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UNA GOLD MINING AND QUARTZ CRUSHING COMPANY (THAMES SPECIAL AREA)

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Introduction

Many visitors to Thames remark on the close proximity of the steep range of hills immediately inland from the town – the foothills of the Coromandel Ranges. Nearly everyone who lives in Thames is aware of the steep hill that dominates the skyline to the east, and most are aware that it is known as ‘Una Hill’, or, locally, ‘the Una’ (Figure 1). What is the origin of that name, and what is its significance to the rich history of the town?



Figure 1. Una Hill dominates the township of Thames (view looking east along Mary St from near Goldfields Mall).

In many ways, the mining history of the Una Hill area is typical of the hundreds of claims that were registered and mined following the opening of the Thames goldfield in 1867 – some successfully and many less so. The various claims that occupied the Una site were mined from 1867 through to the mid-1940s and produced 30,103 ozs of bullion overall (until 1935), worth £79,132, from 25,076 tons of quartz (Downey 1935: 139).

The output represents an average of just over 1 oz of bullion per ton of quartz, which was the critical yield figure used to determine whether a mining venture was viable or not at that time. The fact that the returns from the Una were consistently good over a long period of time without the benefits of a rich ‘bonanza’ strike, such as in the Moanataiari and Waiotahi valleys, is a testament to the overall profitability of the area. It is likely that sound engineering and good management and business practices played a part in this success.

Site T12/729, named ‘Una Hill workings’, was recorded by N. Ritchie and P. Douglas in 1988. The site record form described adits and some other infrastructure, mainly access tracks, one of which was thought to be “... probably the old Una tram route” (which turned out to be incorrect). A more detailed survey conducted in 2009, accompanied by extensive historical research, resulted in an update to the site record form, the details of which are summarised in this article.

History of the Una Claim

When the Thames goldfield was proclaimed ‘open’ on 1 August 1867, hundreds of miners flocked to it, hoping to obtain alluvial (free-standing) gold, as had been the case in other New Zealand goldfields, mainly in the South Island. However, Thames gold was not easily obtainable by panning gravel in the creeks or by sluicing, as it was firmly bound up in quartz rock deposits and needed intensive crushing and chemical separation methods to liberate it.

Many of the miners departed, declaring the goldfield a dud, but some persevered. Some gold was won by small groups of men using relatively primitive methods: the Shotover claim in the Kuranui valley was the first rich claim in the Thames field and was initially worked by quarrying the rock and crushing it using manual methods. Eventually, however, the trend was to amalgamate small claims into larger areas of ground and to raise venture capital to establish the large crushing plants (known as batteries) and chemical separation techniques that were required to profitably mine the gold.

According to Weston (1927: 62-65):

The claims taken up at first were small, consisting of so many ‘men’s ground’. A ‘man’s ground’ was one third of an acre...When it became evident, as was soon the case, that capital expenditure was essential

for the prospecting and opening up of mines, it was also plain that the monetary resources of individual miners, or small parties, could not carry them far. To provide a tenure that could meet these conditions, new leasing regulations were brought into force.

In this study of the history of the Una Gold Mining and Quartz Crushing Company (GM & QC Co.), one name kept recurring – that of John Gibbons. (See www.thetreasury.org.nz for a brief description of Gibbons's background and business interests in the Thames area.) John Gibbons apparently arrived in Thames in late 1867 or very early 1868. Lewis (2009) shows that a John Gibbons recorded numerous mining claims in the Coromandel area in 1867 and 1868: five in the Karaka, and several others at Waikawau, Coromandel and Tararu. It is likely that one, or some, of the Karaka claims formed the basis for the Una Company, which would be consistent with the trend towards the amalgamation of small claims noted above. The mine was probably named for Gibbons's daughter, Isabel Una Gibbons, who was born on 23 December 1866, about 14 months before the opening of Gibbons's battery in the Karaka.

