

APPENDIX K, PART 2

Historic Heritage Assessment
(Clough & Associates)

OCEANA GOLD PROJECT MARTHA, WAIHI: PART 2 HISTORIC HERITAGE ASSESSMENT

Prepared for Oceana Gold (New Zealand) Ltd
Final May 2018



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Image on front cover: cropped 1942 aerial of the general Martha hill area (sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0: ref SN229 Crown 229 486 31)

INTRODUCTION

Project Background

Oceana Gold (New Zealand) Ltd (OGNZL) is proposing to extend the Waihi mine activities by developing additional resources. At current mining and processing rates the existing consented mineral resource for the Waihi operation will be exhausted in mid-2019. Ongoing exploration and mine optimisation has identified further mineral resources (Au and Ag) that can be economically recovered.

Project Martha comprises two key components:

- The Martha Phase 4 pit (MP4); and,
- The Martha Underground Project, including the Rex orebody.

The project schedule considers the mill capacity and aims to provide a steady supply of ore, with potential to add 0.7 Moz of profitable production over an 11-year period (ibid.). The components are linked and interact with each other to varying degrees, as follows:

- MP4 and Martha Underground will operate largely in parallel, with material mined from MP4 largely used for backfill for the underground mines. Tailings from processing ore from MP4 and Martha Underground will be deposited in the existing Tailing Storage Facilities TSF1A and TSF2 (Figure 2); and,

Material mined from MP4 and surplus to requirements for backfilling will be permanently stored in the Central and Eastern stockpiles, the existing Northern Stockpile located to the north of TSF2, and/or could be used to cap TSF1A and/or TSF2 (Figure 2).

The proposed extension to the Waihi mine activities has the potential to impact on historic heritage sites, which are recorded on the New Zealand Archaeological Association's (NZAA) site record database, scheduled in the Hauraki District Plan, listed by Heritage New Zealand, or identified during recent fieldwork and research for Project Martha. These historic heritage sites largely relate to the extensive gold mining landscape in Waihi and the settlement that has developed around this.

A heritage impact assessment was commissioned by OGNZL to establish whether the proposed work is likely to impact on historic heritage values. This report has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and for the purpose of an application for an Authority to modify archaeological sites under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

Due to the size and complexity of the project the heritage impact assessment has been divided into two parts:

- Part 1 historical and archaeological background – outlining the historical background research for the general area; and,
- Part 2 historic heritage assessment – identification of historic heritage places impacted by Project Martha; potential positive and adverse effects; and, mitigation of effects on historic heritage values within the project area.

Methodology

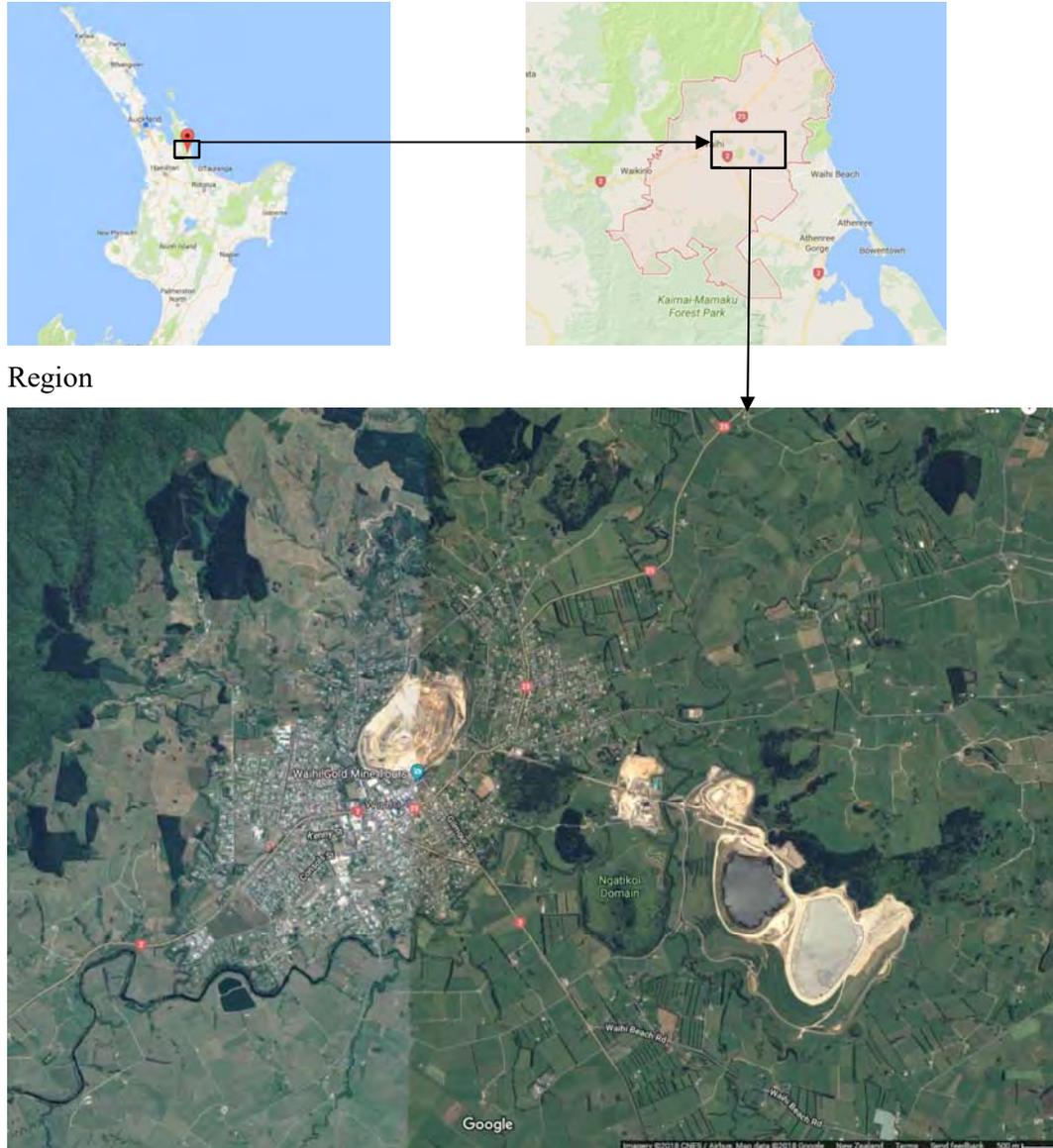
The NZAA site record database (ArchSite), the Hauraki District Plan schedule and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List were searched for information on sites recorded in the vicinity. Literature and archaeological reports relevant to the area were consulted. Plans, maps and photographs from collections such as the Sir George Grey Special Collections (Auckland Libraries), Auckland War Memorial Museum, Alexander Turnbull Library, Archives New Zealand, and Land Information New Zealand (LINZ) were searched for material relevant to the project area. Certificates of Title and Residence or Business Site Licenses were searched through LINZ and Archives New Zealand to establish ownership of potentially affected sites in the project area.

Visual inspections of the project area were conducted on a number of occasions. The main fieldwork occurred during June 2017, when a study list for further research was compiled based on the fieldwork results, and in November 2017, when more detailed aspects of the proposal were being developed.

The ground surface was examined for evidence of former mining activities in the vicinity of the proposed Phase 4 Pit. Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy.

A survey of historic buildings in close proximity to the existing Martha pit and proposed road alignments was also carried out. This was a combination of ‘windshield survey’ and on foot. Early cottages, villas or notable buildings were marked on plans of the area and these were then researched to establish their likely date and historical associations.

Aerial photographs dating to 1942 and historical plans were also examined (and compared to present day aerials) to establish past activities and features within the project area that may no longer be extant. Archaeological sites beneath buildings and sealed surfaces (such as in Waihi town) can rarely be identified prior to being exposed in the course of redevelopment work, and the approach to archaeological assessment in these more urban environments is therefore to identify historically recorded activities on the site, and assess the potential for archaeological evidence to have survived on the basis of later modifications to the site.



Region

General Locale

Figure 1. General location map showing the regional context for Project Martha (Google 2018)

