THE NEW FIND MINE AT WAIORONGOMAI

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Abstract: Hone Werahiko and his party, who owned the original New Find claims, undertook the preliminary development of what was universally praised as a valuable property. The large outcrop and the highest levels, driven through steep and rough country, were relatively easy to work, but were high above the county tramway. Encouraging sampling was proved to be correct when crushing commenced, leading to further development, with a series of new levels and connections between the same being driven. But despite hopes of establishing a permanently profitable mine, over time the financial returns declined, particularly because of excessive battery costs and a treatment process that lost an unacceptable percentage of the gold. As the mine workings became larger, incoming water and poor ventilation created problems for miners. To reduce costs, contractors increasingly replaced wages men, but by 1886, with output declining, more efforts were made to lower costs further.

The New Find Company would pay more dividends than any other company on this field. As usual, it was under-capitalized, and as the mine declined so did the share values. Observers urged it to erect its own battery rather than just provide work for the Battery Company, which, after the company collapsed in 1887, acquired its property. The new owners did more development, but, as most of the free-milling ore had been extracted, mining stopped in 1889. Subsequent owners did some more work, but, lacking capital, they sought (and obtained) a small amount of government assistance. Mining revived, briefly, during the boom of 1895, and although there were subsequent plans to reopen the ground it remained abandoned.

The nature of the mine, with its 100-metre deep stope open to the sky, meant some accidents, but none were fatal.

THE ORIGINAL OWNERS

On 25 October 1881, Hone Werahiko, the sole owner, applied to register his main discovery as the New Find Licensed Holding. His application was withdrawn on 9 November because, as its length was three times its breadth, the warden, Harry Kenrick, ‘ruled that it was not a claim within the meaning of the Act, and advised Hone to send at once and

1 See paper on his life.
2 See paper on his life.
have it repegged'.

On 17 November, he applied on behalf of his party for two licensed holdings, which were granted on 23 December. The New Find No. 1, two acres three roods and 7.41 perches or nine men’s ground, was granted to his party: Werahiko himself; his fellow-prospector Parati Harawira, the only other Maori; Thomas Leitch Murray, manager of the Bank of New Zealand at Thames; Edward Mann Corbett, a Waitekauri mine manager; John Glasford Corbett, a ‘gentleman’ of no fixed abode; John Bullock, storekeeper, of Te Aroha; Rachel Joy, wife of Charles Mansfield Clark Joy, miner, of Te Aroha; George Stewart O’Halloran, licensee of the Hot Springs Hotel at Te Aroha; Henry William Baskiville, labourer and miner, of Te Aroha; Adam Porter, miner, of Thames; Patrick Quinlan, licensee of the British Hotel at Te Aroha; Nicholas Cleary, policeman at Te Aroha; Charles David Lindsay McLean, mine manager, of Thames; Charles Jenkins, a Te Aroha miner who gave his address as Thames; and Charles Gemmings, miner, of Waitekauri. The New Find No. 2, adjoining on the northern side, was one acre two roods and

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3 Te Aroha Warden’s Court, Register of Applications 1880-1882, folio 108, no. 22, BBAV 11505/3a, ANZ-A; Te Aroha Warden’s Court, Thames Advertiser, 10 November 1881, p. 3.


6 See Ohinemuri Gazette, 22 January 1898, p. 3; Observer, 29 January 1898, p. 36; Cyclopaedia of New Zealand, vol. 2, p. 501.

7 For his last years, see Waikato Times, 10 April 1889, p. 2, New Zealand Herald, 17 April 1889, p. 5.

8 See Te Aroha News, 23 April 1887, p. 2.

9 See Thames Star, 24 October 1883, p. 3; Te Aroha News, 1 October 1887, p. 2.

10 See paper on his life.

11 See paper on Patrick Quinlan.

12 See paper on his life.

13 See paper on his life.

14 See Thames Advertiser, 8 November 1882, p. 2; Te Aroha News, Magistrate’s Court, 26 November 1887, p. 3, 16 April 1890, p. 3.


16 See Thames Star, 12 January 1881, p. 2; Te Aroha News, 10 November 1888, p. 2.

17 See Ohinemuri Correspondent, Thames Advertiser, 11 July 1881, p. 3; Death Certificate of Charles Gemmings, 3 May 1932, 1932/4848, BDM.
12.96 perches or four men’s ground; its owners were as for No. 1, omitting the last three listed.\textsuperscript{18}

**PROSPECTS**

The height of the outcrop Werahiko found was 2,064 feet above the battery.\textsuperscript{19} A government geologist, S. Herbert Cox, after visiting in February 1882 briefly described the geology. The claim ‘was on the main reef, where a leader about 8 inches wide, known as the Arizona lead’ because the Arizona adjoined its eastern boundary,

junctions with the eastern or hanging wall of the main reef. This leader follows a N.E. course until within a few feet of the main reef, where it appears to turn more in a N.-S. direction and to merge into the main reef. Good specimens may be obtained both from this leader and also from the main reef for a distance of 8 feet into the solid near the junction. The gold occurs in small black or blue veins which traverse the quartz in an irregular manner, and these veins do not appear to be continuous, but come in and die out in a very short distance, from a quarter of an inch to a foot or more. Gold is freely visible along the reef at this point for a distance of 60 or 80 feet.\textsuperscript{20}

Although far up the valley, in Kenrick’s opinion its location meant easy working. In his report of April 1882, he considered its value was much enhanced by the peculiarly favourable nature of the country affording every advantage for economically and quickly testing the value of the stone, no pumping, winding, or ventilating machinery being necessary, and but little timbering in the drives. The soft wall has in course of ages worn away, leaving exposed this great outcrop of wall of quartz.... This, coupled with the presence of water-power with plenty of fall, should enable the reef to be profitably worked for less than 1/2oz of gold to the ton.\textsuperscript{21}

\begin{footnotesize}
\begin{enumerate}
\item Te Aroha Warden’s Court, Register of Applications 1880-1882, folio 110, nos. 32, 33, BBAV 11505/3a, ANZ-A.
\item *Te Aroha News*, 12 September 1888, p. 2.
\item Harry Kenrick to Under-Secretary, Gold Fields, 18 April 1882, *AJHR*, H-19, p. 11.
\end{enumerate}
\end{footnotesize}
John O’Shea, a working shareholder in the adjoining Arizona, recalled it as ‘a big bluff, standing up 100ft, and you could see the gold sticking out of it’. Kenrick recorded the first testing of the reef made by driving about 100 feet below where Werahiko had found the gold.

This drive has been driven 20 feet into the solid reef, without reaching the wall; 5 feet of this shows gold freely as on the outcrop; in the rest of the stone gold is only visible occasionally; but the pestle-and-mortar tests give good results. The gold is very fine, and contained in small, black veins permeating the stone. Though fine, the gold is heavy, and easily saved. I had a piece tested at the Bank, with a result of 2oz to the ton, value about £2 16s an ounce.

The mining inspector considered this drive had uncovered ‘fair prospects’. According to another account, the first samples tested, at two Thames banks, averaged three ounces to the ton. The six-foot reef exposed, later noted as being 60 feet below the surface, had a value of £7 11s 6d per ton.

All visitors to Werahiko’s find spoke ‘in high terms of it. A shot was put in it, and tons of quartz knocked out, some of which went down the hill side, but about 75 pounds of specimen stone was picked up’. As others sought to share in the potential bonanza there were ‘ever so many applications for the surplus ground in Hone’s claim’. One miner, Thomas Gavin, took several samples to Kenrick, all showing gold on all sides. The reef has been

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23 *Te Aroha Warden’s Court, Licensed Holdings Grant Book 1880-1882*, folio 62, BBAV 11549/1a, ANZ-A.
27 *Thames Star*, 12 October 1881, p. 2.
28 Schedule of quartz and minerals from Hauraki Mining District, n.d. [January 1892], Inspector of Mines Letterbook 1888-1892, pp. 567-568, YBAZ 1240/1, ANZ-A.
29 *Thames Star*, 13 October 1881, p. 2.
30 See paper on his life.
stripped over 60 feet towards the south, and gold has been traced in the stone for that distance’. Where the reef was broken into for ten feet, gold was seen in black seams. To provide easier access, a new track reduced the walk from Te Aroha to three and a half hours.31 One visitor quoted ‘practical miners from the Thames and Waihi’ believing the reef was ‘a continuation of the Waitekauri reef, having much the same characteristics’.32 Samples convinced a journalist and self-confessed mining expert, Charles Featherstone Mitchell,33 that ‘the true gold belt’ had at last been traced. The reef was ‘a clear and well defined body of stone, and shows gold quite freely enough to make sure of from one to two ounces to the ton’.34 By early November, one experienced miner described the discovery as ‘the best thing he has seen for some time. The gold appears to be right through the reef’.35

WORK COMMENCES

Late in October, a meeting of shareholders decided to start a ‘prospecting drive’ to ascertain the size and value of the lode.36 This crosscut was begun immediately, supervised by Gavin, appointed as manager.37 (An experienced Thames miner, in the late 1870s he had been a director of the New North Devon and the New Zealand Independent companies.38 After participating in the Te Aroha rush, he had managed the Te Aroha No. 1 South and Te Aroha No. 2 South claims.)39 This first crosscut, driven 60 feet below the outcrop from its eastern side, was expected to determine how far the gold went down.40 Although a report published on 12 November stated the claim was ‘not being worked very vigorously’, a few days later more men were employed.41

31 Thames Star, 21 October 1881, p. 3.
32 Thames Advertiser, 24 October 1881, p. 3.
33 See paper on the Thames Miners’ Union.
35 Thames Star, 12 November 1881, p. 2.
36 Thames Advertiser, 28 October 1881, p. 3.
37 Thames Star, 31 October 1881, p. 2; Thames Advertiser, 28 October 1881, p. 3.
38 Thames Advertiser, 18 August 1877, p. 3, 18 May 1878, p. 3.
39 Thames Star, 4 December 1880, p. 2; Thames Advertiser, 14 April 1881, p. 3.
41 Thames Star, 12 November 1881, p. 2; Thames Advertiser, 17 November 1881, p. 3.
All that could happen before the tramway and the battery were constructed was sufficient prospecting and opening up to enable thorough testing. At the beginning of February, the Paeroa correspondent of the *Thames Advertiser*, probably Mitchell, visited ‘after traversing some of the roughest country it has ever been my lot to encounter’. He found Gavin

and a staff of experienced miners here in a rough shanty discussing their noonday meal, and after partaking of sundry pannikins of tea, some bread, butter, &c, I started for what is now generally known as the “big face,” where Hone first discovered the gold. This immense outcrop of quartz stands up to a height of fully 50 feet above the eastern slope of the spur through which it has its course, and gold is plainly visible to the unaided eye in the blue streaks that traverse its rugged face in every conceivable direction. The next place visible was the tunnel, which is being driven about 150 feet below the surface of the outcrop. This tunnel, which is also on the eastern side, is now in a distance of 40 feet, the last 20 feet being through solid quartz, and no sign of the other wall. From the quartz paddock I picked up several pieces of stone in which patches of the precious metal were plainly discernable. Mr Gavin informed me that, so far, the best gold had been found on the eastern or hanging-wall side of the lode, which evidently is exceedingly thick, and will undoubtedly go down to a considerable depth. Having satisfied myself of the genuineness of the reports respecting the prospects of the New Find claim, I made tracks. 42

Later that month, Gavin reported a better show in the tunnel.43 A reporter was shown ‘some excellent specimens’ showing gold ‘freely. The stone has been much admired by those versed in goldmining’.44 When the Premier, John Hall, visited in late February, he was shown about ten pounds of ore, some taken from ‘the top of the reef which crops out on the surface face, about 30ft wide. Other stone was exhibited from the same reef, 100ft down. This reef has been driven on about 20ft, but is still not cut through’. On its exposed face, where it formed ‘a sort of cliff’, could be seen where Werahiko ‘and his mates have made an inroad into the reef’, working ‘by lowering themselves over the top with ropes’.45 On the evening of 24 February, ‘a rich leader was cut on the boundary of the “Arizona” and “New

42 Paeroa Correspondent, *Thames Advertiser*, 4 February 1882, p. 3.
43 *Thames Advertiser*, 20 February 1882, p. 3.
Find” claims’. About a hundredweight of specimens from it would produce at least half an ounce to the pound, according to ‘competent miners’. The leader was ‘very small’ where cut, but appeared ‘to widen towards the Arizona’.46

‘A miner’ described his visit at the beginning of March. Gavin showed him where the gold was first found on the cap of the reef, ‘where we broke out several stones, each one of them showing gold freely’. In the crosscut, the appearance of the reef is totally changed from that on the surface, it being nice brown healthy-looking quartz. The gold is not so freely seen here as on the surface, but the pestle and mortar test is really surprising where gold is not seen in the stone. A drive has been started on the hangingwall side of the reef, and as far as they have gone the reef looks very encouraging.47

During April, miners driving on the reef were taking out good stone.48
By the end of that month, the reef had been cut through; it was 17 feet thick, but gold was confined to the hanging-wall, seven to eight feet of which was payable. The reef had been driven to the north for 40 feet, and as gold was obtained at every breaking down a large quantity of ore was accumulating.49 Whilst awaiting the construction of the tramway and battery, steady work meant that by mid-year it was ‘thoroughly opened up’.50

Late in June, when prospecting on the surface ‘the men came upon a reef at the back of the main lode, which prospects very well’.51 This new reef, 300 feet south of the existing workings and 120 feet from the southern boundary of the claim, was assumed to be an extension of the Eureka reef.52 Miners stripped further along this ‘very precipitous’ reef while Gavin tried to find ‘a place to open out on’ and to form a paddock for the ore.53 By 13

46 Waikato Times, 28 February 1882, p. 2.
48 Thames Advertiser, 10 April 1882, p. 3.
49 Thames Advertiser, 29 April 1882, p. 3.
52 See paper on the Eureka mine.
53 Thames Advertiser, 1 July 1882, p. 3.
July, it had been stripped ‘for a distance of 170 feet, and good prospects’ were obtained from its entire length.\textsuperscript{54}

In August, the \textit{Te Aroha Mail} described the ground as ‘very similar’ in appearance to the Shotover, the first major find at Thames, but ‘much more difficult of access’. The reef, ‘exposed on the surface at an immense height’, showed ‘pretty freely’, but the main resemblance was ‘the large reef and waterfall, from which a good show of gold’ was obtained. This waterfall was in the Diamond Gully claim, to the south.

The quartz is not rich, but contains gold freely distributed over a large surface of crushing stuff, a conglomerate quartz and sandstone. The drive was locked up most securely, and as work is suspended we were unable to glean more respecting this mine. About 150 tons of stuff had been paddocked, but it did not seem of the best quality, and scarcely so good as to warrant a door and padlock on the mouth of the drive in a country where specimens are a rarity and crushing power unknown. From this drive we proceeded to the surface lode, where, as we have said, a better prospect was obtainable, and where even the highest points had good indications.\textsuperscript{55}

The Arizona shareholders were permitted ‘to sink on the leader in the New Find ground’ and ‘follow it into their own’ ground.\textsuperscript{56} After commencing to sink in February they soon made a good find.\textsuperscript{57} By October, contractors were driving a joint level, to be shared with the two claims, to cut the main reef in the Arizona ‘some distance from’ their joint boundary.\textsuperscript{58} By the end of the month, this level had been driven 100 feet in very hard rock ‘full of little stringers’, and it was expected the reef would be struck in another 30 feet.\textsuperscript{59} In December, the contractors finished work after driving the specified 130 feet. ‘A few more feet of driving will cut the New Find reef at a point a little to the north of the Arizona winze’ and provide ‘over 200 feet of backs’. The Arizona winze would be connected with it in the new year. ‘Another 40-stamper battery will be required for this company if the stuff from the low

\textsuperscript{54} \textit{Thames Star}, 13 July 1882, p. 2; see also \textit{Waikato Times}, 11 July 1882, p. 2.

