length of the overhead tram, i.e., 20 feet, during which transit the load of quartz is transferred from the one skip to the other by an automatic arrangement. On reaching the end of the overhead tramway, the filling skip is released, the full skip proceeding on its journey to the terminal, where it discharges its load by being made to revolve on its axis. As soon as the filling skip has been released it is run back by a boy to be re-filled at the shoot, ready for the next tram skip, and so the process is repeated. Both the bottom and top terminals are supplied with band brakes, and a man (to work the brakes) and a boy (to attend the skips) can run the whole affair. The tram when it works travels at about the rate of five miles an hour. About half the required number of buckets have already been attached, but owing to the wet cloudy weather for some days past the completion of the work has had to be temporarily suspended, as when the work is progressing signals, by means of flags, have to be exchanged between those working at the upper and lower terminals.³⁶⁷

The buckets held 250 pounds of ordinary quartz and double that weight of galena.³⁶⁸ As an experiment, in late August a few loaded buckets were sent over the line, 'which worked most satisfactorily'.³⁶⁹ After further tests were made and a breakage to the upper terminal sheave was repaired, the line worked well.³⁷⁰ Johnson regulated the speed at four miles per hour, but in his absence on 10 October the men in charge sent the buckets off at ten or 12 miles an hour, 'smashing up one of the buckets and injuring others considerably, besides damaging the wire'. On his return, he dismissed them and restored the correct speed.³⁷¹ Later that month, the tramway was 'working well' and had 'brought down 180 tons'.³⁷²

³⁶⁷ *Te Aroha News*, 24 August 1889, p. 2.

³⁶⁸ *Te Aroha News*, 27 July 1889, p. 2.

³⁶⁹ *Te Aroha News*, 24 August 1889, p. 2.

³⁷⁰ *Te Aroha News*, 14 September 1889, p. 2.

³⁷¹ *Waikato Times*, 12 October 1889, p. 2.

³⁷² *Te Aroha Correspondent*, *Thames Star*, 23 October 1889, p. 2.

In October it was stated that ‘some slight modifications’ would be desirable, such as erecting an extra trestle or two, ‘but on the whole’ the working was ‘considered satisfactory’. Only 51 buckets had been attached, but it was intended to add another 15. Preliminary working suggested that ore could be transported ‘from any portion of the Company’s property at a cost not exceeding 1s 3d per ton’.³⁷³ The extra 15 buckets were attached by November, and additional trestles constructed to take the extra weight.³⁷⁴ During November, the tramway was working ‘nearly every day’.³⁷⁵ For the first time since 1885, it was possible to treat large quantities of ore.

DEVELOPING THE MINES AND USING THE PARKES PROCESS

Whilst the tramway was being constructed, the company developed its mines and prepared to erect a treatment plant. In October 1888, an Auckland reporter visited:

Mr Clem. Cornes assured me of a hearty welcome, as he justly remarked, “There is always plenty to eat and liquor of the best brand (water).” The track is about two miles long from the edge of the bush to the mines, and in parts it is exceedingly steep. Arriving at the mines, [his son] Mr W[illiam John] Cornes was good enough to show me round. The Champion lode ground was the first inspected. On this there were eight men employed in breaking out above the lower level, and the stuff I saw was really splendid-looking quartz, and of a kindly nature. There are already thousands of tons of this broken out, and waiting for treatment. Along a little distance from this are the Tui Reduction Works, where six men were at work, four of them improving the track and two breaking out. The reef on which these men were working is 12 feet through, and contains a little silver, and gold, and galena 2 feet 6 inches thick. As at the Champion, there is a vast quantity of this stuff broken out and ready for treatment. So far then everything would indicate great and untold wealth, but science has as yet only halted here, and labour awaits a rich reward. At present the stuff from both mines has to be packed and sleighed to the bottom of the hill, whence it is carted. Many processes have been attempted, both at Auckland and the Thames, but the expense is too great, and until smelting works are on the ground, or Parkes’ process (under trial at this moment at Karangahake) is pronounced an unqualified success, and one

³⁷³ *Te Aroha News*, 26 October 1889, p. 2.

³⁷⁴ *Te Aroha News*, 2 November 1889, p. 2.

³⁷⁵ *Te Aroha News*, 23 November 1889, p. 2.

erected here, the Tui mines must wait. The Ruakaka, which adjoins the Champion, is also one of the mines with rich prospects and the same hindrances. Six men are employed here sinking a winze to connect with the lower level land driving on a reef at the present low level, besides surface prospecting. They have also some very good stone lying at the mine ready for treatment.

There are three other claims which I should have liked to see, but time would not permit, viz., the Earl of Aberdeen and the Riverdale Nos. 1 and 2, from which I was told some very rich stone has been brought. Several tons of stuff from the Champion and Tui have been forwarded to Karangahake for treatment by Mr Parkes' process, and the result of this is being anxiously looked for. Should it prove a success, it will be a great matter to this district; if not, we must wait till someone else comes along.³⁷⁶

Late in August, 25 tons of galena and five of quartz had been sent for Parkes to test.³⁷⁷ His plant did not operate until mid-October, after delays caused by some machines not working properly.³⁷⁸ He was 'very satisfied' with the furnace, and repeated that, once his experiments at Karangahake were completed, he would build one at Te Aroha.³⁷⁹ But three days later it was reported that Tui galena had proved useless for smelting because of containing too much zinc.³⁸⁰ For one week the furnace gave 'the utmost satisfaction', but it was stopped after three weeks, reportedly because the coal used was unsatisfactory. The results of the smelting were not published, but all kinds of rumours spread.³⁸¹

Parkes then announced that, after taking a holiday, he would return to Karangahake to superintend another smelting using Greymouth coal. After supervising the erection of reduction works in Queensland for a large London company, he would erect furnaces at Te Aroha to treat Tui ore, which he considered 'much more suitable for smelting' than that at Karangahake. As well, having a railway to Te Aroha meant fluxes were more easily obtainable, making the cost of treatment much less.³⁸² Parkes blamed any problems on 'a lack of knowledge on the part of the man'

³⁷⁶ 'Mines in the Te Aroha District', *Auckland Weekly News*, 27 October 1888, p. 37.

³⁷⁷ *Te Aroha News*, 25 August 1888, p. 2.

³⁷⁸ *Te Aroha News*, 29 September 1888, p. 2, 6 October 1888, p. 2, 13 October 1888, p. 2.

³⁷⁹ *Te Aroha News*, 17 October 1888, p. 2.

³⁸⁰ *Te Aroha News*, 20 October 1888, p. 2.

³⁸¹ *Te Aroha News*, 31 October 1888, p. 2, 10 November 1888, p. 2.

³⁸² *Te Aroha News*, 14 November 1888, p. 3, 24 November 1888, p. 2.

running his furnace, and assured a reporter that he was 'obtaining £9000 in order to erect three or four more at Te Aroha'.³⁸³ Early in December, it was announced that the Karangahake plant had not been as successful as anticipated and that the next one would be 'very different'.³⁸⁴ After Parkes left for Queensland, the furnace remained idle and matters were 'most unsatisfactory in connection with it'.³⁸⁵ On 19 December, it was advertised for sale and removal.³⁸⁶ John Howell, of the Waiorongomai battery,³⁸⁷ purchased all Chambers' Karangahake property, 'including slag and ore purchased for treatment by the Parkes furnace'.³⁸⁸ The failure of this process was 'a severe blow to the hopes' of the district.³⁸⁹

Parkes' furnace had treated 36 tons of Tui ore, for no return.³⁹⁰ Gordon summarized what went wrong:

Instead of being able to obtain fluxes for smelting the ore for 12s 6d per ton, which was Mr Parkes's estimate, it cost from £18 to £20 per ton, and even with all the costly fluxes the ore could not be successfully smelted. When examining the slag from the furnace it was full of knots and lumps of silica, like lumps of dry oatmeal amongst pottage.³⁹¹

Warden Northcroft commented on the debacle:

It was looked forward to by the Karangahake, Waihi, and Te Aroha miners as a solution of the difficulty they had laboured under for many years - *i.e.*, only getting in most instances half the bullion from their complex and refractory ores, and in many [cases] not even that. Mr Parkes had samples of the ore from the Tui District sent to him in England. These he treated there, and claimed to have discovered a process of smelting by which, at a cost of not more than £2 per ton, he could treat any of the ores in that district, even the most complex and refractory. As the lodes

³⁸³ *Waikato Times*, 17 November 1888, p. 2.

³⁸⁴ Ohinemuri Correspondent, *Te Aroha News*, 4 December 1888, p. 2.

³⁸⁵ *Te Aroha News*, 8 December 1888, p. 2, 12 December 1888, p. 2.

³⁸⁶ *Te Aroha News*, 19 December 1888, p. 2.

³⁸⁷ See paper on the Te Aroha Silver and Gold Mining Company.

³⁸⁸ Ohinemuri Correspondent, *Te Aroha News*, 19 December 1888, p. 2.

³⁸⁹ *Waikato Times*, 29 December 1888, p. 2.

³⁹⁰ George Wilson to Under-Secretary, Mines Department, 25 April 1889, *AJHR*, 1889, C-2, p. 102.

³⁹¹ H.A. Gordon to Minister of Mines, 8 June 1889, *AJHR*, 1889, C-2, p. 41.

are large and average from £4 to £20 per ton in value, it meant a “big thing” for the miners and mine-owners; but after building a furnace and running it for three weeks it had to be shut down and abandoned by Mr J.M. Chambers, the enterprising gentleman who had introduced Mr Parkes and his process, the loss being too great. This proved a great check to the mining industry, for the mine-owners and miners had pinned their faith to the “Parkes process.”³⁹²

In August, mining commentator and mine manager John McCombie³⁹³ had described Parkes as ‘an inventor and metallurgist bearing a very high reputation for skill and ability’ in dealing with refractory ore. He was pleased that Parkes had declined offers to erect his plant in Africa and Queensland and came to New Zealand instead, for which miners were ‘indebted’ to Chambers and his son, who had ‘always taken an active part in the development of our mineral industry’. He hoped they would soon be ‘amply rewarded for their faith and perseverance’.³⁹⁴ After the furnace failed, he explained that the process caused the slags to contain more bullion than the matte produced, meaning that ‘the last stage of the ore was worse than the first. This business cost those interested about £3,000, and very few people could, or would, believe that one of the leading metallurgists in the old country had completely given himself away’.³⁹⁵ A year later he wrote that he had heard Parkes

say that in his experiments gold was often found “chemically” combined with iron pyrites, and that it was possible for the precious metal to exist in such a form to the extent of hundreds of pounds sterling per ton without affording any of the usual indications of its presence.... This has now been proved to be pretty correct.³⁹⁶

In a prize essay, published in 1907, he wrote that Parkes (whom he did not name) had invented ‘the desilverising lead process’ and ‘perfected many

³⁹² H.W. Northcroft to Under-Secretary, Mines Department, 4 May 1889, *AJHR*, 1889, C-2, p. 92.

³⁹³ See paper on Billy Nicholl.

³⁹⁴ *Te Aroha News*, 11 August 1888, p. 6.

³⁹⁵ ‘Aboriginal’, ‘Karangahake Notes’, *Thames Advertiser*, 27 March 1891, p. 2.

³⁹⁶ ‘Aboriginal’, ‘The Treatment of Gold and Silver-Bearing Ores’, *Auckland Weekly News*, 26 November 1892, p. 35.

other things of acknowledged commercial value. Before leaving England he had treated quite a number of small lots of Woodstock ore with a fair amount of success', and had expected 'similar results could be obtained when treating ore of the same character on a large scale', claiming he could save 95 per cent of the value. As assays of the matte produced by his reverberatory furnace revealed 'little or no recovery of bullion', the 'last stage of the ore was worse than the first'. Unable to provide an adequate explanation, 'the matting process came to a sudden termination'. Two years later, when the furnace was dismantled,

there was found a deposit of matte which realized over £100 in the London market. It would appear that the hearth of the reverberatory furnace, when subjected to intense heat, became porous, and the matte leaked through to the brick foundation. Had the process been kept going for another twelve hours the matte would have filled up all the crevices in the faulty hearth, and then it would have flowed out of the tap-hole in the ordinary way. Nevertheless, as in the case of the smelter, the cost of fluxing a highly siliceous ore would have been too high, and on this account alone the process would have been a failure.³⁹⁷

Parkes, though unaware of the faulty hearth, must have believed his process could still work, for in July 1890 it was rumoured that he had invented an improved process that would treat Tui ore 'to perfection'.³⁹⁸ After then, nothing more was heard in New Zealand of Parkes' inventions.

FINANCIAL CONSEQUENCES FOR JOHN MOGINIE CHAMBERS

The failure of the Parkes process ended J.M. Chambers' involvement with Tui mining. The Askham-Molloy Gold and Silver Extraction Company, of which he was a director and in which he held 4,000 of the 20,000 shares, half paid up,³⁹⁹ also failed, and these two failures in one year meant financial disaster. In December 1888, A. & G. Price asked him to 'make our

³⁹⁷ [John McCombie], 'Third Prize Essay', *Three Prize Essays on the Present Condition and Future Prospects of the Mineral Resources of New Zealand, and the Best Means of Fostering their Development* (Wellington, 1907), pp. 265-266.

³⁹⁸ Te Aroha Correspondent, *Auckland Weekly News*, 5 July 1890, p. 21.

³⁹⁹ Company Files, BADZ 5181, box 52 no. 350, ANZ-A; *Auckland Weekly News*, 18 February 1888, p. 18, 10 March 1888, p. 18, 21 April 1888, p. 19, 28 July 1888, p. 10.

account your first study when your funds reach. Trusting that our waiting is not putting us in a worse position, but will get your consideration for doing so'.⁴⁰⁰ Two months later, he was reminded that he had 'promised us a cheque for amount of account £90 - would be forthcoming before this time, we beg to request your earliest attention to a settlement'.⁴⁰¹ In January 1890, the firm listed this sum as a bad debt,⁴⁰² and the following month the Supreme Court granted it permission to issue a summons against him (he was living in Sydney).⁴⁰³ Chambers immediately returned, and on 5 March filed to be adjudged a bankrupt. Two days later, his statement to the official assignee explained his circumstances:

Up to May 1886, I was in the service of T & S Morrin & Co Ld. - On the 25th of that month I left the Colony for Europe, partly on pleasure and partly on business. At that time I had Scrip, Land, and other securities of the then value of £3345.18.1... My indebtedness against this being only £109.14.7. Whilst in England I secured the patent process for Parkes smelting apparatus, for which I became responsible for £1000,- £200 of which I paid out of my own pocket, & the balance forms part of my present liability. I also secured the Patent rights for the Molloy process, for which I personally paid £400,- and got in exchange a complete Plant, costing me £150-more for transport to New Zealand,- I also secured the Patent right, and sole Agency for N.Z. of the Askham Pulveriser, for which I gave Bills for £463.14.0 - this also forms part of my present liability,- I returned to the Colony in Feby 1888.- During my year and nine months sojourn in England, I earned, in commissions about £600,- apart from the services just mentioned - this money was all absorbed in personal expenses. When I reached the Colony I devoted myself to the floating of the Askham-Molloy Compy and to Mining Agency in general. I was engaged in the Askham-Molloy business for 6 months,- it turned out a complete failure & I not only lost the whole of my interest in the concern, but never received anything for my services, I estimate my loss at £1500.- The Parkes transaction was also a total failure & resulted in a personal loss of £2700.- Whilst in England I made partial arrangements for

⁴⁰⁰ John Watson to J.M. Chambers, 8 December 1888, A. & G. Price Letterbook 1888-1889, p. 284, A. & G. Price Archives, Thames.

⁴⁰¹ John Watson to J.M. Chambers, 21 February 1889, A. & G. Price Letterbook 1888-1889, p. 394, A. & G. Price Archives, Thames.

⁴⁰² Book Debts as at 1 January 1890, A. & G. Price Letterbook 1889-1891, p. 981, A. & G. Price Archives, Thames.

⁴⁰³ Supreme Court, *Auckland Weekly News*, 8 February 1890, p. 15.

floating the Champion G. M. and it was completed in June 1888 after I returned. I was the holder of 2650 shares for services rendered and I also owned 5/80ths of the mine = a promoter's share. The value of my interest in the Champion Coy in June/88 was £900 - & could then have been sold for that money,- I have now 1800 of these shares on my hands, which I value at £720 - The remainder of the shares, and the promoter's interest, are held as security for money advanced. The only other Asset now remaining is 300 Adeline G M Shares worth about £5. Total Assets £725, and my unsecured liability amounts to £1240.12.6. There is also a liability of £589.15.7 in excess of value of securities held.- Total liability £1830.8.1.- Deficiency, £1105.8.1. My actual cash earnings since my return to the Colony, have not exceeded £350.- £250 of which was earned in the year 1889.- In October last I went to Sydney where I was engaged as a Clerk [in Tangye's company] at £125.- per annum until the 28th February,- I arrived in Auckland on the 4th instant, I returned to the Colony because a creditor for £90.- sued me, I returned for the express purpose of filing, in the belief that it was my duty to protect the interests of the general body of Creditors.

I am now out of employment - the only prospect I have is to canvas for orders on behalf of an English House, and I cannot expect to make a living from that source.-

I have, what I deem, a good cause of action for damages & refund of the £1000, paid to the Parkes 'Coy' in London, & want of means only prevented me from going home [meaning England] to pursue them.