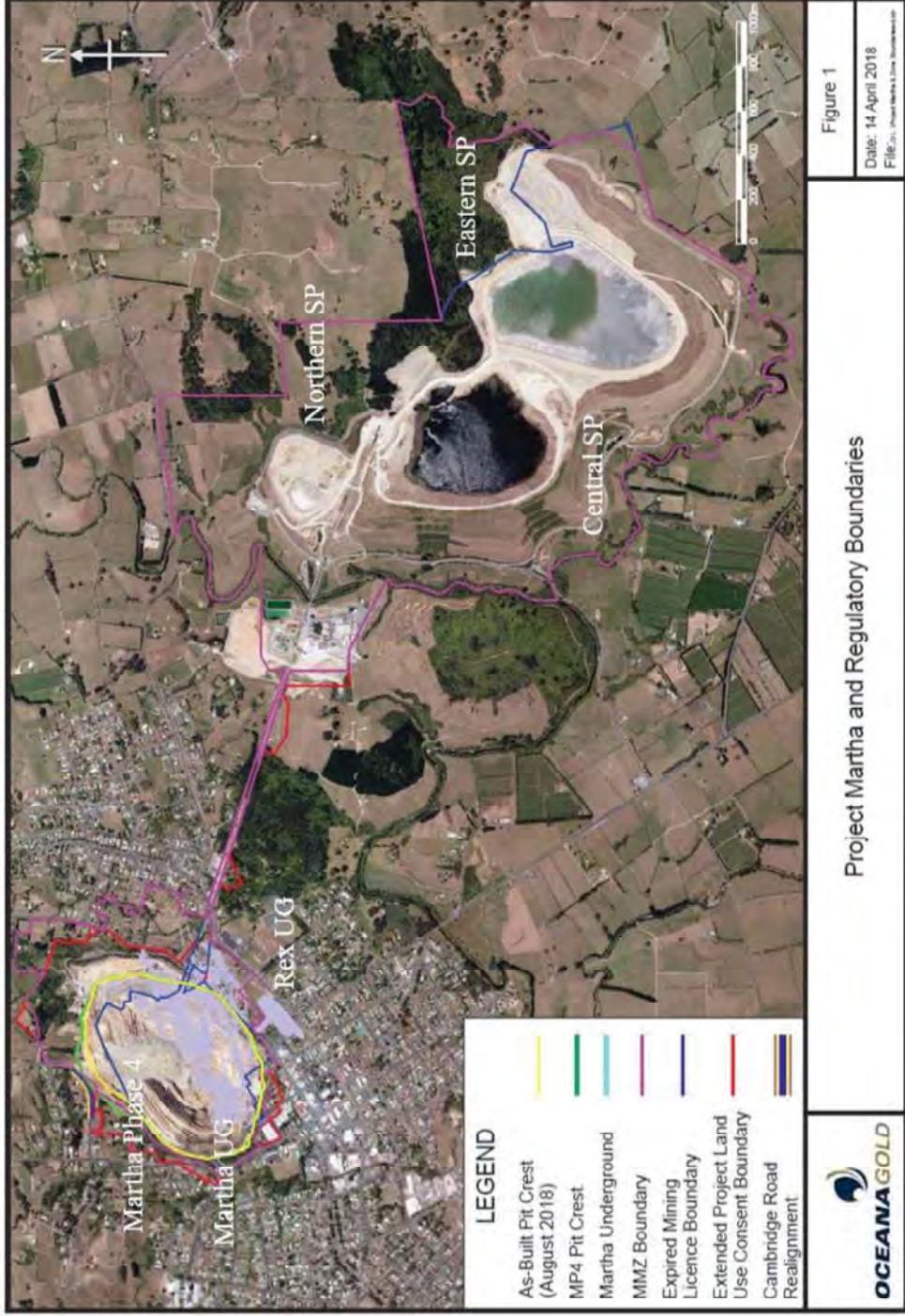


Figure 2. Project Martha and regulatory boundaries, showing Martha Phase 4, Martha Underground and Rex Underground

HISTORICAL RESEARCH RESULTS

General Area

The accompanying report *Oceana Gold Project Martha, Waihi: Part 1 Historical and Archaeological Background* provides the historical background for the general area (Brown, Burnett and Clough 2018). This includes research into key themes in the history and development of Waihi, such as early Maori settlement; gold mining; infrastructure (water races, tramways etc); early industry; the development of Waihi township and later history (relocation of heritage buildings, Akrad Radio Corporation Ltd, PYE (N.Z.) Ltd etc).

The information provided here is supplementary to the main body of information provided in the Part 1 report. The Martha and Rex underground components of the project will not affect any properties at the surface. As part of the Martha Phase 4 proposed works, an area of land adjacent to the existing pit rim will be affected by lateral expansion of the mine. Three houses will also be affected (two by road realignment and one by extended pit) and the property histories for these are summarised below.

12 Cambridge Road

The property at 12 Cambridge Road, Lot 1 DP 88853, is part of Section 279 (previously Section 101, Bulltown) BLK XV Ohinemuri SD (Figure 4; Figure 5). Presently the site is occupied by a villa and several outbuildings. The earliest licence for a residence site was granted to Daniel McLennan (also referred to as McClennan), of Waihi (a carpenter) in 1900.¹ The licence and application number was SA3C/51 & Application No. 140/20. It is possible that there is an earlier licence (given that the application files are not currently part of the Archives New Zealand digitised inventory), but no prior reference was listed on SA3C/51. Other application references may exist in one or more of several Waihi indexes and registers, including the Numerical Register of Applications, the Register of Applications by Hearing Date, and Indexes to Register of Applications. It is considered likely that the dwelling was constructed around the turn of the century and as a precautionary approach it should be treated as pre-1900 in date until further research is carried out. During the early 20th century the property was sold three times (up until 1920). The occupants included a local miner and battery hand. The full property history is summarised in Table 1. A 1942 aerial shows the dwelling and outbuildings in their present location (Figure 11).

¹ *Auckland Star*, 12 July 1900, p.2.

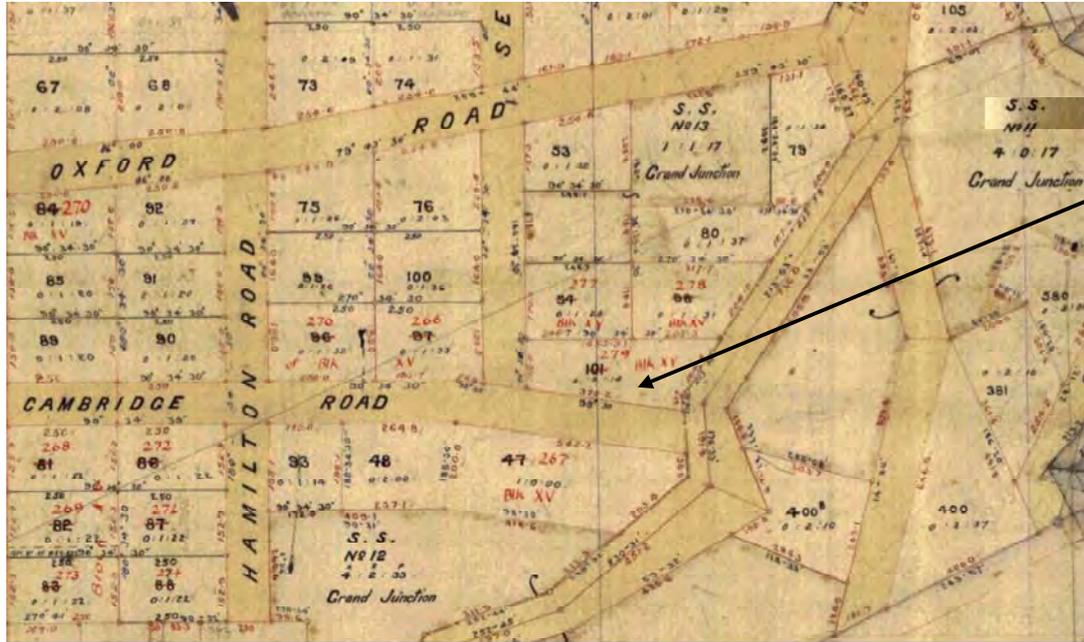


Figure 4. Plan showing the location of Section 279 - previously Section 101, Bulltown (source: SO 42543 1964 Quickmap)

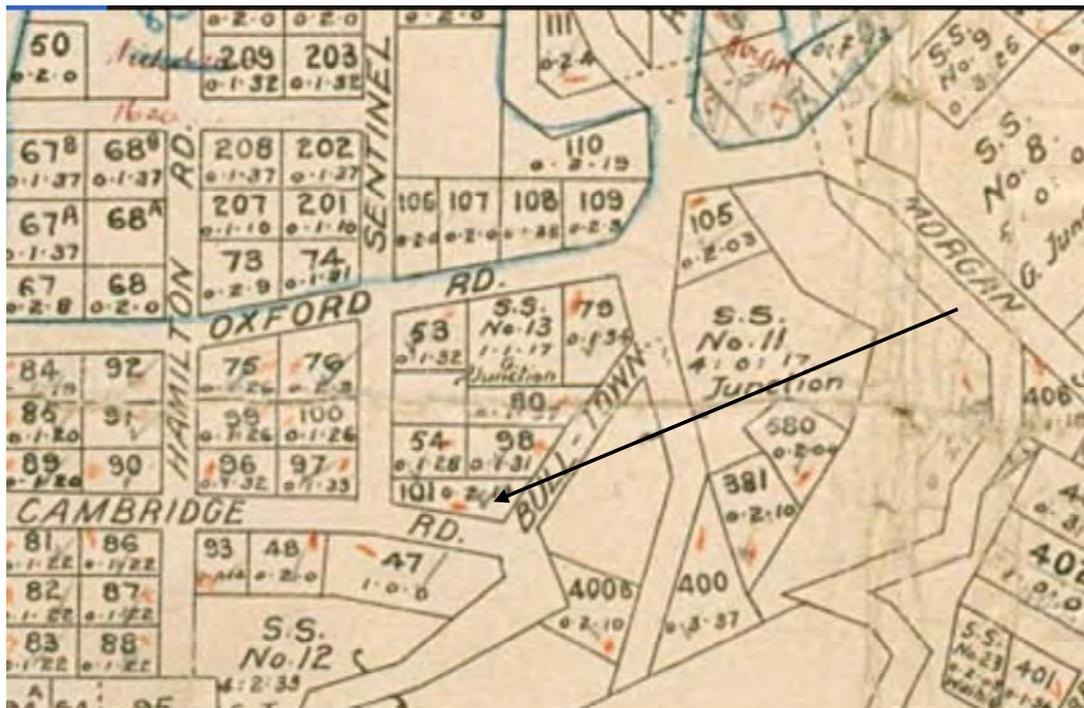


Figure 5. Plan showing Section 101, dated 1909 (source: Sir George Grey Special Collections, Auckland Libraries, NZ Map 3604)