\textsuperscript{55} \textit{Te Aroha Mail}, n.d., reprinted in \textit{Thames Star}, 16 August 1882, p. 2.

\textsuperscript{56} Cox, p. 39.

\textsuperscript{57} \textit{Thames Advertiser}, 27 February 1882, p. 3.

\textsuperscript{58} \textit{Thames Star}, 4 October 1882, p. 2.

\textsuperscript{59} \textit{Thames Advertiser}, 30 October 1882, p. 3.
level is anything like that on the surface'.\textsuperscript{60} In his April 1883 report, Kenrick noted that this crosscut was intended ‘to work the reef at a level 100 feet below where the prospecting drive was put in, immediately under where the gold was first discovered’. The winze would ‘enable them to send down all the surface quartz, and a great quantity of payable stone can then be forwarded to the mill’. To connect with the county tramway several hundred feet below would require ‘a considerable length of tramway’\textsuperscript{.61}

In February 1883, contracts were let to join the winze with the low level.\textsuperscript{62} Late in March, when only 20 feet remained to be sunk, ‘work had to be suspended for a time on account of surface water’; by then the low level had nearly reached the reef.\textsuperscript{63} On 7 May, a correspondent reported good news:

The men at work in the shaft broke through to the low level today. A few days will still be required to complete the timbering, when the shaft will then be in readiness for sending down from the surface to the low level. This level has been driven up to the reef, and proves that the underlay is to the westward, a matter about which there was some doubt, as near the surface the underlay appeared to incline in the opposite direction. Mr [Daniel Henry] Bayldon, the surveyor,\textsuperscript{64} had laid off the works necessary to convey quartz from the low level to the main tramway. A level tramway of the same gauge as the mine roads is to be made for a distance of about five chains in the direction of the Diamond Gully claim. A shoot of about 100 feet in length is here to be built, with a large hopper at the lower end. From the hopper a self-acting tramway, about four chains long, will connect with the main line. It is highly probable that this self-acting tram will be made on the gauge of the main tram, so that the trucks used will be the same as can be taken to the battery. The shoot will also be available for working the larger north-east reef found some time ago in the New Find claim within a short distance of the boundary of the Diamond Gully. A level tram, about six chains long, will connect the self-acting line already mentioned.... The

\textsuperscript{60} \textit{Thames Advertiser}, 16 December 1882, p. 3.

\textsuperscript{61} Harry Kenrick to Under-Secretary, Gold Fields, 19 April 1883, \textit{AJHR}, 1883, H-3, p. 16.

\textsuperscript{62} \textit{Thames Star}, 20 February 1883, p. 2.

\textsuperscript{63} \textit{Waikato Times}, 27 March 1883, p. 2.

estimated cost to the New Find Company of the projected works will not exceed £370.\textsuperscript{65}

Instead of this self-acting tramway, by late May all the employees were making a branch tramline from the top of the May Queen incline to a hopper, to be paid for by the New Find, Diamond Gully, and Eureka companies.\textsuperscript{66} At the start of June, all underground work was suspended and a contract was let for a tramway and chute to connect with the hopper.\textsuperscript{67} A contract of £200 was accepted in July for the 380-foot chute and hopper, the company to provide the iron.\textsuperscript{68} Price Bros. of Thames supplied 59 straight metal plates and 63 curved ones for £101 19s 10d.\textsuperscript{69} Mining remained suspended while this connection was constructed.\textsuperscript{70} Not till October were the trestles for the chute in place and the rails laid on the tramway linking it to the two low levels.\textsuperscript{71}

When the contract was let, ‘many’ people considered a chute was not as practical as Bayldon’s proposed self-acting grade because ‘the wear and tear’ in one so long ‘must be great’, but Adams had fitted it ‘with false bottoms, so that when one is worn it can be replaced’.\textsuperscript{72} In 1884, a critic of the ‘clique’ dominating the field claimed Josiah Clifton Firth\textsuperscript{73} was ‘instrumental in the construction of the New Find shoot, against the advice of the company’s engineer and almost everyone else - because “Mr Adams said so” ’.\textsuperscript{74} That the chute did cause difficulties was indicated by a January 1885 comment (which exaggerated the cost) that ‘our “would-be-if-I-could,” after running the New Find into something like 7 or £800 for his patent iron shoot, now

\begin{itemize}
  \item \textsuperscript{65}Te Aroha Correspondent, \textit{Waikato Times}, 8 May 1883, p. 2.
  \item \textsuperscript{66}Thames Star, 12 April 1883, p. 2, 22 May 1883, p. 2.
  \item \textsuperscript{67}Waikato Times, 5 June 1883, p. 2; Te Aroha News, 9 June 1883, p. 2.
  \item \textsuperscript{68}Thames Star, 13 July 1883, p. 3; Thames Advertiser, 17 July 1883, p. 2.
  \item \textsuperscript{69}A. & G. Price, Journal 1881-1887, folio 269, 12 September 1883, A. & G. Price Archives, Thames.
  \item \textsuperscript{70}Te Aroha News, 4 August 1883, p. 2.
  \item \textsuperscript{71}Te Aroha News, 6 October 1883, p. 3; map of Waiorongomai mines, c. 1880s, in private possession.
  \item \textsuperscript{72}Te Aroha News, 14 July 1883, p. 2.
  \item \textsuperscript{73}See paper on the Battery Company.
  \item \textsuperscript{74}Letter from ‘Justice’, Te Aroha News, 31 May 1884, p. 7.
\end{itemize}
finds it too expensive for two men to be kept continually playing “My Grandfather’s Clock” on the bottom of said shoot to get the stuff to run’.75

PREPARING FOR THE FIRST CRUSHING

In April 1882, Gavin also became manager of the Premier,76 but was not replaced as manager by Hugh McLiver until August 1883. McLiver, an experienced Thames and Ohinemuri miner, had briefly managed the All Nations Amalgamated mine at Karangahake in 1875.77 He immediately started breaking out quartz and mining more energetically. Five men were directed to construct the hopper, and by September 15 men were employed.78 At the end of that month, the local newspaper noted some ‘energetic mining’ at last. Stoping had commenced in the No. 1 level, now connected with the winze, and a crosscut to intersect the reef near the Diamond Gully boundary was in about 40 feet and would hit the reef in another 20 feet. A new winze was down 30 feet from the cap of the reef ‘so long neglected’ even though considered by ‘experts as hardly second to any on the field’.79 ‘At last the directors have found that although gold was staring them in the face in two or three different places, some mining was necessary’.80 By late October, ‘immense quantities of quartz’ had been shot down from the old face in which gold was freely seen. The No. 2 reef has been intersected, the lode being composed of soft, kindly looking quartz, four feet, in good country, well defined, and showing gold freely from wall to wall. Two pieces of quartz from the footwall were tested, and gave 1 1/2dwt to the lb, and two stones from the footwall, weighing eight lb yielded 9 1/2dwt of melted gold. The present level gives about 60 feet of backs, and from this block the company hope for a good dividend. Hopper and mine connections are all complete.81

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76 Thames Advertiser, 20 April 1882, p. 3.
77 Thames Advertiser, 10 May 1875, p. 3.
79 Te Aroha News, 29 September 1883, p. 3.
80 Waikato Times, 4 October 1883, p. 2.
81 Te Aroha News, 23 October 1883, p. 2.
In November, miners were driving on No. 2 reef, which was four feet across and showing gold all across its face. \(^82\) ‘Every day’ revealed ‘a fresh feature in this fine property’, good gold being broken out ‘from both ends of the level, and from the face of the reef’. \(^83\) In late November, McLiver summarized the work done in the past month:

No. 1 reef, No. 1 run: No work has been done since date of last, but I intend to put two men here next week, driving south of reef in top level, which has a healthy appearance. No. 2 reef, No. 2 run: All hands have been kept breaking quartz from here, which is being trucked into the hopper and forwarded to the battery. Two shifts have been kept driving north and south on the reef from the level, a total distance of 50 feet having been driven up to date, the reef still looking well, carrying nice walls, and showing gold freely whenever breaking-down. Some nice gold coming to hand from the reef driving north towards junction of main reef. I have also broken down the reef in the winze from the surface to the low level, and will start stoping from here next week, being now in a position to keep more stamps going if required. \(^84\)

THE FIRST CRUSHING

When crushing started at the beginning of November, the ore produced about two ounces per ton. \(^85\) In late November, McLiver reported that 144 trucks, each containing one and a third tons, had been sent down. \(^86\) By then ‘1269 oz of hard-squeezed cold-water amalgam’ had been obtained, ‘which, considering the quartz is being blasted down from the reef in both drives, winze, and surface, and forwarded to the battery without picking’, McLiver considered ‘very satisfactory’. All the tailings were being ‘saved and stacked for future treatment, a small test giving the satisfactory result of 2 oz of gold per load’. \(^87\) At the end of November, John Bullock, the only director living at Te Aroha, was ‘willing to bet any number of new hats that the final clearing up’ would ‘show a gross average of over three ounces per ton’. \(^88\)

\(^82\) New Zealand Herald, 14 November 1883, p. 6.
\(^83\) Auckland Weekly News, 17 November 1883, p. 9.
\(^84\) New Zealand Herald, 22 November 1883, p. 6.
\(^85\) Thames Star, 6 November 1883, p. 2.
\(^86\) New Zealand Herald, 22 November 1883, p. 6; Te Aroha News, 7 January 1884, p. 2.
\(^87\) New Zealand Herald, 22 November 1883, p. 6.
\(^88\) Te Aroha News, 1 December 1883, p. 2.
month’s crushing, 260 truckloads produced 3,430 3/4 ounces of amalgam containing 693 ounces of gold.\textsuperscript{89} Another version gave a ‘highly satisfactory’ 664 ounces.\textsuperscript{90} A third reported ‘681oz of melted gold, or over 2oz to the ton, without taking into consideration the amount of gold in the blanketings, of which a large amount is still on hand, and nearly an ounce of gold to the ton of tailings’.\textsuperscript{91} When melted at the Bank of New Zealand in Thames, the gold had an assay value of £2 13s per ounce, lower than the Premier and Colonist.\textsuperscript{92} From its appearance, McLiver had ‘fully expected it to fetch more money’.\textsuperscript{93}

Assays of 40 cubic feet of tailings revealed either 1oz 4dwt or 1oz 16dwt per ton.\textsuperscript{94} From the commencement of crushing until 22 December, 400 truckloads produced 1,038oz 10dwt gold.\textsuperscript{95} By the following April, 1,501 tons had produced 2,296oz 12dwt gold.\textsuperscript{96} In the view of Henry Andrew Gordon, Inspecting Engineer for the Mines Department, this average of about one and a quarter ounces per ton was ‘very encouraging’. He considered the large ore body meant it would ‘pay with a much smaller percentage of gold’ than the average mine.\textsuperscript{97}

After the first crushing, \textit{Te Aroha News} regarded the New Find ‘as the leading mine on the field’ because it had produced the most gold and gave ‘every promise of being able to keep, not only ten head of stampers going, but also the whole force of the battery employed on general stuff, if it had the chance, owing to the enormous body of payable quartz which is now being opened up’. It explained that, ‘owing to a peculiar division of the reef in the right hand drive from the crosscut, and the apparent course of the main branch’, McLiver believed ‘the compact lode of four feet in width on which he is now driving’ to be ‘identical with the footwall portion of the big reef’ where Werahiko first found gold. Other prospectors agreed. ‘The New

\textsuperscript{89} \textit{Thames Star}, 7 December 1883, p. 3.
\textsuperscript{90} \textit{Thames Advertiser}, 7 December 1883, p. 3.
\textsuperscript{91} Special Reporter, \textit{Thames Advertiser}, 10 December 1883, p. 3.
\textsuperscript{92} \textit{Thames Star}, 8 December 1883, p. 2; \textit{Te Aroha News}, 15 December 1883, p. 2.
\textsuperscript{93} \textit{New Zealand Herald}, 19 December 1883, p.6.
\textsuperscript{94} \textit{Thames Star}, 7 December 1883, p. 3; \textit{Te Aroha News}, 8 December 1883, p. 2.
\textsuperscript{95} \textit{Te Aroha News}, 4 January 1884, p. 2.
\textsuperscript{96} George Wilson to Under-Secretary, Mines Department, 8 April 1884, \textit{AJHR}, 1884, H-9, p. 20.
\textsuperscript{97} H.A. Gordon to Under-Secretary, Mines Department, 20 May 1884, \textit{AJHR}, 1884, H-9, p. 1.
Find or No. 2 reef’ was ‘looking very well’, and the drives north and south were both ‘about 30 feet from the crosscut, good crushing stuff coming from each face’, and gold was ‘seen on a big face stripped on the surface as well as with some coming out of the level’. The leading stope was ‘being carried along over the two drives’. The workings were ‘in apple-pie order’, reflecting ‘the greatest credit on the manager’.

THE MINE BY THE END OF 1883

A detailed description of the mine was given in the Auckland Weekly News on 1 December for the benefit of ‘shareholders and the mining public’. Being some hundreds of feet above the tramway, its location made it ‘one of the most fortunate’ mines.

At a rough estimate I should think that, were a low level tunnel put in from the tramway line, at least 300 feet of backs would be obtained by the time the reef was reached, and with fully 800 feet along the line of a big reef running all through the ground an idea may be formed of the immense quantity of stuff there is to be obtained from what is then only the upper portion of the claim. And when, in the course of years, this block should get worked out, and the stuff be still payable as it goes down, it is only a question of putting in another but longer tunnel at a lower level, and another block of nearly equal dimensions may be opened up. The reefs at present known to be in the ground are the main big reef, running right through the ground a distance, as I have before said, of 800 feet or more, and a smaller branch reef striking off about 200 feet from the Diamond Gully boundary, in a S.W. direction. This is what is known as the No. 2 or Eureka reef, which, after leaving the New Find Company’s ground, takes a course through a corner of the Diamond Gully, then through the Coquette ground, and so into the Eureka claim, a distance of twenty chains away, where it is being worked upon, and very excellent prospects obtained by the Eureka people. Both these reefs (the big reef and the No. 2 reef) in the New Find are cropping out on the surface.... On the big reef the workings, which are about in the centre of the claim, consist of a winze, which has been sunk about 80 feet on the footwall portion of the reef from the place where the gold was discovered on the surface to a low level drive, which was put in to cut the reef at that depth. Beyond this drive and the winze sunk to connect with it, and a little

98 Te Aroha News, 1 December 1883, p. 2.
99 Te Aroha News, 8 December 1883, p. 2.
quarrying which has been done on the surface, not much work has been done; but from the rich stone which was taken out in quarrying at the top of this winze, and also in sinking on the reef, there is every indication of the reef here being of a highly payable nature. The most important workings on the claim are on the No. 2 reef, and it is from here that the rich stone now going through the battery is obtained. Operations on the big reef are for the present suspended. On the No. 2 reef the gold was discovered on the outcrop, and traced for nearly 200 feet along, that is, from the Diamond Gully boundary up to its junction with the big reef. A tunnel has been put in and the reef cut at a depth of about 20 feet from the surface, but as the ground rises very quickly in a northerly direction, 80 or 100 feet of backs may easily be obtainable from the floor of the drive. This tunnel cuts the reef at about 150 feet from the Diamond Gully boundary, and 50 feet from the junction. Driving on the reef was then commenced in both directions, N.E. and S.W. on a body of quartz 4 feet thick - good solid stone, between well-defined walls - and showing gold freely in both faces. Up to the present time about 50 feet of the reef has been taken out on this level, that is, about 25 feet each way from the cross-cut. Going towards the Diamond Gully the reef has become rather pinched up, and is now about 2 1/2 feet wide. In the opposite direction it has opened out to a strong body of quartz, 6 feet wide, and at the time of my last visit showed indications of dividing, one portion of 3 feet making to the right as if turning into the big reef at a quicker rate. It is from this drive, then, and from the surface or outcrop which is connected with it by a winze that the present crushing dirt is being obtained. With the exception of the face in the drive, which is being carried on towards the Diamond Gully boundary, all the workings on the reef are towards the junction.\textsuperscript{100}