I have nothing to suggest in the nature of a compromise with my creditors.⁴⁰⁴

His assets as at 25 May 1886 comprised shares in T. & S. Morrin valued at £900, in New Zealand Iron and Steel worth £600, in Wharekawa Coal and Land Company worth £751 10s,⁴⁰⁵ in Auckland Tram Company worth £93 4s 9d, a twelfth-interest in the Champion mine worth £30, property at Ellerslie worth £650, a horse and buggy worth £60, and insurance of £61 3s 4d.⁴⁰⁶ The assignee discovered six proven debts

⁴⁰⁴ Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, Report by the Official Assignee re Order of Discharge, 26 June 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴⁰⁵ See Company Files, BADZ 5181, box 47 no. 306, ANZ-A.

⁴⁰⁶ Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, Report by the Official Assignee re Order of Discharge, 26 June 1890, Appendix C, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

amounting to £1,470 13s 5d, and seven unproven debts totalling £655 14s, making a total debt to unsecured creditors of £2126 7s 5d. £550 was owed to James Wilson of Scotland, Keep Bros. of Birmingham and H. C. Parkes of London. The assets of 1,800 Champion shares were given a value of £720, the 300 Adeline shares (a Karangahake mine) were worth £5, and the 'Molloy Plant of doubtful value' was worth nothing. Although the assignee considered the mining shares were 'of very doubtful value and certainly unsaleable in this colony', the Adeline ones were sold, for £4.⁴⁰⁷

After two creditors' meetings lapsed for want of a quorum, in mid-June his solicitors asked for an early closure of the bankruptcy because he had been offered a position in England if he could get there 'by a certain time'. The British creditors found no fault in him, and wanted him to be able to make a fresh start. The assignee was sympathetic:

The bulk of the liability has been incurred with speculative creditors who, knowing the Bankrupt to be a very young man, are probably more to blame, if blame attaches at all, than he is, and upon this ground the Official Assignee cannot see his way to recommend the withholding of the Bankrupt's discharge, having no reason to believe that he has been guilty of any offence under the Act.⁴⁰⁸

The *Thames Star* considered him 'far more sinned against than sinning', for his failure was not due 'to any reckless speculation in mining, but by being led to embark in mining enterprises which proved disastrous' to him.⁴⁰⁹ The judge described it as 'the case of a young man who imagined himself to be possessed of property which had really turned out to be worthless'. After noting that there was no opposition to his discharge, he commented that Chambers 'had not been carrying on regular business' but 'speculating in goldmining shares, and trusting to his skill or chance in what might be called gambling'. His creditors 'not only did not oppose the discharge, but were anxious that it should take place, and this was why he

⁴⁰⁷ Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, Report by the Official Assignee re Order of Discharge, 26 June 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴⁰⁸ Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, Report by the Official Assignee re Order of Discharge, 26 June 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴⁰⁹ Editorial, *Thames Star*, 1 July 1890, p. 2.

had made these remarks, as much for Mr Chambers' own benefit as for any other reason'. After this reprimand, the discharge was granted.⁴¹⁰

The assignee considered that the £4 from the sale of the Adeline shares was all that could be realized 'without needlessly protracting the bankruptcy'.⁴¹¹ Consequently, the creditors received nothing when he was discharged on 1 July.⁴¹² In November 1891 his estate paid a first and final dividend of 1 3/8d.⁴¹³ By March 1893, the estate had produced £6 8s 11d, and once expenses had been paid there remained an unclaimed surplus of £2 3s 7d.⁴¹⁴ In that month, the assignee was released from any further involvement with his estate.⁴¹⁵

JOHN MOGINIE CHAMBERS AFTER TUI

Keep Brothers wrote to Chambers after they were informed of his filing as bankrupt that their 'only regret' was that he had not done so 'long since' and thereby saved 'the anxious & profitless worry' of two the past two years. 'We are very sorry indeed to find this upsets your arrangements with Mr Tangye but sincerely hope you will be able to make a speedy settlement & start again free from anxiety & the burden of debt'.⁴¹⁶ Philip Askham hoped 'to hear very shortly that you have received your certificate of discharge and can attend to our business as you come through Australia'.⁴¹⁷ Richard Tangye, founder of Tangye Ltd and his future father-in-law, wrote to 'Dear John' hoping that he was 'clear again' and able to make 'a fresh

⁴¹⁰ *Auckland Weekly News*, 5 July 1890, p. 36.

⁴¹¹ Court of Bankruptcy holden at Auckland, in the matter of John Moginie Chambers a Bankrupt, Report by the Official Assignee re Order of Discharge, 26 June 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴¹² Auckland Supreme Court, Bankruptcy Register 1888-1892, p. 284, BBAE 5639/1a, ANZ-A.

⁴¹³ *Mercantile and Bankruptcy Gazette*, 19 November 1891, p. 348.

⁴¹⁴ Public Trust, Bankruptcy Act - Unclaimed Assets of Bankrupt Estates 1891-1895, received 30 March 1893, Public Trust, PT 218, ANZ-W.

⁴¹⁵ *New Zealand Gazette*, 9 March 1893, p. 316; Auckland Supreme Court, Bankruptcy Minute Book 1884-1898, folio 261, BBAE 5631/2a, ANZ-A.

⁴¹⁶ Keep Brothers to J.M. Chambers, 17 April 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴¹⁷ Philip U. Askham to J.M. Chambers, 2 May 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

start' by the time his letter was received.⁴¹⁸ A member of Tangye's Sydney Office considered that he had done

the right thing and I do not doubt but that out of the experience gained during the last two years painful tho it has been you will extract some good from the lessons it will have taught you. I trust the future may not hold a second such experience for you but that it may give you on the contrary a bright happy and prosperous career. Don't be too proud to learn and don't fall into the Common error of thinking that anything but your very best is good enough. I am sure you have the elements of success in you and if you carry yourself as I in Common with your other friends believe you will, you will make a place for yourself to be proud of.⁴¹⁹

Chambers did as his friends anticipated and set out to restore his fortunes. After a lengthy tour of the Australian and New Zealand goldfields in 1892, he again called for the introduction of British capital for developing mining.⁴²⁰ Later in the decade he returned to Britain to continue his training in engineering, working for the Tangye firm once more, and in 1898, aged 35, marrying the youngest daughter of Sir Richard Tangye, 'head of the celebrated engineering firm'.⁴²¹ He invested in the mining boom of the mid-1890s,⁴²² and was the New Zealand attorney of three British companies.⁴²³ As attorney for the Waihi Grand Junction Company, he opposed a union demand for increased pay because this would force the closure of the mine and scare off English capital.⁴²⁴ As a member of the executive of the Mine Owners' Association, formed in 1901, he continued to oppose wage increases and legislation which, he claimed, prevented British

⁴¹⁸ Richard Tangye to J.M. Chambers, 14 May 1890, with covering note by J.M. Chambers, June 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴¹⁹ F.J. Wall to J.M. Chambers, 18 March 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁴²⁰ *Thames Advertiser*, 6 July 1892, p. 2.

⁴²¹ *Cyclopedia of New Zealand*, vol. 2, p. 369; *New Zealand Graphic*, 19 March 1898, p. 354; *Auckland Weekly News*, 16 April 1898, p. 1; Death Certificate of John Moginie Chambers, 6 March 1918, 1918/2167, BDM.

⁴²² *New Zealand Gazette*, 19 September 1895, pp. 1485-1486; Whangerei Warden's Court, Register of Claims, Puhipuhi Mining District, 1891-1899, folio 22, BADF 10406/1, ANZ-A.

⁴²³ *New Zealand Gazette*, 6 February 1896, p. 263, 14 April 1898, p. 637, 13 October 1898, p. 1648.

⁴²⁴ *Auckland Weekly News*, 1 March 1901, p. 24.

capital being invested.⁴²⁵ In 1903, he was appointed a director of Minerals Limited, which sought minerals throughout New Zealand.⁴²⁶ He continued to invest in mining companies over the following decade and a half,⁴²⁷ as did his wife.⁴²⁸ As well, he was a director of two engineering firms, and managing director of John Chambers and Son in succession to his father.⁴²⁹ When he died in 1918, after a long battle against lung disease,⁴³⁰ he left an estate valued at £68,271 5s 5d.⁴³¹

JOHN CHAMBERS AFTER TUI

Chambers had also experienced financial difficulties through his involvement with unsuccessful mines and methods of treating both iron sands and gold. His new house in Albert Park was ‘one of the handsomest in that locality of palatial residences’, a newspaper recorded in 1881,⁴³² and the following year he owned property valued at £1,418.⁴³³ However, in the late 1880s he was ‘unfortunate in his speculations’.⁴³⁴ Consequently, during 1886 and 1887 he failed to pay for work done on his Karangahake furnace, and in May 1887 a cheque for £22 1s 6d sent to Price Bros was dishonoured. Their accountant protested that this was ‘wrong treatment of me - you might exert yourself and remit me amount at once and save any further

⁴²⁵ *Thames Star*, 21 August 1901, p. 2, 25 September 1901, p. 4.

⁴²⁶ Company Files, BADZ 5181, box 179 no. 1096, ANZ-A.

⁴²⁷ For example, *New Zealand Gazette*, 21 September 1899, p. 1833, 17 April 1902, p. 891; Company Files, BADZ 5181, box 201 no. 1204; box 205 no. 1224; box 209 no. 1249; box 382 no. 2134, ANZ-A.

⁴²⁸ Bank of Australasia, Half-Yearly Balance Books: Advances, Statements, and Securities to 11 October 1909, 15 April 1912, Australia and New Zealand Bank Archives, Wellington.

⁴²⁹ Company Files, BADZ 5181, box 145 no. 941; box 187 no. 1138; box 17 no. 95, ANZ-A.

⁴³⁰ Death Certificate of John Moginie Chambers, 6 March 1918, 1918/2167, BDM; *New Zealand Times*, 9 March 1918, p. 3; Will of J.M. Chambers, 31 May 1915, AADM 6029/22732, ANZ-W.

⁴³¹ Testamentary Register, Wellington, 1918, folio 120, no. 360, AAEC 638/164, ANZ-W.

⁴³² *Observer*, 27 August 1881, p. 586; see also 20 November 1880, p. 79.

⁴³³ *A Return of the Freeholders of New Zealand ... October 1882* (Wellington, 1884), p. C 27.

⁴³⁴ Philip U. Askham to J.M. Chambers, 2 May 1890, Bankruptcy Files, BBAE 5628, box 4, 90/18, ANZ-A.

complications'.⁴³⁵ In the previous month his cheque for accommodation at Karangahake was dishonoured also.⁴³⁶ On 30 March, he gave a bill of sale over the furniture and effects of his house to his son-in-law for £469 18s 6d and a guarantee of his bank account.⁴³⁷ In June, his 'handsome and commodious concrete residence situated in Albert Park' was sold for £3,000, enabling him to pay the debts which had caused threats of legal action.⁴³⁸ Although his finances improved in the 1890s, the bill of sale was renewed in May 1893.⁴³⁹

At the time of the mining boom of the mid-1890s, Chambers' firm acted for the English-owned Waihi Grand Junction Syndicate and for British interests purchasing mines at Kuaotunu,⁴⁴⁰ and he was later the attorney of another English company, the Comstock United Company, mining at Karangahake.⁴⁴¹ In 1896, he was a member of the council of the Auckland Chamber of Mines and director of five Hauraki companies.⁴⁴² His firm specialized in mining and dairying machinery and also constructed tramways and waterworks.⁴⁴³ As Tangye's agents in New Zealand for their mining machinery, John Chambers and Son did 'a very large business upon a small capital', making a profit of over £2,000 a year. The National Bank's inspector, who reported this success, considered the firm to be 'high class

⁴³⁵ John Watson to John Chambers, 17 May 1887, A. & G. Price Letterbook 1886-1888, p. 273; see also 'John Chambers' in Index, A. & G. Price Archives, Thames.

⁴³⁶ Paeroa Magistrate's Court, Plaintiff Book 1881-1896, 37/1887, BACL 13745/1a, ANZ-A.

⁴³⁷ *Mercantile and Bankruptcy Gazette*, 9 April 1887, p. 106.

⁴³⁸ Jackson and Russell to John Chambers, 10 May 1887, 11 May 1887, 13 May 1887, 2 June 1887, Jackson and Russell Letterbook no. 34, pp. 223, 240, 249, 376, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and Museum; *Waikato Times*, 30 June 1887, p. 2.

⁴³⁹ *Mercantile and Bankruptcy Gazette*, 25 May 1893, p. 169.

⁴⁴⁰ *Te Aroha News*, 25 September 1895, p. 2; *Waikato Argus*, 10 September 1896, p. 2.

⁴⁴¹ *Auckland Weekly News*, 16 July 1903, p. 35.

⁴⁴² *List of Companies Registered with the Auckland Chamber of Mines* (Auckland, 1896), pp. 1-3, 5.

⁴⁴³ For example, *Thames Advertiser*, 15 October 1895, p. 2; *Observer*, 2 July 1898, p. 13, 7 January 1899, Exhibition Supplement, p. 3; *Cyclopedia of New Zealand*, vol. 2, pp. 368-369; *New Zealand Herald*, 3 April 1902, p. 5, 30 September 1903, Monthly Supplement, p. 3.

people, and their connection' was 'of great advantage to us'.⁴⁴⁴ In 1898, Chambers contemplated erecting an electricity generating plant at the Katikati Heads, an idea 'only in its inception' which would 'be a very big thing involving hundreds of thousands of English capital'.⁴⁴⁵

THE CHAMPION GOLD AND SILVER MINING COMPANY AT WORK

In January 1889, J.M. Chambers was granted a machine site on the flat below the mines.⁴⁴⁶ Later that month, a local correspondent was puzzled to observe the Te Aroha brickmaker, John William Bew,⁴⁴⁷ preparing bricks 'for works to be erected at the Tui ground'. As Parkes was no longer connected with the Tui mines, he wondered whether Bew was 'preparing bricks for a tabernacle, where the shareholders of the different claims may offer up thanksgiving for favours to come and repentance for the refusal of offered mercies'.⁴⁴⁸ Despite his cynicism, hopes remained high for the company's success, as illustrated in the sale in February of five shares for £21 each.⁴⁴⁹ Investors would have been encouraged to purchase shares by the news of mining being 'in full swing' and all the contractors making good progress.⁴⁵⁰ Driving was uncovering 'really first class stone', samples of which were sent to the directors in Auckland. The London directors requested 200 tons to test to discover the most profitable method.⁴⁵¹ About 50 men were employed and good ore was found, but no successful treatment had been found.⁴⁵²

⁴⁴⁴ National Bank, Inspector's Report on Auckland Branch, 31 August 1896, 13 December 1897, National Bank Archives, Wellington.

⁴⁴⁵ *Te Aroha News*, 19 March 1898, p. 2.

⁴⁴⁶ Te Aroha Warden's Court, Register of Applications 1883-1900, 5/1889, BBAV 11505/1a, ANZ-A.

⁴⁴⁷ See *Te Aroha News*, 9 May 1917, p. 3, 8 April 1940, p. 5.

⁴⁴⁸ Te Aroha Correspondent, *Waikato Times*, 22 January 1889, p. 3.

⁴⁴⁹ *Waikato Times*, 12 February 1889, p. 2.

⁴⁵⁰ *Te Aroha News*, 12 January 1889, p. 2.

⁴⁵¹ *Te Aroha News*, 30 January 1889, p. 2; H.W. Northcroft to Under-Secretary, Mines Department, 4 May 1889, *AJHR*, 1889, C-2, p. 95; George Wilson to Under-Secretary, Mines Department, 25 April 1889, *AJHR*, 1889, C-2, p. 102.

⁴⁵² *Waikato Times*, 12 February 1889, p. 2; *Te Aroha News*, 30 March 1889, p. 2.

In late March, a find 'of exceptional value' was made in the Champion, and Chambers expected that 'in the near future' the output would be 'enormous, and at a minimum cost', as the company was 'in a position to command every modern appliance to facilitate working the mine to the best advantage'. The reefs improved in value as they were opened up, the richest ore ever found being uncovered in the past week. The levels being driven would 'not be worked out for many years, having over 600 feet of backs, whilst the ore obtained' was 'of good value throughout'.⁴⁵³ John James Broadbent, an analytical chemist,⁴⁵⁴ who had been employed since early that year, had obtained 'various results' when taking assays, but all were 'highly encouraging'. He had 'only a very rude apparatus' for assaying, 'but a more perfect assay plant' was about to be erected. About 1,000 tons of 'good payable stuff' was ready to send down, and 'the dead work of the mine may be said to be over'. The four levels were 'all well opened up, and a large weekly output could easily be supplied if found desirable'.⁴⁵⁵

In April, Cornes called for tenders to sink a winze in the Tui Reduction, being worked as part of the Champion. A tender was also offered to drive 150 feet at the highest level 'right through to the eastern side of the Hill'.⁴⁵⁶ The local newspaper continued to report satisfactory progress with the contracts, the discovery of more good ore, and, in May, that 83 sacks of quartz were being sent to London to be treated by 'by some of the newest and most improved processes'; further parcels would be sent.⁴⁵⁷ In September, with the aerial tramway about to work, Porter and other directors visited to determine the future working.⁴⁵⁸ They decided to send 25 tons to the Waiorongomai battery and all hands were engaged getting the ore down the tramway early in October.⁴⁵⁹ After Cameron was forced to

⁴⁵³ *Auckland Weekly News*, 30 March 1889, p. 21.