Table 1. 12 Cambridge Road Property History Summary

Date	Event	Source
July 1900	Licence for a residence site for Section 101, Bulltown, granted to Daniel McLennan (also referred to as McClennan), of Waihi, carpenter	<i>Auckland Star</i> , 12 July 1900, p.2.
1904	Transfer of Section 101 from McLennan to Roderick Alexander McMillan of Waihi, miner	BAFV 13667 A540 6/1194, Archives New Zealand
1908	Transfer of Section 101 from McMillan to Mary Ellen , of Waihi	Same as above
18 June 1920	Licence for a residence site for Section 101, Town of Waihi, granted to Thomas Frederick Lawrence Monk of Waihi, a battery hand. Licence granted for a term of 42 years at 5 shillings per annum and issued at the Warden’s Court, Waihi	SA3C/51, LINZ Application No. 140/20

77 Bulltown Road

The property at 77 Bulltown Road, Waihi, Lot 2 DPS 28618 is subdivided from part of earlier Sections 142 and 278. The portion of Lot 2 DPS 28618 situated over the former Section 142 primarily covers the original Section 80. Section 142 itself was formed from earlier Sections 53, 79 and 80 and Special Site No. 13 (Grand Junction) (see Figure 6). A licence for a Residence Site for Section 80, Bulltown, Waihi, was granted to Robert Lockhart in 1900 (see Table 2). It is likely that this part of the property was therefore occupied at least by February 1900.

Section 278 was originally part of Section 98 Township of Waihi (Figure 7), and a licence for a Residence Site for this section was granted to Eliza Patty Jones in 1901 with a mortgage attached in 1902. Mortgages at this time were usually associated with a residence, which indicates there was a house constructed on the property at least by 1902, but the exact location is not determined. The earliest historical aerial located through research dates to 1942 (Figure 11), and indicates that the main dwelling which survives today at this address was not present, and was most likely built post-1942. However, a smaller structure visible in the 1942 aerial may be in the same location as the existing secondary building south of the main dwelling (Figure 11). It is possible that the original main residence constructed around the turn of the century has since been demolished or relocated elsewhere.

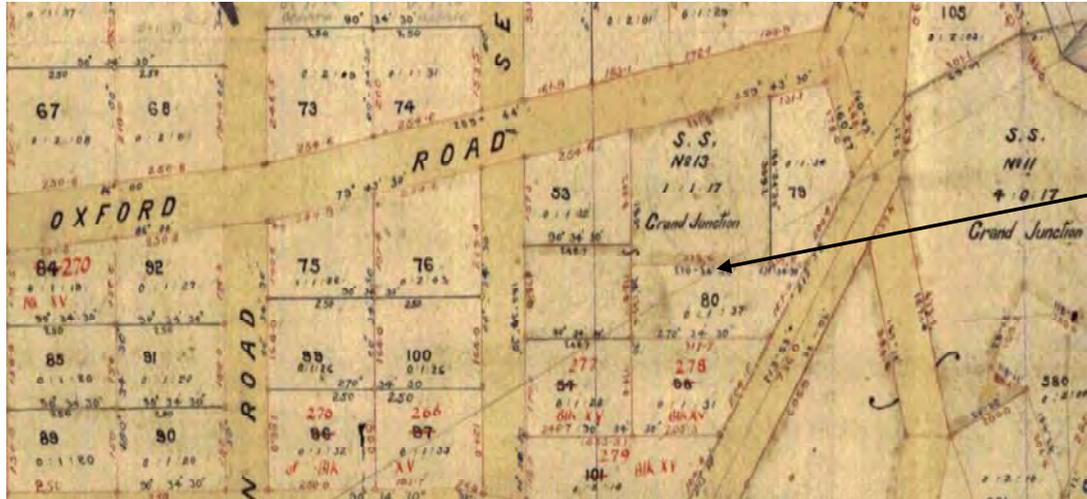


Figure 6. Plan of Waihi Township shows Sections 53, 79, 80 and 98 surveyed. Also Special Site No. 13 (Grand Junction). (Source: SO 42543 1964 Quickmap)

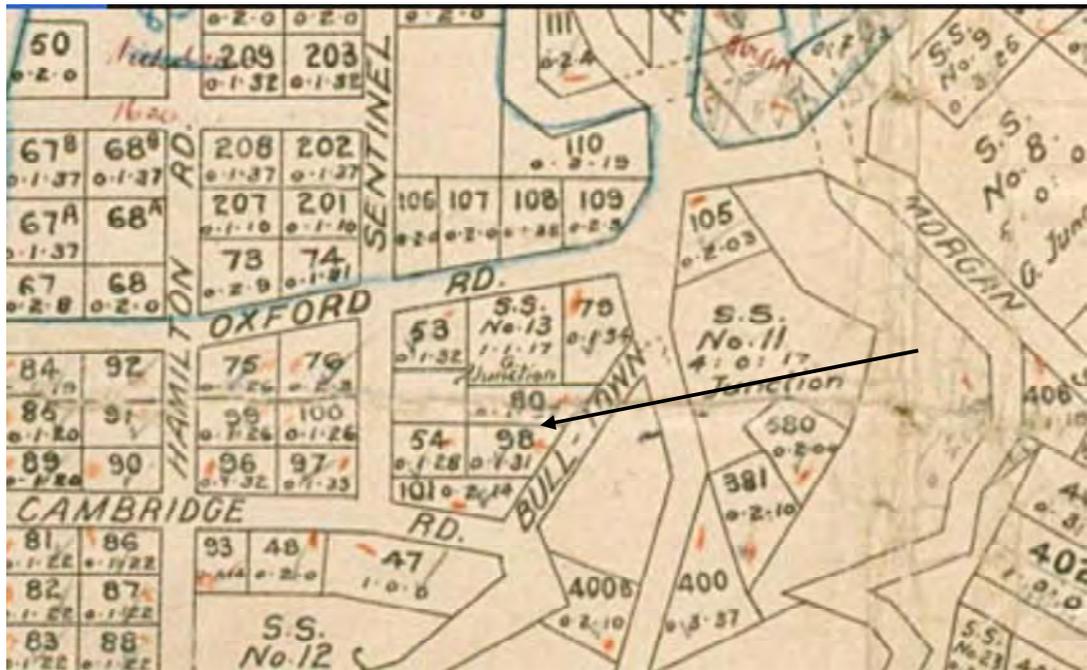


Figure 7. Plan showing Section 98 and 80, dated 1909 (source: Sir George Grey Special Collections, Auckland Libraries, NZ Map 3604)

Table 2. 77 Bulltown Road Property History Summary

Date	Event	Source
Original date unknown	Plan of Waihi Township shows Sections 53, 79, 80 and 98 surveyed. Also Special Site No. 13 (Grand Junction)	SO 42543, Quickmap
8 February 1900	The Warden's Court in Paeroa grants a licence for Section 80, Bulltown, Waihi, to Robert Lockhart.	<i>Auckland Star</i> , 8 February 1900, p.5.
31 January 1901	Licence for a Residence Site for Section 98 Township of Waihi granted to Eliza Patty Jones for a term of 42 years	BAFV A540 13667 1/100, Archives New Zealand, also see: <i>New Zealand Herald</i> , 1 February 1901, p.6
4 September 1902	Mortgage of Residence Site Section No. 98 Township of Waihi to Eliza Patty Jones	BAFV A540 13667 1/100, Archives New Zealand
1909	Plan of Waihi Township shows Sections 53, 79, 80 and 98 surveyed. Also Special Site No. 13 (Grand Junction)	Sir George Grey Special Collections, Auckland Libraries, NZ Map 3604
June 1933	Plan of Section 142 BLK XV Ohinemuri District	SO 27174, Quickmap
November 1937	Plan shows Section 142 with lessee A.H. Sparke identified and Section 98 with owner Leather identified	SO 29544, Quickmap
16 February 1938	Licence for Section 98 granted to Alice Leather for a term of 42 years	SA3C/20, LINZ

85 William Street

85 William Street is located near the existing Martha pit crest on Section 282 BLK XV Ohinemuri SD and the existing buildings appear to be modern (based on the visible external elevations). Section 282 amalgamated several original parcels including Section 580 over which the existing building is primarily sited (Figure 8). On 14 April 1900 the *Thames Star* reported that the Warden’s Court in Paeroa had awarded a residence site licence for Section 580, Waihi to John Gerrard.² This may be the same Section 580 which is now part of Section 282. Today there is no evidence for this earlier dwelling, indicating it may have been demolished or relocated.

The existing buildings are also possibly situated partly over Section 173 BLK XV Ohinemuri SD. According to Map SO 30700, dated 1940 (Figure 10), Section 173 was originally part of Ohinemuri Blocks 7 and 8 and was gazetted as Crown Land in 1884. Section 173 was originally Special Site No.11 for the Waihi Grand Junction Gold Company Ltd (Figure 9). It appears to have remained mining land until 1939, when it was leased to William Thomas Mancer, a farmer. It was possibly farmed until at least 1961 (see Table 3). Based on the evidence from the 1942 aerial the existing main dwelling was not present at this time, and therefore suggests post-1942 construction for the existing building (Figure 11).