Another mining reporter provided additional details:

The reefs in this mine are at present being worked at two points, one 60 feet from the Diamond Gully boundary, where the reef is 6 feet thick. The most of the late crushing came from this point. Towards the north end the reef opened out to 10 feet, while in the present face it has separated into two branches of 5 feet thick, the right-hand branch keeping on the footwall of the drive on “Buck” reef, while that of No. 2 goes through the buck. Drives are now being pushed on upon both reefs, and the whole of the quartz is being sent to the mill. Gold is seen freely in breaking down. Stoping is also being carried on and the level will be continued to the Diamond Gully boundary. There is some 40 feet of reef at this

\textsuperscript{100} Te Aroha Correspondent, \textit{Auckland Weekly News}, 1 December 1883, p. 10.
end of the mine which increases in height as the reefs are driven on north to a point distant about 700 feet, where the reef is being got from the face. The outcrop of the reef at this point is 200 feet above the Arizona tunnel, which is on the same level as the tunnel near the Diamond Gully. Thus it will be seen that the block at present being opened will give thousands of tons of crushing dirt; and there seems little doubt but that the whole of the reef, for a distance of 800 feet, will pay.... All the directors of this mine paid a visit to the workings, and were so pleased with what has been done under their manager (Mr H. McLiver) that they at once decided to raise his salary: this is the right way to show confidence. There has been some talk of the stone crushed from this drive having been picked: this is not the case, as the whole of the stone crushed has been taken out since the present manager took charge, and the stone formerly taken out is still to be seen stacked at the mouth of the drive, where it is likely to remain for some time to come.¹⁰¹

A third mining reporter described it as ‘the Premier mine of the field’, the previous month’s crushing having produced over two ounces per ton. He gave a variant account of the workings on No. 2 reef. A level starting 250 feet south of the highest point of the outcrop had

struck the reef, 4 1/2ft wide, showing rich gold, the best being seen on the floor. A drive was put in 30ft towards the Diamond Gully, gold being seen as freely as ever, and three shifts are now extending the northern drive, which was in 25ft at the time of my visit. The reef has split here, one portion being 4ft wide, and the other 3ft; in both the precious metal is freely distributed.... By the time the level reaches the blow it will give 150ft of backs.... At the big blow men are employed shooting off the footwall portion, which is supposed to be the No. 2 reef. It is four feet wide, and gold can be seen in almost every stone broken, while in some it is in streaks several inches long. This reef appears to strike right through the big reef, while another lode, supposed by the manager to be identical with the Colonist reef, strikes off slightly to the eastward of north. Whether this is so or not cannot be determined for certain, but at any rate there are two bodies of excellent payable dirt in hand here, crushing stuff being shot down to a width of fully 9ft where they junction. The quartz from here is put down a pass to the old Arizona tunnel, from which it is trucked to a shoot which conveys it to the hopper on the big tramway. The quartz from the other level is also trucked to this shoot, and passed into the hopper. It will thus be seen that there

¹⁰¹ ‘Te Aroha Mines: Specially Reported’, *Thames Advertiser*, 10 December 1883, p. 3.
is an abundance of quartz available, and there is not the least fear but what the manager will keep the 15 head of stamps now engaged fully employed as long as he is allowed to have them, while there is every probability of the dirt keeping up the standard. The gold is very fine, but the stone carries a great deal mixed with the mineral.  

DEVELOPING THE MINE DURING 1884

In December 1883, the directors decided ‘to push on the Arizona tunnel which will prospect the No. 2 reef at that end of the mine’. McLiver would strip this reef ‘between the two points where work is being carried on’ and call for tenders for a 200-foot drive to cut it ‘within 60 feet of the Diamond Gully boundary’. Being 100 feet below all the workings, this drive would ‘to some extent solve the problem of the gold going down’. As the big (or buck) reef showed signs of gold, McLiver would ‘put a parcel of it through the mill to see what it is worth’. He decided to run the ‘ground tram’ from No. 1 reef north ‘to the top of Arizona shaft’ and start driving on the reef ‘towards No. 1 run’ and open up the top block from this level. His report, published on 19 December, set out his plans:

Since date of last report three shifts have been kept driving north on No. 2 reef towards the junction of main reef, and carrying leading stope over drives. Gold showing freely in breaking down quartz. In drive on footwall lode the reef is a fine body of quartz, and showing good gold, especially along bottom of levels, which looks well for future low level. We are also timbering up drives and fixing passes to enable us to start more stopes. I have also started hands breaking quartz from No. 1 run, the reef looking well, especially north towards Canadian ground. I have also been prospecting No. 1 reef north, which shows to be a fine body of stone showing gold, which, I think, should be fair crushing dirt. I intend to carry a ground tram from here to the top of Arizona shaft, and start driving on reef towards No. 1 run, and open up top block from this level. I am also prospecting No. 1 reef under No. 1 run in top level, as no work has been done on No. 1 reef here. In opening up reef in different places I will be able to take

103 *Thames Star*, 7 December 1883, p. 3.
104 ‘Te Aroha Mines: Specially Reported’, *Thames Advertiser*, 10 December 1883, p. 3.
106 *Thames Star*, 20 December 1883, p. 2.
up more stamps should a chance occur at battery. I have also started one shift driving Arizona tunnel to cut Colonist and No. 1 reefs. Should we get payable quartz on this level it will give us a large block of ground to work from. Future low level: I will call for tenders to close on 10th January, which will allow the hands on the hill to get back from holidays. Iron shoot: I have had to get iron from Thames to replace wood which I had to put at the bottom of shoot, being short of iron for full length of shoot to hopper, the wood not standing the run quartz.107

In early January 1884, surveyor Daniel Henry Bayldon informed the directors that their mine was ‘looking really well’ and promised to provide ‘large quantities of crushing dirt of excellent quality’. He had ‘laid out a new level’ which, after being driven about 220 feet, would strike No. 2 reef 90 feet below the present workings:

It is difficult to estimate the cost of the drive, but I think the bulk of the ground to go through will be good; it will probably cost 30s per foot all through. This level will give 100ft of backs on the reef, quite as much as can be conveniently worked. It will also put through No. 1 or main reef, and enable prospecting to be done on it. Work is also being carried on where gold was originally found on the blow, and is yielding large quantities of good payable quartz. Gold has also been discovered 90 to 100 feet further north, and the manager is laying down a light tramway to connect this with the Arizona shaft, so that now there is gold getting in different parts of the mine fully 500ft apart, and by stripping the scrub and rubbish off the cap of the reef other discoveries will probably be made. A contract for driving the new level should be let with as little delay as possible, so as to keep the dead work well in advance.108

Later that month, three contracts were awarded: one party was to drive on No. 2 reef, another to drive to the junction, and the third would drive the new low level 250 feet for either £1 4s 11d or £1 12s 6d per foot.109 While contractors were used for these developments, wages men continued

107 *New Zealand Herald*, 19 December 1883, p. 5.
to be employed, late in January stoping on No. 1 reef.\footnote{110} By late March, contractors were doing all the work.\footnote{111}

In January, a ‘grand show of gold’ was seen in the face of the drive on ‘the No. 1, or Big Reef, Arizona level’, where the reef was ‘fully 5 feet thick, showing gold throughout. This is 140 feet below where gold is found in the surface working above, and adds considerably to the value of the mine, and also adds permanence to the field’.\footnote{112} According to one reporter, this discovery was ‘one of, if not the most important’, made, because it proved gold went down ‘to a greater or less depth’.

The cutting of the No. 1 reef 140 feet down from the surface on what is known as the Arizona level, and carrying good gold, sets the matter at rest. The reef is fully 5 feet thick, and carries gold all across the whole width. The other workings of the mine on the No. 2 reef are looking equally well, driving both ways being under way; also the leading stope northward. The reef which in this direction became divided is coming together again, and with a few feet more driving will join together. The low level tunnel for this reef is now in about 30 feet through good blocky country.

As the mine was fully manned once more, ‘every point from which quartz can be obtained is occupied’. Its prospects ‘were never so good’, and if the company could ‘use of the whole of the battery for a month, a very large return, probably over 2000oz, would be the result’.\footnote{113}

In February, gold was seen in the Arizona tunnel and, despite knowing it was ‘never safe to prophecy in gold mining’, a correspondent wrote that if the ‘shoot of gold’ did not ‘go down, at least to the depth of the present low level tunnel, we will never again place any faith in indications’. The contractors were making good progress with the low level, having driven 90 of its 225 feet and expecting to strike the reef in five weeks.\footnote{114} There was ‘very great interest’ because it would be the lowest level.\footnote{115}

In March, the news was ‘still of a very cheering nature’. The reef in the Arizona level was being driven on at both ends, the southern one yielding ‘crushing stuff of good quality’. For the whole of the distance, about 80 feet,
between the two faces ‘payable stone’ had been found. Extending the rise at the end of the crosscut was hindered by ‘deficient ventilation’, but a powerful fan being erected would solve this problem. The winze on No. 2 reef was down 13 feet; the contract width was six feet, nearly the size of the reef. Gold was ‘freely visible in the stone in the bottom, and the general appearance of the lode there’ was ‘exceedingly encouraging’. Dead work was continuing slowly in the new level because of ‘tight country’, and it was unlikely there would be any change until ‘the buck reef’ had been crossed in another 15 or 20 feet. About 100 feet remained to be driven to intersect the reef under No. 2 winze. The April report of George Wilson, the mining inspector, summarized developments and assessed the prospects as ‘very good’:

This mine is well opened up: the reef at the low level, under where gold was first discovered in the claim, is driven on for 90ft on a strong body of quartz from 4ft to 6ft in thickness, and, as there are nearly 100ft of backs, a large block of payable ground is ready for stoping. Another reef or branch near the southern boundary has also turned out well: about 100ft has been driven on the lode at a depth of 50ft from the outcrop, and a winze sunk in the floor to a depth of 25ft: a low-level crosscut has been commenced which will cut the reef under where the winze is being sunk. When this connection is made another extensive block of payable quartz will be opened. Eighty fathoms of reef have been stoped out on this reef, which is known as No. 2 reef, forty fathoms have been stoped out on No. 1 reef; and the total quantity of quartz sent to the mill is 1,501 tons, which has yielded 2,296oz 12dwt of gold. The reefs appear to be as rich or even better on the floor of the drives than where worked on near the surface.

The first tailings to be treated had a value of two ounces per ton, making the lodes worth three ounces per ton ‘all round’. The annual general meeting in late April was told that the first 1,489 tons processed produced gold worth £5,743 15s 5d, a result that would ‘compare with many leading mines on other goldfields’. McLiver’s report was so encouraging that

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116 Te Aroha News, 29 March 1884, p. 2.
117 See paper on his life.
118 George Wilson to Harry Kenrick, 8 April 1884, AJHR, 1884, H-9, pp. 20-21.
the prospects ‘must be considered satisfactory’. The winze on No. 2 reef still showed good gold, which was ‘gratifying’, for the ‘future prosperity of this mine, and to some extent, of the whole field’, depended on the gold going down. This winze was 27 feet below the lowest of all other workings on the field, the reef was still four feet wide, and some stone taken out was ‘equal to any previously found’. The mine had never had more ‘pleasing’ prospects, and, although over two-thirds of the men were doing development work, the mine was still paying its way. However, shortage of stampers meant a reduced return.

In early May, driving was suspended at both ends of the Arizona level because it was ‘difficult with the present appliances to keep the drives, rise, and stopes properly ventilated’. Mining continued in the stopes until a connection was made with the upper workings. Later in the month, gold was ‘increasing in richness’ now the winze was ‘down over 60 feet upon the No. 2 reef’. Early in June, when gold was struck in the low level, ‘any lingering doubts’ about ‘the permanently payable nature of the reef’ could ‘be set at rest’, and good quartz would be ready for extracting for at least a year. In early July it was estimated that between the low level and the surface a ‘supply of quartz for 20 head of stampers’ would ‘be obtainable for two years to come’, and possibly much longer, ‘as the full extent of payable portion of the lode has not yet been ascertained’. There had been a ‘splendid yield’ from the ore crushed the previous month. Later that month, a ‘splendid show of gold’ three feet wide ‘on the face of the drive going Northward’ was seen in the low level on No. 2 reef. A stope had been started on this level; one stone weighing about a hundredweight ‘sprinkled all over and through it with gold’ would probably be sent to Auckland for display.

For the month to late July, 371 trucks of ‘general dirt’ produced 500oz

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120 Thames Advertiser, 1 May 1884, p. 2.
121 Te Aroha News, 12 April 1884, p. 2.
122 Te Aroha Correspondent, Waikato Times, 12 April 1884, p. 2.
123 Te Aroha News, 12 April 1884, p. 2.
124 Waikato Times, 5 April 1884, p. 3.
125 Te Aroha News, 10 May 1884, p. 2.
126 Te Aroha Correspondent, Waikato Times, 22 May 1884, p. 2.
127 Te Aroha News, 7 June 1884, p. 2.
128 Editorial, Te Aroha News, 5 July 1884, p. 2.
129 Waikato Times, 17 July 1884, p. 2.
melted gold, ‘an excellent yield, especially as a considerable portion of it came from the low level’.\footnote{Thames Star, 25 July 1884, p. 2.}

Throughout the second half of the year, there was a steady output from both mine and, less regularly, tailings, far exceeding any other mine.\footnote{For example, Thames Star, 24 July 1884, p 2, 7 August 1884, p. 2, 4 September 1884, p. 3, 18 September 1884, p. 2, 8 October 1884, p. 3, 20 November 1884, p. 2, 11 December 1884, p. 2.} At the end of December, the \textit{Te Aroha News} provided a detailed account:

The last week of the year has seen no diminution in the excellent returns which have been maintained from this mine for more than a month past. The crushing for the eight days immediately previous to the suspension of work for the holidays came fully up to the average of the preceding three or four weeks, and there is reason to believe that the satisfactory state of affairs will continue for some time to come when operations have been resumed in the ensuing year. The improved yield for the last month has been largely due to the excellence of the stone obtained from the stopes over the south end of the low level, and from those going northward in the block over the No. 2 level. These parts of the mine have contributed most to swell the returns, but other portions of it have also shown up well, especially the winze going down on the Arizona level. The depth now obtained there is fully seventy feet, and the quartz is still of the same fair payable grade as has all along been met with since sinking was commenced. There has latterly been a slight falling off in the size of the reef, its present width being about three feet but in other respects it presents the same healthy appearances heretofore. The bottom of this winze is now within 12 or 15 feet of the level of the lower drive that is being extended on the reef in this direction, and the fact of payable gold having been traced downward to within so short a distance from that level, gives strength to the supposition that stuff of equal quality will also shortly be found in the drive as it is brought on towards this point. The face is still 160 or 170 feet distant, but as quartz of similar grade to that met with in sinking of the winze extends from 100 feet southward of it in the Arizona level, and as the face will soon be under that part of the workings, an improvement may at any time be looked for. As it shows at present the lode looks well for gold, and the colour is occasionally discernible, but it can hardly yet be said that the stuff if quite payable. It is satisfactory to have to record at the close of the extensive operations of the year just ending that the mine is still far from showing signs of being exhausted. Large blocks of the reef yet

130 \textit{Thames Star}, 25 July 1884, p. 2.
remain to be worked in the upper levels, and the extensions of the low level under the Arizona winze will there open up a long stretch of the lode that is almost certain to pay handsomely. On the whole, the prospects in the mine may be regarded as very satisfactory, and there are good grounds for believing that the output of payable stone during the coming twelve months, and perhaps for years afterwards, will equal that of the period now closing.\textsuperscript{132}

Or, as the \textit{Thames Star} put it, much more succinctly, the mine ‘never looked better’.\textsuperscript{133}

\textbf{PROBLEMS AND COSTS}

Already there were indications that financial returns were lower than expected. In May a \textit{Te Aroha News} editorial noted it was one of the two mines supplying most of the ore to the battery, but as it had much dead work to do it was difficult to provide an adequate supply. As ‘the mill had to be kept going, stuff must be got somehow’, resulting in extraction costs being ‘nearly twice as much’ as they should have been, for which the directors were blamed.\textsuperscript{134} To save money, ‘wherever practicable’ mining was done on contract, which would ‘prove more economical and in other respects more satisfactory’ than employing wages men.\textsuperscript{135}

By 1885 there was considerable dissatisfaction with the battery process. In February, ‘the extraordinary retorting’ whereby it lost 52oz 10dwt when melting 371oz caused ‘rather strong remarks’.\textsuperscript{136} In May, a trial parcel was sent to Sydney for treatment,\textsuperscript{137} implying criticism of the battery.