John Gibbons, having an engineering background, was intent on establishing the infrastructure required for a quartz-based goldfield. Wayte (1868: 94) provides a list of batteries operating in Thames by late 1868. These included:

UNO [probably Una] Quartz Crushing Mill (late Gibbons'): ten stampers, water power, and steam power for eight stampers when deficient of water. Commenced crushing in February 1868, crushed 500 tons of quartz since April 1868.

This battery was one of the first to be built on the bank of the Karaka Creek, south of Irishtown Road. Eventually, several were built in the section of the creek between Augustus and Mackay streets, including Bull's, Scanlan's, Vickery's and the Piako batteries.

The *Daily Southern Cross* of 14 March 1869 records the following:

I made a round of the crushing machines yesterday ... The first battery I visited was Gibbons' water wheel in the Karaka. This is a ten-stamp battery, but owing to the want of water in the creek, three stampers only were at work. There will, no doubt, be ample water as the season advances, but in the mean-time, Mr Gibbons is wisely about to add steam to his battery, to add fifteen stampers for the steam, and five more for the water power during the winter season.

(The opening of the Thames water race in January 1876 provided a reliable supplementary water supply from the Kauaeranga River for batteries along the Karaka Creek – see site record form T12/643.)

The *Daily Southern Cross* of 17 February 1869 provides a list of gold mining companies registered in the Thames area at that time. This includes

the Una GM & QC Co., registered 9 October 1868, with 400 shares, nominal capital of £4000 and paid-up capital of £2250. The legal owner is recorded as William F. Buckland. However, several *Daily Southern Cross* reports of bi-annual meetings of the Una GM & QC Co. (e.g. January 1870, July 1870, January 1871, February 1873) record the presence of John Gibbons in several roles, including Managing Director and Chairman. These confirm his role in the company over several years.

In 1869, pressure on the Auckland Provincial Government caused that body to fund and build several tramways and aerial ropeways for mining activities in the Thames area; mostly along the major creeks flowing out of the nearby foothills (Bullock 1964: 6-10). The *Daily Southern Cross* of 23 July 1869 noted that the Una Co. intended to develop its own tramway, with associated feeder chutes, to transport ore from its mines on the face of Una Hill to its battery alongside Karaka Creek. The tramway was obviously in operation by the end of 1869, as evidenced by the following article in the *Daily Southern Cross* on 21 December 1869:

The usual fortnightly retorting for the Una Company took place on Saturday last, and although during that time only 15 head of stampers had been working for the company— the remaining ten having been employed crushing for the Pride of the Karaka— the result was very favourable. The result of the retorting was 140 oz. of gold, or an average of about an ounce to the ton. Since the formation of the Una Company [it] has been well opened up, and advantageously worked, as is evidenced by the constant supply of stone that is daily and nightly sent down the company's shoot [chute] and tramway to the battery, the returns, though not very rich, have been continuous and satisfactory.

The fact that the Una GM & QC Co. owned its own infrastructure (Figures 2 and 3) was probably a factor in its profitability over a long period of time, without the benefits of a 'bonanza' strike to boost profits. This is supported by the *Evening Post* of 24 December 1869:

The whole of the expenses connected with the working, carriage and crushing are in the hands of the [Una] company, and are conducted in a systematic and economical manner...so that with a continuous yield of even an ounce to the ton...the company will soon be in a position to pay the shareholders handsome dividends.

It appears that the original Una GM & QC Co. ceased operations in 1878. After a gap of about ten years, parts of the original claim were taken up by new companies and private ventures, who mined the Una Hill area intermittently through to the 1940s. Those involved included Dives, Success, Occidental, New Una and Occidental-New Una United Companies, and a few independent miners or groups. Details are provided by Downey (1935: 136-9). The original

Una GM & QC Co. claim was a large one, covering most of the western side of the hill, and overlapping slightly over the main north-south ridge into Te Papa gully, to the east.