⁴⁵⁴ See *New Zealand Gazette*, 9 September 1886, p. 1101; Probates, BBAE 1569/18618, ANZ-A.

⁴⁵⁵ *Auckland Weekly News*, 13 April 1889, p. 20.

⁴⁵⁶ *Te Aroha News*, 3 April 1889, p. 7.

⁴⁵⁷ *Te Aroha News*, 10 April 1889, p. 2, 24 April 1889, p. 2, 1 May 1889, p. 2.

⁴⁵⁸ *Te Aroha News*, 18 September 1889, p. 2.

⁴⁵⁹ *Te Aroha News*, 25 September 1889, p. 2, 9 October 1889, p. 2.

seek protection for his May Bell due to 'lack of funds', he sold it to the company two weeks later for £75.⁴⁶⁰

In late October, 16 miners were discharged just before an inspection by John Chambers and Porter.⁴⁶¹ In No. 4 winze, a large block had been prepared for stoping and a shoot was being put in to drain the water. Whilst awaiting the results of 'special treatment' of the ore at Waiorongomai, 'work would be confined to driving and stoping on No. 3 level, forwarding the whole of the quartz so broken out to the flat, and also sending down the quartz now stacked at the upper workings'. Possible developments were considered, in particular continuing the lowest, or May Bell, level to test the reefs from 700 to 800 feet from the surface. 'Judging from the result of enquiries they have made from experts and others', and mining in other countries, the two directors were hopeful that 'the zinc - the existence of which in the ore hitherto broken out, has caused so much trouble in treatment - will probably gradually disappear as the reefs go downwards'. Should they be correct, 'the chief difficulty' would be removed, separating the gold and silver being comparatively easy if zinc was absent. Another parcel of 10 tons was about to be shipped to London.⁴⁶²

The result of treating 23 tons was forwarded to the Auckland directors,⁴⁶³ but was not published, a bad sign. Howell's furnace could extract only about 46 per cent of the assay value because the ore was 'the most complex and refractory' in New Zealand, and no European plant had 'been able to treat it satisfactorily owing to the large quantity of zinc-blende'. As this trial returned only £16, no more ore was sent to Waiorongomai.⁴⁶⁴ Gordon later gave an extraction rate of 'about' 30 per cent, and noted that, when Howell's plant was erected, 'it was thought that a new era had dawned' because it would deal successfully with this ore, prompting the erection of the aerial tramway.⁴⁶⁵

⁴⁶⁰ Edward Cameron to Warden, 3 October 1889, Te Aroha Warden's Court, Applications for Protection 1888, BBAV 11289/12a; Transfer dated 18 October 1889, Certified Instruments 1889, BBAV 11581/10a, ANZ-A.

⁴⁶¹ Te Aroha Correspondent, *Thames Star*, 23 October 1889, p. 2.

⁴⁶² *Te Aroha News*, 26 October 1889, p. 2.

⁴⁶³ *Te Aroha News*, 4 December 1889, p. 2.

⁴⁶⁴ H.A. Gordon to Minister of Mines, 1 June 1890, *AJHR*, 1890, C-3, pp. 46-48.

⁴⁶⁵ H.A. Gordon to Minister of Mines, 8 June 1893, *AJHR*, 1893, C-3, p. 70.

In mid-January 1890, the company was accused of not working the May Bell.⁴⁶⁶ In response, J.M. Chambers explained that this claim had been acquired to open up the lode from that level and he was awaiting permission from London to call tenders to continue the drive. This level, decided upon on the recommendation of John Howell and William Patton, advisers to the Te Aroha Silver and Gold Mining Company,⁴⁶⁷ would be 'the main outlet for the Champion workings'. The company had spent £6,000 on the mines and other works.⁴⁶⁸

The first annual meeting of the New Zealand shareholders was held early in March, Porter presiding:

The chairman explained that only two men were now engaged in the mine, owing to want of funds from head office. The local directors have been obliged to suspend all work in consequence, as they themselves had become responsible for several hundred pounds in expenditure. The balance-sheet just received from the head office show the total expenditure to date to be £6500; receipts by sale of 14,000 shares, 17s 6d paid up, equals £12,250; less unpaid calls £4500. Many of the shareholders present expressed themselves very strongly at the evident breach of agreement between the parties who purchased the mine from Mr John M. Chambers, as they undertook to find £14,000 for working capital. A resolution was passed asking the directors in England that funds be forwarded to push on work more vigorously than of late. Several long reports were read of trials made in Glasgow, Frieberg, and America, all of which seemed to be only partially successful. All ores shipped home for treatment showed an average assay value of £9 per ton; even at this value it seemed doubtful whether it would pay to ship home, owing to the expense of sorting, bagging, railway and shipping charges.⁴⁶⁹

In June 1890, Gordon reported 'very little work being done in the mines', only three miners being employed when he visited.⁴⁷⁰ Wilson noted that an average of eight men had been employed in all the mines apart from the Champion during the previous year, but only the latter was still at

⁴⁶⁶ Te Aroha Warden's Court, Plaintiff Book 1880-1898, 9/1890, BBAV 11547/1a, ANZ-A.

⁴⁶⁷ See paper on this company.

⁴⁶⁸ J.M. Chambers to George Wilson, 28 January 1890, Te Aroha Warden's Court, Certified Instruments 1890, 9/1890, BBAV 11581/11a; Plaintiff Book 1880-1898, 9/1890, BBAV 11547/1a, ANZ-A.

⁴⁶⁹ *Thames Advertiser*, 8 March 1890, p. 2.

⁴⁷⁰ H.A. Gordon to Minister of Mines, 1 June 1890, *AJHR*, 1890, C-3, p. 47.

work. It was 'well opened up', with four levels connected by passes, and a new low level had been commenced. Thirty wages men had driven a total of 781 feet in all the levels during the past year and stoped out a block of 30 fathoms at No. 3 pass. As the cost of shipping ore to England was 'too great to leave a profit', the company was 'endeavouring to get a cheaper process to treat the ore here, instead of sending it out of the country'. Work was 'for a time suspended until a suitable process of treatment' was found.⁴⁷¹

In May, after Porter and John Chambers visited again, work 'on a rather limited scale' resumed.⁴⁷² The English directors required 500 tons 'assaying to the value of £9 per ton' for testing to determine a suitable process.⁴⁷³ In July, only two men were at work, but a local correspondent understood that two English directors would visit and 'no doubt' authorize further developments. It was rumoured that Parkes had an improved process that would treat the ore 'to perfection'.⁴⁷⁴ When some assays were made at the Thames School of Mines, its director informed the Mines Department that as the base metals were 'very low in value, the time seems inopportune to attempt to raise money for this class of property'.⁴⁷⁵ Nonetheless, work recommenced in September with contractors extending the low level.⁴⁷⁶ In October, it was rumoured that the London directors were negotiating to purchase a cyanide plant; the *Thames Star* hoped this was correct, this process having been proved to be the best one for this ore.⁴⁷⁷

In January 1891, a mining reporter visited:

At present mining is only on a limited scale, the chief centre of operations being on the Champion lodes. All work in the upper levels is suspended, but the lower levels are being driven. The Nos. 1 and 2 levels are connected by winzes, and a main or No. 3

⁴⁷¹ George Wilson to Under-Secretary, Mines Department, 17 April 1890, *AJHR*, 1890, C-3, p. 149.

⁴⁷² *Waikato Times*, 8 May 1890, p. 2; *Te Aroha News*, 10 May 1890, p. 2.

⁴⁷³ H.A. Gordon to Minister of Mines, 1 June 1890, *AJHR*, 1890, C-3, p. 48.

⁴⁷⁴ Te Aroha Correspondent, *Auckland Weekly News*, 5 July 1890, p. 21.

⁴⁷⁵ Thames School of Mines, Assay Book 1889-1891, assays made on 28 July 1890 for George Crocker, School of Mines Archives, Thames; Hugh Crawford to Under-Secretary, Mines Department, 17 October 1932, Mines Department, MD 1, 10/9/25, ANZ-W.

⁴⁷⁶ *Thames Star*, 26 September 1890, p.2, 23 October 1890, p. 2; *Waikato Times*, 4 October 1890, p. 2; Te Aroha Correspondent, *New Zealand Herald*, 23 December 1890, p. 6; H.W. Northcroft to Under-Secretary, Mines Department, n.d., *AJHR*, 1891, C-4, p. 148.

⁴⁷⁷ *Thames Star*, 23 October 1890, p. 2.

level is now being driven 200 feet lower down, which opens from the main tramway. The contractors have just finished 100 feet of crosscut, which makes the total distance driven 250 feet, and tenders are now called for and returnable on Saturday, 17th instant, for driving another 100 feet, but it anticipated that a further distance of 50 feet will have to be driven before the No. 1 or main reef is intersected. Operations will then be started on this lode, and connection by winze effected, and this will in future be the main outlet of the mine. No quartz is being now broken out, but by the time the works now in hand are completed the reef will be so thoroughly opened up that it can be worked cheaply and systematically.⁴⁷⁸

At the end of April, John Chambers visited the mine and announced that no further work would be done until this crosscut struck the reef; because the country was 'rather tight', there would be another 170 feet of slow driving.⁴⁷⁹

Late in July, 'Obadiah' announced that Cornes had 'just cut a reef in the low level, showing all sorts of abominations such as would delight the heart of a hunter after refractory ores. The owners of this property have a patent process by which they can treat the ore at small cost, saving a large percentage of bullion'.⁴⁸⁰ The latter over-optimistic statement referred to a new method of treatment devised in Britain by Henry Parkes and John Cunninghame Montgomerie, the latter being chairman of directors of the Champion Company.⁴⁸¹ Montgomerie, a Scottish manufacturer, applied for a patent for a modification of the cyanide process in July 1892, but a contemporary noted that the specifications did 'not contain any claims which might be termed either an invention or an improvement, either chemically or mechanically'.⁴⁸² In September 1891, the first reports of their process were published in New Zealand,⁴⁸³ prompting 'Obadiah' to write that the local shareholders had

⁴⁷⁸ Own Reporter, 'A Tour of the Goldfields', *New Zealand Herald*, 17 January 1891, p. 6.

⁴⁷⁹ *Thames Advertiser*, 4 May 1891, p. 2.

⁴⁸⁰ 'Obadiah', 'Shares and Mining', *Observer*, 25 July 1891, p. 7.

⁴⁸¹ *Auckland Weekly News*, 16 January 1892, p. 29.

⁴⁸² A. Scheidel, *The Cyanide Process: Its practical application and economical results* (Sacramento, 1894), pp. 14, 121-124.

⁴⁸³ *Thames Advertiser*, 23 September 1891, p. 2.

received word of a patent process for saving their bullion. Up till now the only kind of saving there has been from the same source has been a saving of cash when it was wanted to thoroughly open up the mine. The London directors seem to have entered into all sorts of agreements to pay themselves high fees and give fat commissions to friends, while the local Board have had to keep things going at the mine, and are now about full up.⁴⁸⁴

Chambers' report of 13 March revealed that capital amounting to £10,005 10s had been received, the entire value of each share having been called up. As some shareholders had refused to pay their calls, arrears totalled £3,317 10s and 1,000 shares had been forfeited. None had been sold, either because the company had not put them on the market or because the latter was not interested. There was £178 11s 4d cash in the bank, good debts owing to the company were £117 0s 10d, and contingency liabilities were £993.⁴⁸⁵ The company's finances clearly provided little hope of development, but Chambers was convinced that only English capital would enable the district to be worked.⁴⁸⁶

In August, tenders were called for continuing the May Bell adit and driving on the reef.⁴⁸⁷ Montgomerie informed the annual general meeting in London on 29 January 1892 that, 'in consequence of a dispute with the contractors who desired a large rise in their contract price immediately they cut into the lode, the exploring of the lodes' had been delayed.⁴⁸⁸ By then, the mine was 'virtually closed' because its ore could not be treated;⁴⁸⁹ it remained 'almost idle' during the following 12 months.⁴⁹⁰

Early in 1892, Montgomerie, who had spent months experimenting and devising several processes, asked for estimates and plans for erecting a plant. The process he had devised with Parkes when experimenting with Champion ore would extract up to 87 per cent of the gold and up to 86 per

⁴⁸⁴ 'Obadiah', 'Shares and Mining', *Observer*, 26 September 1891, p. 7.

⁴⁸⁵ *New Zealand Gazette*, 19 March 1891, p. 383.

⁴⁸⁶ *Thames Advertiser*, 6 July 1892, p. 2.

⁴⁸⁷ *Thames Advertiser*, 7 August 1891, p. 2.

⁴⁸⁸ *Mining Journal*, 6 February 1892, p. 142.

⁴⁸⁹ George Wilson to Under-Secretary, Mines Department, 14 May 1892, *AJHR*, 1892, C-3A, p. 15.

⁴⁹⁰ George Wilson to Under-Secretary, Mines Department, 5 May 1893, *AJHR*, 1893, C-3, Appendix 1, p. xv.

cent of the silver.⁴⁹¹ At the company's annual general meeting in January 1892, he provided some details and many promises for its success; since its discovery a year ago, he and Parkes had simplified it, and obtained up to 99.62 per cent of the assay value of gold and 95.39 of silver. These were 'no mean results' because of 'the very refractory character of the ore', and he did not think any other process would provide 'a higher rate of extraction. It is fortunate that steps were not taken then to proceed on the lines of the two-stage process, as the plant would have been entirely useless for the one stage process'. He had delayed seeking a patent because of having to prove it would work on other ore apart from the Champion for which it was perfected. They expected 'to be in a position soon to apply for the patent. Designs for a plant have been drawn out and an estimate received from a firm of City engineers', but first they had to register the patent and raise more capital. He estimated that £6,450 was required to erect a plant to treat '24 tons of ore per day of 24 hours' and about £2,000 for buildings. He expected to be able to increase the output to 80 tons a day with ease.

Montgomerie also explained that 'the main portion of the mine which was opened up two years ago' had 'not been touched during the past year'. The May Bell level had intersected the Champion lode 200 feet below the upper levels, where it was 'highly mineralised', although he admitted not having received an assay from the 'New Zealand Committee'. Another mineralised reef had been cut in driving this level. The property seemed to be 'very rich at this low depth in various kinds of minerals', and he regretted 'that samples of these lodes have not yet been received for experimental purposes'. Being 'thoroughly confident we have a mineral property second to none in New Zealand', he hoped 'to see the mines at no distant date returning a rich reward'.⁴⁹²

In his report of June 1893, Gordon noted that since this meeting 'nothing further' had been heard about this process. Examining the company's balance sheet to 31 August 1891, he pointed out that £10,826 5s had been paid for the 13,323 shares sold, that £2,496 15s was due on calls, and that only £382 was available for use. 'Unless the balance of the shares can be issued, or money raised on debentures, the company cannot go on'. The cost of shipping ore and treating it at Swansea or Freiburg made mining unprofitable. 'Some small parcels' treated by the Crown Company at Karangahake had 'extracted a fair percentage of the bullion' using cyanide.

⁴⁹¹ *Auckland Weekly News*, 16 January 1892, p. 29.

⁴⁹² *Mining Journal*, 6 February 1892, p. 142.

As this plant was ‘in an inaccessible place, and the company not being prepared to treat ores in quantity for the public’, no mining had taken place apart from ‘a little work now and again’ to avoid forfeiture.⁴⁹³ Cornes had informed him that the cost of mining and conveying ore on the aerial tramway would not exceed 8s per ton, meaning that if a plant was erected close to its terminus ‘which could treat the ore at a moderate price very poor ore could be made remunerative’.⁴⁹⁴ Gordon later told a meeting of mining engineers that galena ‘rendered the ore extremely difficult to treat successfully, shipments sent to Swansea and Freiburg ... only giving comparatively small percentages of the assay value’.⁴⁹⁵

A meeting of local shareholders held in March considered ‘proposals from the London board of directors for the raising of further capital, in order that the machinery and plant at the mines may be increased’. After accepting the terms, they discussed the £2000 ‘paid away when the company was being formed’, about which ‘there had been correspondence between the Auckland and London directors’. They agreed to inform the London directors that they ‘would recognize any payment which had been legal, and which had been consented to by their power of attorney’.⁴⁹⁶ Conflict over this £2,000 was never referred to publicly again. In October, another meeting discussed a telegram from London ‘giving authority to local directors to open negotiations with a Sydney syndicate for the erection of a plant to treat ore ... by way of royalty’. After authorizing Porter and John Chambers to make the best terms possible, ‘the chairman pointed out that it was anything but satisfactory that local directors should be a guarantee for a bank overdraft’ while there were ‘still a large amount of unpaid calls and capital’ available.⁴⁹⁷ Whether all local directors were liable is uncertain, but in December 1889 Porter and John Chambers were liable to pay on demand £150 owed to the Bank of New Zealand.⁴⁹⁸ The London directors had sent ‘suggestions and offers’ about selling scrip to obtain funds

⁴⁹³ H.A. Gordon to Minister of Mines, 8 June 1893, *AJHR*, 1893, C-3, p. 70.

⁴⁹⁴ H.A. Gordon to Minister of Mines, 8 June 1893, *AJHR*, 1893, C-3, pp. 70-71.