Water entered the workings once stopes reached the surface. In March 1885, a winze from the low level on No. 2 reef had been sunk only ten feet before work was discontinued because of water.\textsuperscript{138} Two months later, the mine was ‘very dry’, with ‘not more than 3 inches or 4 inches of water to

\begin{itemize}
\item \textsuperscript{132} \textit{Te Aroha News}, 27 December 1884, p. 2.
\item \textsuperscript{133} \textit{Thames Star}, 30 December 1884, p. 2.
\item \textsuperscript{134} Editorial, \textit{Te Aroha News}, 17 May 1884, p. 2.
\item \textsuperscript{135} \textit{Te Aroha News}, 29 March 1884, p. 2.
\item \textsuperscript{136} \textit{Te Aroha News}, 28 February 1885, p. 2.
\item \textsuperscript{137} \textit{Te Aroha News}, 16 May 1885, p. 2.
\item \textsuperscript{138} \textit{Te Aroha News}, 21 March 1885, p. 2.
\end{itemize}
wade through’. In August, wet weather caused ‘a considerable quantity of water’ to collect in the winze’ before ‘draining away’. Work in the Diamond Gully section ‘had to be temporarily discontinued owing to the amount of water’ because of heavy rainfall.

At first, slow progress was made on a contract to extend the northern end of the low level because the ventilation was ‘rather weak’, but once air pipes were installed driving went ‘on apace’. In driving a new low level, as ‘bad air’ required the use of fans, a ‘water blast’ was erected to provide fresh air. Late in August, ‘in sinking the winze from the Arizona level, owing to the lightness of the air work had to be temporarily discontinued’. (This ‘lightness’ suggests the presence of gas, but not carbonic acid gas, the usual worry, which was heavier than air.) When the rise on No. 1 reef connected with the surface it would permit stopes being worked ‘to much greater advantage, both with regard to ventilation and accessibility’.

CONTINUED DEVELOPMENT AND CONTINUED OPTIMISM

During the year to the end of March 1885, 5,362 tons had yielded 5,388 ounces of melted gold. Development had involved 580 feet of driving, 220 feet of winzes sunk, 50 feet of rising, and 400 fathoms of reef stoped out. The average number of miners employed was 40. In February the last cleaning up at the battery produced ‘the good return of 371oz retorted gold from 257 loads’. In April, 314oz 11dwt of melted gold were banked. Similar returns were received throughout the year, although there was some decline by November, when 318 trucks produced 345 ounces of retorted gold, including 52 ounces from tailings.

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139 Te Aroha Correspondent, Waikato Times, 28 May 1885, p. 2.
140 Te Aroha News, 1 August 1885, p. 2.
141 Te Aroha News, 15 August 1885, p. 2.
142 Te Aroha News, 31 January 1885, p. 2.
143 Te Aroha News, 8 August 1885, p. 7.
144 Te Aroha News, 22 August 1885, p. 2.
146 Te Aroha Correspondent, Waikato Times, 21 February 1885, p. 3.
147 Thames Advertiser, 22 April 1885, p. 3.
148 Te Aroha News, 28 November 1885, p. 2.
In February, an agreement was made with the Diamond Gully Company to jointly lay off a new low level 100 feet below the existing one. Contracts were called to drive 350 feet in 100 feet sections, but after seven tenders were received the directors decided not to proceed. Wilson reported in April that the new low level driven from near the southern end of the claim was ‘under the workings at the Arizona level. A winze sunk from that level’ would soon be connected and open up ‘an extensive block of payable quartz’. Most quartz crushed during the past 12 months had come ‘chiefly from the stopes over the Arizona level at the north end, and from the stopes over the low level at the southern end’.

Early in May, McLiver told the annual general meeting that prospects were ‘very encouraging’. When William Larnach, the Minister of Mines, visited later that month, McLiver explained to him ‘after the fashion of the redoubtable showman that they had just struck something worth his personal scrutiny’. Larnach ‘insisted on walking in and seeing for himself’, and several hundred feet along the drive was ‘shown where the “dark horse” that was to startle the shareholders had just made its appearance, and many other encouraging prospects were laid bare’. This new find, 240 feet below the surface in the low level on No. 1 reef, had been cut four days before Larnach’s visit. According to the *Te Aroha News*, the visitors ‘could not form other than a very favourable impression of the mine’, which was ‘looking exceedingly well, gold showing freely’.

Press reports continued to laud the mine. On 6 June, for example, it was ‘looking really well’ and was ‘without doubt an exceedingly valuable property, far more so than perhaps shareholders imagine’, and had ‘a great future’. Later that month, miners were extracting better gold: the last parcel was sold for £2 16s 5d per ounce, 2s 5d higher than the previous highest value.

149 *Te Aroha News*, 7 February 1885, p. 2.
152 *Te Aroha News*, 9 May 1885, p. 2.
153 *Te Aroha Correspondent, Waikato Times*, 28 May 1885, p. 2.
154 *Te Aroha News*, 30 May 1885, p. 2.
155 *Te Aroha News*, 6 June 1885, p. 2.
156 *Thames Advertiser*, 23 June 1885, p. 2.
Rock-borers, a new technology, were being used by late July. Described as American hand drills or Californian hard rock drills, different newspapers reported different numbers of these. According to one correspondent, there was only one, the only one in New Zealand, acquired by William Thornton Firth, one of Firth’s sons. McLiver was ‘extremely well-satisfied’, for it was ‘a great saver of labour’. The Te Aroha News referred to an unspecified number of rock drills giving satisfaction; when the men became more accustomed to them there would be ‘a considerable saving in the working of the mine, especially when driving through hard ground’. In mid-August, the Californian rock borer, ‘now constantly being worked’, gave ‘every satisfaction’, and was being used to complete the drive in No. 1 reef to connect with the winze. This connection was necessary because stoping could not be carried on ‘to a very large extent, owing to the foul air created by blasting operations’. By the end of August, the rise from the low level had connected with the winze from the Arizona level and the resulting ‘greatly increased ventilation’ would permit ‘stoping being pushed on more satisfactorily’, for lack of ‘proper ventilation’ had prevented much work being done in that part of the mine.

Good crushings were reported during September, the last 300 trucks treated producing 310 ounces of retorted gold. That the ore was of high quality was indicated by 50 pounds of specimens being sent to the London and Colonial Exhibition.

THE MINE IN LATE 1885

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157 Te Aroha News, 4 July 1885, p. 2, 1 August 1885, p. 2.
158 Te Aroha Correspondent, Thames Advertiser, 15 August 1885, p. 3, 5 September 1885, p. 3; Te Aroha News, 4 July 1885, p. 2, 1 August 1885, p. 2, 15 August 1885, p. 2.
159 See paper on the Battery Company.
160 Te Aroha Correspondent, Thames Advertiser, 5 September 1885, p. 3.
161 Te Aroha News, 1 August 1885, p. 2.
162 Te Aroha News, 15 August 1885, p. 2.
163 Te Aroha News, 18 July 1885, p. 2.
164 Te Aroha News, 29 August 1885, p. 2.
165 Te Aroha News, 12 September 1885, p. 2, 3 October 1885, p. 2.
166 Te Aroha News, 7 November 1885, p. 2.
In October, a tender was accepted for driving 50 feet northwards on the hanging wall of No. 1 reef.\textsuperscript{167} The last detailed account of the mine for the year was in late November, when the \textit{Te Aroha News} stated the most important feature was the ‘excellent show’ in the reef being continued ‘northward in the low level’. For the past fortnight ‘a free scattering of gold has been visible through the whole body of stone’, five feet thick and increasing in size. The face of the drive was ‘approaching the north end of the workings in the Arizona level above’, and as there were ‘some three or four hundred feet of untried ground towards the northern boundary’ it was expected ‘that for a considerable part of this distance the lode will continue to prove payable’. As the good gold in the low level suggested gold would continue downwards, it assumed a new low level would soon be started.\textsuperscript{168}

\textbf{TROUBLE OVER CONTRACTS}

Whenever possible, contractors were used.\textsuperscript{169} Only when tenders were considered to be ‘far too high’, as when a winze was sunk from the low level on No. 2 reef, were wages men employed.\textsuperscript{170} Twice during 1885, contractors argued with the company about their contracts. In March, Charles MacWilliams, a Karangahake miner,\textsuperscript{171} sued for wages amounting to £42 4s 9d.\textsuperscript{172} According to his account, which illustrated the casual nature of some contracts, when he met McLiver, whom he knew, in Te Aroha, he asked for work. ‘He told me to come up and see him and try and get a crowd of men to drive the low tunnel in the New Find. He told me the price would be £1 12s 6d per foot. I said I’d give it a trial’. McLiver told him William ‘Gibbons had previously thrown up the job’. (Gibbons was a mining contractor during the early 1880s.)\textsuperscript{173} MacWilliams and Robert Michael, a miner and contractor,\textsuperscript{174} ‘made arrangements’ at McLiver’s house.

\begin{footnotesize}
\begin{enumerate}
\item \textit{Te Aroha News}, 10 October 1885, p. 2.
\item \textit{Te Aroha News}, 21 November 1885, p. 2.
\item \textit{Te Aroha News}, 10 January 1885, p. 2, 19 February 1887, p. 2.
\item \textit{Te Aroha News}, 21 February 1885, p. 2.
\item See \textit{Te Aroha News}, 21 March 1885, p. 2; \textit{Tauranga Electoral Roll}, 1885, p. 18.
\item \textit{Te Aroha News}, Resident Magistrate’s Court, Civil Record Book 1884-1889, 25/1885, BCDG 11221/1b, ANZ-A.
\item See \textit{Te Aroha News}, 16 June 1883, p. 2, Warden’s Court, 24 November 1883, p. 3.
\item See paper on his life.
\end{enumerate}
\end{footnotesize}
I was not asked to sign any papers or specifications, and nothing was said as to the number of feet to be driven, or about completing the contract; the arrangement being simply that I would give it a trial at £1 12s 6d per foot. No specifications whatever were shown me. Regarding the two shifts charged for, it means one shift for two men, and was for extra work done apart from the contract. Have received no money on account of the work. McLiver offered me £28 or so, but I refused to take it.... McLiver told me when I asked him for work that he had none (i.e., wages work), but I could take on the tunnel work, thrown up by Gibbons, if I liked. I was under the impression I could throw up the contract at any time. McLiver said he would allow us chaps a shift for taking up the flooring. I thought he meant a shift of two men....

When I took the work McLiver said nothing about 25 per cent being kept in hand if the tunnel was not completed. Nothing was said about the drive having to reach the winze or any special distance. Am certain when I took the job from McLiver I told him "how I'd give it a trial." After we had been working a week or so, McLiver told us he thought we should have about 150ft to drive before reaching the winze.

Michael said that they 'threw the contract up because it would not pay'; they would have stuck to it 'if we could have earned even 6s a day'.

McLiver paid into court £32 5s 7d 'in full satisfaction of all claims' being 75 per cent on amount sued for and one shift for other work instead of two shifts as claimed'. When MacWilliams asked for work, he 'told him no, but if he liked to take out a contract on the same terms as Gibbons had tendered for, and subject to the same terms and specifications, he was at liberty to do so'. He 'could not swear' that MacWilliams ever saw these, but they were 'public property, having been posted outside the office for two full days'. He 'never let anything without being subject to specifications', and 'certainly supposed' they had seen them. The specifications stated that 75 per cent was to be paid monthly on work done and the balance on completion, 'the usual custom on the hill. Without some such guarantee as this contracts would continue to be thrown up, and a lot of trouble given'. By refusing to pay the 25 per cent he was 'simply carrying out the agreement'. The work was now being done at £1 19s 6d per foot; 200 feet of harder ground was driven previously at £1 12s 5d per foot and another contract for the same drive had been let at £1 11s 6d. It depended 'upon the

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175 Te Aroha News, 21 March 1885, p. 7.
176 Te Aroha News, 21 March 1885, pp. 2, 7.
class of men working, whether they made it pay or not'. Kenrick, who had to
decide whether the contract was ‘so much per foot with a liberty to suspend
work at any time, or necessitated the completion of the whole work’, ruled
there was no real contract. As the agreement had been that the tunnel was
to be extended at the stipulated price per foot while the work was payable,
MacWilliams was at liberty to discontinue, and therefore was awarded the
full amount plus costs.177

The second dispute, in August, concerned James O’Hea (a Thames
miner and mine manager)178 and party, who in February took up a contract
to drive 150 feet at £1 19s 5d per foot. In early August, O’Hea sued for £135
17s 8d plus damages of £200, claiming to have ‘performed part of the work’
and to be willing to complete it, but McLiver had ‘obstructed him’ and
‘prevented him from finishing’ it.179 The £200 comprised one month’s loss of
work, £60, and loss of profit, £140.180 As the case created ‘some excitement
in mining circles’, the courtroom was crowded with spectators. O’Hea stated
that after his party had driven about 100 feet, McLiver ‘without lawful
cause hindered, obstructed, and interfered’ with them, ‘put an end to the
work, and would not allow complainant to finish’ it.181 He had obstructed in
the drive by stacking quartz ‘for some two or three weeks’ and having wages
men stope behind them who, by using dynamite, ‘caused the air to become
so foul that they could not oftentimes work above half time’ and their
contract ‘was terminated contrary to his wishes’. All the members of his
party, William Henry Andrew,182 Robert Job Maisey,183 and David Kerr
Young,184 ‘strongly supported these statements’. The defense was that, as
‘no claim for damages in any form had been made’ until after they ceased
work, and as well they had received progress payments, they could not now
‘demand damages for an obstruction’ that occurred when the contract

177 Te Aroha News, 21 March 1885, p. 7.
178 See Thames Magistrate’s Court, New Zealand Herald, 13 February 1872, p. 3; Daily
Southern Cross, 20 July 1872, p. 3.
179 Te Aroha News, 1 August 1885, p. 2.
180 Warden’s Court, Te Aroha News, 8 August 1885, p. 2.
181 Te Aroha Correspondent, Thames Advertiser, 7 August 1885, p. 3.
1889, p. 2.
183 See Te Aroha News, 27 August 1930, p. 5.
June 1888, p. 2.
started. McLiver and three miners deposed that quartz had been stacked in the drive for ‘a couple of weeks’ with O’Hea’s consent and removed at McLiver’s expense when he complained. The air was no worse for the contractors than the company’s employees, ‘and in fact was better after the Company’s men had been put on to work the drive than before, owing to an additional steady supply being provided by means of a water blast specially erected in addition to fan’. The contractors ‘never lost any time through foul air or obstruction as alleged as far as they knew, and never made any complaint of foul air until within a week of the termination of the contract’, which ended ‘by mutual consent’. As they had earned only 5s to 6s per day, McLiver offered them work at 8s per day. McLiver had written a cheque for the £56 3s 3d due, which O’Hea had refused to accept, claiming damages.