Table 3. 85 William Street Property History Summary

Date	Event	Source
Original date unknown	Plan of Waihi Township shows Special Site No. 11 (Grand Junction) and Section 580	SO 42543, Quickmap
1908	Plan of Special Site No. 11, Waihi, surveyed for the Waihi Grand Junction G. Co. Ltd. Also shows Section 580	SO 14436, Quickmap
1909	Plan of Waihi Township shows Special Site No. 11 (Grand Junction) and Section 580	Sir George Grey Special Collections, Auckland Libraries, NZ Map 3604
1913	Plan of road to be closed shows Special Site No. 11 (Grand Junction) and Section 580 (property of Waihi Grand Junction G. Co. Ltd.)	SO 17181, Quickmap
7 September 1939	Occupation lease for Section 173 granted to William Thomas Mancer, a farmer	SA724/195, LINZ
12 May 1961	A licence for Section 173 is transferred to Maurice Andrew Roycroft, a postal officer	SA1789/44, LINZ

² *Thames Star*, 14 April 1900, p.1.

Date	Event	Source
1965	Certificate by the Commissioner of Crown Lands incorporating Section 282 within the licence for Section 173	SA1789/44, LINZ
24 August 1972	Certificate of Title issued to Maurice Andrew Roycroft for Sections 173 and 282	SA14C/1149, LINZ

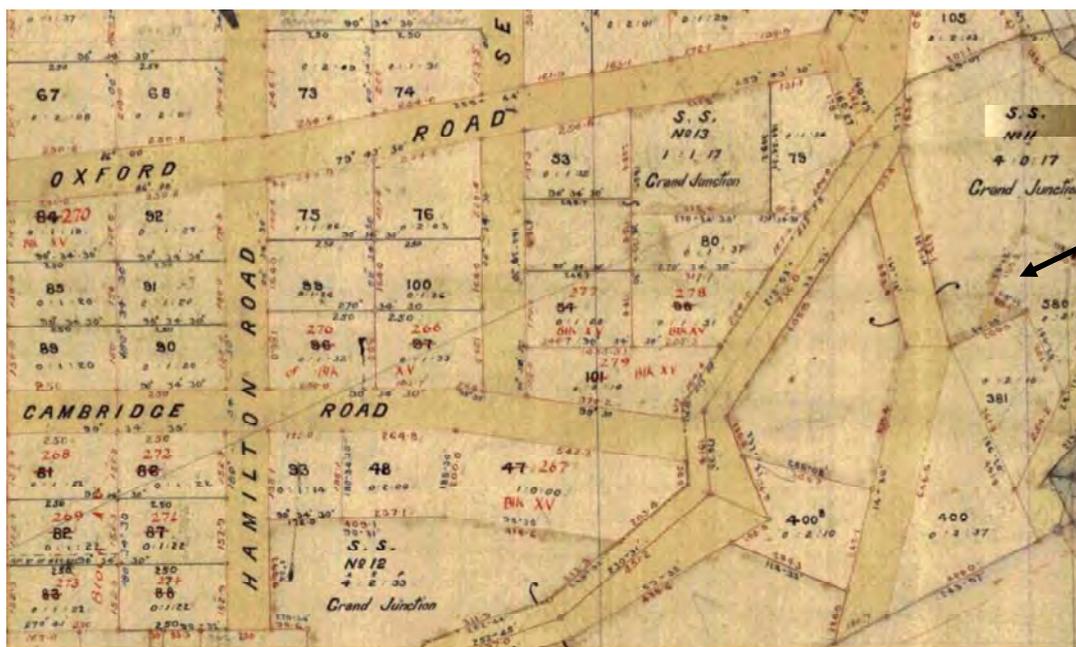


Figure 8. Plan of Waihi Township shows Sections 580 surveyed (source: SO 42543 1964 Quickmap)

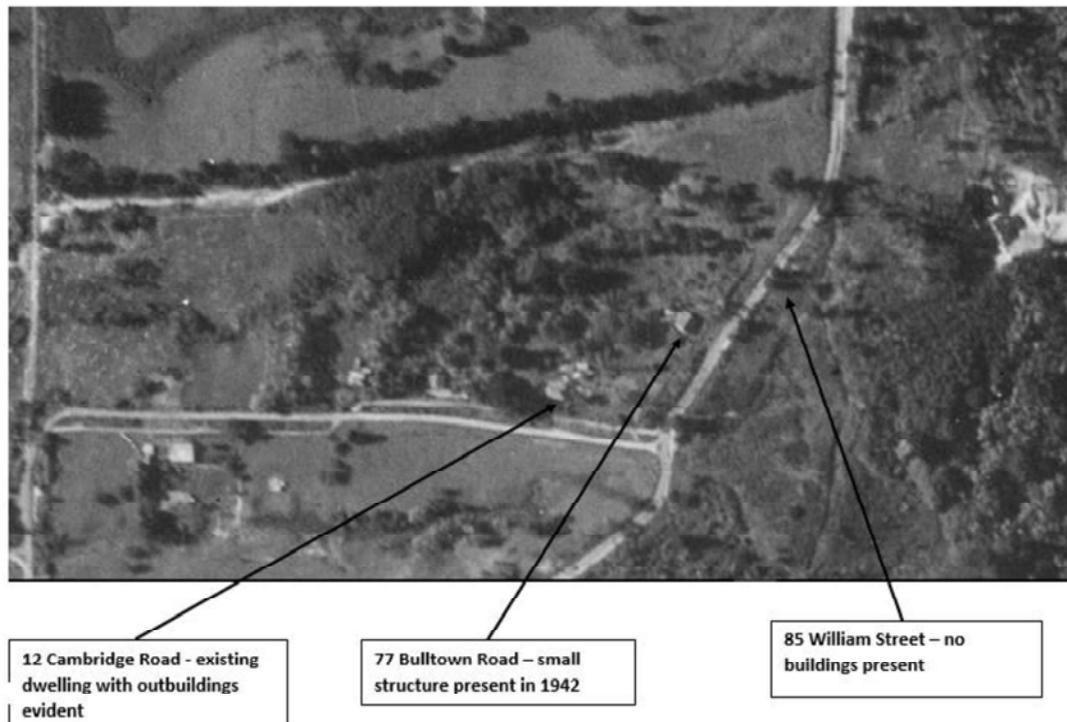


Figure 11. 1942 aerial of the area (aerial sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0: ref SN229 Crown 229 486 31)

Historical Road Alignments

An Index Plan of Waihi Township, dated 1899/1901, shows most roads formed in the area by these dates (Figure 12). This includes Cambridge Road and Bulltown Road, indicating that these were constructed around the turn of the century. The 1909 plan also shows two roads orientated north–south (Hamilton Road and Sentinel Road) running perpendicular to Cambridge Road and Oxford Road (Figure 13). Analysis of the 1942 aerial photograph shows that Cambridge Road is still on the original alignment. Hamilton and Sentinel Roads however, were not present by 1942 (Figure 14).

Bulltown Road was apparently named after the Bull family (Ohinemuri Regional History Journal No.23, June 1979), but no source is given for Cambridge Road. The part of Bulltown Road running northeast from Cambridge Road (affected by the road change) has stayed on the same alignment since the turn of the century. However, the section to the southwest also visible in 1942 is now gone, due to the expansion of Martha pit in 1999 (Figure 15).

An unnamed road was located west of 85 William Street and also present by 1899/1901. This appears to have been removed sometime in the early 1940s (Figure 10). Apparently there are some 28 street names no longer in usage since the early Borough maps and c.158 streets names still in use (www.ohinemuri.org.nz, accessed 09/02/2018).

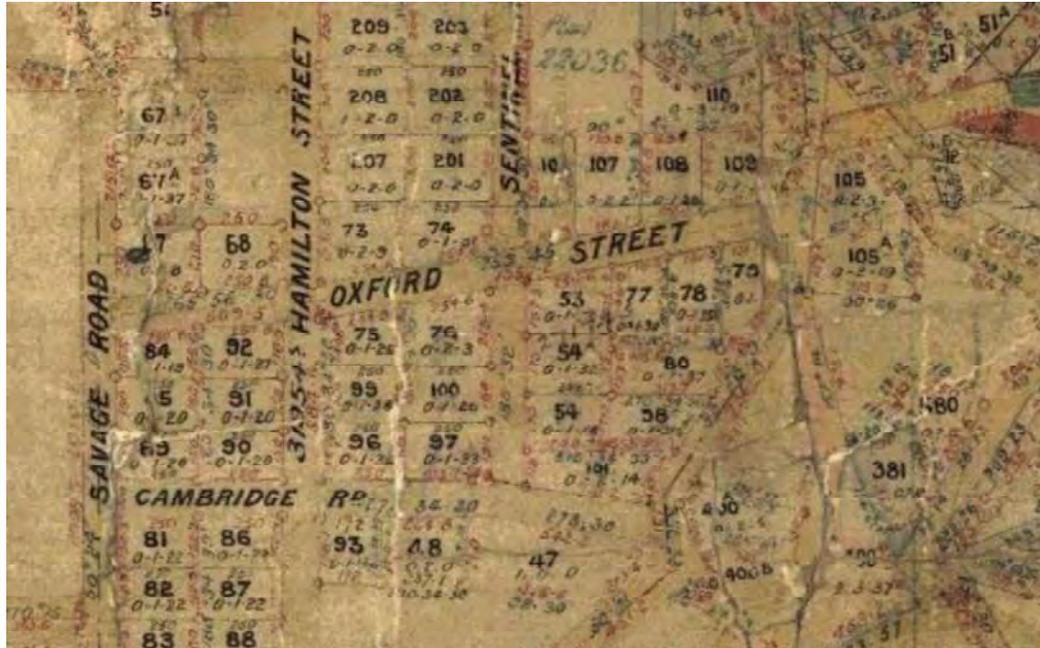


Figure 12. An Index Plan of Waihi Township which shows most roads formed by 1899/1901 (source: SO 26502)