⁴⁹⁵ *Auckland Weekly News*, 12 February 1903, p. 22; see also H.A. Gordon to Minister of Mines, 17 June 1896, *AJHR*, 1896, C-3, p. 28.

⁴⁹⁶ *Auckland Weekly News*, 13 March 1893, p. 20.

⁴⁹⁷ *Thames Advertiser*, 18 October 1892, p. 2; *Ohinemuri Gazette*, 22 October 1892, p. 8.

⁴⁹⁸ Bank of New Zealand, Auckland: Securities Held 1861-1895, p. 194, entry for 20 December 1889, Bank of New Zealand Archives, Wellington.

to erect machinery, but the meeting decided to postpone making a decision until further information was obtained about the Sydney offer.⁴⁹⁹

William Arthur Hills, a Sydney metallurgist and inventor of an improved mining process,⁵⁰⁰ tried to force an agreement at the end of October by seeking the forfeiture of all the company's properties for non-working and non-payment of rent.⁵⁰¹ In mid-November he withdrew the complaints, having made an arrangement that might lead to the erection of a plant, and was about to return to Sydney to raise capital. 'I have every hope of arranging the Matter, as to give my friends Confidence, I am prepared to put a considerable sum into the venture myself - not less than £500. The process itself there is no difficulty about'.⁵⁰²

In December 1886, Hills had informed the Minister of Mines that, having 'recently arrived from England', he had spent some weeks inspecting mines from Te Aroha to Thames before travelling around New Zealand and then going on to Australia. 'For many years past, I have been connected with Chemical, Metallurgical, and Mining operations', and was able to treat the tailings on the Thames foreshore 'without having to go to the London Stock Market ... a very uncertain operation - As reference, I may mention that my Uncle Mr F.E. Hills of Deptford in London, is well known there as a man of large means - principal owner of the Thames Iron Works - where Ironclads are constructed'.⁵⁰³ He wrote to the minister two months later, after having examined mines in Thames, Te Aroha, Otago, and the West Coast, and just before investigating the Collingwood district. He claimed to have friends with capital to invest, and commented on the miner's inability to detect minerals, 'especially in the Te Aroha and West Coast districts'. Although he had not arrived 'with a great flourish of trumpets, like some recent Mining experts, I can perhaps influence as much Capital, on genuine ventures - some of the best of the London Brokers being friends of mine - I

⁴⁹⁹ *Auckland Weekly News*, 22 October 1892, p. 21.

⁵⁰⁰ See *Thames Advertiser*, 8 October 1891, p. 2; *Evening Post*, 16 November 1888, p. 2; W.A. Hills to Warden, 17 November 1892, Te Aroha Warden's Court, Plaints 1892, 24/1892, BBAV 11572/2a, ANZ-A.

⁵⁰¹ Te Aroha Warden's Court, Plaint Book 1880-1898, 19-24/1892 (31 October 1892), BBAV 11547/1a, ANZ-A.

⁵⁰² W.A. Hills to Warden, 17 November 1892, Te Aroha Warden's Court, Plaints 1892, 24/1892, BBAV 11572/2a, ANZ-A.

⁵⁰³ W.A. Hills to Minister of Mines, 2 December 1886, Mines Department, MD 1, 87/226, ANZ-W.

hope consequently to do some good to the Colonial Mining Interest before I leave'.⁵⁰⁴ In October 1891 he contacted the Thames County Council about obtaining access to water for treating ore.⁵⁰⁵ The previous year, Philip Askham had told J.M. Chambers that Hills was 'not a man to be much admired'; Hills had purchased some machinery from him, and 'had he pushed our Dry process of grinding he would have done some good'.⁵⁰⁶

As nothing came of Hills' promises to revive Tui mining, the Champion Company continued to own but not work its mines, although it did let a tribute to William John Cornes.⁵⁰⁷ Nor did it pay Clem Cornes' salary, who was obliged to sue it in January 1893 for £53 8s 1d.⁵⁰⁸ Having received protection four times since January 1891, on 8 February 1893 the company asked for more.⁵⁰⁹ The following day, having taken legal advice, Porter told the Colonial Bank of New Zealand that, 'in consideration of the Bank commencing an action in the Supreme Court to recover the sum due' by the company to the bank 'for moneys advanced', he agreed it was free to take action against himself and Chambers for their promissory note dated 20 December 1889 for £150 and another of 20 January 1893 for £50. 'I also agree and undertake to pay to the Bank any costs the Bank may incur in connection with such proceedings and which they may be unable to recover from the said Company'.⁵¹⁰ In other words, the English directors had not paid costs incurred, leaving the New Zealand directors personally liable for an overdraft of £150 secured by a promissory note, forcing Porter and Chambers to obtain another £50 to pay Cornes with another promissory

⁵⁰⁴ W.A. Hills to Minister of Mines, 8 February 1887, Mines Department, MD 1, 87/226, ANZ-W.

⁵⁰⁵ *Thames Advertiser*, 8 October 1891, p.2.

⁵⁰⁶ P.U. Askham to J.M. Chambers, 2 May 1890, Bankruptcy Files, BBAE 5628/4, 90/18, ANZ-A.

⁵⁰⁷ George Wilson to Under-Secretary, Mines Department, 7 May 1894, *AJHR*, 1894, C-3A, p. 14.

⁵⁰⁸ Te Aroha Magistrate's Court, Civil Record Book 1889-1896, 56/1893, BCDG 11221/1c, ANZ-A.

⁵⁰⁹ Te Aroha Warden's Court, Register of Applications 1883-1900, 4/1891, 1, 7, 23/1892, 3/1893, BBAV 11505/1a, ANZ-A.

⁵¹⁰ Adam Porter to Manager, Colonial Bank of New Zealand, Auckland, 9 February 1893, Letterbook no. 51, p. 334, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

note, and forcing Porter to meet the bank's costs in retrieving the money it had lent the company.

'Obadiah', no doubt informed of these developments, wrote that 'the English owners of this property must now be admitted the champion humbugs of the field. They verily are a bad lot! - and want wiping out'.⁵¹¹ In March, according to the same columnist, the local shareholders 'had a meeting. Called on spirits of vast London to find balance of cash to complete contract for purchase of property. Takes a lot of calling to make Londoners come when they are not willing. Might be advisable to give them a blue reminder',⁵¹² blue being the colour of a summons. In April, the Colonial Bank did sue the company, and because of its non-appearance judgment by default went to the bank, which was therefore 'in a position to sell the property'.⁵¹³ In May, the leases were all sold to Aitken Carrick,⁵¹⁴ a sharebroker and mining agent,⁵¹⁵ who had held shares in five mines at Waiorongomai in the early 1880s and was a director of one company there.⁵¹⁶ He had had no previous recorded involvement with the Tui mines. 'Obadiah' explained these events in his own special way: 'In the hands of the Philistines. Sold off to pay their liabilities. The English office is still several thousands in debit to local syndicate who sold the concern, and who were sold in return, as they have now neither mine, nor money, nor scrip to show for their dollars'.⁵¹⁷

In August, 'Obadiah' reported that the company had the London directors had decided to wind up the company. 'Thought the sale of the

⁵¹¹ 'Obadiah', 'Shares and Mining', *Observer*, 11 February 1893, p. 14.

⁵¹² 'Obadiah', 'Shares and Mining', *Observer*, 1 April 1893, p. 12.

⁵¹³ Jackson and Russell to Adam Porter, 10 April 1893, Letterbook no. 51, p. 556, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

⁵¹⁴ Jackson and Russell to Clerk, Warden's Court, Te Aroha, 1 June 1893, Letterbook no. 52, p. 478; Jackson and Russell to Mining Registrar, Te Aroha, 10 August 1893, Letterbook no. 53, p. 90, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

⁵¹⁵ See *Observer*, 20 September 1890, p. 7; *New Zealand Herald*, 21 September 1922, p. 8.

⁵¹⁶ Te Aroha Warden's Court, Register of Licensed Holdings 1881-1887, folios 40, 116, BACL 11500/9a; Certified Instruments 1883, 372/511, BACL 11581/4a, ANZ-A; *New Zealand Gazette*, 17 August 1882, p. 1132, 14 December 1882, p. 1885, 32 May 1883, p. 721, 6 September 1883, p. 1266.

⁵¹⁷ 'Obadiah', 'Shares and Mining', *Observer*, 10 June 1893, p. 18.

Company's property had wound them up here. But it is evident some of the London folks having collared shares and cash have made up their minds to have the mine also. It is evident they are a trifle late'.⁵¹⁸ His final report on the company was published two months later:

Champion fellows of London have written out to the local Board telling them that they have no assets, and as the local Board were asses enough to guarantee bank overdraft, wages, rent and taxes, to the extent of about £1,000, it is only right they should pay them and thereby carry out the policy of their Cockney colleagues who have collared all the good things up to the present.⁵¹⁹

It was estimated the company had spent 'some £8000',⁵²⁰ fruitlessly.

THE MINES IN FEBRUARY 1894

In February 1894, the *Te Aroha News* reported on the latest prospects:

For some time past mining affairs at the Tui have been very quiet, and but little has been heard of the mines. We are pleased to report increased activity in the old Champion workings. It is well known that the Champion was run by an English company, and that after spending about £5000 on the property in opening up the mine at various levels and getting out about 300 tons of ore – which was treated at various places, yielding from £5 to £15 per ton in value – but through some unfortunate circumstances the affairs in connection with this working were never successfully managed. Some months ago the company refused to find any more money, and accordingly the mine was sold by the Bank and was purchased by the New Zealand shareholders, and has now been let on tribute to Messrs C.A. and W. Cornes, who are now busily engaged with a party of workmen in repairing the aerial tramway, and intend bringing out a trial parcel of a few tons to be treated at Waiorongomai. The parcel will consist of picked ore, which is expected to yield from £10 to £15 per ton. If this experiment is successful, Messrs Cornes have about 100 tons of ore ready which they intend to have treated.

The repairs to the tramway are nearly completed. They have to do a little clearing of scrub, when the machinery, which has been lying idle for about three years, will be put in motion again.⁵²¹

⁵¹⁸ 'Obadiah', 'Shares and Mining', *Observer*, 19 August 1893, p. 18.

⁵¹⁹ 'Obadiah', 'Shares and Mining', *Observer*, 7 October 1893, p. 15.

⁵²⁰ *New Zealand Herald*, 4 July 1896, p. 5.

THE THAMES LEAD AND SILVER MINING SYNDICATE

The next British company to invest in a Tui mine was the Thames Lead and Silver Mining Syndicate, incorporated in Leith, Scotland, in December 1892. Its legal manager in New Zealand was John James Broadbent, formerly the assayer for the Champion Company, who, when in Britain, had arranged its formation.⁵²² He was optimistic, too optimistic sometimes, as when in 1889 he was over-enthusiastic about Puhipuhi samples he tested at the Waiorongomai battery.⁵²³ The new company had 32 shareholders and a nominal capital of £5,425, of which the promoters received £1,925 as paid up shares. The capital was in 155 shares of £35 each, on which £15 was called up, providing £3,500 for development.⁵²⁴

In reporting that Broadbent had formed this company with Cornes' assistance, Gordon explained that it would 'prospect and work a galena lode on the eastern side of the range from Tui Creek, and also open up and prospect the continuation of the Champion Lode, which runs through their ground'. Broadbent was confident of selling the galena 'at £8 per ton in London or Swansea', for a company had offered to buy 2,000 tons annually. The lode contained up to 70 per cent galena, but so little work had been done that Gordon could not 'express an opinion' about its continuing 'along the lode for any great distance' or going 'down to any great depth'. Broadbent was satisfied there was sufficient ore to justify constructing a road to the top of the Tui Saddle to link with the aerial tramway, and both the company and the government provided £50 to make it.⁵²⁵ The lode was in the Mangakino Valley 'in a belt full of mineral lodes' which had 'scarcely been prospected', and Gordon considered there was 'a great probability of some good discoveries'.⁵²⁶ In contrast, Northcroft believed they would 'not succeed any better than the Champion Company' in 'finding a process

⁵²¹ *Te Aroha News*, n.d., reprinted in *Thames Star*, 12 February 1894, p. 4.

⁵²² *Thames Advertiser*, 27 April 1893, p. 2.

⁵²³ J.J. Broadbent to Easterbrook Smith, 18 November 1889, 23 November 1889, plus press cutting in Mines Department, MD 1, 6/4/31, Part 1, ANZ-W.

⁵²⁴ *New Zealand Gazette*, 19 April 1894, pp. 621, 623.

⁵²⁵ *Thames Advertiser*, 27 April 1893, p. 2; H.A. Gordon to Minister of Mines, 8 January 1894; George Wilson to Under-Secretary, Mines Department, 9 February 1894, Mines Department, MD 1, 94/62, ANZ-W.

⁵²⁶ H.A. Gordon to Minister of Mines, 8 June 1893, *AJHR*, 1893, C-3, p. 71.

efficient and sufficiently cheap'.⁵²⁷ The *Te Aroha News*, as usual, considered the prospects to 'very bright', shareholders having 'a thoroughly genuine thing on'.⁵²⁸

Broadbent found 'fair prospects' of gold in a reef cut by the new track,⁵²⁹ and by March 1894 had driven 85 feet in his 'galena mine'.⁵³⁰ A reporter had visited the claim in the previous month:

This property contains some very rich reefs. In one place Mr Broadbent has opened up the face of a reef at least 18 feet wide, which looks exceptionally well, showing silver veins plainly. From this Mr [Nicholas] Cleary obtained an assay of 10oz of gold to the ton. From some larger samples which had been sent away from this working the return of £20 per ton was obtained. In another part of the claim [is] a magnificent reef of galena ... about 2 feet wide in the place where it has been opened up. This ore contains about 80 per cent of lead and a small quantity of silver, and is estimated to be worth £10 per ton. It is the intention of Mr Broadbent ... to send a large parcel of about 100 tons to England for treatment. The ore will have to be brought to the tramway by sledges until its value is proved, then the tramway will be extended about 400 feet over the hill....

The tramway is the joint property of both companies.

A large amount of work has been done in forming tracks and erecting Mr Broadbent's house and necessary buildings.⁵³¹

Being under-capitalized, the company informed Northcroft in June 1895 that it needed additional capital 'to erect works'.⁵³² There was no indication of either having a suitable process or being serious about raising capital; the statement that more capital was needed was a common excuse for shepherding ground. In September 1895, the company sought four months protection, telling Northcroft that the ground had been worked

⁵²⁷ H.W. Northcroft to Under-Secretary, Mines Department, 19 May 1893, *AJHR*, 1893, C-3, Appendix 1, p. v.

⁵²⁸ *Te Aroha News*, n.d., reprinted in *Thames Advertiser*, 27 April 1893, p. 2.

⁵²⁹ H.W. Northcroft to Under-Secretary, Mines Department, 4 April 1894, *AJHR*, 1894, C-3A, p. 3.

⁵³⁰ George Wilson to Under-Secretary, Mines Department, 7 May 1894, *AJHR*, 1894, C-3A, p. 14.

⁵³¹ *Te Aroha News*, n.d., reprinted in *Thames Star*, 12 February 1894, p. 4.

⁵³² Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1895, 21/1895, BBAV 11582/4a, ANZ-A.

since June 1893 at ‘various times with limited number of men’. Protection was needed ‘on account of change of management and to enable shipment of ore to Scotland to be treated there. Also to allow directors to decide as to further mining operations’. Broadbent had discharged the miners in November 1894 pending the arrival of the ore in Scotland; when the directors told him to obtain protection, his response that he did not consider it necessary led to his dismissal.⁵³³ There were no further reports of any mining, and in February 1896 it was taken over by Howard Childs Parkes⁵³⁴ (see below), who in turn merged it with the Tui Gold Mining Company later that year. There was no further mining on the eastern side of the ridge until 1901, when the Te Aroha Lead and Silver Syndicate made another doomed attempt to discover a payable mine.⁵³⁵

THE TUI GOLD MINING COMPANY

In November 1893, Carrick acquired the aerial tramway, and one month later transferred his power of attorney to William McCullough, then in London, and sent him the certificates of registration of the tramway, the Champion Lode and May Bell claims, and the machine site, along with details of the terms of their sale.⁵³⁶ McCullough, owner of the *Thames Star* from the 1870s onwards and then of an Auckland printing firm as well, and for a while a Member of the Legislative Council,⁵³⁷ had been marginally involved in Te Aroha and Waiorongomai mining. In the first rush, he had bought 100 shares in the Te Aroha No. 1 South Company,⁵³⁸ and had owned

⁵³³ Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1895, 69/1895, BBAV 11582/4a, ANZ-A.

⁵³⁴ Te Aroha Warden’s Court, Letterbook 1883-1900, p. 340, BBAV 11534/1a; Application dated 26 February 1896, Applications for Licensed Holdings and Special Claims 1896, BBAV 11582/4a, ANZ-A.

⁵³⁵ See paper giving an overview of mining in the Te Aroha Mining District before the Depression.

⁵³⁶ Te Aroha Warden’s Court, Transfer dated 8 November 1893, Mining Applications 1893, BBAV 11582/3a, ANZ-A; Jackson and Russell to William McCullough, 4 December 1893, Letterbook no. 54, p. 203, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and Museum.

⁵³⁷ *Cyclopedia of New Zealand*, vol. 7, p. 83.