In giving judgment, Kenrick noted that the company had ‘no legal right to terminate the contract without the sanction of the contractors’. Whilst ‘some loss and inconvenience’ had been caused by the foul air, when the contractors complained McLiver ‘replied he could not take the men away, but gave them the option of proceeding with the work as before or of terminating the contract, and he would pay for the amount of work done’. They had consented to carry on working, ‘knowing they had been losing money’. They ‘undoubtedly had the right to full possession of the tunnel whilst engaged on their contract, but did not elect to stand on their right, but gave permission for the quartz to remain in the drive, and permitted the company’s men to proceed with their work’. No damages could therefore be claimed, especially because during their last fortnight they drove 14 feet, ‘the greatest distance they had driven’, which did not bear out O’Hea’s claim they had lost half time owing to foul air.\(^\text{185}\)

When O’Hea claimed his signature on the specifications was not genuine, after Kenrick ordered him to sign his name he ruled there ‘could be no doubt as to the genuineness of the signature’.\(^\text{186}\) ‘At the close of the trial general sympathy was expressed’ for McLiver because of ‘the imputation attempted to be cast on him’ over the signature, and other managers were warned ‘to be careful in dealing with such men’.\(^\text{187}\) It was reported the matter would ‘be further investigated and probably proceedings’ taken by McLiver to prove the signature was genuine.\(^\text{188}\) This did not eventuate,

\(^\text{185}\) Warden’s Court, *Te Aroha News*, 8 August 1885, p. 7.
\(^\text{186}\) *Te Aroha News*, 8 August 1885, p. 2.
\(^\text{187}\) Te Aroha Correspondent, *Thames Advertiser*, 7 August 1885, p. 3.
\(^\text{188}\) *Te Aroha News*, 8 August 1885, p. 2.
despite O’Hea telling the *Te Aroha News* that Kenrick had stated O’Hea’s ‘reasons for denying the signature were reasonable and fair’. (If Kenrick did make this statement, it was not recorded.) He added that McLiver’s ‘again endeavouring to prove the genuineness of the signature’ might ‘turn out both a difficult and dangerous experiment’. McLiver did not respond.

1886

In January 1886, the new low level was surveyed. Because the battery was unable to work because of a drought, 20 miners were laid off, leaving only eight employed. Four were ‘rising in the stopes on the run of gold just met with in the low level to connect with the Arizona, in order to provide better ventilation and accessibility for working’, and the others were working in the Diamond Gully section. Returns continued to decline slowly; during February, 132 trucks returned 94 ounces of retorted gold. At the beginning of April, the directors decided to put in the low level surveyed months before but not driven. It would give another 110 feet of backs below the existing low level for stoping on the No. 2 and Arizona runs. As the Diamond Gully Company no longer existed, the cost had to be borne by the company. Wilson reported in April that the mine was ‘carefully worked’ and during the past year 2,950 tons had been crushed ‘from the blocks over the low level, yielding 2,637oz of gold’. As there was ‘a good show left in the floor’, the new level was expected to be profitable.

By the start of May, the new low level was in 50 feet and driving through easy country. The returns for that month were better, 228 trucks producing 320 ounces of retorted gold. By June, the first 100 feet of the low level were completed and the contract for the next 100 let for £1 15s per foot; the total length would be 420 feet. During that month, a ‘large quantity’ of ore was obtained from the surface of No. 1 reef ‘and also from

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191 *Te Aroha News*, 6 March 1886, p. 2.
192 *Te Aroha News*, 3 April 1886, p. 2.
194 *Te Aroha News*, 1 May 1886, p. 2.
195 *Te Aroha News*, 29 May 1886, p. 2.
196 *Te Aroha News*, 5 June 1886, p. 2.
the old Werahiko run on the surface'. Returns were still holding up, for in late July it was announced that 183 trucks of ‘general dirt’, including tailings, produced 246 ounces, a trial lot of 54 trucks of surface ore produced 27 ounces, and 10 trucks of low grade ore gave three ounces, a total of 276 ounces of retorted gold from 247 trucks. As a third contract to drive the low level was not taken up, presumably because of the price, wages men continued it. By mid-November, it had been driven 300 feet, but as the ground was hard progress was ‘slow’. Three weeks later, only 20 more feet had been driven ‘owing to a number of stringers’.

**PROBLEMS WITH TREATMENT**

It would later be revealed only about 30 per cent of the gold was being saved, ‘a ruinous loss, and could not of course proceed; the free-milling ore of any value became exhausted’. In July, to compare their effectiveness ten trucks of similar ore were sent to both the original battery and the New Era plant, erected by Peter Ferguson. Firth and Clark’s battery produced 19oz 16dwt melted gold, value £52 14s 3d, and Ferguson’s 20oz 8dwt, the value of only £37 7s 7d being explained by the large percentage of lead. McLiver was therefore satisfied that the original battery saved more bullion. Later in 1886, several bags of ore were sent for testing to the United States in the hope of finding an improved method, and a very full report was received (but not published) of the tests, the values, and the recommended method of treatment.

The company sought ways to lower its costs. At the May 1886 meeting of the county council, with another company it sought a reduction in freight

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197 *Te Aroha News*, 12 June 1886, p. 2.
199 *Te Aroha News*, 21 August 1886, p. 2, 4 September 1886, p. 2.
200 *Te Aroha News*, 13 November 1886, p. 2.
201 *Te Aroha News*, 4 December 1886, p. 2.
203 *Te Aroha News*, 17 July 1886, p. 2.
204 See paper on Peter Ferguson and his New Era.
205 *Te Aroha News*, 31 July 1886, p. 2.
charges on the tramway ‘as the mines were not paying’. The chairman, William Louis Campbell Williams,\textsuperscript{208} said if the New Find did not pay the cause was not the tramway, ‘as the mine was the best on the peninsula’\textsuperscript{209} Another version of his statement was that it was ‘one of the best mines in the Colony, and for the past two years should have been paying good dividends. He thought there must be something very faulty in the management, that it had not done so’.\textsuperscript{210} In response, Denis Murphy,\textsuperscript{211} who had mined at Thames and Ohinemuri,\textsuperscript{212} ‘said he had known the manager of the New Find for 20 years and he was a thoroughly competent man’. No reduction was granted.\textsuperscript{213} Pending a report into the working of the tramway, the July meeting declined McLiver’s request for ‘special concessions for the conveyance of the large quantity of low grade quartz’.\textsuperscript{214} Because of Williams’ renewed criticism at this meeting, Adam Porter,\textsuperscript{215} the chairman of directors, wrote to him referring to his ‘anything but complementary’ remarks. ‘As the directors are responsible for the proper management they would be glad if you would point out to them how the mine could be worked better and cheaper than at present; and also, how steady dividends could be declared’. Despite being exhorted to forward this information ‘as early as possible’,\textsuperscript{216} Williams did not reply.

Another cost was the £2 per truck charged to take coke up for the New Find smithy. The consequence of these costs and inadequate battery treatment was that in November 1886 nearly half the work force was dismissed.\textsuperscript{217}

\begin{itemize}
\item \textsuperscript{208} See paper on the Battery Company.
\item \textsuperscript{209} Piako County Council, \textit{Waikato Times}, 1 June 1886, p. 2.
\item \textsuperscript{210} Piako County Council, \textit{Te Aroha News}, 5 June 1886, p. 7.
\item \textsuperscript{211} See paper on his life.
\item \textsuperscript{212} See Thames Warden’s Court, Warden’s Notebook 1868-1869, Hearing of 4 December 1868, BACL 14457/1a; Warden’s Notebook February-June 1871, Hearing of 18 May 1871, BACL 14457/2c; Thames Claims Register 1868, folios 134, 141, 197, BACL 14397/1a, ANZ-A; \textit{Thames Advertiser}, 27 August 1876, p. 3, 4 March 1875, p. 3, 10 April 1875, p. 3, 24 April 1878, p. 3.
\item \textsuperscript{213} Piako County Council, \textit{Waikato Times}, 1 June 1886, p. 2.
\item \textsuperscript{214} Piako County Council, \textit{Waikato Times}, 6 July 1886, p. 2.
\item \textsuperscript{215} See paper on his life.
\item \textsuperscript{216} \textit{Waikato Times}, 5 August 1886, p. 2.
\item \textsuperscript{217} Piako County Council, \textit{Te Aroha News}, 4 December 1886, p. 3.
\end{itemize}
A positive assessment was published in *The Handbook of New Zealand Mines* in 1887:

Towards the northern boundary of the mine a run of gold, a continuation of the first discovery, has been traced and worked to a depth of 320ft, and extending along the reef to a width of about 180ft. Another run of gold was found near the southern boundary in the outcrop of a large reef on the western side of the main reef, running in a north-easterly direction, and joining the main reef. This run has been worked to a depth of 185ft, and extends along the branch and also the main reef for a distance of 150ft. A portion of the main reef between the two runs of gold, which extends for a distance of about 200ft, is not payable. The mine is worked from three levels - one at the northern end, and another near the southern end, of the mine; while the third, or low level, has been driven near the southern end immediately below the other, and has been continued along the course of the reef connecting the workings on both runs of gold....

The portions of the reef which have been stoped out have generally consisted of quartz of a hard nature, and the walls of the reef are also hard rock. This has entailed considerable expense, as the whole must be blasted, for which purpose dynamite is chiefly used, it being found more economical than powder. The walls are so solid that it is an easy matter to secure the workings; stulls are placed where required. Another level, to work the mine to a further depth of 100ft, may be driven, the estimated distance being about 320ft; and, as the runs of gold appear still to continue downwards, the future prospects of the mine are very encouraging.

The gold contained in the quartz is mostly free, but of a very fine description, and a large proportion is lost in the treatment of the quartz. The mine has been fairly worked, the full number of men who could be profitably employed having been kept constantly at work.218

From the start of mining until May 1887, 13,121 tons had been treated, for 13,146 ounces of retorted gold, or an average of one ounce and one grain per ton.219 More tailings remained to be treated.220

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219 H.A. Gordon to Minister of Mines, 5 May 1887, *AJHR*, 1887, C-5, p. 32.
220 *Te Aroha News*, 17 December 1887, p. 2.
In January, ‘steady work’ continued.²²¹ The following month, contracts were let to take out ore from the ‘surface of Arizona level’, the ‘new run’ between No. 1 and No. 2 reefs, and ‘the block north in Arizona level’.²²² Adams experimented with New Find ore at the battery, trialing a new process suggested to him during his visit to the United States.²²³ In April, Wilson reported that the new low level had not yet cut the reef, and extracting quartz had been ‘confined to the blocks left over No. 2 Level’. During the past 12 months 3,308 tons of quartz produced 2,824oz 6dwt of gold, 420 fathoms of reef were taken out, ‘260ft of driving done on the reef, and 350ft in the low-level cross-cut through very hard rock: 95ft will yet have to be driven to cut the reef’.²²⁴ In May, Gordon produced a much more detailed account of Waiorongomai’s ‘principal’ mine:

The reef is 20ft wide in places, but the portion this company find payable for working is from 6ft to 8ft wide, next the hanging-wall. They have three shots of gold in this reef. The northern run is about 150ft in length: this has been stoped out to a depth of 240ft from the surface for an average of 6ft in width. The gold here was very regularly distributed through the whole of the stone taken out, and went close on 1oz of gold to the ton. Some of it went considerably higher than this when it was first discovered on the surface: as much as 2oz per ton was obtained from the stamping-battery, and the tailings were afterwards treated in berdans, which also gave high returns. A lower level is now in course of construction, and is now in for a distance of 340ft: when the reef is cut in this level there will be about 90ft of backs to work on. The southern shot or run is about 130ft in length. This has been stoped out for a distance of 200ft from the surface, and yielded in places 2oz of gold per truck, which is calculated to hold 1 1/3 tons. A winze is sunk down from the lowest level for 20ft, and from this winze eight trucks of quartz was taken, which yielded 15oz. There is about 300ft between the north and south run, which until recently has been deemed to be too poor for working. Indeed, the company could not make the mine pay, and finally arranged with Messrs Firth and Clark to work it on terms. These gentlemen have recently commenced to break out the reef between the northern and southern run, and have found a rich shot of gold. They are taking about 8ft, in width of quartz from the hanging-wall, which contains a large amount of tellurides and free gold: 5

²²¹ Te Aroha News, 22 January 1887, p. 2.
²²² Te Aroha News, 6 February 1887, p. 2.
²²³ Te Aroha News, 1 January 1887, p. 2.
²²⁴ George Wilson to H.A. Stratford, 3 April 1887, AJHR, 1887, C-6, p. 8.
1/2 trucks from this place yielded 75oz of gold. But the manner in which this reef is worked, although cheaply got at the first, will in the long run be an expensive one: the whole of the reef is stoped out from the surface and left open, so that every shower of rain brings a large amount of water into the workings. I did not go through the whole of the mine, but from what I could learn from the mine-manager (Mr McLiver) there is no filling done when the quartz is taken out - the ground is merely kept up with timber. There is no doubt that if this mine was systematically opened it would give good returns - the large body of stone containing gold; its situation, where 1,000ft of backs could be easily obtained by driving in from the side of the hill; its connection with a good tramway leading to one of the most complete crushing-batteries in the colony - although, at the same time, this battery is in itself yet greatly deficient in saving the character of gold that is found in this neighbourhood.225

Only in May and December were any other reports published during 1887. The first reported that the shoot had been repaired, no tenders had been accepted for breaking out 1,000 truckloads, and one was accepted for driving 100 feet in the Arizona level northwards to the boundary of the former Canadian claim.226 In mid-December, only about 80 feet remained to be driven in the new low level before intersecting the reef, which would provide ‘about 100ft additional backs’.227

THE NEW FIND GOLD MINING COMPANY

In October 1881, before any development, shares were offered for £500.228 Shortly afterwards, shareholders agreed to increase the number of shares from 15 to 30.229 Some immediately changed hands ‘at a good figure’.230 Three months later, buyers in Auckland were offering £240 for a share.231 Early in March 1882, a company was formed. The first directors were Firth, James McCosh Clark, an Auckland merchant and his partner in

225 H.A.Gordon to Minister of Mines, 5 May 1887, AJHR, 1887, C-5, p. 29.
226 Te Aroha News, 21 May 1887, p. 2.
227 Te Aroha News, 17 December 1887, p. 2.
228 Thames Advertiser, 24 October 1881, p. 3.
229 Thames Advertiser, 28 October 1881, p. 3.
230 Thames Star, 31 October 1881, p. 2.
the Waiorongomai battery,\textsuperscript{232} Bullock, Porter, and John Chambers, another Auckland merchant and engineer.\textsuperscript{233} Porter, the chairman of directors, had been chairman of the original syndicate and Bullock had been its secretary and treasurer.\textsuperscript{234} In 1884, Chambers was replaced by William Reynolds Vines, a clergyman, merchant, and mining speculator.\textsuperscript{235} The nominal capital was £20,000, in 20,000 shares; 4,000 were retained for future sale.\textsuperscript{236} £2,000 in paid up scrip shares were given to the owners of the claim.\textsuperscript{237}

There were 32 original shareholders, seven having the largest holding, 1,000, while Werahiko, who had divested himself of almost all his interests before the company was formed, and the brothers John and Thomas Wood, had the lowest, 125 each. Seven shareholders lived in Auckland, seven in Thames, one at Waitekauri, one at Paeroa, and 15 at Te Aroha. There was one miller (Firth); four merchants; two agents, one of whom, Porter, was still active in mining; two self-styled ‘gentlemen’; two hotelkeepers; a bank manager, a solicitor, a painter, a surveyor, a butcher, a storekeeper, and a mine and battery manager and engineer, Edward Mann Corbett.\textsuperscript{238} Two housewives were shareholders: Catherine M. C. Joy was really Rachel, wife of Charles Mansfield Clark Joy,\textsuperscript{239} a miner who did not hold any shares; the other was Frances O’Halloran, wife of George, hotelkeeper,\textsuperscript{240} who did. Ten gave their occupation as miners, including two Maori (Werahiko and Parati), Nicholas Cleary, who was then a policeman, and John and Thomas Wood, who were really farmers and butchers.\textsuperscript{241}