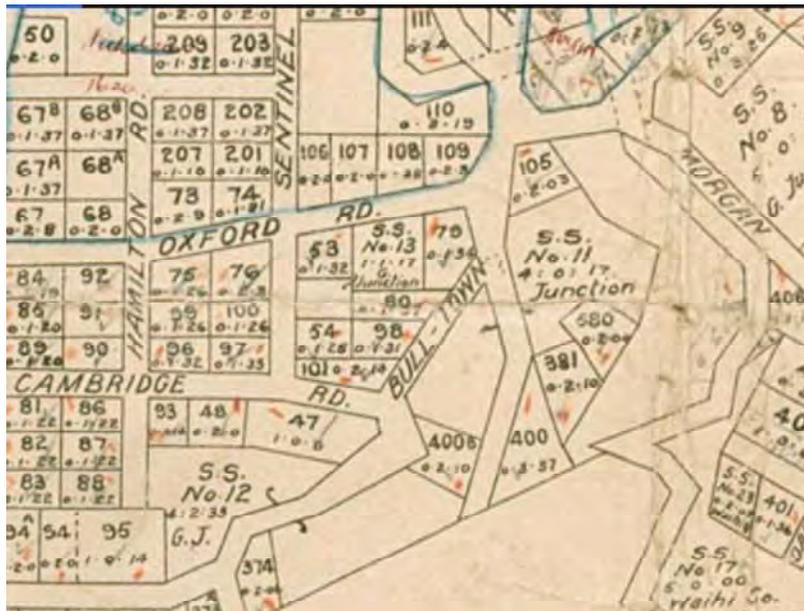


Figure 13. 1909 plan of the road layouts, showing Hamilton and Sentinel Roads, and the early alignment of Bulltown Road (source: Sir George Grey Special Collections, Auckland Libraries, NZ Map 3604)

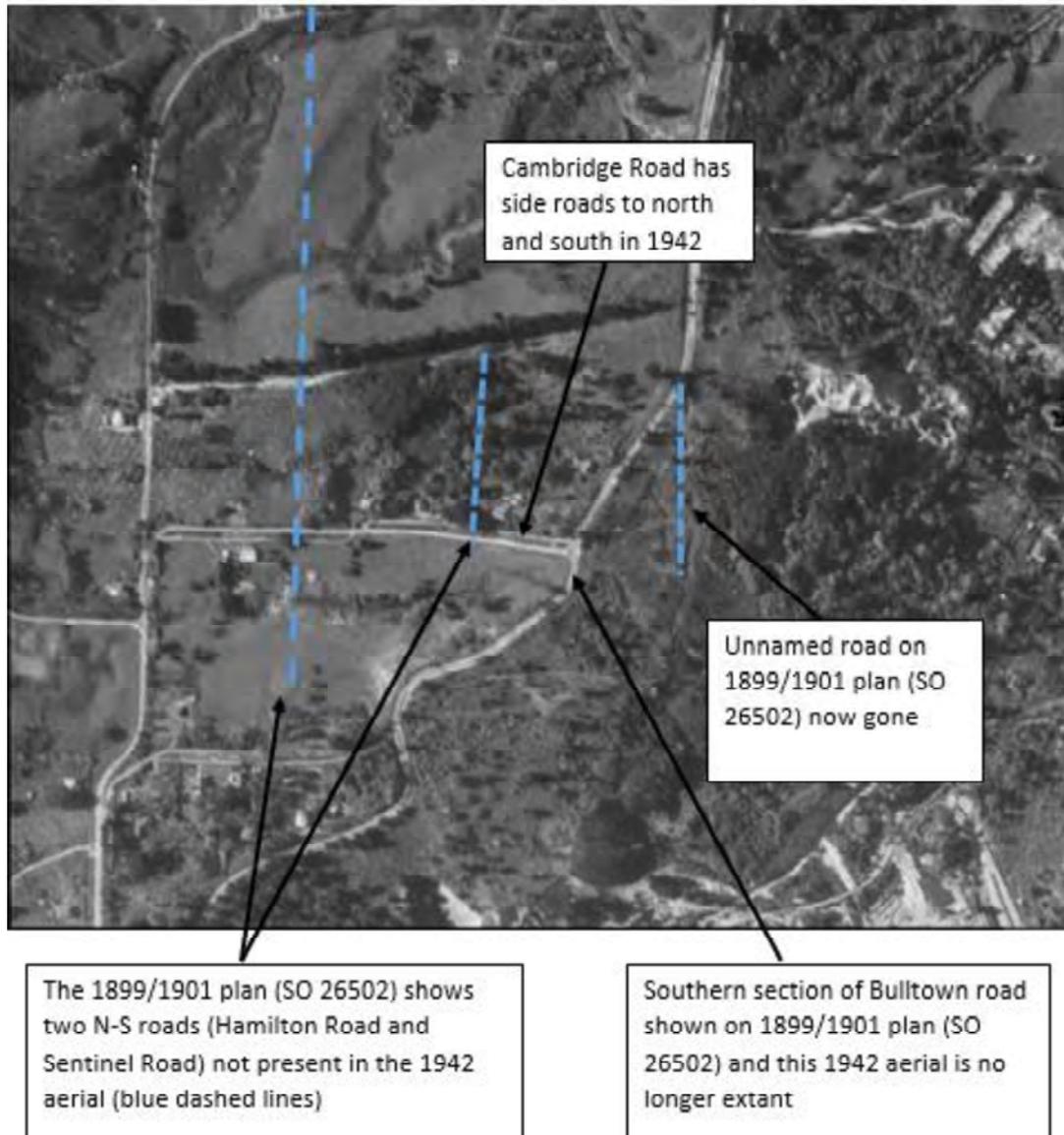


Figure 14. 1942 aerial of the area with changes in nearby roads shown since the turn of the century (aerial sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0: ref SN229 Crown 229 486 31)



Figure 15. Modern alignment of Bulltown Road and Cambridge Road (source: Googlemaps accessed 2018)

Martha Pit Underground Workings

A summary of historical mining at the Martha Mine is provided in the accompanying report *Oceana Gold Project Martha, Waihi: Part 1 Historical and Archaeological Background* (Brown, Burnett and Clough 2018).

Early on ore was largely mined from an open cut on top of the Martha Hill, with an adit drive beneath the open cut, which was extended along the Martha reef (McAra 1988: 171). A considerable length of exploratory driving along the reef had been carried out by 1900 (ibid.). In these early days the underground workings themselves consisted of several levels – first the Intermediate level was opened up, then the Smithy level and then the lower Adit level (McAra 1988:79). The early drives were generally timbered, measuring 6½ feet high and 4–5 feet wide or 7 by 5 feet if unsupported (McAra 1988: 59). The open face was worked with hand-steel (or hand hammer drill) and later a ‘jumper bar’ and auger-drill. Explosives used were dynamite, safety-fuse and detonators (ibid.: 60). At first hand-trucks were used for mining and then horse-drawn trucks were employed (see Figure 16).

Only a relatively small part of ore in the Waihi Mine was accessible from surface adits or horizontal tunnels so shaft-sinking was a very important aspect of mining and one requiring considerable skill and highly developed equipment for pumping, winding and construction (McAra1988: 173). No. 1, 2 and 3 shafts had been sunk by 1900, with various cross cuts or drives. No. 4 and 5 shafts were sunk in 1900. Shaft-sinking was continuous until 1933, when the bottom level had been established at No. 4 shaft 1880 feet from the surface. This bottom level was known as No.15 level (sometimes referred to as No. 16 level) (see Figure 17).

The levels were driven from various shafts in the upper workings at intervals of 80 to a 110 feet apart vertically, and in the lower workings about 150 feet apart (McAra 1988: 190).

As described above, the drives or tunnels were timbered, and done by hand-drilling until the first axial-water-fed hammer-drills were available in about 1910 (McAra1988: 185). In driving the levels, provision was usually made for risers and winzes to be constructed for access, ventilation and transfer of filling to the stopes (Figure 18).

The following supplementary information is based on Oceana Gold company records on the historical workings at Martha Hill, provided by Charlotte Buxton-Blue, Resource Development Geologist, Oceana Gold:

Rex

The Rex ore lode was discovered in on level 7 in 1906.

Royal

Royal ore lode was discovered on level 4 in 1900.

Edward

The Edward lode was discovered on Level 7 in 1905.

Empire

The Empire Lode system was discovered in 1899 on level 4 in the southeast cross-cut from the No. 2 Shaft. The Empire lode was developed along during 1899 and stoping on level 4 and above level commenced in 1900.

Pre-1900 Mining

The 1899 mine records report mining from level 4 and above on main lodes Martha and Welcome; and structures that sit between Welcome and Martha that are Magazine, Regina and Victoria. McAra describes the mining activity of Grand Junction Mining company mostly focussed on sinking Shafts in particular the Grand Junction No.1 shaft and a cross-cut at 500 level (Level 2) from the No 1. Shaft to Martha.