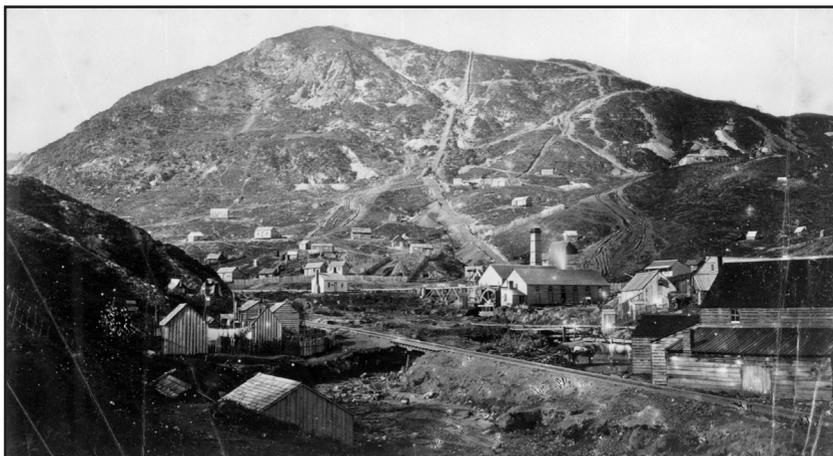


Figure 2. Una Hill c.1870, showing the Una battery in the foreground (with plume of steam) and the Una tramway and feeder chutes. The original Una GM & QC Co. claim covered most of the hillside visible, and a small area behind the ridge on the skyline (Alexander Turnbull Library F-65413-1/2).

The original Una Co. developed four main adits, three to the north (Karakā side) of the hill and No. 4 to the south (Hape) side. Apparently Nos. 1-3 were the most profitable; however, No 4 became the main focus for later ventures. According to Downey (1935: 138):

The work was not profitable, and in 1930 the company [Occidental-New Una United] ceased operations. The claims were then sold to a local syndicate, which has made attempts to raise capital to work them, but so far without success.

After 1930, at least two share prospectuses were issued in attempts to raise capital for mining of the Una claims: the apparently unsuccessful Thames Una Consolidated Gold Mining Company (Anon 1932) and Una Hill Consolidated Gold Mines Ltd (Anon 1935). The development plans included in both prospectuses centred on the old Una No. 4 adit, with a stated intention to develop a shaft and explore to a lower level. Apparently the 1935 prospectus did manage to raise some capital, as Williams and Williams (1994: 198-199) feature a copy of a paid-up share certificate and noted that 273 oz of gold had been produced by 1942.

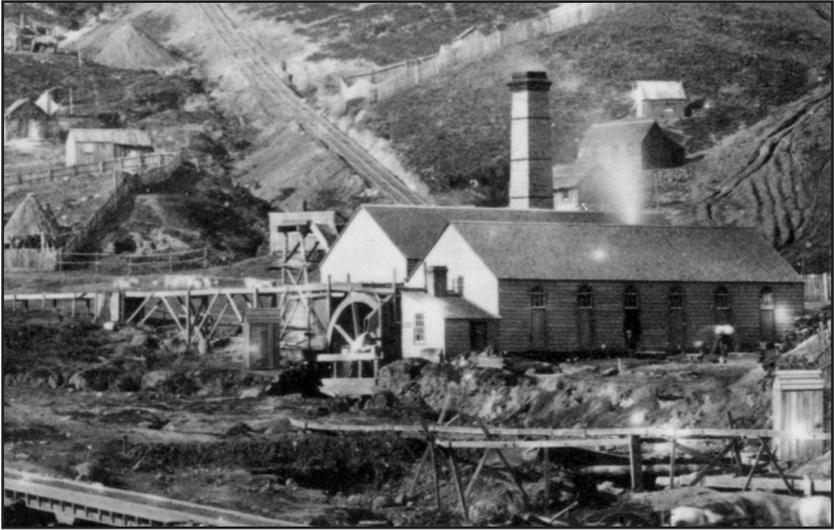


Figure 3. Close-up view of the Una battery (c.1870), from Figure 2. An over-shot water wheel is shown, and steam power was also employed (venting steam visible). The Una Co. tramway can be seen coming down an incline from Una Hill. The Karaka tramway, constructed by the Provincial Government in 1870, is visible in the bottom left corner of the photo.