⁵³⁸ *New Zealand Gazette*, 24 February 1881, p. 258.

shares in one Waiorongomai mine that was later floated as a company.⁵³⁹ In the early twentieth century he would be a sleeping partner in a mine close to Te Aroha township.⁵⁴⁰

After Carrick unsuccessfully sought protection in January 1894,⁵⁴¹ a small amount of work continued, in May a parcel of ore being tested using cyanide.⁵⁴² The mines had totally shut down by January 1895.⁵⁴³ In the following month, he applied to work the Champion Lode Extended with two men for four months. He admitted that the last period of protection had expired in September 1893, but said more was needed ‘pending negotiations for the introduction of English Capital’. Cornes objected because Carrick had not employed anybody to work the claim since acquiring it and had not paid rent; he later withdrew his objection along with his application that the ground be awarded to him.⁵⁴⁴ In February, the *Te Aroha News* reported ‘very little’ being done but that work would resume as soon as ‘a satisfactory process’ was found.⁵⁴⁵ The day before this was published, McCullough had sought protection on behalf of ‘a small syndicate of old shareholders’ who believed the mine was ‘worth a further trial’. They were ‘making arrangements in London for a Company to put up the latest Machinery and spend a large sum in proving this district’; as tests of the ore in Scotland had been pronounced satisfactory, there was ‘every prospect of money being provided’.⁵⁴⁶ In March, Carrick received permission to work on the terms requested because a company being floated in London would undertake extensive development.⁵⁴⁷ The two miners employed were soon ‘busy at

⁵³⁹ Te Aroha Warden’s Court, Register of Te Aroha Claims 1880-1888, folio 80, BBAV 11567/1a, ANZ-A; *New Zealand Gazette*, 22 November 1883, p. 1675.

⁵⁴⁰ Te Aroha Warden’s Court, Mining Applications 1906, 9-11, 19, 41/1906, BBAV 11289/18a; Mining Applications 1907, 28/1907, BBAV 11289/19a, ANZ-A.

⁵⁴¹ Te Aroha Warden’s Court, Register of Applications 1883-1900, 3/1894, BBAV 11505/1a, ANZ-A.

⁵⁴² *Thames Advertiser*, 21 May 1894, p. 2.

⁵⁴³ *Te Aroha News*, 23 January 1895, p. 2.

⁵⁴⁴ Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1895, 5, 13/1895, BBAV 11582/4a, ANZ-A.

⁵⁴⁵ *Te Aroha News*, 20 February 1895, p. 2.

⁵⁴⁶ William McCullough to Warden, 19 February 1895, Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1895, 5/1895, BBAV 11582/4a, ANZ-A.

⁵⁴⁷ Warden’s Court, *Te Aroha News*, 16 March 1895, p. 2.

work', and the prospects, yet again, were 'said to be good'.⁵⁴⁸ Not till January 1896 did the owners receive 'satisfactory news touching the floating of the Company'.⁵⁴⁹ An English company had paid a deposit and had an option to purchase; while negotiations proceeded, two men continued prospecting.⁵⁵⁰ Late in June, it was announced that the mine had been 'secured by a wealthy company', the working capital was underwritten, mining would recommence at once, and a battery would be erected.⁵⁵¹

The Tui Gold Mining Company was incorporated in London on 23 June.⁵⁵² Howard Childs Parkes, the vendor, was a London accountant and a director of the British company Taitapu Gold Estates, and in 1898 would become a director of the Maori Dream, of which he was a promoter, and Waihi Gladstone, of which he was the vendor.⁵⁵³ On 15 June, he had signed an agreement to sell the mining leases for £65,000, paid in £5,000 cash and 60,000 fully paid up shares. The company was floated privately with a capital of £100,000, in £1 shares; none would be allotted until at least 25,000 had been subscribed for 'by responsible persons'; the working capital would be £25,000. It owned about 100 acres comprising the Champion Lodes Nos. 1-3, Gladstone, Albion, May Bell No. 1, Thames Lead and Silver, and Mikado claims. Alfred Cuddon, a gentleman of Colchester, was chairman of directors, and the other English directors were Parkes, Lieut. Col. William Clive Oughton Giles, also a director of Hampton Goldfields Ltd, which had interests in mining in Australasia,⁵⁵⁴ Col. George C. Thomson, also a director of the Taitapu Gold Estate Company, and George Beetham, another 'gentleman', now of London and formerly a shareholder in the Champion Company.⁵⁵⁵ John Chambers and McCullough were the 'local advisory board', meaning the New Zealand directors. Directors were paid £150 a year, the chairman receiving £200 and a percentage of the

⁵⁴⁸ *Te Aroha News*, 20 March 1895, p. 2, 3 April 1895, p. 2.

⁵⁴⁹ *Thames Advertiser*, 16 January 1896, p. 1.

⁵⁵⁰ H.A. Gordon to Minister of Mines, 17 June 1896, *AJHR*, 1896, C-3, p. 79.

⁵⁵¹ *Auckland Weekly News*, 27 June 1896, p. 21.

⁵⁵² *British Australasian*, 2 July 1896, p. 1051; *Ohinemuri Gazette*, 28 November 1896, p. 4.

⁵⁵³ Tui Gold Mines, Company Files, BT 31/6888/48453, The National Archives, Kew, London; *Auckland Star*, 11 July 1896, p 2; *Auckland Weekly News*, 22 August 1896, p. 36, 15 May 1897, p. 36, 25 June 1898, p. 47.

⁵⁵⁴ See paper on Edwin Henry Hardy.

⁵⁵⁵ Tui Gold Mines, Company Files, BT 31/6888/48453, The National Archives, Kew, London; *Auckland Star*, 11 July 1896, p. 2.

profits.⁵⁵⁶ Chambers, the attorney in New Zealand, was described by the chairman of directors as ‘our colonial secretary’ and ‘a man of excellent repute and well known in New Zealand’.⁵⁵⁷

The ten New Zealand vendors received £500 in cash and 20,000 fully paid up shares. By October, 25,000 shares had been ‘privately subscribed’,⁵⁵⁸ and by early 1898 56,625 shares were allotted in England.⁵⁵⁹ Although the working capital of £20,000 had been banked and an additional £10,000 reserved for working, only £500 was received in July 1896 to enable work to start.⁵⁶⁰ By March 1899 85,000 shares had been allotted, and the list of shareholders revealed that whereas most directors held from 1,000 to 1,650 shares, Parkes held 18,375 and McCullough, together with Edwin Mitchelson, had 20,000. Chambers had 500, and Broadbent’s father, Richard,⁵⁶¹ a Manchester ‘gentleman’, had the same. Thomson had died, and his widow held 1,000. Frank Bessell, a London journalist, had 1,525, and Montgomerie, formerly chairman of directors of the Champion Company, had 2,000. The Australasian Gold Trust, of which Alexander Parkes was secretary, had 12,500, the London and West Australian Syndicate, of which Roderick was secretary, had 2,000, and Taitapu Gold Estates had 1,000. The total number of shareholders was 33, the largest occupation being eight gentlemen, the second largest being five stockbrokers. There were three leather manufacturers, two each of chartered accountants, solicitors, engineers, merchants, lieutenant colonels, and widows, and one journalist, company director, Justice of the Peace, tanner, and one man with ‘no occupation’,⁵⁶² which meant he fitted the ‘gentleman’ category.

Chambers appointed an Auckland, Andre Pierre Griffiths, a leading mine manager who was then the general manager of the Waihi Silverton,⁵⁶³

⁵⁵⁶ *Auckland Weekly News*, 22 August 1896, p. 36, 28 November 1896, p. 20.

⁵⁵⁷ *New Zealand Gazette*, 1 October 1896, p. 1658; *Ohinemuri Gazette*, 28 November 1896, p. 4.

⁵⁵⁸ *Auckland Weekly News*, 28 November 1896, p. 20.

⁵⁵⁹ *New Zealand Gazette*, 5 May 1898, p. 792.

⁵⁶⁰ *Auckland Star*, 6 July 1896, p. 5.

⁵⁶¹ Death Certificate of John James Broadbent, 27 February 1926, 1926/11635, BDM.

⁵⁶² Tui Gold Mines, List of Shareholders as at 10 March 1899, Company Files, BT 31/6888/48453, The National Archives, Kew, London.

⁵⁶³ See *Thames Star*. 26 May 1897, p. 2, 5 November 1897, p. 4, 14 March 1898, p. 2, 12 September 1898, p. 2; Marriage Certificate of Andre Pierre Griffiths, 1897/4063, BDM.

as consulting engineer, and in July 1896 they laid off a battery site.⁵⁶⁴ By the following month, equipment had been sent up the tramway, which was still in good condition, and the company was about 'to vigorously develop the Champion lode.'⁵⁶⁵ On 5 September, Chambers, as attorney and manager in New Zealand applied for protection for two months. While the company had a scheme for 'thorough working', it would only do whatever it considered would be profitable.⁵⁶⁶ At a meeting in London in October, Cuddon told shareholders the mine was sufficiently opened up to keep a 40-head battery working, and that the quantity of ore produced could soon be doubled. McCullough was on his way to London to advise the directors on the best machinery to purchase.⁵⁶⁷

Mr George Beetham, one of the directors, as "probably the only person present who knew the property," then gave a good deal of information on the subject, remarking that it was the first mine that he had ever had anything to do with. He went up to the property with the original discoverer, and investigated thoroughly, subsequently taking several specimens of ore to the Colonial Museum, whose authorities were much surprised at its quality, two or three specimens yielding 2oz of gold and 140oz of silver per ton. There was a little difference in two or three of the specimens, some giving 50oz of silver and about 1oz of gold. Some of the ore was "refractory," but a good deal of it could be easily reduced, and the gold saved at moderate expense. He thought they might calculate on a yield of from £3 to £15 per ton from the ore when they got their works established. Mr Beetham added that he was going to New Zealand himself, leaving England next day, and he would co-operate cordially with Mr Chambers, whom he knew very well, and who was thoroughly trustworthy. He hoped to be on the works about the middle of December, and would then send full information. He put his money into the venture feeling sure that he would get a good return for it, but it did not do to expect a good return too soon. He explained that the ore would be brought down by an aerial tramway, and that there would be no pumping or any expense of that kind. The bodies of ore were very broad. One from which he took out the specimens mentioned was fully 14 feet, so that the amount of ore at their

⁵⁶⁴*Auckland Star*, 6 July 1896, p. 5; *Ohinemuri Gazette*, 26 November 1896, p. 4.

⁵⁶⁵ *Ohinemuri Gazette*, 5 August 1896, p. 2; *Auckland Star*, 20 August 1896, p. 5.

⁵⁶⁶ Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1896, 167-169/1896, BBAV 11582/4a, ANZ-A.

⁵⁶⁷ *Ohinemuri Gazette*, 28 November 1896, p. 4.

disposal was enormous. It was one of the largest mines, as far as that was concerned, in New Zealand.

In reply to a question put by Mr Bessell, Mr Beetham said that some of their ore was of the same character as the Waihi, but others were refractory. It was possible, however, that what they looked upon at present as least valuable might turn out to be the most valuable. He thought, however, that they should deal with the free ores until the processes for the refractory ones had been more satisfactorily developed. He reminded the meeting that many of the Waihi shareholders had sold their shares for about 2s 6d, whereas, now, they were worth from £6 to £7, owing to the more recent developments in the different processes for treating the ore. This company would have the benefit of the knowledge which had been gained by the Waihi and other companies.

The directors had 25 tons sent to England to be tested, 'so that', Cuddon said, 'they might know how they stood'.⁵⁶⁸ Clearly the English directors were hoping for a mine containing gold and silver, not base ore. They were not being well informed by Beetham, a self-confessed amateur who, like so many optimists, imagined that the mine held similar ore to that in Waihi. Beetham was the only director who claimed any local knowledge, and this was the only mine with which he had ever been involved.

'A number of men' were prospecting the Champion in September 1896.⁵⁶⁹ A mine manager, Charles Henry Lawn, was appointed in the following month to work under Griffiths' direction.⁵⁷⁰ Aged 27 when appointed,⁵⁷¹ Lawn had mined on the West Coast, where he and his brothers had obtained their mine manager's certificates.⁵⁷² He came to Te Aroha along with his father, also a miner, and a brother, after mining at Waitekauri and Komata.⁵⁷³ His particular enthusiasm was music, and as conductor of the Te Aroha Brass Band and as a cornet soloist he brought

⁵⁶⁸ *Auckland Weekly News*, 28 November 1896, p. 20.

⁵⁶⁹ *Ohinemuri Gazette*, 16 September 1896, p. 4.

⁵⁷⁰ *Thames Advertiser*, 12 October 1896, p. 2 [where his name was given as H. Long], 4 March 1897, p. 1.

⁵⁷¹ Birth Certificate of Doris Arlene Lawn, 7 March 1898, 1898/4354, BDM.

⁵⁷² *New Zealand Gazette*, 11 February 1892, pp. 298-299.

⁵⁷³ *Thames Advertiser*, 29 October 1896, p. 2; *Ohinemuri Gazette*, 24 December 1896, p. 5; *Mining Standard*, 20 February 1897, p. 10; Death Certificate of Henry Lawn, 25 January 1905, 1905/1177, BDM; obituary of F.G. Lawn, *Te Aroha News*, 17 January 1961, p. 4.

new life to it, as to other bands before and after living in Te Aroha.⁵⁷⁴ In April 1897, when he was married, a local correspondent described him as ‘deservedly popular, not only as a zealous promoter of musical entertainments, but also as a private citizen’.⁵⁷⁵ His relationship with his miners was illustrated when he returned from his honeymoon:

The Te Aroha Brass Band ... assembled on the railway station platform and played a selection of music as the train came into the station. A number of the Tui mine employees and private friends also awaited to greet the happy couple, who appeared somewhat taken aback at the heartiness of the welcome accorded them. In the evening the band played several lively selections in front of Mr Hetherington’s residence, where Mr and Mrs Lawn are staying pro tem.⁵⁷⁶

The miners’ wedding present was a ‘handsome marble time piece’.⁵⁷⁷ An ‘energetic’ and ‘courteous’ manager,⁵⁷⁸ when mining ceased at Tui he was appointed mine manager for the Komata Reefs Company.⁵⁷⁹ After then managing mines in Thames, he moved to Stratford; when he died of phthisis (probably miner’s complaint), aged 58, he was a civil engineer.⁵⁸⁰

In November, the aerial tramway was purchased from Mitchelson, McCullough, and Parkes, and battery site licenses obtained subject to agreement with the Maori landowners about rent.⁵⁸¹ During that month,

⁵⁷⁴ For example, *Ohinemuri Gazette*, 24 December 1896, p. 5; *Te Aroha News*, 10 March 1898, p. 2, editorial, 11 June 1898, p. 2; *Thames Star*, 14 March 1901, p. 2, 21 November 1901, p. 2, 12 April 1902, p. 4.

⁵⁷⁵ Te Aroha Correspondent, *Waikato Argus*, 20 April 1897, p. 2.

⁵⁷⁶ ‘Twinkler’, ‘Te Aroha Notes’, *Thames Advertiser*, 21 May 1897, p. 2.

⁵⁷⁷ *Thames Advertiser*, 28 May 1897, p. 3.

⁵⁷⁸ *Ohinemuri Gazette*, 17 February 1897, p. 2; *Mining Standard*, 20 February 1897, p. 10.

⁵⁷⁹ *Thames Advertiser*, 17 August 1898, p. 3; see photo in *New Zealand Herald and Auckland Weekly News Exhibition Number*, 1898, p. 15.

⁵⁸⁰ F.A. Brown to Minister of Mines, 10 September 1900, Mines Department, MD 1, 00/1229, ANZ-W; *Thames Star*, 21 November 1901, p. 2; Death Certificate of Charles Henry Lawn, 17 November 1927, 1927/9742, BDM.

⁵⁸¹ Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1896, Transfer dated 2 November 1896, BBAV 11582/4a; Register of Applications 1883-1900, 280, 281/1896, BBAV 11505/1a; Register of Applications 1891-1899, Hearing of 11

work was 'pushed on rapidly' by 17 miners, and the tramway and plant inherited from the Champion Company was put in order. 'All the levels have been cleaned out and opened up. From 25 to 30 tons have been broken out from the main reef, and the advisability of putting in a larger plant will shortly be decided upon'.⁵⁸² A prospecting drive had cut a new reef below the track to the top of the mountain.⁵⁸³

In late January 1897, Chambers applied for 98 acres as a special claim, the remaining ground to be abandoned, which was approved subject to payment of arrears of rent.⁵⁸⁴ Twenty men were putting the mine in order.⁵⁸⁵ After visiting in February, the *Ohinemuri Gazette's* mining reporter described the 'useful work' done in the previous two months:

The May Bell level drive has been re-timbered throughout and cleared and the tramline repaired, Nos. 2 and 3 levels have also been put in good working order, while similar work is in progress in No. 1 level. The aerial tramway has been thoroughly overhauled and new trestles erected where required. Other trestles have had the bed plates renewed with a better class of timber; rata, which is procurable on the spot, being chiefly used, instead of rewarewa and other soft woods which were previously put in. The tramway was started for a trial and it was found to work satisfactorily, the buckets having been replaced and the rope greased. All the underground trams have been repaired and new hoppers built. Electric wires are now being put up the whole length of the tramway, together with electric signal bells at either end which will enable the tramway to be worked in all weathers, as the men at the respective gantries will always be in direct communication with each other. It is the intention of the Company in the near future to establish telephonic communication between the mine office on the hill and Te Aroha township.... The assay office has undergone complete renovation and is in charge of Mr J.J. Potter, the Company's assayer

December 1896, BBAV 11505/4a; Rent Register 1894-1910, folio 104, BBAV 11570/7a, ANZ-A.