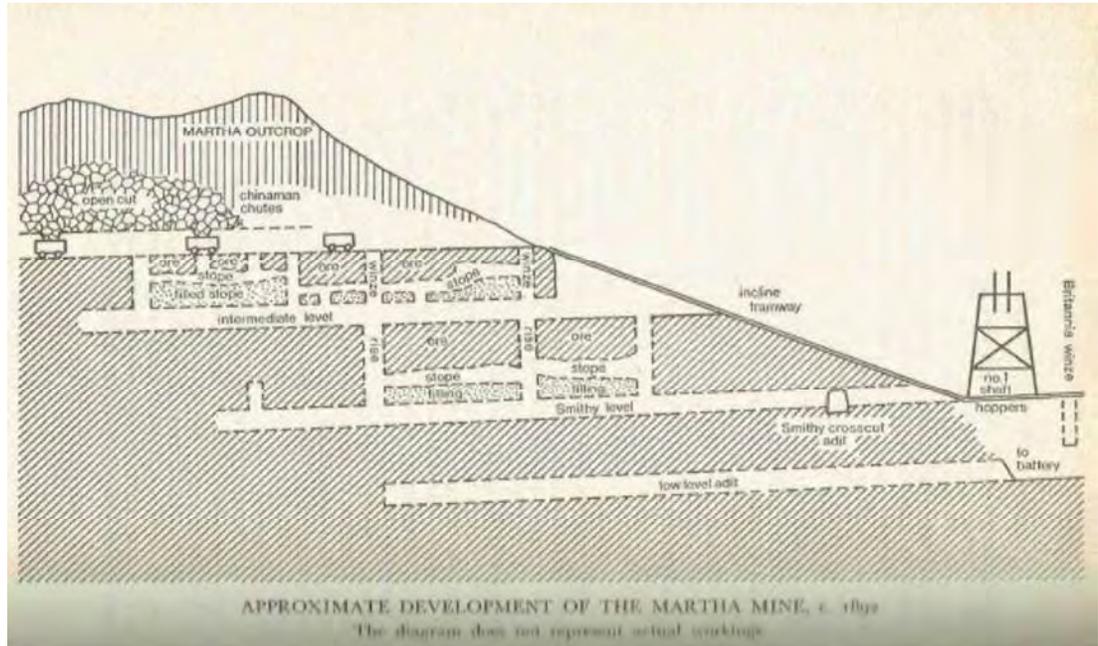


Figure 16. Approximate development of the Martha mine c. 1892 (source: McAra 1988:84)

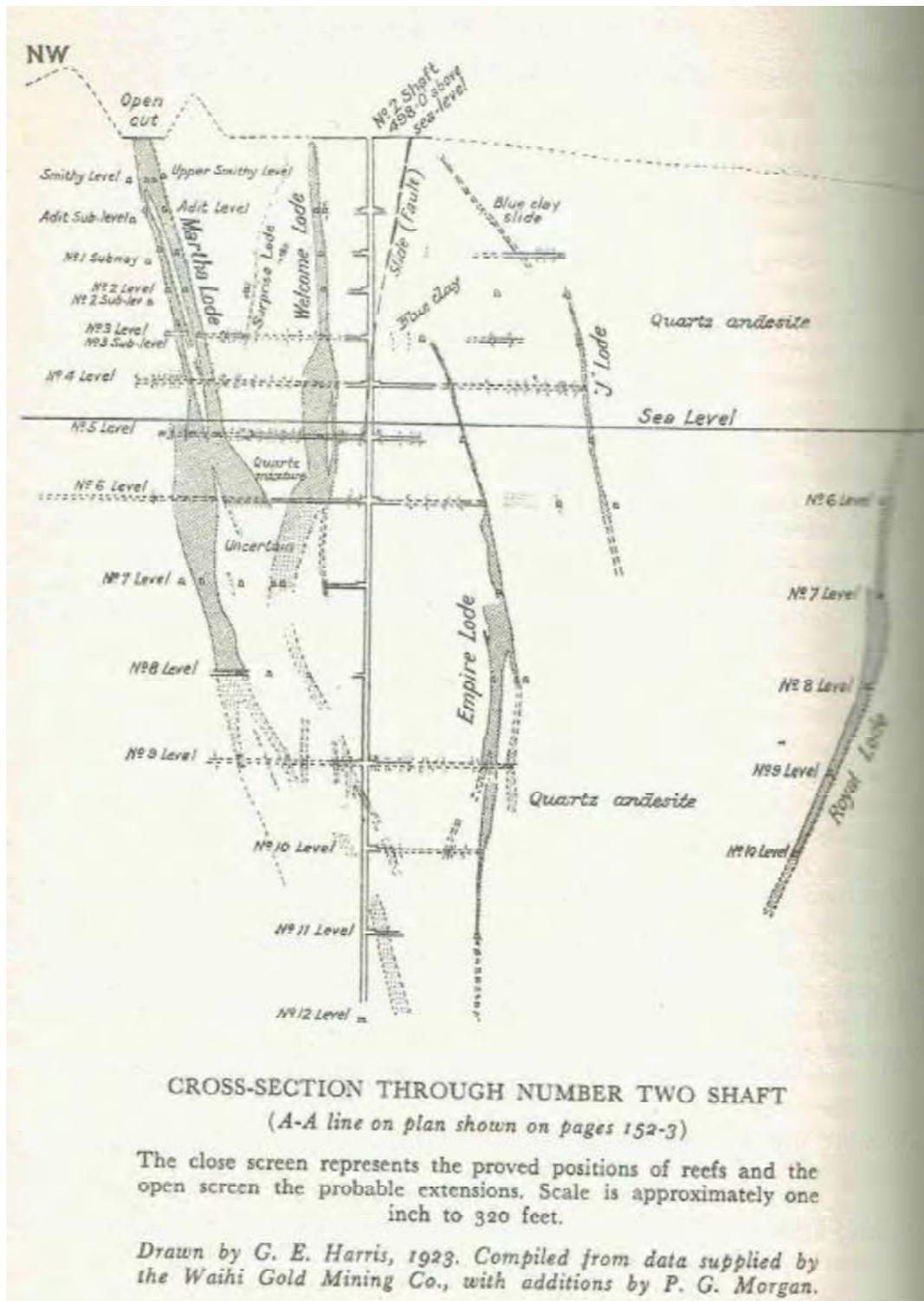


Figure 17. Cross-section through number two shaft (source: McAra 1988: 164)

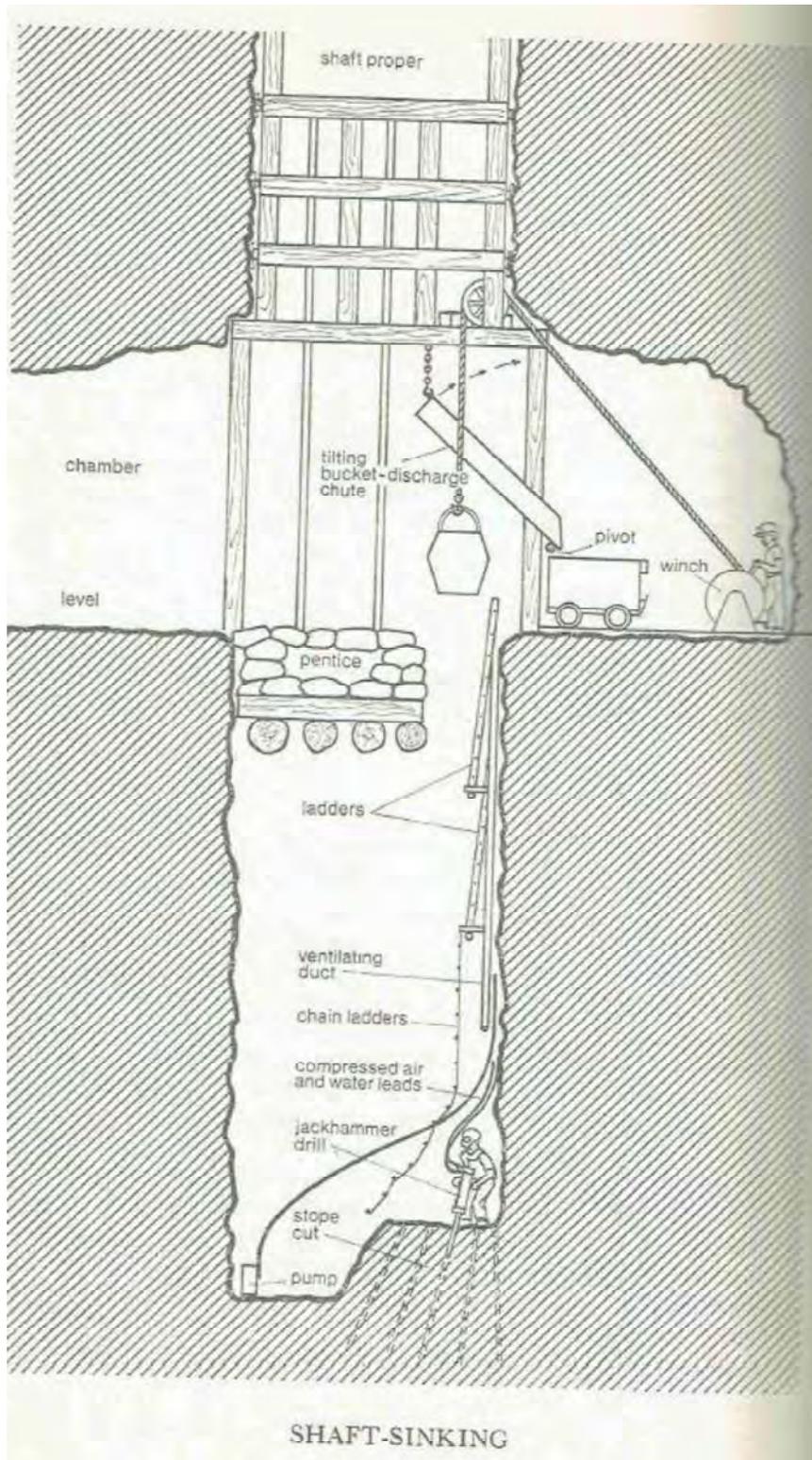


Figure 18. The shaft-sinking followed conventional practice, with all shafts being vertical and rectangular and using a general process as shown here (source: McAra 1988: 174)

RECORDED HISTORIC HERITAGE

There are no scheduled heritage features, items or areas in the Hauraki District Plan (2014) within the project area. The closest scheduled historic heritage site is the Category B PYE Building (DP ref 091) to the south at Moresby Avenue (Figure 19), but which is not within close proximity to the proposed mining activities.