The company owned the two New Find Licensed Holdings and in June 1882 bought the Lark, adjoining its ground to the west, and in June and July 1885 the Diamond Gully Company’s ground along with the Gentle

\textsuperscript{232} See paper on the Battery Company.
\textsuperscript{233} \textit{Thames Advertiser}, 7 March 1882, p. 3.
\textsuperscript{234} \textit{Thames Advertiser}, 28 October 1881, p. 3; letter from Adam Porter, Piako County Council, \textit{Te Aroha News}, 7 August 1886, p. 2.
\textsuperscript{235} \textit{Thames Directory for 1885} (Thames, 1885), p. 127; \textit{New Zealand Herald}, 17 November 1897, p. 4.
\textsuperscript{236} \textit{New Zealand Gazette}, 23 March 1882, pp. 489-490.
\textsuperscript{237} \textit{New Zealand Gazette}, 12 May 1887, p. 616.
\textsuperscript{238} See \textit{Cyclopedia of New Zealand}, vol. 2, p. 501.
\textsuperscript{239} See paper on women’s lives in the Te Aroha district.
\textsuperscript{240} See paper on his life.
\textsuperscript{241} \textit{New Zealand Gazette}, 23 March 1882, pp. 489-490.
Annie.\textsuperscript{242} The miner who acquired the Lark on behalf of the company should have paid £2 2s but mistakenly was paid £155, and the company had to ask for the balance to be refunded.\textsuperscript{243} Once crushing started, it appeared the company would be able to pay regular dividends. After the first six weeks of crushing, a first dividend of one shilling a share was declared, a total distribution of £1,060.\textsuperscript{244} Some Te Aroha residents considered this ‘inadvisable’ because of the costs of development.\textsuperscript{245} In March 1884, it was the only company in Hauraki to pay a dividend, again one shilling a share, costing £1,000.\textsuperscript{246} A third dividend of the same amount was declared in July, for the same cost.\textsuperscript{247} A fourth of the same amount was distributed in January 1885.\textsuperscript{248} The directors told the third annual meeting, held in May that year, that although progress had ‘not been equal to’ anticipations, they had paid this dividend, costing the company £1,980. ‘Taking into consideration the reduced charges for crushing, and the prospects of the mine, we may fairly anticipate dividends for the ensuing year’.\textsuperscript{249} In September, good crushings suggested to the \textit{Te Aroha News} that ‘a dividend should be declared very soon’, but not till July 1886 was one declared, for sixpence per share.\textsuperscript{250} This was the last dividend; the total payment to shareholders was £3,924 17s 6d, for £35 2s 6d had not been claimed.\textsuperscript{251} This modest return to investors was the highest of any local company.

As with all early companies in this and other districts, it was undercapitalized. An official statement of its affairs as at 31 December 1886

\begin{itemize}
  \item \textsuperscript{242} Te Aroha Warden’s Court, Applications for Licenses 1882, BBAV 11582/2a; Register of Licensed Holdings 1881-1887, folio 24, BBAV 11500/9a; Licensed Holdings Grant Book 1882-1886, folio 131, BBAV 11549/1b, ANZ-A; \textit{Thames Star}, 6 July 1882, p. 2; \textit{Te Aroha News}, 20 June 1885, p. 2.
  \item \textsuperscript{243} Edward Cameron to Warden, 6 June 1882; Joshua Cuff to Warden, 24 July 1882, Te Aroha Warden’s Court, General Correspondence 1882, BBAV 11584/1c, ANZ-W.
  \item \textsuperscript{244} \textit{Thames Advertiser}, 10 December 1883, p. 3.
  \item \textsuperscript{245} Te Aroha Correspondent, \textit{Auckland Weekly News}, 22 December 1883, p. 13.
  \item \textsuperscript{246} \textit{Thames Directory for 1885}, p. 4; \textit{New Zealand Industrial Gazette and Pastoral and Agricultural News}, 15 April 1884, p. 27; \textit{Thames Advertiser}, 1 May 1884, p. 2; \textit{Thames Star}, 31 December 1884, p. 2.
  \item \textsuperscript{247} \textit{Thames Star}, 25 July 1884, p. 2; \textit{Thames Directory for 1885}, p. 4.
  \item \textsuperscript{248} \textit{Te Aroha News}, 3 January 1885, p. 7.
  \item \textsuperscript{249} \textit{Thames Advertiser}, 8 May 1885, p. 3; \textit{Te Aroha News}, 9 May 1885, p. 2.
  \item \textsuperscript{250} \textit{Te Aroha News}, 12 September 1885, p. 2; \textit{Waikato Times}, 10 July 1886, p. 3.
  \item \textsuperscript{251} \textit{New Zealand Gazette}, 12 May 1887, p. 616.
\end{itemize}
revealed that, although 19,800 of the 20,000 shares had been allotted, giving a nominal capital of £19,800, only ninepence per share had been paid on allotment and another ninepence paid in calls. The total amount of capital actually subscribed, therefore, was only £667 10s. Clearly the company was relying on the mine paying its way and meeting development costs through profits. Although in January 1884 it had a credit balance of between £600 and £700, by December 1886 the amount held in the bank plus cash in hand was £33 15s 11d less than contingent liabilities. On 13 July 1887, there was no cash in hand, only £11 11s 6d in the bank, and contingent liabilities were £246 4s 6d. To raise more capital, three calls of threepence per share were made: the first in November 1882, the second in June 1883, and the third at an unreported date.

SHARE TRADING

Share trading reflected both developments in the mine and public perceptions of its future. In March 1882, immediately after its formation, sales were made in Auckland at five shillings per share. In April, sellers on the Thames sharemarket had to reduce their asking price to 4s 6d, and early in that month a small number of sales were made in Auckland at that amount. At the end of July, Thames sellers were still offering this price, while in Auckland some shares in the company, 'which for some time has been neglected, have been sold for 4s'. In early August, shares were sold in Auckland for from 4s to 4s 8d, and some were sold in Thames for 4s 6d, but by the middle of the month sellers had reduced their asking price to four

252 New Zealand Gazette, 12 May 1887, p. 616.
253 Thames Advertiser, 28 January 1884, p. 2.
254 New Zealand Gazette, 12 May 1887, p. 616.
255 New Zealand Gazette, 28 July 1887, p. 1025.
256 Thames Star, 29 November 1882, p. 3; Thames Advertiser, 2 June 1883, p. 2; New Zealand Gazette, 12 May 1887, p. 616.
shillings. With only dead work opening up the mine being done, there was no record of any transactions until April 1883, when some shares were sold at Te Aroha for 2s 5d. Prices remained at this level during May, with a gradual rise during June and July. By the beginning of August, sales at Thames were being made at from 4s 6d to 4s 9d, and by the end of the month at 5s 6d. In September, sales quickly rose to 9s. During October, the highest sale was 12s 3d. A Te Aroha correspondent wrote in November, after the battery started, that excitement over this long-awaited event meant that ‘the New Find shareholders benefited quietly, without so much puffing being necessary’.

261 Waikato Times, 24 April 1883, p. 2.
trading of the company’s life, sales at Thames reaching 16s 6d in the middle of the month before declining to from 11s 6d and 14s at the end of November. At Auckland they rose for one day to 18s 6d and then declined to 10s 6d and 11s. 267

During December 1883, sales at Thames declined from 14s at the start of the month to 11s by the middle, after which there was no more mention of sales or attempted sales. 268 There was a similar decline and cessation of trading on the Auckland and Te Aroha markets. 269 Sellers attempted to unload their shares at from 9s 6d to a maximum of 15s in January 1884, the only sales being at 9s 6d, and late in the month at from 14s 6d to 14s 9d. 271 The next sales to be recorded were in early March, for 10s 6d, and later that month at 9s 6d. 272 Prices remained steady in April, though little activity was recorded in that month and none in the following one. 273


272 Waikato Times, 6 March 1884, p. 2; see also 5 February 1884, p. 3, 19 February 1884, p. 3, 21 February 1884, p. 2, 26 February 1884, p. 2, 1 March 1884, p. 2; Auckland Weekly News, 22 March 1884, p. 23.

273 Thames Star, 3 April 1884, p. 2, 4 April 1884, p. 3; Waikato Times, 3 April 1884, p. 3, 10 April 1884, p. 2.
beginning of June, a ‘slight demand’ was reported at Te Aroha.\textsuperscript{274} Immediately after good gold was found, ‘a steady demand’ set in, values rising from 8s to 10s.\textsuperscript{275} The only sales recorded in June and July gave the lowest prices as 9s 4d and the highest 11s.\textsuperscript{276} From August to October, sellers offered rapidly reducing prices, which were 6s by the beginning of the latter month.\textsuperscript{277} The last recorded sales were at 6s on the Auckland market in mid-September.\textsuperscript{278} Nothing further was recorded until June 1885, when the discovery of gold in the low level ‘caused an active enquiry for shares. Several large parcels have changed hands during the week at satisfactory prices’,\textsuperscript{279} unstated. Neither the degree of satisfaction nor any subsequent transactions were recorded, although some must have occurred.

EXCESSIVE COSTS

The main causes of financial difficulties were a lack of working capital combined with heavy costs. Kenrick’s report for the year ending 31 March 1884 noted the company having to pay ‘some very large sums away for work and plant’.\textsuperscript{280} The annual meeting in May was told that £6,410 11s 1d was earned during the past year and that this ‘most gratifying’ result ‘would compare favourably’ with many ‘leading mines’ elsewhere; costs were not published.\textsuperscript{281} Later that month, a ‘handsome profit’ was being made from treating tailings.\textsuperscript{282} To reduce costs, the new low level to begin in February 1885 would be paid for jointly by the New Find and Diamond Gully

\textsuperscript{274} Te Aroha Correspondent, \textit{Waikato Times}, 3 June 1884, p. 2.
\textsuperscript{275} \textit{Thames Advertiser}, 5 June 1884, p. 2; Thames Correspondent, \textit{New Zealand Industrial Gazette and Pastoral and Agricultural News}, 15 June 1884, p. 39.
\textsuperscript{278} \textit{Waikato Times}, 20 September 1884, p. 2; \textit{Te Aroha News}, 20 September 1884, p. 2.
\textsuperscript{279} Te Aroha Correspondent, \textit{Thames Advertiser}, 6 June 1885, p. 3.
\textsuperscript{280} Harry Kenrick to Under-Secretary, Gold Fields, 19 April 1884, \textit{AJHR}, 1884, H-9, p. 20.
\textsuperscript{281} \textit{Te Aroha News}, 10 May 1884, p. 2.
\textsuperscript{282} \textit{Te Aroha News}, 31 May 1884, p. 2.
companies; it would not in fact be driven. As directors’ reports always tried to emphasize the positive, although the one for May 1885 noted that liabilities were in excess of assets by £262 11s 7d, shareholders were assured that tailings awaiting treatment would more than cover this. A cut in battery charges coupled with ‘very encouraging’ prospects meant they continued to be optimistic. Then, in assessing the year to 31 March 1886, Kenrick recorded that the company had ‘been unable to do more than pay its way’. The annual meeting in June was informed that, although £869 in credit, this sum could not be distributed as dividends because of the pending cost of driving a low level. When the council refused a request to reduce tramway charges, its chairman described the mine as being ‘of no benefit to the shareholders’.

To ensure that a battery was built, the company, like others, had been forced to give paid up shares to the Battery Company, thereby transferring £2,000 of its capital to it. One newspaper described these terms as ‘severe’, but without this gift there would be no battery. In January 1884, ‘Waiorongomai’ condemned the Battery Company’s ‘grasping policy’ of charging 25 per cent of the value of the gold in the tailings for the use of its berdans plus ten shillings for each day a berdan was used. It was estimated that after crushing for four years the company would ‘produce 23,000oz of gold from the tailings. At the end of four years the battery proprietors would have had 19,000oz of gold, and the unfortunate shareholders in the New Find only 4,000oz. After this my faith in philanthropists has gone forever’, a jibe aimed at Firth’s self-advertised claims to be working for the benefit of others. Late in 1884, a reporter for the *New Zealand Industrial Gazette*, published in Wellington, thought his ‘southern readers

283 *Te Aroha News*, 7 February 1885, p. 2.
284 *Thames Advertiser*, 8 May 1885, p. 3.
286 Harry Kenrick to Under-Secretary, Mines Department, 27 April 1886, *AJHR*, 1886, C-4A, p. 5.
287 *Te Aroha News*, 12 June 1886, p. 2.
289 *Thames Advertiser*, 17 April 1882, pp. 2, 3.
291 See, for example, his clearing of the snags in the Waihou River: letter from J.C. Firth, *Thames Advertiser*, 27 February 1880, p. 3; *Auckland Weekly News*, 28 February 1880, Supplement, pp. 1-2.
will hardly credit the fact that for treating the 409 trucks of quartz ... the so-called philanthropist battery-owners pocketed over £600, which is quite double what would be charged on the Thames'. 292 In October, the Thames Advertiser cited as an example of the 'exorbitant charges' that out of the £1,200 made from selling gold the company had paid £680 to the battery. 293 Two months later, a local correspondent informed the Thames Advertiser that its bill ‘for the last five weeks crushing was £740 or thereabouts’. Opinion at Te Aroha ‘very strongly’ favoured the company ‘erecting a battery of their own, and applying the money now in hand towards that end, instead of paying a dividend. The mine never looked better than at present, and with reasonable crushing charges, would pay monthly dividends’. 294

The local newspaper challenged Firth’s stranglehold over the field through his control of the battery and influence over the council, and urged reduced battery and tramway charges. Its first editorial for 1885 used the New Find as an example of the ‘unsatisfactory’ situation caused by crushing charges being so high: ‘on any other goldfield’ a mine of this calibre would pay ‘handsome monthly dividends’. During 1884, it had paid £5,750 to convey and crush 5,000 tons, making the average cost per ton about £1 3s; had this sum been spent erecting a battery, it would have been able to disperse three-quarters of these charges to its shareholders. 295 Its first editorial for 1886 again complained about how the mine was overcharged, despite keeping half the battery at work. The shareholders received no benefit even though the ore maintained ‘a high average’.

The mine is well known to be a really splendid property, one which, under more favourable circumstances, should pay a steady monthly dividend, but at present it is almost valueless to the shareholders. Some of them, to our own knowledge would far rather see the mine shut up, or even forfeited, than steadily worked out as at present, with no benefit to them; but simply providing work for Messrs Firth and Clark’s battery. Rather than that matters should continue as in the past it were better for shareholders this valuable property should be submitted to public auction forthwith, and the proceeds constituted a dividend.