Both prospectuses included a glowing report by prominent local mining engineer E. F. Adams. He concluded: “The mine is a sound gold-mining proposition with a prospect of quite brilliant development results.” A Mr John Caisley, former manager of the Occidental mine, stated that:

... the further development of this area is a thoroughly sound mining enterprise with excellent prospects of striking a rich bonanza in the course of opening up its reserves of other payable ore bodies. ... it is undoubtedly one of the best propositions on the Thames field.

(Anon 1935).

Despite the optimism, anecdotal evidence indicates the Una area had been abandoned by the mid-1940s, with a considerable amount of infrastructure left behind. There are indications that further investigations were conducted during the 1980s, but no new mining activity resulted (Malcolm Sowman, pers. comm.).

Rather prophetically, Adams noted (Anon 1932):

It must be admitted that judicious and energetic mining, associated with the element of luck, has, on this goldfield, proved to be the one and only discoverer of bonanza. Many eminent geologists have inspected the field ... [but] in no instance has a discovery been made on this field as a result of the forecast of a geologist.

The out-of-pocket 1935 shareholders would probably agree with him.

Survey of Una GM & QC Co. Sites

Historical sources, including photographs (particularly a high-resolution digital copy of Figure 2), maps and newspaper articles allowed the location of several key sites of the Una GM & QC Co.'s infrastructure to be identified.

A number of site visits were made over the period May-November 2009, which eventually led to the discovery of the battery site, tramway, chutes and associated infrastructure. Searching was difficult, due to heavy regrowth of bush on the lower slopes of the Una and thick bracken and gorse on the upper slopes, the results of a fire in Te Papa gully in the 1960s.

Una Battery Site

The location of Una the battery site was estimated from New Zealand Map 4531 (Figure 4). This shows the battery site at the northern end of Augustus Street, where it joins Karaka Road. Augustus Street was never built as one continuous stretch of road and the northern section is now part of St Patricks Row (and does not actually join Karaka Road). The battery site is probably at, or near, the current properties at 211 and 303 Karaka Road (Figure 5).

A brief search was conducted along the Karaka Stream and in the backyards in the vicinity of 211 and 303 Karaka Road. There is sufficient level ground, on two levels, to have supported a battery but there were no obvious remnants, such as building foundations. A few iron relics were found in the stream and around the banks, such as a large bolt and a few short lengths of pipe, but the age and origin of these is uncertain.

Una Tramway

Figure 6 shows the Una tramway. The staging area was found next to a prominent rock outcrop (which can be seen in Figure 6) approximately 80 m east of the Block 27 reservoir. There was a level area in front of the rock outcrop but the presence of beehives prevented a thorough search.