There are no places listed on the New Zealand Heritage List/Rārangī Kōrero within the project area (Figure 20). The Martha Mine No.5 Pumphouse is the closest Heritage NZ listed property (NZ Heritage List ref. 134, Category 1), on the other side of the existing Martha pit, and is not affected by the proposed mining activities.

Previously there had been no archaeological sites recorded within the project area (Figure 21). To the east of Bulltown Road, a small portion of the Grand Junction Mine Quarry is recorded as an archaeological site (T13/315). This is described as a group of pits and tunnels in the northeast corner of the Martha Pit, which is not within the project area. Also to the east of Bulltown Road, the routes of the historical high level water race and the Bulltown timber trackway are noted on the GIS viewer of the Ohinemuri regional history website (www.ohinemuri.org.nz; Figure 22).

As a result of this assessment the possible pre-1900 villa at 12 Cambridge Road has been recorded as an archaeological site on the NZAA ArchSite database as T13/928 (see Appendix 1). The below ground Martha Pit historical workings comprise an extensive complex of 19th and early 20th century drives, shafts, tailings and network of tunnels (Figure 23). The historical Martha Mine generally occupied the area between Bulltown Road in the north and Moresby Ave in the south, with Grey Street and Seddon Street to the east and Savage Road to the west. These historical workings have now been added to the NZAA ArchSite database as archaeological site T13/926 (see Appendix 1).

Table 4 summarises the recorded historic heritage sites within the project area. 12 Cambridge Road (T13/928) and the relict underground features of the Martha Mine (T13/926) are the only historic heritage sites within the project area.

In the vicinity of the Martha Pit, but unaffected by the proposal, are the following Hauraki District Plan scheduled heritage items, places on the New Zealand Heritage List/Rārangī Kōrero and recorded archaeological sites:

- Martha Mine No5. Pumphouse relocated in 2007 (recorded archaeological site T13/301, Heritage NZ listed 134, Cat 1 and scheduled HDP 001, Cat A);
- Waihi Poppet Head replica at Junction with Gilmour Road and Seddon Street (HDP 449, Cat C);
- Grand Junction boiler feeder dam (HDP 255, Cat C);
- Grand Junction mine refinery building and strongroom (T13/314; HDP 074, Cat B), as well as truck and girth gear;
- Grand Junction powerhouse and boiler house (T13/313; HDP 074, Cat B);
- 3 Haszard Street scheduled Miner's cottage (former) (HDP 123, Cat C);
- 1 Martha Street PYE factory (used as a laboratory for PYE radios and television) and currently the OGNZL Waihi office (HDP 091, Cat B);

- Waihi Gold Mining Company Tramways Martha to Victoria Battery ore tramway (HDP 264, Cat C).
- Remains of relocated concrete transformer house fragment opposite the Rugby club on the Rim walkway (T13/302); and,
- Grand Junction Mine Quarry (T13/315).

There have been a number of previous archaeological surveys of the general area. The accompanying report *Oceana Gold Project Martha, Waihi: Part 1 Historical and Archaeological Background* provides a detailed summary of archaeological investigations within the project area and nearby (Brown, Burnett and Clough 2018).

It is noted that despite previous research in the general area there is little recorded by way of pre-European archaeological sites in the vicinity of Cambridge Road, Bulltown Road and William Street. This could be because of gaps in knowledge, or more likely that such sites have already been destroyed by the European mining industry in Waihi, which has now removed most of Martha (Pukewa) Hill.

Table 4. Historic heritage sites recorded within the proposed works and nearby (100m). Sites within the Project Martha are highlighted grey

NZAA Site No.	District Plan ref	HNZ List ref	Site Type	Location	NZTM Easting	NZTM Northing	Condition
T13/928	N/A	N/A	Possible pre-1900 Villa	12 Cambridge Rd	1851571	5858952	Moderate*
T13/926	N/A	N/A	Martha Pit historical 19th century workings	Martha Pit	1851632	5858541	Unknown

*viewed from street only

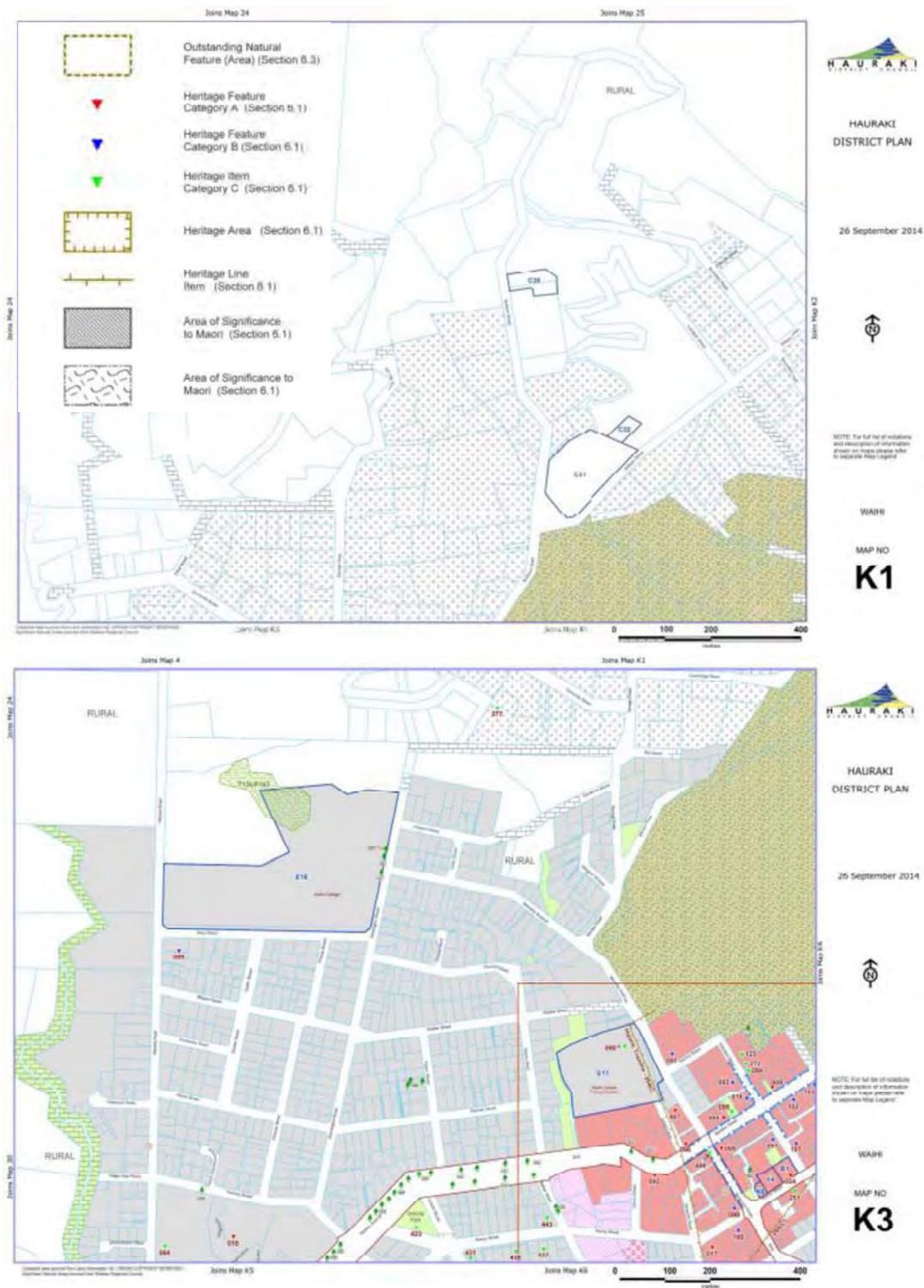


Figure 19. Historic heritage sites recorded in the Hauraki District Plan (source: HDP 2014)