⁵⁸² *Auckland Weekly News*, 14 November 1896, p. 20.

⁵⁸³ *Auckland Star*, 18 November 1896, p. 2.

⁵⁸⁴ Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1897, Application dated 26 January 1897, BBAV 11482/4a; Register of Applications 1891-1899, Hearing of 11 February 1897, BBAV 11505/4a; Letterbook 1883-1900, p. 412, BBAV 11534/1a, ANZ-A.

⁵⁸⁵ George Wilson to Minister of Mines, 29 June 1897, *AJHR*, 1897, C-3, p. 99.

[formerly of Birmingham].⁵⁸⁶ Prospecting outcrops of reefs has been carried on for some time, and a number of assay trials have lately been made of outcrops and reefs that had not been previously tested. Mr C.H. Lawn, the energetic mine manager, is evidently pushing on the preparatory works so as to be in readiness for the further development of the mine. A number of sections have been pegged out during the past week at, and around Cameron's camp, which is about half way up the Tui track. These sections are being secured by miners for residence sites, and before long we may expect to see a thriving settlement on Cameron's Flat.⁵⁸⁷

Three days later, a Te Aroha mining correspondent reported that 'some of the older hands' considered the Tui Special Claim to be the best local mine and described Cornes' initial developments and tests. The results were 'said to have been satisfactory, but, as you know, anything that happened on a mining field ten years ago is ancient history'. Lawn could not provide 'any exact information on that point' (an example of the common problem of mine owners not inheriting information acquired by earlier owners).

One outstanding circumstance did strike me - you can get no gold from the ore by crushing and panning, nor will it submit to the cyanide process. I could not learn that the management held a key whereby to unlock this treasure house, but until that key is forged, in my opinion the Champion Lode ... is a sealed book. Descending the precipitous hillside we come to No. 2 Level. From the mouth of a winze on this level I came across an opportunity of forming an opinion as to the complex character of the ore. Here it consists of sulphide of silver, sulphide of lead, black jack or sulphide of zinc (not regarded as objectionable nowadays), and cinnabar, or sulphide of mercury (this is the ore from which the mercury of commerce is derived), and, finally, arsenical and iron pyrites. Within this maze gold has been proved to live by repeated assays.

He gave more details of refractory ore in other levels, especially at the lowest level, the No. 4 or May Bell:

The one favorable fact gathered so far is that the gold does not appear in pockets or patches, but appears to be diffused

⁵⁸⁶ See Marriage Notices, *Auckland Star*, 16 April 1896, p. 12; Death Notices, *Auckland Star*, 25 February 1899, p. 5.

⁵⁸⁷ Special Mining Reporter, *Ohinemuri Gazette*, 17 February 1897, p. 2.

throughout the entire lode. In fact, it belongs to the class of stone most sought after in these time, *ergo*, a fortune awaits him who may devise an economical method of treatment, as with the vast quantities of stone metaphorically in sight millions may be extracted from the lode before it becomes exhausted.

The results of Potter's constant assaying of samples from all levels were 'a state secret', and the property presented an 'interesting' problem because it contained, 'to a superficial depth, fairly free ore, from thence it becomes more and more refractory'. The company had 'no idea, apparently, of how to treat their vast store of low grade stuff in large quantities' economically, upon which the 'entire value of the property' depended. One 'dubious feature' was that the stone was 'not clean', having 'horses [as printed] of mullock, and then a ribbon of quartz'. Despite the good work being done, the prospects were under a cloud, for 'until the proper method of treatment is discovered, the owners have but a white elephant on their hands'.⁵⁸⁸

Such straight talking was not found in any other accounts, which continued to be optimistic. The *Te Aroha News* for the period of the Tui Company is no longer extant, so its enthusiasm for foreign capital bringing prosperity to the locality has to be imagined, along the lines of its previous raptures, but others without a vested interest continued to be hopeful. The *Thames Advertiser*, on 4 March, reported good progress in the past month, with hundreds of assays being made from the whole length of the reef: 'altogether the mine looks good'.⁵⁸⁹ Perfectly true, but without good assay results and a suitable process the perfection of the mine was irrelevant. Early in March, the *Ohinemuri Gazette's* mining reporter revisited in the company of Chambers and McCullough, first inspecting the tramway:

I found the electrical work was completed and it is certainly a great improvement, as bell signals can be given by each brakeman at the upper and lower gantries. Formerly, it was impossible to see to signal in misty weather. The tramway has been put in first-class order. There are 77 trucks which make the round within the hour, conveying 5 1/2 tons of stone, or 44 tons per day of eight hours. Twenty-five tons of quartz in two ton lots are being taken out from various parts of the mine for shipment to the best reduction works in England. The May Bell was the first level visited. The ore body here is very refractory, containing

⁵⁸⁸ 'Werahiko', 'Our Te Aroha Letter', *Mining Standard*, 20 February 1897, p. 10.

⁵⁸⁹ *Thames Advertiser*, 4 March 1897, p. 1.

a large proportion of lead and silver. The company, however, set no value on it at present. The outcrop from No. 2 rise contains clean looking free milling ore. No. 3 level winze is down 25ft, to No. 4 level, where a drive has been started in a northerly direction. Very good stone is being broken down from No. 3 level, the reef being fully 10ft wide, running north east and south-west. Sixty feet higher up from the intermediate level and 120ft above No. 2 level, there is a large lode 8ft wide from which samples of kindly looking quartz are being taken for shipment to England. From the winze down to No. 2 level some very good quartz has been obtained giving satisfactory tests. Some very nice stone has also been taken from No. 1 rise. In No. 1 south drive the reef is very wide and contains some fair looking quartz. The outcrop above is a picture, and samples were being taken from it during my visit. At the north trench workings on the eastern side, quartz is being broken out of the Champion main lode, the reef being 4ft wide where exposed and containing a nice class of stone. The hill is interlaced with well defined reefs, a number of them branching off from the main lode on the eastern side where it is proposed to put a drive in at the intermediate level. The aerial tramway will then be continued to carry the quartz over the hill. At the assay office I found Mr J.J. Potter, the company's assayer, hard at work as usual. Everything is kept in apple pie order. Three samples of the quartz broken down for treatment were kept. First a sample of the quartz as taken out, second, a sample of the crushed quartz, and third, a sample of the treated ore. These samples were kept in separate pigeon holes with a description of the locality where they were taken from, they are also numbered and catalogued so that reference can be made to any one of them at once, and check tests made at any time when required. A complete plan of the Tui mine and the various workings is in the hands of the London directors, so that they can see at a glance where each parcel of quartz is taken from. The plan is divided into sections to facilitate cabling operations. Mr C.H. Lawn showed me a very useful plan on the mine in his office, which shows the contour lines from which one can gauge the altitude of the hill workings at any point required....

It is very satisfactory to note the cautious way in which the local directors of the Tui G. M. Co., Limited, are making sure of every step they are taking to test the various lodes on their property before they decide on a process for the treatment of the ore.⁵⁹⁰

He had described a well-managed small mine, but the fundamental problems of treatment and under-capitalization remained. In March, the company took out a temporary overdraft of £200 to meet the wages bill, this

⁵⁹⁰ Special Mining Reporter, *Ohinemuri Gazette*, 10 March 1897, pp. 2-3.

amount being guaranteed by Chambers and McCullough.⁵⁹¹ On 12 March, Griffiths visited the northern end of the property and selected a site for a new drive on the eastern side of the range, 'near the present trench workings from which five tons of ore were recently taken and forwarded to London for treatment'. A connection would be made 'at once between the existing levels on the southern section' to transport quartz to the head of the tramway.⁵⁹² Problems of access led to the council being requested to repair the Tui track, in particular 'gathering the boulders' with which it was 'plentifully strewed'.⁵⁹³ In April the company requested permission to work with eight men for four months.⁵⁹⁴ Chambers' statement stressed that over £1,500 had been spent and that the machine site could not be used until the method of treatment had been decided; until then there was no point in building the water race. The application was granted.⁵⁹⁵

After a Thames mining reporter visited at the end of April he described several mines adjacent to the company's ground:

SILVER STAR

I ... found that a good deal of prospecting work has been done, the main reef having been intersected in several places for a distance of about 15 chains. The reef which runs north-east and south-west is a fine body of quartz fully 30ft wide, from which can be taken in considerable quantities splendid samples of sulphide ores. I noticed the presence of red oxide of iron in several pieces of stone which I broke out for inspection, and I also found that the sandstone casing was of a very good class. The holders of this property are fortunate in having secured water rights from the Mangakino creek capable of driving from 60 to 80 heads of stamps. Fully 800ft of backs are obtainable from the creek level.

TUI GOLD MINES, LIMITED

This claim adjoins the Silver Star on the southern boundary. I found the Silver Star reef outcropping in various places in this property, and I could trace the lode without difficulty right

⁵⁹¹ Bank of New Zealand, Ohinemuri Branch, Balance Book to 30 March 1897: Accounts Opened, and Balance Book to 31 March 1898, Accounts Closed; Auckland Register of Securities 1887-1896, Guarantees, p. 284, Bank of New Zealand Archives, Wellington.

⁵⁹² *Thames Advertiser*, 14 April 1897, p. 3.

⁵⁹³ *Ohinemuri Gazette*, 3 April 1897, p. 4; see also 8 May 1897, p. 4.

⁵⁹⁴ Te Aroha Warden's Court, Register of Applications 1883-1900, 59-61/1897, BBAV 11505/1a, ANZ-A.

⁵⁹⁵ Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1897, 61/1897, BBAV 11582/4a, ANZ-A.

through and into the Tui company's ground. Preparations are at present being made for the extensive development of this property....

SILVER KING

On a recent visit to this property I found that a new prospecting drive had been commenced near the northern trench workings on the eastern side of the hill. This drive is intended to cut the Champion lode, which has been exposed on the surface for some distance. Some very nice looking stone has been obtained from this section of the reef. It is intended to connect the existing levels on the southern section of the claim so as to facilitate the transport of quartz to the aerial tramway.

TE AROHA SPECIAL CLAIM AND DOVELL'S FREEHOLD⁵⁹⁶
Prospecting work has been proceeding for some time on the above joint properties, which are situated about half-a-mile north of the boundary of the Tui Gold Mines property. Six surface drives have been put in on reefs running from 3ft to 6ft in width and containing free milling ore of a kindly nature.... In all probability permanent development works will be commenced shortly.⁵⁹⁷

In October the Tui Company applied for six months' protection, 'pending experimental treatment of the ores', but the warden, Robert Smelt Bush, refused while wages remained unpaid.⁵⁹⁸ His refusal led to a revealing letter from Auckland solicitors to a Te Aroha solicitor enclosing £20 to be paid to the employees. As the amount sent by the directors was 'not sufficient to pay every one in full', it was 'being distributed pro rata. We have received in all £40. We understand the representatives of the company here are sending statements of a/c to the head office for the purpose of obtaining a further remittance'.⁵⁹⁹ Presumably all outstanding wages were paid by 8 November, when permission was given to work with eight men for

⁵⁹⁶ For Richard Dovell, see Te Aroha Warden's Court, Register of Applications 1883-1900, 74, 75/1897, 16, 17, 24, 25/1898, 13/1899, BBAV 11505/1a, ANZ-A; Declaration of Richard Dovell, 23 June 1896, Mines Department, MD 1, 96/1918, ANZ-W; *New Zealand Mining Standard*, 6 May 1897, p 3.

⁵⁹⁷ Own Correspondent, *Thames Star*, 1 May 1897, p. 4.

⁵⁹⁸ Te Aroha Warden's Court, Register of Applications 1883-1900, 111, 121/1897, BBAV 11505/1a; Applications for Licensed Holdings and Special Claims 1897, 121/1897, BBAV 11582/4a, ANZ-A; Te Aroha Warden's Court, *Ohinemuri Gazette*, 16 October 1897, p. 2.

⁵⁹⁹ Jackson and Russell to Peter Gilchrist, 18 October 1897, Letterbook no. 66, p. 922, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

four months.⁶⁰⁰ However, the company failed to meet the legal costs to its Te Aroha solicitor, which by April 1898 totalled £68 13s 3d.⁶⁰¹

In March that year, the company sought protection for 12 months. Bush supported the application because it had spent a 'large sum' but been defeated by the refractory ore.⁶⁰² Such a long period was not approved, and two days before its current period of protection expired on 8 May the company applied to work for four months with four men instead of the required 32. It admitted the mine had only been worked for seven months, but claimed that more men could not 'be profitably employed'. Chambers declared that it had spent £3,000 and employed from five to 20 men. 'A considerable parcel of ore' was being 'experimented upon', and until the best process was found it could not use more than four men. Permission was given.⁶⁰³ The company was awaiting the completion of Joseph Campbell's plant at Te Aroha, which would treat its ore by his thermo-hyperphoric process;⁶⁰⁴ should this succeed the mine would 'at once be fully manned'.⁶⁰⁵ A British company, the Montezuma, constructed a tramway from the aerial tramway to Campbell's plant.⁶⁰⁶

The company's financial report, published in May, gave discouraging details of the balance sheet as at 30 September 1897. £3,571 4s 5d had been spent without obtaining any gold or silver. It held £3 3s 2d in a New Zealand bank, was not owed any money, and had liabilities of £1,046 0s 11d.⁶⁰⁷ In August, the Te Aroha solicitor asked, again, when his costs would be paid, and pointed out that rent was owed on some properties. Chambers

⁶⁰⁰ Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1898, 45/1898, BBAV 11582/4a, ANZ-A.

⁶⁰¹ Jackson and Russell to John Chambers, 12 August 1897, 15 September 1897, Jackson and Russell Letterbook no. 66, pp. 233, 406; Jackson and Russell to John Chambers, 13 April 1898, 27 June 1898, Jackson and Russell Letterbook no. 69, pp. 262, 855, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and Museum.

⁶⁰² R.S. Bush to Minister of Mines, 11 March 1898, Te Aroha Warden's Court, Letterbook 1883-1900, p. 493, BBAV 11534/1a, ANZ-A.

⁶⁰³ Te Aroha Warden's Court, Applications for Licensed Holdings and Special Claims 1898, 22, 45/1898, BBAV 11582/4a, ANZ-A.

⁶⁰⁴ See paper on Joseph Campbell and his thermo-hyperphoric process.

⁶⁰⁵ George Wilson to Minister of Mines, 29 June 1898, *AJHR*, 1898, C-3, p. 74.

⁶⁰⁶ *Waikato Times*, 17 March 1898, p.2; *Thames Advertiser*, 7 May 1898, p. 4.

⁶⁰⁷ *New Zealand Gazette*, 5 May 1898, p. 792.

was asked to get the directors to pay the debts at once.⁶⁰⁸ Their response was to offer £100 to meet the costs of £140 incurred by the two legal firms. The offer was accepted because, as the Auckland one noted, the financial state of the company was ‘critical, and failing our acceptance no definite proposal’ was made.⁶⁰⁹

Four men were still prospecting the Champion lode in July.⁶¹⁰ Four months later it was reported that, from testing the 25 tons sent to London, a successful treatment process had been found, but the directors had asked Griffiths to report on the quantity of ore in sight before ordering operations resumed.⁶¹¹ After Griffiths’ inspection, the *Thames Advertiser* expected that, although ‘nothing definite’ was known of the directors’ intentions, as a satisfactory process had been discovered crushing was likely to begin soon.⁶¹² While awaiting the decision, Chambers applied for six months’ protection. He stated that British tests had revealed that the cost of treatment could be ‘materially reduced’, meaning if the mine produced ‘a sufficient quantity of ore of a certain value’ it could be worked profitably. The company had spent £2,830 on wages and salaries in New Zealand, rents and fees had totalled £383, stores and materials £750, and general charges such as cartage £440, making a total cost in New Zealand of £4,403. Chambers did not give the cost of tests in Britain, and did not include overheads such as directors’ salaries. On the basis of this information, protection was approved.⁶¹³

Chambers’ statement of the company’s affairs as of 13 March 1899 revealed that the £500 to have been paid to the vendors was ‘never received’. Only one man was employed, and although £955 6s 10d had been spent on the mine since the previous annual statement there had been no

⁶⁰⁸ Jackson and Russell to John Chambers, 9 August 1898, Letterbook no. 70, p. 233, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

⁶⁰⁹ Jackson and Russell to Peter Gilchrist, 30 August 1898, Letterbook no. 70, p. 426, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

⁶¹⁰ *New Zealand Mines Record*, 16 July 1898, p. 522.

⁶¹¹ *Ohinemuri Gazette*, 22 October 1898, p. 3.

⁶¹² *Thames Advertiser*, 12 November 1898, p. 3.