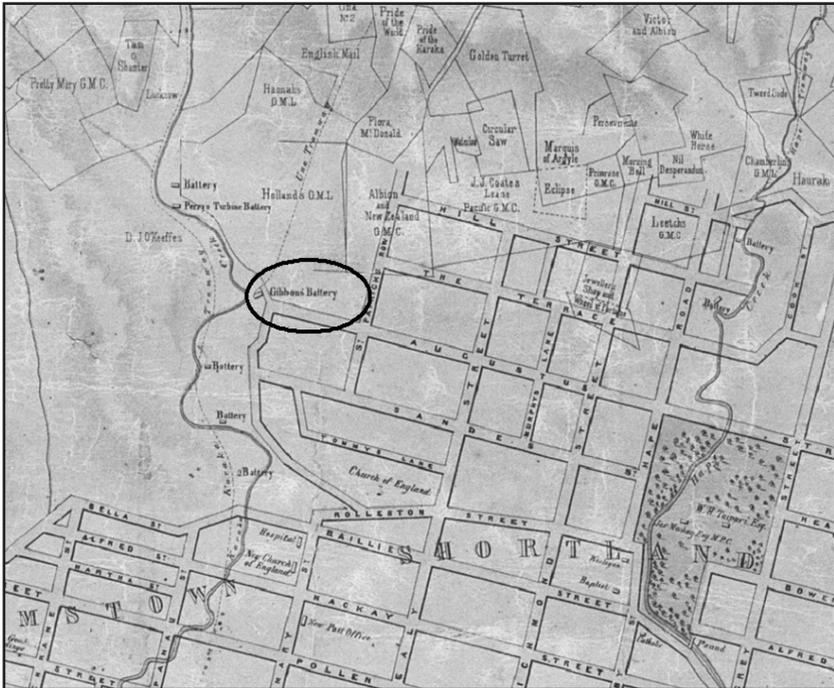


Figure 4. Part of NZ Map 4531 showing Gibbons's (later Una) battery site, at the intersection of Augustus Street (now St Patrick's Row) and Karaka Road. Auckland City Library.

The area of the tramway railhead was found by walking up a gully approximately 100 m south of the rock outcrop. The route of the tramway commences at a flat area near the entrance to No. 4 adit. It contours around the north side of the gully in a well-formed cutting to the edge of the ridge, heads off down an incline to the rock outcrop shown in Figure 6, then down another incline in a roughly straight line to the battery site. The route is no longer apparent below the Block 27 reservoir (built c.1920) on the outskirts of town. From here to the battery site, the route has been extensively modified by residential housing development.

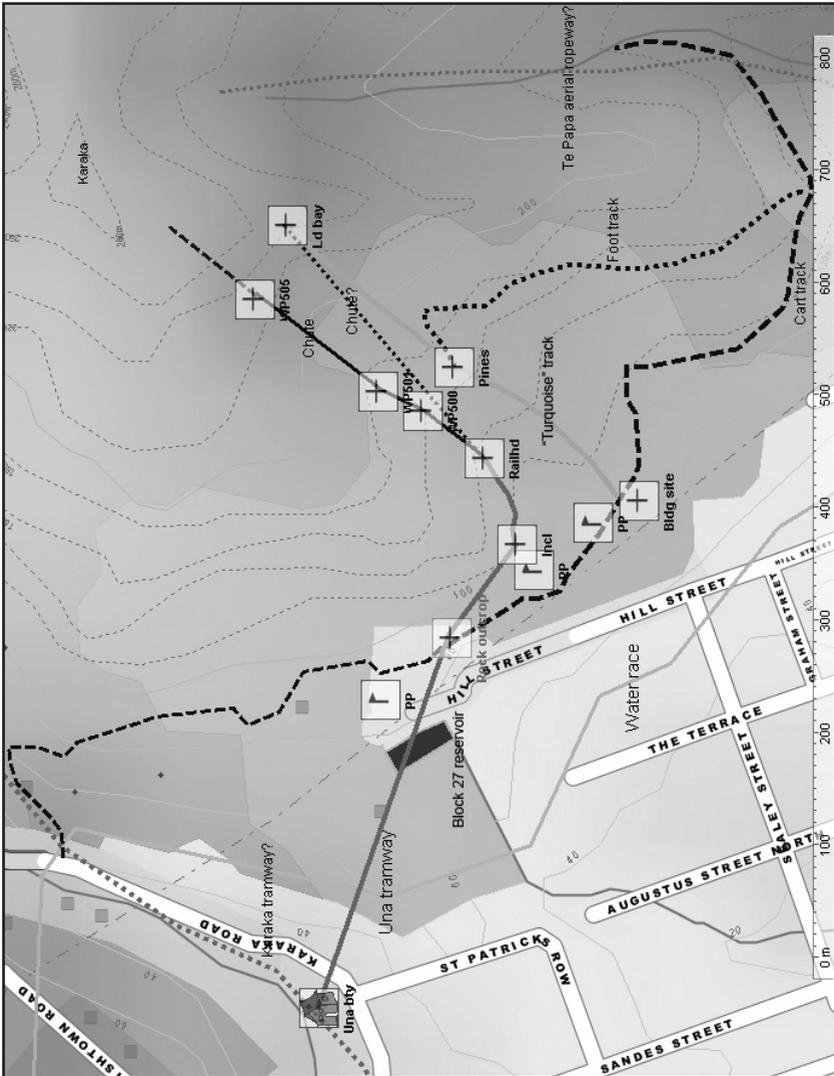


Figure 5. The Una GM & QC Co. area. The water race is the Thames water race. The positions of the Provincial Government-built Karaka tramway and Te Papa aerial ropeway are estimated. “PP” = high voltage transmission line poles. Tracks/routes were all plotted by GPS, apart from the lower tramway incline, which was plotted as a straight line between the known end points. No. 4 Adit and Chutes