293 Cited in Te Aroha News, 11 October 1884, p. 2.
294 Te Aroha Correspondent, Thames Advertiser, 30 December 1884, p. 2.
295 Editorial, Te Aroha News, 3 January 1885, p. 2.
The amount paid for treating quartz over the past two years would have paid twice over the cost of building a battery close to the mine. ‘Apparently opposing influences can be brought to bear’, and the newspaper had ‘almost given up all hope of seeing such a course adopted’; it blamed both shareholders and directors for their apathy in letting their property be used in this way.296

In June 1886, when the company again sought lower tramway charges, another editorial noted that in the past year it had paid £3,488 18s 10d to the battery and previously the amount was ‘much higher’, as much as £600 being paid in one month. ‘No wonder the mine does not pay dividends, so heavily handicapped as it is, and has been from the start. Probably it has paid some £12,000 to £15,000 during the past three years’. Although each year it paid the equivalent of the cost of erecting a small battery on its own property, it appeared the directors were ‘apathetic’ about their shareholders’ interests.297 A month later, it was hoped to crush a ‘large quantity of low grade quartz’ if the battery would reduce its charges and the company was granted a ‘much lower rate of cartage’. When the latter was declined, the county chairman condemned the company for only paying ‘a paltry dividend of 6d’ when ‘with proper management such a mine should pay steady dividends’.298

COLLAPSE OF THE COMPANY

On 28 January 1887, an extraordinary meeting authorized the sale of their property ‘should an opportunity present itself’.299 As Gordon wrote, shareholders had finally realized they ‘could not make the mine pay’.300 All wages men were dismissed, although contracts were still let,301 but the low level could not be completed because funds were ‘exhausted’.302 In December, the Battery Company offered to buy the mine for £2,000, an offer

296 Editorial, Te Aroha News, 2 January 1886, p. 2.
298 Piako County Council, Te Aroha News, 10 July 1886, p. 3.
300 H.A.Gordon to Minister of Mines, 5 May 1887, AJHR, 1887, C-5, p. 29.
301 Te Aroha News, 6 February 1887, p. 2.
302 George Wilson to Under-Secretary, Mines Department, 4 April 1888, AJHR, 1888, C-6, p. 11.
accepted with alacrity. The Battery Company would meet all liabilities and shareholders would receive two shillings per share. After the ground was transferred, on 11 January 1888 a meeting of shareholders agreed to voluntarily wind up the company. The *Te Aroha News* commented sorrowfully on the demise of the company owning the best mine:

This ends so far the public career of this grand mining property. About the time it was first proposed to lease the tramway, in view of a company being floated on the English market it was stated £5000 would be given for this mine. The mine would be cheap in our opinion at £10,000. Its record is good. The latest official statistics issued, stated the number of tons crushed from this mine was 13,121, which yielded 13,146 ounces retorted gold - and what about the tailings? Only about 80 feet further remains to be driven in the new low level before intersecting the reef, which will give about 100ft additional backs.

It would be useless to comment on the action of the directors in disposing of the mine for £2000, or as to the manner in which the mine has been worked, as regards the interests of the shareholders. The latter subject has been frequently commented on at length in these columns. We have no doubt the Battery Company having obtained sole possession of the mine and being well aware of its value, will at an early date proceed in a systematic manner to develop its resources.

It was ‘considered that the purchasers have made a good bargain’.

**DEVELOPING THE MINE IN 1888 AND 1889**

In January 1888, the mine was the only one operating, employing 27. Early that month, tenders were called for a new low level and a winze. This low level would ‘start at the Canadian gully, above the

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304 *Te Aroha News*, 17 December 1887, p. 2.
306 *Te Aroha News*, 17 December 1887, p. 2.
308 *AJHR*, 1888, C-5, p. 28.
309 *Te Aroha News*, 7 January 1888, p. 2.
tramway bridge’, and after driving for about 200 feet would ‘cut the reef in the Canadian ground’ and follow it to the New Find ground. ‘Some excellent ore carrying silver, and also ore containing a large percentage of lead, has lately been met with, and much of the stone has the appearance of being admirably adapted for smelting. The mine is undoubtedly a very valuable property’. Late in January, a start was made on this ‘450 level’, meaning it was 450 feet below the cap of the reef; it became known as the Canadian level. Elsewhere, ‘a number of men’ were breaking out quartz. By late March, only 80 feet remained to be driven to complete the ‘300-foot level’.

Late in March, Adams submitted an optimistic report to the Te Aroha Silver and Gold Mining Company, which had bought Firth and Clark’s battery and mining interests. The lowest level was 300 feet below the surface, and two crosscuts were being driven 150 feet deeper to cut this part of the main vein; a winze started on the 300-foot level to connect with the 450-foot level was down ten feet. The New Find Company had broken out only free milling ore, leaving refractory ore, but between 19 December 1887 and 27 January 1888 the Battery Company drilled at 21 different places in this for a distance of 150 feet on the main vein. The highest result was £48 17s 11 1/4d per ton, another was £27 19s 6d, and the others were less than £18 18s, the lowest being £1 10s 1 1/2d. Judging from this work, the reef varied from ten to three feet in thickness and was ‘much higher in value in [the] 300 foot level than above, and also more refractory’. Before this drilling, the rest of this ‘highly mineralised’ reef had been left, ‘as only very poor prospects of gold could be found’. When the manager’s attention was drawn to this portion of the reef by ‘indications of carbonate of copper’, several bores were drilled and tests proved what had been considered worthless was worth from £3 9s to £4 8s per ton, the reef containing gold, silver, and copper. Adams noted that the battery extracted only 50 per cent of the assay value; a later assessment gave about 30 per cent, ‘a

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313 See paper on this company.
314 *Te Aroha News*, 21 April 1888, p. 4.
315 George Wilson to Under-Secretary, Mines Department, 4 April 1888, *AJHR*, 1888, C-6, p. 11.
316 *Te Aroha News*, 21 April 1888, p. 4.
ruinous loss’. The new company planned major modifications to the battery to achieve a much higher return.

Encouraged by Adams’ report, the new owners immediately employed about 40 extra men, some to stope out old blocks, some to open up new blocks ‘on the silver lode’, and others to clear out the two winzes in preparation for contractors working in them. Contracts were offered to drive 80 feet to complete the 300-foot level, to continue the Canadian level, to drive another crosscut, and to sink two winzes. The winzes would start in the No. 2 level, one on the Arizona run of gold and the other on the No. 2 run. This infusion of foreign capital revived the mine, which, as the mining inspector noted, had not been ‘so successfully worked’ in the past year, ‘the low level works being for a time suspended’ through ‘want of funds’. The runs of gold had not been worked on, work being ‘confined to those portions of the reef in the upper-levels which had been left near the principal shots of gold’, between No. 2 level and the surface, from which 5,056 trucks produced 2,690 ounces of gold. Now quartz from the previously ignored portion was being broken out. As no tenders were received for the two winzes because of ‘a great deal of water’, six wages men worked in each. A tender of £2 9s 6d per foot was accepted for the low level, and one of £1 12s 6d for the Canadian level. By late April, 12 contractors were working on the low levels, 12 were stoping, 12 men were sinking the winzes, another 12 were timbering and breaking out quartz, and ‘several’ were cutting timber. To find an improved method of treatment, 20 tons of ‘ordinary’ quartz and ten tons of ‘the more silver bearing ore’ were sent to the Adelaide Smelting Works.

In early May, the Canadian crosscut was producing promising ore and Robert Job Maisey and his 12-man party were stoping out payable

318 See paper on this company.
320 George Wilson to Under-Secretary, Mines Department, 4 June 1888, *AJHR*, 1888, C-6, p. 11; *Te Aroha News*, 4 April 1888, p. 2.
321 George Wilson to Under-Secretary, Mines Department, 4 April 1888, *AJHR*, 1888, C-6, p. 11.
322 *Te Aroha News*, 4 April 1888, p. 2.
323 *Te Aroha News*, 21 April 1888, p. 2.
324 *Te Aroha News*, 7 April 1888, p. 2.
quartz.\footnote{Te Aroha News, 12 May 1888, p. 2; Waikato Times, 15 May 1888, p. 2.} (Maisey was a farmer who supplemented his income by mining.\footnote{See Thames High School Board, Thames Advertiser, 7 August 1888, p.2; Muriel Maisey, ‘Portrait of a New Zealand Pioneer Woman’, Journal of the New Zealand Federation of Historical Societies, vol. 1 no. 11 (July 1881), pp. 20-21.} He had been one of four contractors driving the low level in 1885,\footnote{Te Aroha Warden’s Court, Register of Te Aroha Claims 1880-1888, folio 134, BBAV 11567/1a, ANZ-A; Te Aroha News, 9 October 1886, p. 2.} and in the following year was an owner of a claim.)\footnote{Te Aroha News, 26 May 1888, p. 2.} In late May the battery was ‘running on quartz obtained from Maisey’s stopes, and from both winzes’; a ‘payable return’ was expected because gold was seen at ‘every breaking down’ in the winzes. Sinking the winzes was slowed by the amount of water. Contractors were making good progress in the Canadian level in country ‘of a very kindly nature’, and those for the 900 feet-long main low level were making a ‘fair start’.\footnote{Te Aroha News, 2 June 1888, p. 2.} This latest low level started in the Galena, passed through the Waiorongomai, and would cut the reef underneath the No. 2 run of gold.\footnote{Te Aroha News, 9 June 1888, p. 2.}

An inrush of water meant work stopped temporarily at the start of June.\footnote{Te Aroha News, 9 June 1888, p. 2.} A week later, the reef was cut in the Canadian level and a contract was let to drive 100 feet on the reef and through it to the western wall.\footnote{Te Aroha News, 14 July 1888, p. 2.} Although the stone in the low level was much easier, as it took three weeks to drive ten feet by mid-July only 40 of its 900 feet had been driven. The Canadian level had cut through the buck reef and in 50 feet would cut the No. 2 run; payable gold was being extracted from the stopes.\footnote{Te Aroha News, 4 August 1888, p. 2.} By August, the Canadian level was still being driven on the reef; its ‘appearance’ had ‘considerably improved, the stone now coming to grass being of a very kindly nature which it is believed will prove payable’.\footnote{Te Aroha News, 1 December 1888, p. 2.} By December, one winze had almost connected with the low level and contractors were making ‘very fair progress’ in the Canadian level.\footnote{Te Aroha News, 1 December 1888, p. 2.}
In January 1889, a new hopper was erected and a contract let at £1 9s 9d per foot to extend the Canadian level by from 70 to 100 feet. In April, another tender of £1 18s per foot was accepted to drive 50 feet at the northern end of the mine. Early in June, ore from below the old Smithy level and the northern shoot of base ore was being crushed. The Canadian tunnel was being ‘pushed ahead’ to cut the reef. Later that month, 20 stamps were working on base ore and ten on free milling ore. Two rock drills were acquired in August to drive the low levels.

THE EARLY 1890s

In September 1889 all miners were discharged, taking ‘everyone by surprise. Between 50 and 60 men were employed at the mine, which is now virtually closed down - in mining lingo, “duffered” out’. There could be ‘no doubt that, so far as the miners were concerned, a sweeping retrenchment at the New Find had to be made’. Any over-manning was not the main cause of the company abandoning the mine: the real reason was that most of the free-milling ore had been extracted, leaving only the more refractory ore.

Not all mining ceased, for portions were let on tribute ‘to provide temporary employment’ and some wages men worked ‘the underhand stopes’ in the smithy level. Only a few tributers worked until Adams, in partnership with Henry Christian Wick, bought the mine at the end of 1890 and called tenders to drive on two levels. In mid-January 1891, the local newspaper was ‘glad to hear that first-class picked ore’ had been found. In May, under Gavin, reappointed as manager, 60 pounds of

338 Te Aroha News, 5 June 1889, p. 2.
339 Te Aroha News, 22 June 1889, p. 2.
340 Te Aroha News, 17 August 1889, p. 2.
341 Waiorongomai Correspondent, Waikato Times, 21 September 1889, p. 2.
342 See editorial, Thames Advertiser, 2 March 1898, p. 2.
344 See paper on Henry Hopper Adams.
345 AJHR, 1891, C-4, p. 148; Thames Star, 9 December 1890, p. 2, 20 December 1890, p. 2;
   Thames Advertiser, 8 January 1891, p. 2.
picked stone, extracted from where a new reef in the Diamond Gully section was stripped for over 80 feet, was expected to return two ounces to the ton.\textsuperscript{347} Some of these picked stones ‘might be classed as specimens’, and gold was freely distributed through it. Ten men were working in the mine.\textsuperscript{348}

Two years later, the Te Aroha Syndicate Company employed 18 miners to take out six feet on each side of the lode, previously worked to a depth of 320 feet below the outcrop. The original stope, from four to six feet wide, by early 1893 was widened for 100 feet below the surface by another 12 feet. The ore was payable, but as the workings were open to the sky ‘all the surface-water follows them down’.\textsuperscript{349} Gordon’s report for the year ending 31 March 1893 noted that the lode was ‘over 30ft’ thick in the lower level, which had ‘gone through it and into the hanging or western wall for a distance of about 40ft’ where ‘an interesting formation’ might ‘lead on to a much richer shot of gold being found in the lower levels’ than previously. ‘The country rock on each side of the lode down to a depth of 320ft has been extremely hard’, but at the western end of the lower level was ‘a very soft formation’ with ‘a slight inclination eastwards’. As in the Crown mine at Karangahake, the country rock was ‘very hard in the upper levels’ but underlying it was ‘a soft tufaceous sandstone formation’ and the gold got better as it went down. The main lode at Waiorongomai being ‘a continuation of the range coming from Karangahake’, there was ‘every probability’ of it containing more gold should soft rock underlay the hard stone.

About 400ft northwards from the lower level in the New Find another level was constructed by the Te Aroha Gold and Silver Company, which is about 200ft lower than the one in the New Find ground. A crosscut could easily be constructed from this level, following the lode southwards, or in the hanging-wall, where the driving is said to be good, until such time as it was underneath the shot of gold found in the New Find ground. The lode should be cut at intervals to see the class of ore it contains. If this were done there is a strong probability of the syndicate coming on better stone than they are at present working.

In New Zealand the gold ‘found in all the lodes in shots and lodges’ generally did not ‘extend for a great distance along the lodes, and between

\textsuperscript{347} Waiorongomai Correspondent, \textit{Thames Advertiser}, 27 May 1891, p. 2.

\textsuperscript{348} Waiorongomai Correspondent, \textit{Waikato Times}, 13 May 1891, p. 2.

\textsuperscript{349} H.A. Gordon to Minister of Mines, 8 June 1893, \textit{AJHR}, 1893, C-3, p. 71.
these shots the lode, although not actually barren', was unpayable. Therefore, although the lode cut through in the Canadian ground in the lowest adit driven by the Te Aroha Gold and Silver Company was not payable, it might be so underneath the workings about 400ft further to the south.\(^\text{350}\) Although these developments did not proceed, a party of tributers obtained 60 ounces from 186 tons in the year to April 1893.\(^\text{351}\)

**SEEKING GOVERNMENT ASSISTANCE**

As so often when companies were in difficulty, the government was asked to assist. In November 1893, Adams, still the owner, sent Alfred Jerome Cadman, the Minister of Mines, two plans of the existing workings and one for a new low level crosscut designed to test the lower levels, for which he requested a loan of £3,000. He believed the reefs below the existing levels would 'be of a much richer quality and in an easier class of country', making mining 'much cheaper'. Starting near Diamond Gully Creek, this 1,200 feet-long crosscut would the reefs 800 feet below the surface, and have sufficient water power for rock drills. Adams promised to repay the loan from the gold obtained, with interest, once expenses were met. As a drilling plant would cost £600, and as driving would cost £2 per foot, he requested monthly payments of £100.\(^\text{352}\)

Gordon reported the cost would be £1,800 and that there was 'a fair probability' of striking gold. Adams wanted to provide security by mortgaging his machinery and plant, but as that had been mortgaged to repay a debt of £700 a grant could not be made on these terms; but if he sold his plant and left the district, it would be many years before Waiorongomai obtained another battery.\(^\text{353}\) The proposed adit would utilize an existing 100 foot one in the Galena, which if extended as proposed would cut through the Waiorongomai, Three-foot, Galena, New Find, and Diamond Gully lodes as well as a new reef found under the Eureka hopper.

\(^{350}\) H.A. Gordon to Minister of Mines, 8 June 1893, *AJHR*, 1893, C-3, pp. 71-72.

\(^{351}\) *AHJR*, 1893, C-3. Appendix, p. xv.

\(^{352}\) H.H. Adams to A.J. Cadman, 21 November 1993, Mines Department, MD 1, 95/248, ANZ-W.