⁶¹³ Declaration of John Chambers, 8 November 1898, Mines Department, MD 1, 98/1672, ANZ-W; Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1898, 45/1898, BBAV 11582/4a, ANZ-A.

output. A total of £4,526 11s 3d had been spent since registration; there was no money in the bank, no money in hand, no debts due to it, and its liabilities in New Zealand were £409 13s 8d.⁶¹⁴ In addition to his financial concerns about paying the rent, Chambers ‘was for some considerable time ill’.⁶¹⁵ In that month, he received a legal opinion that he had the power to sell the property and effects.⁶¹⁶

Late in April, an effort to reconstruct the company was reported, but a meeting in London on 2 August resolved to wind it up.⁶¹⁷ One month later, the property was bought by Mitchelson and McCullough for £120 on behalf of a syndicate which agreed, despite the reluctance of some members, to pay £74 5s in outstanding rent.⁶¹⁸ Chambers, as attorney for the Tui Company, was sued in August 1900 for £49 10s rent owing, but settling out of court the transfers were made.⁶¹⁹ In their turn, the new owners abandoned the property on 18 April 1901, the formalities being completed at the end of the following month.⁶²⁰ These owners were the original ten-member syndicate who had sold the property to the English company. The number of New Zealand shareholders had remained constant, no shares being sold to outsiders.⁶²¹

Early in June, the *Te Aroha News* wrote about the lost hopes. ‘At one time great things were expected from this locality, and the unlimited supply of refractory ore which, if a process could be found to treat it would have

⁶¹⁴ *New Zealand Gazette*, 30 March 1899, p. 723.

⁶¹⁵ Peter Gilchrist to Mining Registrar, Te Aroha, 12 October 1900, Te Aroha Warden’s Court, Mining Registrations 1900, BCDG 11288/1a, ANZ-A.

⁶¹⁶ Jackson and Russell to John Chambers, 18 March 1899, Letterbook no. 71, p. 885, Jackson and Russell Papers, MS 360, Library of the Auckland Institute and War Memorial Museum.

⁶¹⁷ *Thames Advertiser*, 26 April 1899, p. 1; Tui Gold Mines, Company Files, BT 31/6888/48453, The National Archives, Kew, London.

⁶¹⁸ Declaration of John Chambers, 20 September 1900, Te Aroha Warden’s Court, Mining Registrations 1900, BCDG 11288/1a, ANZ-A.

⁶¹⁹ Te Aroha Warden’s Court, Plaints 1900, 29/1900, BBAV 11572/2a; Nominal Index of Registrations 1889-1912, Transfer dated 2 September 1900, BBAV 11287/2a; Application Register of Licensed Holdings 1888-1909, folio 108, BBAV 11505/8a, ANZ-A.

⁶²⁰ Te Aroha Warden’s Court, Applications for Licensed Holdings and Special Claims 1901, 21/1901, BBAV 11582/2b; Register of Applications 1899-1905, Hearing of 29 May 1901, BBAV 11505/4b, ANZ-A.

⁶²¹ *New Zealand Gazette*, 5 May 1898, p. 792, 30 March 1899, p. 723.

proved a real Bonanza to this place. The last act in the drama of hope' was 'played during the past week, when the aerial tram leading to the mines was dismantled'.⁶²² When attempts were made to revive mining in this district by the Kia Ora syndicate in the early twentieth century, they asked the government to rebuild this tramway, 'removed without any sense of the position'.⁶²³

CONCLUSION

These attempts to mine the Tui district were all defeated by its geology. In 1888, Gordon wrote that the northern end of the outcrop did not contain any rich ore, and although it improved in value markedly 30 chains to the southward, it was 'one of the most heterogeneous lodes' in New Zealand. Whilst containing many valuable minerals, a proper method of treatment was required to make it payable.⁶²⁴ A geological survey published in 1913 described the 'pipe of ore' as 'narrow at the outcrop' and shortening at each level. According to official sources, 149 tons, valued at about £1,000, were extracted, but this quantity was 'probably much too low'.⁶²⁵ The Champion Gold and Silver Mining Company was misnamed, as most of the ore comprised base metals. The total sum spent so unproductively was later estimated as £40,000.⁶²⁶ Despite this gloomy history, interest in the district would revive in the middle of the following century, though the search for gold and silver was replaced by a search for base metals.⁶²⁷

Appendix

⁶²² *Te Aroha News*, n.d., reprinted in *Thames Star*, 7 June 1901, p. 4.

⁶²³ *Ohinemuri Gazette*, 8 January 1904, p. 2.

⁶²⁴ H.A. Gordon to Under-Secretary, Mines Department, 1 May 1888, *AJHR*, 1888, C-5, p. 28.

⁶²⁵ John Henderson, with J.A. Bartrum, *The Geology of the Aroha Subdivision, Hauraki, Auckland: Bulletin No. 16 (New Series)* (Wellington, 1913), p. 118.

⁶²⁶ Te Aroha Warden's Court, Mining Registrations 1933, 1/1933, Evidence of Peter Gilchrist on behalf of Edwin Mitchelson at hearing of 8 June 1933, BCDG 11288/10a, ANZ-A.

⁶²⁷ See papers on the Auckland Smelting Company and on Norpac and Pollution: a chronology to 1980.

Figure 1: Bo Stent, 'Tui Creek Mines: Centres of Mining Interest', in Kevin Wells, *The Noble Aroha: Te Aroha Mountain: Celebrating Te Aroha 125 Years (1880-2005)* (Te Aroha, 2005), p. 59; used with permission.

Figure 2: 'Earl of Aberdeen, Ruakaka, and Old Claims, Block X, Te Aroha', 1887, SO 4479B, University of Waikato Map Library.

Figure 3: D.H. Bayldon, 'Tui Reduction Co. Special Claim Te Aroha Survey District, Applied for by John Howard Keep', 25 January 1888, SO 4693, University of Waikato Map Library.

Figure 4: F.G. Ince, 'Blk X Aroha S.D.', 4 August 1896, Mines Department, MD 1, 99/1750, ANZ-W [Archives New Zealand The Department of Internal Affairs Te Tari Taiwhenua]; used with permission.

Figure 5: South Pacific Mines, Portion of 'Tui and Waiorongomai Mineral Prospecting Warrant Areas', 1965, Te Aroha Warden's Court, Mining Applications 1965, 6/1965, BCDG 11289/5a, ANZ-A [Archives New Zealand/Te Rua Mahara o te Kawanatanga, Auckland Regional Office]; used with permission.

Figure 6: 'Outcrop above No. 1, Tui G.M.', 1890s, C18, 869, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 7: 'Outcrop on E[astern] Side, Tui', 1890s, C10, 634, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 8: 'Outcrop on Top, Tui', 1890s, C18, 866, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 9: Workings on top of the ridge, 1890s, C18, 865, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 10: 'North Trench, The Tui', 1890s, C 10, 637, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 11: 'Winze and tip, Tui', 1890s, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 12: ‘GOLD-MINING IN NEW ZEALAND: THE ENTRANCE TO THE TUI MINE, NEAR TE AROHA AUCKLAND.

This mine, which is situated 1 1/2 miles north of Te Aroha, opens up what is considered by some to be an outcrop of the famous Talisman reef.

(*Auckland Weekly News*, 3 February 1910, Supplement, p. 7, AWNS-19100203-7-5, Sir George Grey Special Collections, Auckland Libraries; used with permission.)

Figure 13: ‘Track above office, Tui’, 1890s, C18, 884, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 14: ‘Track to No. 3, Tui’, 1890s, C18, 864, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 15: ‘View from W[estern] Track, Tui’, C18, 871, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 16: Plan showing proposed line of aerial tramway, included in application by John Moginie Chambers for Champion Lode Special Claim, heard on 9 October 1888, Te Aroha Warden’s Court, Mining Applications 1888, 97/1888, BBAV 11289/12a, ANZ-A [Archives New Zealand/Te Rua Mahara o te Kawanatanga, Auckland Regional Office]; used with permission.

Figure 17: Plan of extension of aerial tramway, applied for by Champion Silver and Gold Mining Company, March 1889, Te Aroha Warden’s Court, Mining Applications 1889, 33/1889, BBAV 11289/12a, ANZ-A [Archives New Zealand/Te Rua Mahara o te Kawanatanga, Auckland Regional Office]; used with permission.

Figure 18: ‘Top of Main Tram, The Tui’, 1890s, C10, 635, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 19: ‘Upper Tramway, The Tui G.M.’, 1890s, C18, 870, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 20: ‘Top Hopper & No. 3 Level, The Tui’, 1890s, C10, 636, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

Figure 21: 'Flying Tram, The Tui', 1890s, C18, 867, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

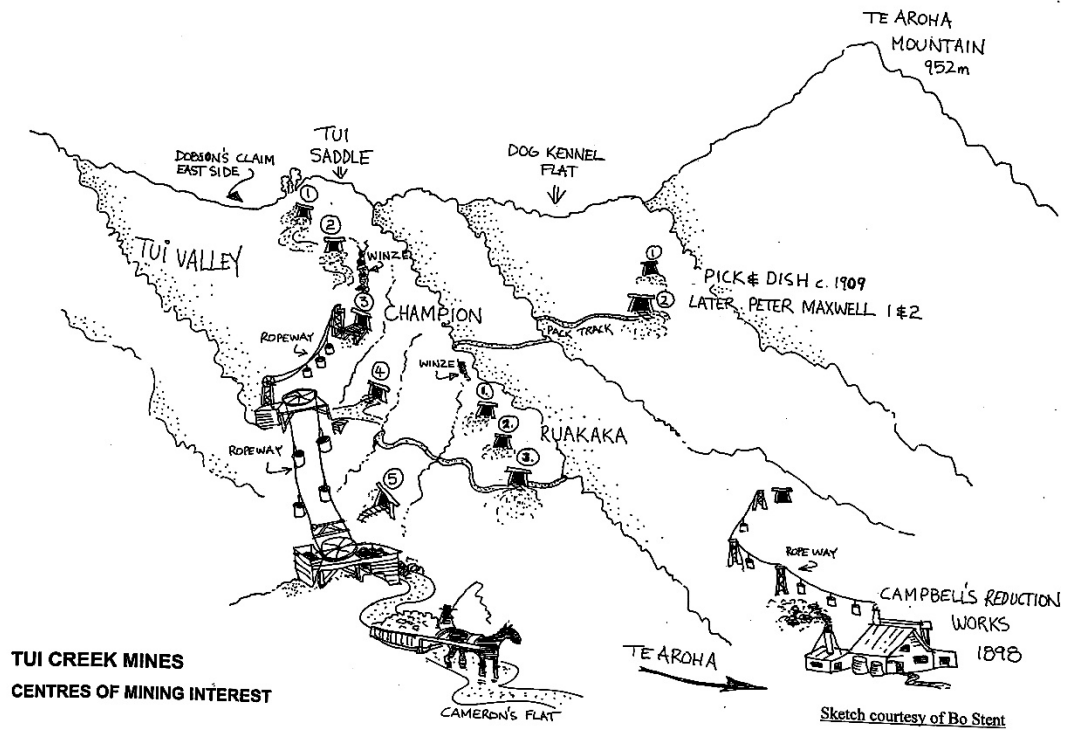


Figure 1: Bo Stent, 'Tui Creek Mines: Centres of Mining Interest', in Kevin Wells, *The Noble Aroha: Te Aroha Mountain: Celebrating Te Aroha 125 Years (1880-2005)* (Te Aroha, 2005), p. 59; used with permission.

EARL OF ABERDEEN, RUAKAKA, AND
OLD CLAIMS
BLOCK X
TE AROHA
5 CHAINS TO AN INCH

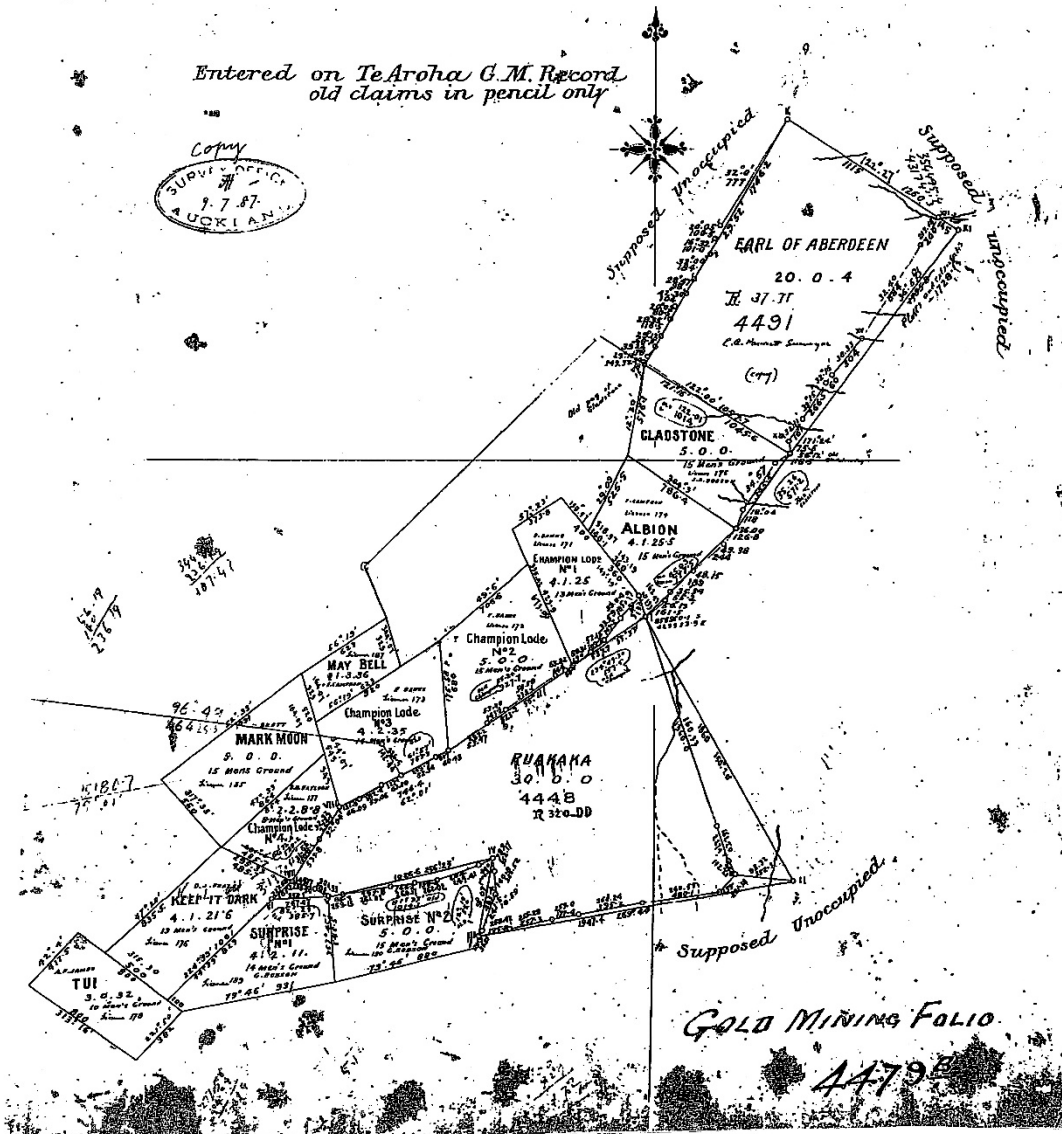


Figure 2: 'Earl of Aberdeen, Ruakaka, and Old Claims, Block X, Te Aroha', 1887, SO 4479B, University of Waikato Map Library.

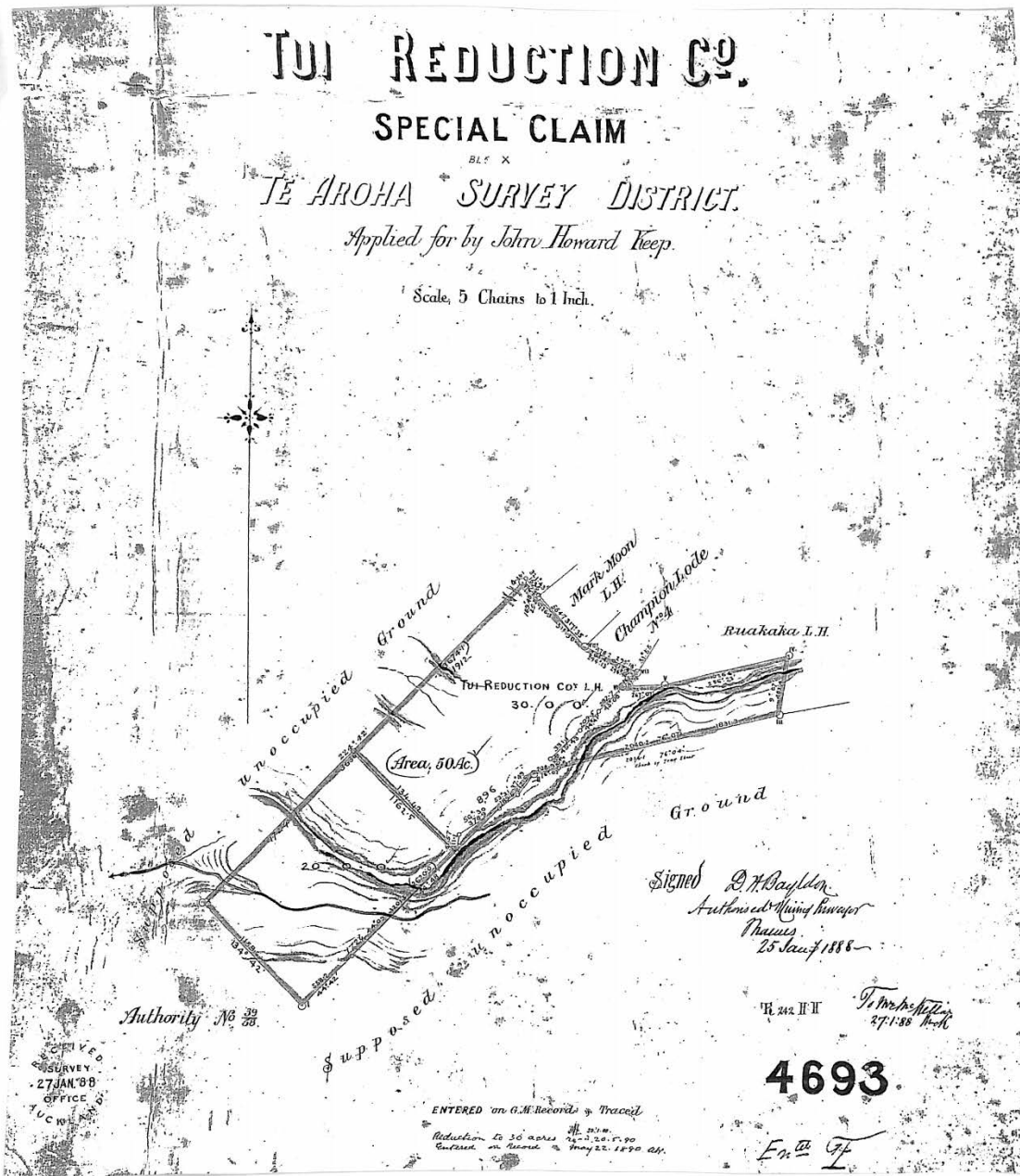


Figure 3: D.H. Baylton, 'Tui Reduction Co. Special Claim Te Aroha Survey District, Applied for by John Howard Keep', 25 January 1888, SO 4693, University of Waikato Map Library.