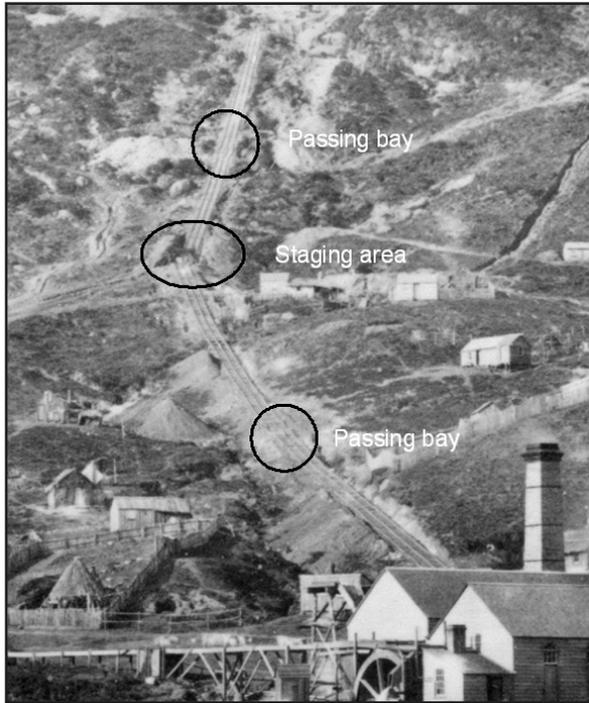


Figure 6. Close-up of the Una tramway, from Figure 2. At the staging area trucks were changed from one section of track to another.

No. 4 Adit and Chutes

At the railhead there is a roughly level area of approximately 50 x 50 m with an adit entrance (Figure 7). This is thought to be Una No. 4 adit, as its location is consistent with Figure 8 and other historical information. The area around the railhead also contains the remains of chutes which terminated at the railhead (Figure 9), and flat areas that may have been building sites. This was apparently a major industrial site for the original Una GM & QC Co.



Figure 7. Level area at the Una tramway railhead and a cutting around the edge of the ridge to the top of the incline (taken approx 50 m from the entrance to No. 4 adit).

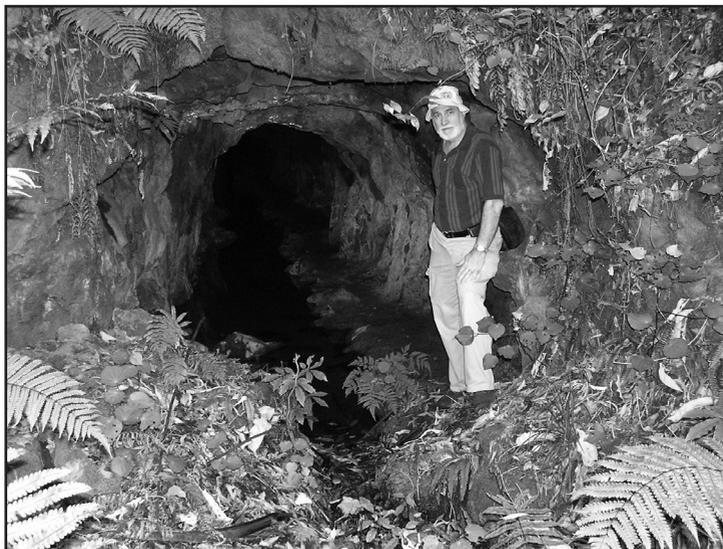


Figure 8. Entrance to the Una No. 4 adit. This appears large enough for a double rail track into/out of the mine.