\(^{353}\) H.A. Gordon to Minister of Mines, 19 January 1894, Mines Department, MD 1, 95/248, ANZ-W.
and be 400ft below the lowest level. Adams had applied for the total cost, which was not permitted under the Act.

Three months later, after discussing with Cadman making a rise to connect the lowest level with the ore being worked, he asked Cadman for about £250. ‘By giving This Lone or grant you will save owre field if I can not get this I will have to take up all rails and plant and Leave the Claims bee forfeited. This I am Louth to Do’, Gordon described the rise as ‘but a small thing’ but as locals told him Adams lacked ‘the means of doing any dead work’ he recommended a subsidy. As Cadman considered it was ‘an important matter for the whole district’, he referred it to Cabinet, which granted a £1 for £1 subsidy of £125, on condition the work was done by contract. Adams immediately responded: ‘I cannot possibly find £125 can you see your way to vote £200 I will find £50 and give my own labor free.... Please wire reply as I am quoting sale of plant to be removed’. Told the subsidy was for the district’s benefit rather than for his, that it ‘was virtually a free gift’ and ‘exceeded anything previously done’ to aid prospecting, he accepted it. Two months later, he received £33 6s 3d to meet half the cost of 18 feet of rising ‘on Arizona run’ plus clearing and timbering a drive and providing air pipes. In mid-December, another £14 17s 6d was paid after another 17 feet had been risen, but as no further requests for payment were made, clearly no further work was done.

355 Under-Secretary, Mines Department, to H.H. Adams, 30 January 1894, Mines Department, MD 1, 95/248, ANZ-W.
356 H.H. Adams to A.J. Cadman, 16 April 1894, Mines Department, MD 1, 95/248, ANZ-W.
357 H.A. Gordon to Under-Secretary, Mines Department, 25 April 1894, Mines Department, MD 1, 95/248, ANZ-W.
358 Memorandum by A.J. Cadman, 27 April 1894; memorandum re Cabinet decision of 27 April 1894; Under-Secretary, Mines Department, to H.H. Adams, 2 May 1894, Mines Department, MD 1, 95/248, ANZ-W.
359 H.H. Adams to A.J. Cadman, 8 May 1894 (telegram), Mines Department, MD 1, 95/248, ANZ-W.
360 A.J. Cadman to H.H. Adams, 8 May 1894 (telegram); H.H. Adams to A.J. Cadman, 12 May 1894 (telegram), Mines Department, MD 1, 95/248, ANZ-W.
361 Memorandum of payment, 30 July 1894, Mines Department, MD 1, 95/248, ANZ-W.
362 Memorandum of payment, 14 December 1894, Mines Department, MD 1, 95/248, ANZ-W.
LAST YEARS OF MINING

Because of the destruction of most copies of the local newspaper for the 1890s, most information about the mine is provided by the annual Mines Department reports. The one for 1894 stated that Adams had not had ‘very great’ success but was ‘carrying on from year to year with the hope that another rich patch of auriferous ore will be struck, which will repay him yet for all his labour’. The previous December, he ‘opened out on the No. 2 reef’ and ‘got on to a run of auriferous stone which appeared’ payable. ‘Streaks and blotches of gold could be seen in the stone all through the lode, which was about 8ft wide’. When Gordon visited ‘he had driven about 30ft on the lode’ where there was ‘only about 30ft of backs between the floor and the surface’. Adams felt ‘confident of finding another shot of gold-bearing stone if he had the means to prospect’.363

In May 1894, because of government assistance tenders were called for rising 150 feet ‘to get underneath the Arizona run of gold. This work will employ about six men’.364 In the year to April 1895, as only two wages men (or owners) were working, ‘very little’ was achieved; 23 tons produced 16oz 17dwt, a tributer’s 15 tons produced 9oz 17dwt, and 250 tons of tailings produced 55oz 8dwt.365

In September 1895, capital arrived from the syndicate that would sell the property to the New Zealand Exploration Company.366 ‘Every effort’ was made to open up the ground ‘in a systematic manner, and as quickly as possible’. The 30 men employed mainly extended a drive ‘on a reef about two feet thick’. The rock was ‘very tight’, as at ‘the same point in the upper levels’. It was expected that ‘in a short distance’ gold would be found and the ore ‘increase both in size and richness’.367 During October, work was ‘vigorously pushed on’, with a 650-foot long drive being ‘cleaned out and put in thorough repair’. A crosscut driven ‘in a northerly direction’ for ‘about 30ft through hard solid quartz’ was then, to lessen the time, driven to the west along the wall of the reef.368 In November, a 100-foot winze was started in the low level to thoroughly test the ground ‘underneath where the

363 H.A. Gordon to Minister of Mines, 24 July 1894, AJHR, 1894, C-4, pp. 48-49.
365 AJHR, 1895, C-3, p. 67; C-3A, p. 14.
366 See paper on this company.
367 Paeroa Correspondent, New Zealand Herald, 30 September 1895, p. 6.
368 Te Aroha News, 16 October 1895, p. 2.
fine run of gold was obtained’.\textsuperscript{369} When down 48 feet, prospects were reportedly ‘encouraging’, but it was abandoned when down 67 feet, for ‘the rock on both walls of the lode continued of the same hard character as that found on the adit-level’.\textsuperscript{370}

During 1900, the next owner, Edwin Henry Hardy,\textsuperscript{371} prospected with such ‘gratifying results’ that it was announced he would systematically work it once the battery was sufficiently enlarged.\textsuperscript{372} This did not happen, Hardy restricting himself mainly to the Premier, and no further work was done. In 1932, its new owner, Malcolm Hardy, talked of opening it up,\textsuperscript{373} but did not. That all the adits had collapsed\textsuperscript{374} must have influenced his decision to concentrate on accessible workings elsewhere.

THE EXTENT OF DEVELOPMENT BEFORE ITS ABANDONMENT

In 1906, a report to Hardy’s Mines by the general manager of the Komata Reefs Company summarized all the developments. The adits and crosscuts totalled 1,283 feet, the reef had been driven on at various places for a total of 1,791 feet, rises and winzes totalled 270 feet, and 1,278 fathoms had been stoped, almost all about the No. 3 level. The depths of the levels from the surface were: No. 1 level, 60 feet; No. 2, or Arizona, 174 feet; No. 3, or Smithy, 260 feet; No. 4, 360 feet; No. 5, or Canadian, 450 feet. No mention was made of the low level started lower down the hillside. The reef averaged 12 feet in width, and from all workings 37,000 tons had been extracted, producing from £80,000 to £85,000.\textsuperscript{375} (A 1932 report stated that

\begin{itemize}
  \item \textsuperscript{369} Te Aroha News, 6 November 1895, p. 2, 16 November 1895, p. 2.
  \item \textsuperscript{370} Te Aroha News, 7 December 1895, p.2; H.A. Gordon to Minister of Mines, 17 June 1896, AJHR, 1896, C-3, p. 78.
  \item \textsuperscript{371} See paper on his life.
  \item \textsuperscript{372} John Hayes to Minister of Mines, 20 May 1901, AJHR, 1901, C-3, p. 79.
  \item \textsuperscript{373} E.C. Macpherson to John Henderson (Director, New Zealand Geological Survey), Report on Te Aroha Mining District, 14 November 1932, p. 10, Mines Department, MD 1, 23/1/20, ANZ-W.
  \item \textsuperscript{374} F.C. Brown, Report on Hardy’s Mines, 1 March 1906, Mines Department, MD 1, 23/4/54, ANZ-W.
  \item \textsuperscript{375} F.C. Brown, Report on Hardy’s Mines, 1 March 1906, Mines Department, MD 1, 23/4/54, ANZ-W.
\end{itemize}
28,889 tons produced 41,470 ounces.) Hone Werahiko had found ore where the Coquette reef joined the western wall of the main reef at a huge 'blow' from which a 'considerable quantity of ore was obtained from large loose boulders scattered on the surface, some of them being very rich indeed'. At a depth of 300 feet, the reef became pinched and the ore poor; the ground was exceedingly hard in the low levels, and very poor results were obtained in the No. 3 level and below. An attempt to get below the barren rock by driving the Canadian level ended before completion when funds ran out, but Brown considered it was not low enough to get below the barren layer.  

ACCIDENTS

In 1884, a contractor 'partly slid and partly fell down the No. 2 winze from a height of 30 feet, landing heavily in the drive below. Luckily he escaped without any serious injury, but the shaking he received will unfit him for work for a few days'. Three years later a miner 'bringing down quartz after firing a shot' used a crowbar to remove loose stones, overbalanced, and fell about 25 feet, breaking his arm and 'sustaining some other slight injuries'. The other fall of any note, in 1889, resulted in Charles Jenkins, an experienced Thames miner since 1868, and briefly a mine manager during the Te Aroha rush, receiving a broken collarbone:

It appears that Jenkins and his mate, J[ohn] Carroll, were at work in their stope, when they heard the usual signal (fire) given from some men who were working immediately above, and who had several holes charged ready for firing. Jenkins and his mate

376 E.C. Macpherson to John Henderson, Report on Te Aroha Mining District, 14 November 1932, p. 10, Mines Department, MD 1, 23/1/20, ANZ-W.

377 F.C. Brown, Report on Hardy’s Mines, 1 March 1906, Mines Department, MD 1, 23/4/54, ANZ-W.

378 Te Aroha News, 4 October 1884, p. 2.

379 Waikato Times, 19 March 1887, p. 2.

380 See Thames Warden’s Court, Register of Miners’ Rights 1868, no. 1553, BACL 14358/3a; Thames Claims Register 1869, nos. 1493, 1553, BACL 14397/4a; Register of Grahamstown Claims 1876-1878, claims 363, 400, 471, 485, 501, BACL 14397/11a, ANZ-A.

381 Thames Star, 12 January 1881, p. 2; Thames Advertiser, 14 April 1881, p. 3.

382 See Tauranga Electoral Roll, 1887, p. 4.
immediately made their way out, and the former, while stepping off the staging, placed his foot on a small piece of stone, and slipped in such a manner that he was precipitated head foremost down a steep incline about 10 feet, striking his head and shoulders very severely against the upper edges of some curved iron that was placed there for shovelling on. His mate made all haste to him and caught him just in time to prevent him falling another fifty feet. Carroll gave the alarm and the men above who had placed their short pieces of lighted candle under each fuse removed them at once. The injured man was then placed out of danger, and walked home without assistance. The doctor was called in and bandaged him up, and says it will be six or seven weeks before he can again use a pick. To show what a narrow escape Mr Jenkins had, I may state that when the tapers were again applied to the fuse, one almost immediately fired; had this occurred when he fell the chances are that he would have been killed outright, as there would not then have been time to remove him.

The most severe injury was caused by a rock falling on Edwin Hadfield. Aged 46, he had lived in New Zealand for ten years. A carpenter and cabinet-maker by trade, when he went to Waiorongomai in 1883 he erected a hotel but ran it for only a month. He also acquired a small farm. When sued for payment of £31 8s 4d in June 1884, he ‘filed a petition in Bankruptcy’. He continued to work his small farm, and unsuccessfully attempted to become a contractor. His financial state

384 Auckland Hospital, Register of Patients 1885-1890, folio 72, 26 April 1888, ZAAP 15288/2a, ANZ-A.
385 *Waikato Electoral Roll, 1884*, p. 9; *Tauranga Electoral Roll, 1887*, p. 11; *City of Auckland Electoral Roll, 1893*, p. 162.
386 *Thames Star*, 7 June 1883, p. 2; *Waikato Times*, 19 June 1883, p. 2, 10 June 1884, p. 2, 26 July 1884, p.3; *Te Aroha Warden’s Court, Agreements of 30 January 1884, 6 February 1884, Certified Instruments 1884, BBAV 11581/5a, ANZ-A; Te Aroha News, 1 March 1884, p. 2, 14 June 1884, p. 2.
387 Thames High School, *Te Aroha News*, 8 August 1888, p. 2; Inquest into house fire, Justice Department, J 46, COR 1884/1843, ANZ-W.
388 *Te Aroha Magistrate’s Court, Home Warrant Book 1883-1928, 28/1884, BBAV 11498/1a, ANZ-A; Te Aroha News, 26 July 1884, p. 2; District Court, *Thames Star*, 6 August 1884, p. 2.
389 *Te Aroha News*, Magistrate’s Court, 18 April 1885, p. 2, 5 March 1887, p. 2.
explained why, in 1887, he was working for a contractor ‘breaking down the surface part of the reef’ in a stope open to the sky. After his thigh was broken on 11 August, Wilson inspected and reported:

The place where the accident occurred was at the open face near the middle of the claim, the reef runs along the side of a steep hill and a large outcrop was stripped and broken down in benches leaving the foot wall standing in some parts from 30 to 40 feet high. This wall is of hard rock and has stood well during the last 6 months, the wall was well trimmed when the quartz was blasted down and no apprehension was entertained that any portion would fall. At the time the accident happened Hadfield was engaged turning a drill and another man was striking. They heard and felt some surface soil falling down the rock from overhead but did not take warning and leave the place until a large stone which was embedded in the surface under the root of a tree fell down where they were working, the fall of the stone was broken by toms of timber overhead and by striking on a bench of the reef. [James] Courtney the man who was striking the drill managed to get clear but a portion of the stone struck Hadfield and broke his leg as well as bruising him about the body. The stone fell from a height of about 30 feet and weighed about 3cwt.

Although the workings were safe and the accident could not have been foreseen, Wilson instructed the manager that ‘the whole of the open face’ where the accident occurred was dangerous because stones, trees, or soil might fall during rainy weather and injure other miners, ‘especially where the stalls overhead’ were not completed.

CONCLUSION

390 Te Aroha News, 13 August 1887, p. 2.
392 George Wilson to Under-Secretary, Mines Department, 12 August 1887, Te Aroha Warden’s Court, Letterbook 1883-1900, pp. 200, 202, BBAV 11534/1a, ANZ-A; also in Mines Department, MD 1, 87/951, ANZ-W.
393 George Wilson to Hugh McLiver, 12 August 1887, Mines Department, MD 1, 87/951, ANZ-W.
The New Find was the best mine on the Waiorongomai goldfield. Its collapse as a gold producer paralleled all the others, but took longer. It was typical that, in opening up their property, neither owners nor miners knew the true value of the reefs. Although the lodes may have been large, only portions of them were payable, and all the development of this (like all the other mines) was based on hope, not science.

Appendix

Figure 1: “Te Aroha Goldfield: Ascent of the Visitors to the “New Find” Claim’, Observer, 15 December 1883, p. 6.

Figure 2: Burton Bros., top of New Find chute, 1884, Burton Brothers Collection, C.17246, Museum of New Zealand Te Papa Tongarewa.

Figure 3: Burton Bros., New Find chute to New Find hopper beside tramway extension from top of May Queen Incline, 1884, Burton Brothers Collection, C.17243, Museum of New Zealand Te Papa Tongarewa.

Figure 4: Portion of plan made for the Te Aroha Silver and Gold Mining Company, January 1890, showing New Find workings and line of proposed low level tunnel (dotted line on left heading to junction of the reefs) and the site of Quartzville (‘Store’), Mines Department, MD 1, 90/119, ANZ-W [Archives New Zealand The Department of Internal Affairs Te Tari Taiwhenua]; used with permission.

Figure 5: Portion of plan of longitudinal section of New Find, appended to H.H. Adams to A.J. Cadman (Minister of Mines), 21 November 1893, showing workings, Mines Department, MD 1, 95/248, ANZ-A [Archives New Zealand The Department of Internal Affairs Te Tari Taiwhenua]; used with permission.

Figure 6: Portion of plan of workings in New Find, appended to H.H. Adams to A.J. Cadman, 21 November 1893, showing all tunnels driven, Mines Department, MD 1, 95/248, ANZ-W [Archives New Zealand The Department of Internal Affairs Te Tari Taiwhenua]; used with permission.
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