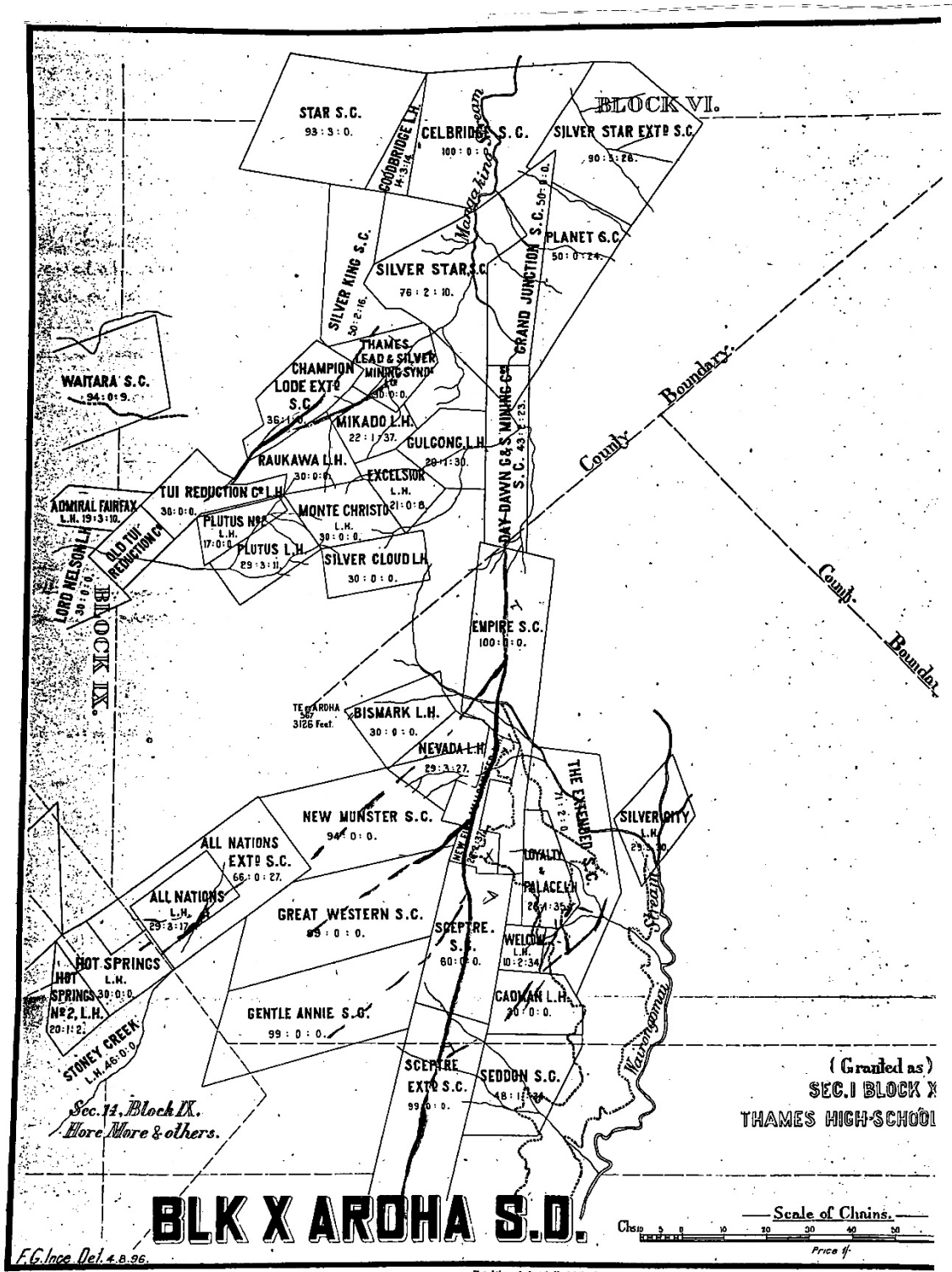


Figure 4: F.G. Ince, 'Blk X Aroha S.D.', 4 August 1896, Mines Department, MD 1, 99/1750, ANZ-W [Archives New Zealand The Department of Internal Affairs Te Tari Taiwhenua]; used with permission.



Figure 6: 'Outcrop above No. 1, Tui G.M.', 1890s, C18, 869, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 7: 'Outcrop on E[astern] Side, Tui', 1890s, C10, 634, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 8: 'Outcrop on Top, Tui', 1890s, C18, 866, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 9: Workings on top of the ridge, 1890s, C18, 865, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 10: 'North Trench, The Tui', 1890s, C 10, 637, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 11: 'Winze and tip, Tui', 1890s, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 12: 'GOLD-MINING IN NEW ZEALAND: THE ENTRANCE TO THE TUI MINE, NEAR TE AROHA AUCKLAND.



Figure 13: 'Track above office, Tui', 1890s, C18, 884, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 14: 'Track to No. 3, Tui', 1890s, C18, 864, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 15: 'View from W[estern] Track, Tui', C18, 871, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

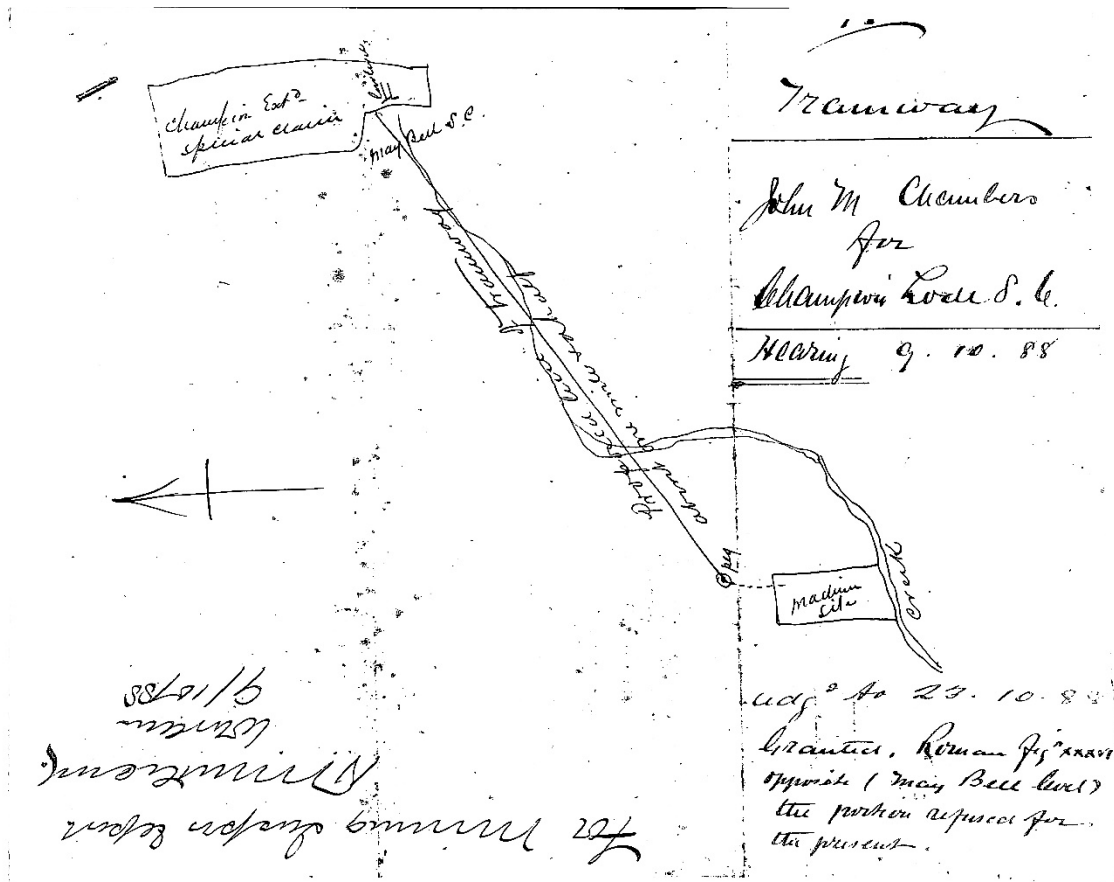


Figure 16: Plan showing proposed line of aerial tramway, included in application by John Moginie Chambers for Champion Lode Special Claim, heard on 9 October 1888, Te Aroha Warden's Court, Mining Applications 1888, 97/1888, BBAV 11289/12a, ANZ-A [Archives New Zealand/Te Rua Mahara o te Kawanatanga, Auckland Regional Office]; used with permission.

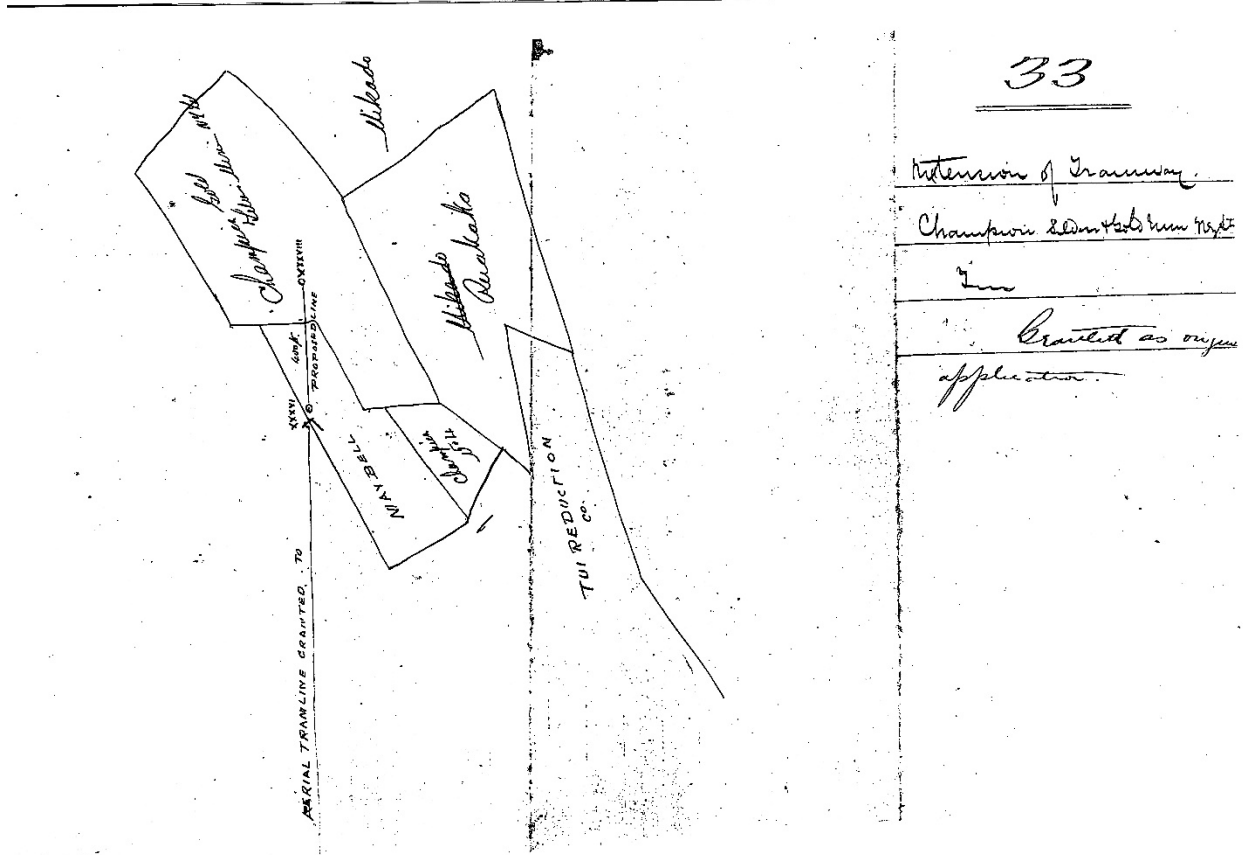


Figure 17: Plan of extension of aerial tramway, applied for by Champion Silver and Gold Mining Company, March 1889, Te Aroha Warden's Court, Mining Applications 1889, 33/1889, BBAV 11289/12a, ANZ-A [Archives New Zealand/Te Rua Mahara o te Kawanatanga, Auckland Regional Office]; used with permission.



Figure 18: 'Top of Main Tram, The Tui', 1890s, C10, 635, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 19: 'Upper Tramway, The Tui G.M.', 1890s, C18, 870, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.

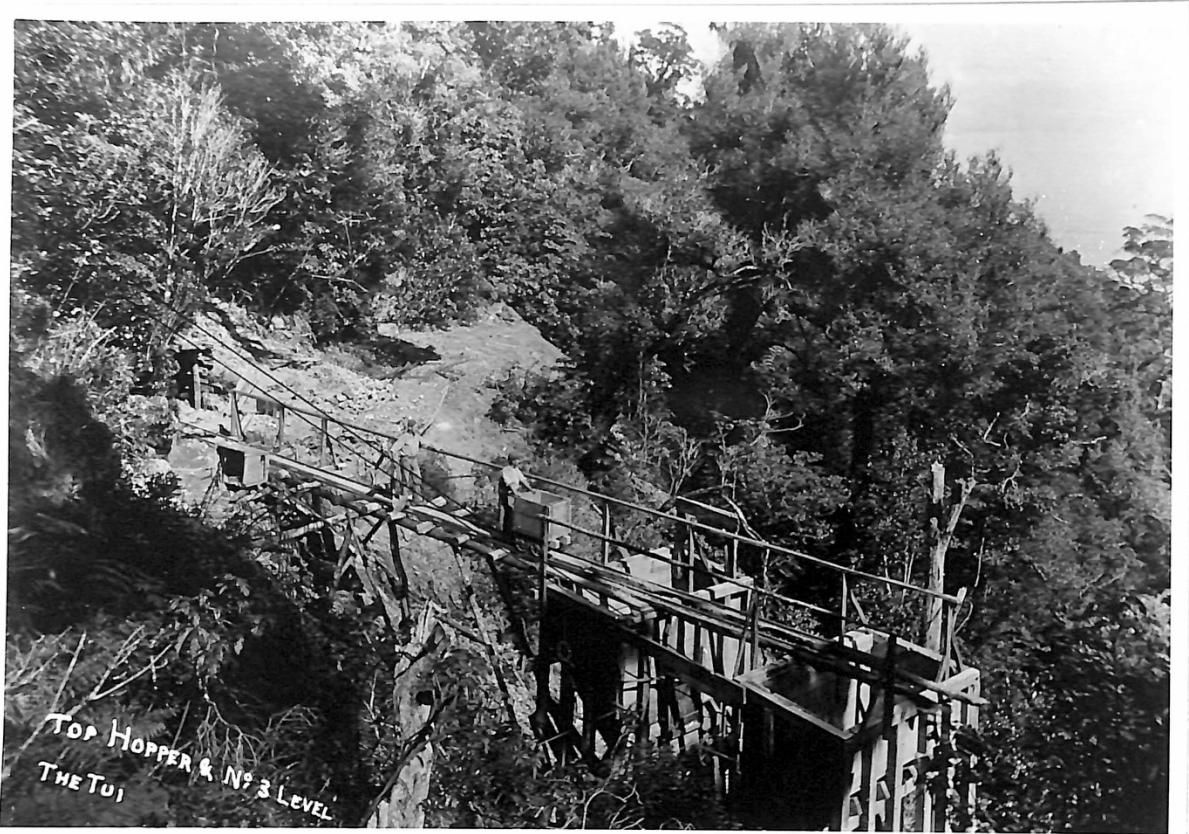


Figure 20: 'Top Hopper & No. 3 Level, The Tui', 1890s, C10, 636, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.



Figure 21: 'Flying Tram, The Tui', 1890s, C18, 867, Auckland War Memorial Museum – Tamaki Paenga Hira; used with permission.