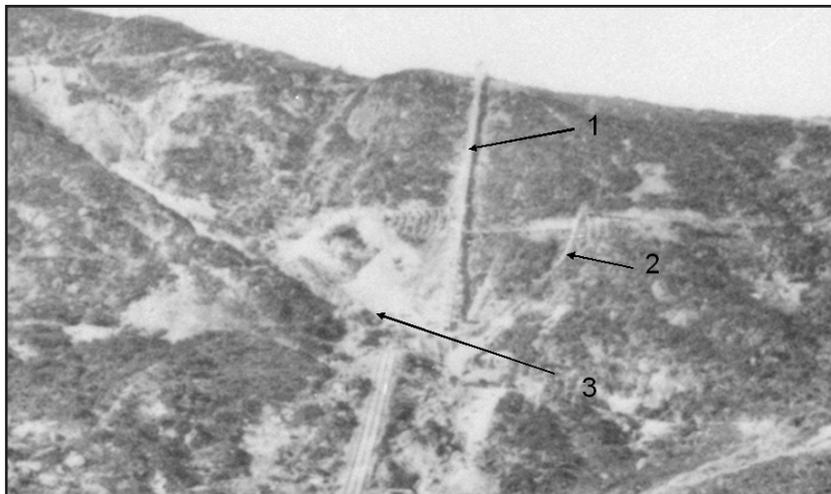


Figure 9. Close-up of the tramway railhead area, from Figure 2, showing chutes (1 and 2) and the approximate position of the No. 4 adit (3), which is obscured behind the ridge. Ramps/tracks leading to the chutes are also visible. It is possible that other chutes leading to the railhead are obscured behind the ridge on the left of the photograph.

The chute labelled '1' in Figure 9 appears to be the main chute, with other supplementary chutes feeding into it, or directly to the railhead. Chute 1 was found and followed from the No 4 adit area up to near the top of Una Hill, where thick scrub prevented any further progress. Numerous adits and ramps/tracks leading to the chute were found. There appeared to be a pattern, with level areas approximately every 100 m up the gully, each level area having several adits in the vicinity, and each having a level cutting, which led to the chute. Three of these level areas were found, before heavy bracken and gorse prevented any further vertical progress. Two of the levels are marked as WPs 500 and 501 on Figure 5. A waypoint was unable to be taken at the third level due to heavy bush canopy.

Local resident Malcolm Sowman (pers. comm.) indicated that he was aware of two or three adits immediately east of the ridge, around the area of the top of Chute 1 in Figure 9. This would explain why this chute goes right to the top of the hill. No sign of these adits was found, due to heavy bracken and gorse re-growth.

In Figure 9, Chute 2 appears to be fed from a ramp leading from an adit immediately above it. From above the third level (where heavy bracken and scrub was encountered) a small gully to the southeast led to a probable loading

bay at the top of the ‘Turquoise’ track (Figure 5). The gully may have been the route of the chute marked ‘2’, but that is uncertain. However, the probable loading bay would be in the right area to have been at the top of Chute 2 (Figure 10). WP 505 was obtained by following a level track running north from the loading bay until it met what was probably the main chute (Chute 1 in Figure 5).



Figure 10. Probable loading bay at the top of Chute 2.

Access Tracks and Building Site

During the course of numerous searches of the west face of Una Hill, several serendipitous finds were made that all appear to be related to early mining activity, including access tracks and a building site. There is a well-formed track, metalled in places and wide enough to take carts, that runs from Karaka Road around the western and southern faces of the Una and into Te Papa gully. This track is visible in Figures 2 and 6, immediately below the rocky outcrop/staging area, so it appears to date from at least c.1870 (it was recorded as a GPS track and is marked as a dashed black line on Figure 5). The section from the

southern end of Una Hill around to Te Papa gully is now quite overgrown, but was traversable until about 2006. This cart track was probably the main access route to Te Papa gully (where there were numerous prominent claims, including Lord Nelson, North Star and Star of Te Papa), at least until an aerial tramway was built from the top of the gully down to Hape Creek in 1870.

At the southern end of Una Hill, a foot track branches off the cart track, and cuts back across the western face of the hill (marked as a dotted black line on Figure 5), to a clump of large pines (marked as 'Pines' on Figure 5). This is a well-maintained track (that may follow an old access track) that is now used to gain access to the summit of Karaka/Una Hill. At the point marked 'Pines', it meets a well-formed track that runs down a prominent ridgeline from near the summit to the cart track, approximately 200 m south of the rock outcrop (Turquoise track, Figure 5). The Turquoise track includes cuttings and embankments and was initially thought to be the Una tramway, until GPS waypoints were taken and plotted on a map, when it was immediately apparent that it was in the wrong place and running in the wrong direction. It was probably a major access track to the top of the chute and to adits near the top of the hill, and may have been used for transporting quartz for crushing in dry weather before the tramway/chute system was built. The section of the Turquoise track above the Pines waypoint is now part of the main walking track to the summit.

Near where the Turquoise track meets the cart track, a probable building site was found, shown as 'Bldg site' on Figure 5 (note that the site was approximately 20 m east of the cart track and not to the west as drawn – there was apparently an error associated with the GPS track or waypoints). The building site includes four concrete bases, of the order of 1 m², but all of different shapes and having different patterns of mounting bolts, arranged in a roughly straight line approximately 40 m long, and oriented roughly north-south (Figure 11). At the northern-most foundation, there is a cut-out section of ground consistent with the corner of a building. Approximately 20 m south of the southern-most concrete base is the probable remains of a collapsed adit.

Scattered around the building site were the broken remains of two beer bottles, with dates 1938 and 1939 on the bases, and two largely intact bottles marked "This bottle is the property of the Dominion Compressed Yeast Co. Ltd." Google and Papers Past searches for this company revealed references spanning 1919-1940, so the yeast bottles are likely to be consistent with the age of the beer bottles. It was noted in a later visit that the two yeast bottles had been removed (or possibly hidden around the site).

The building site was visited by Drs Neville Ritchie and Caroline Phillips, who thought the site was associated with machinery of some sort, but probably was not a battery site. The bottles appear to indicate that the site is c.

1930s and may be part of attempts to reopen the old No. 4 adit area associated with the 1935 share float. The 1932 and 1935 prospectuses both mention the need for drainage and air supply for lower levels of the mine.



Figure 11. Concrete slab (probable machinery base) at building site.

Site Significance and Management

The site record form for T12/729 records the significance of the site as:

Local, medium. The Una Hill mines were an integral part of the Thames goldfield, being worked almost continuously from 1867 until the 1940s...the Hill was not a great place for companies; [however Una GM & QC Co. and Occidental Co.] yielded substantial returns.

Regardless of the lack of success of other companies in later years, the Una GM & QC Co. can be considered a good case study of a successful mining operation in the Thames Special Area, and it did have some notable characteristics:

- The claim area was relatively large and access was difficult, due to the steepness of the terrain (the average slope of the west face of Una Hill is 1:2.2).
- A reasonable average yield of just over 1 oz per ton of quartz was achieved (considered the minimum for a gold mining operation to be viable at that time). This was noteworthy because there was no rich ‘bonanza’ strike, such as at the Caledonian claim, and profitability was maintained over a considerable period of time (over 10 years for the original Una Co.).
- The long-term profitability of the Una GM & QC Co. is probably an indication of sound business strategy. In particular, the company elected to develop and operate its own infrastructure. This would have helped control operating costs and provided an additional source of income, as spare battery capacity could be used to process quartz from other claims.
- Innovative engineering practices, including the improvisation shown in the system of chutes and tramways used to transport ore from the mining sites to the battery. This not only overcame the steep terrain, but took advantage of it.

As most of the claim area, the tramway route and battery site are now in private ownership, and the land west of Hill Street has been extensively modified by the Block 27 reservoir and residential housing, there is probably little opportunity to manage or promote the site as an entity. However, an interpretation panel at the northern end of Hill Street may be appropriate.

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