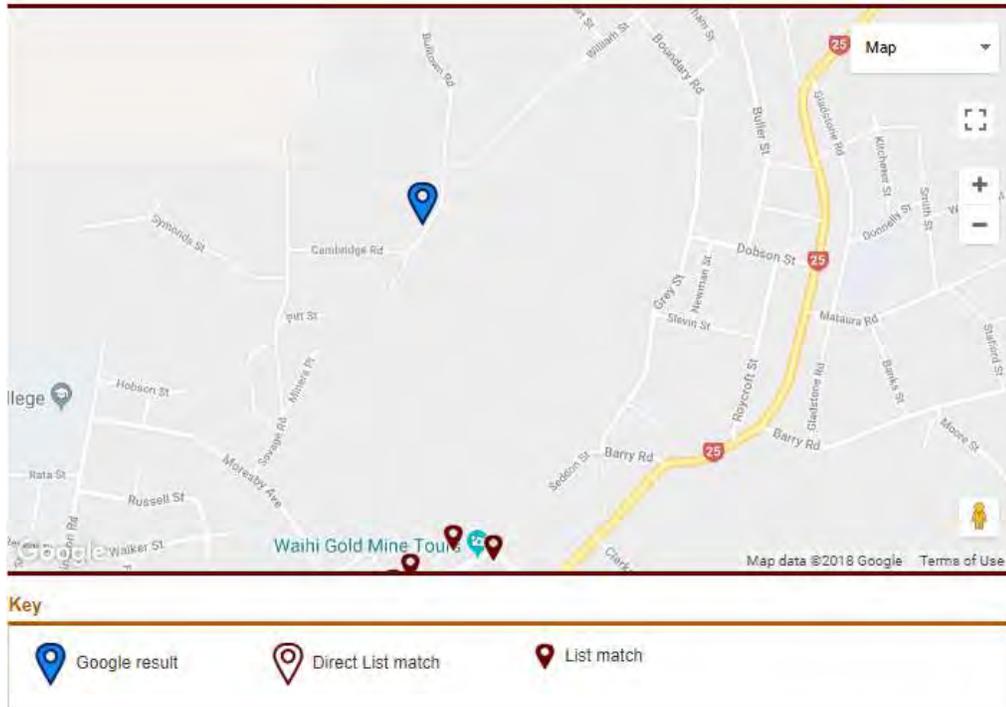


Figure 20. Historic heritage sites included in the New Zealand Heritage List/Rārangi Kōrero in the vicinity of the project area (accessed February 2018)

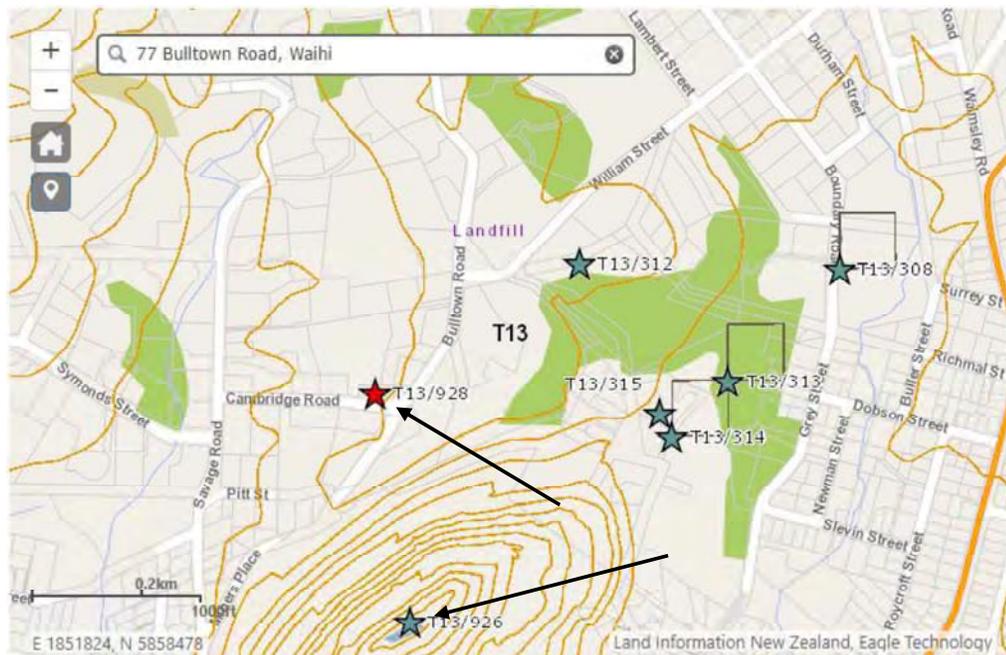


Figure 21. Archaeological sites recorded on the NZAA database (source: NZAA ArchSite 2017)



Figure 22. Map showing historical shaft locations, tramways and water races within the Martha Pit (underground) project area (source: <http://www.ohinemuri.org.nz/gis>)

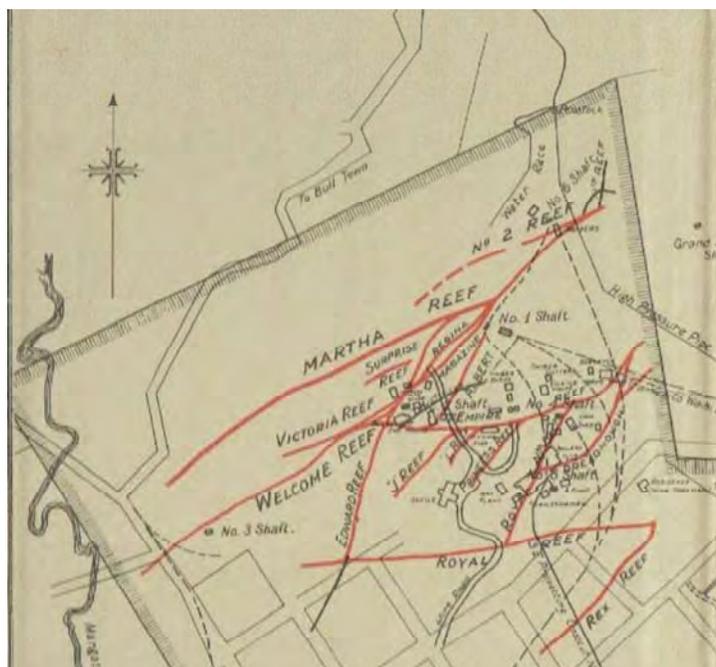


Figure 23. 1924 plan showing historical mineshafts, reefs and other features associated with the Martha Mine (source: McAra 1988)

INVESTIGATION RESULTS

A number of visual site inspections of the Project Martha area were carried out by Rod Clough and Adina Brown in June and November 2017. This was generally in good weather conditions and visibility. The project area was inspected for historical buildings, historic heritage structures/ features and visible signs of archaeology. The details for this are set out below. The results of the site visit, showing key features (archaeological sites T13/928 and T13/926 recorded as part of this assessment) in relation to the proposed Martha Phase 4 pit (MP4) and new road alignment is summarised in Figure 24.



Figure 24. Aerial showing archaeological sites T13/928 and T13/926 recorded as part of this assessment in relation to the proposed Martha Phase 4 pit component. An indicative road realignment is shown but refer to Figure 3 for a more accurate plan

Project Martha MP4 Area

Today the Martha Mine is an open pit; however, historically most of the mining was underground. Figure 25 is a 1942 aerial photograph showing how the old Martha and Grand Junction Mines looked prior to the large-scale open pit mining methods deployed from the late 1980s. Today the mine is a deep depression over 900m by 600m across with an oval rim (on a NE/SW axis) and the walls of the open pit are made up of batters and berms (Figure 26). The lowest point of the pit is over 100m below sea level.

In 2016 a major rock fall took place, reported to have been about 2 million tonnes.³ The collapse from the north wall upper ramp was visible at the site visit (Figure 27). Interim remedial work took place in 2017 and the Phase 4 component of Project Martha will continue that work to achieve stable and safe pit walls.

Surrounding the Martha Pit itself are the town and residential suburbs of Waihi. The main built areas are to the south and west, and about one-third of the urban area to the northeast. In effect this creates an irregular ring, partly constrained by the Coromandel ranges to the west, and the path of the Ohinemuri River to the south.

The above ground works for Project Martha MP4 will involve limited lateral expansion of the existing pit rim on the north wall and cutting down in this area to stabilise the slope and mine the ore. No above ground historic heritage sites were identified during the site visit to be affected by the pit expansion. The underground workings of Martha mine were not physically inspected for reasons of accessibility and health and safety.

It is known, however, that some of the old underground workings may survive in places from the original Martha and Grand Junction Mines dating between the 1800s and 1952 (T13/926). This could include remnants of vertical shafts, the 175km long network of tunnels spread over many horizontal levels, as well as artefacts and remnant mining structures. Within the underground works there are likely to be traces of previous mining activity, including tool marks, quarry marks, graffiti or other markings, and buried artefacts or features associated with the mining process. There is a possibility of encountering underground archaeological remains associated with these historical workings during works (Figure 28). However, the workings would have been flooded when the pumps were turned off in 1952, which may have affected what has survived.

Further research and modelling was carried out by Buxton-Blue, Resource Development Geologist, Oceana Gold, to determine the likely extent of pre-1900 underground workings. The results show that there is one level in the existing pit where possible pre-1900 historic workings are likely to be intercepted by Project Martha (pers. comm. 1/2/2018). This is in one location within the Project Martha MP4 pit shell at historic level 4 on the north wall stability cut back (Figure 29). This historic level has already been intercepted on the north wall of the current pit.

The results also show that additional benches to the bottom of the phase 4 open pit will intercept level 6, level 6 sub level (main), level 7, level 7 sub level and level 8. Buxton-Blue concluded the historic workings at the bottom of the Phase 4 pit are post-1900 in date based on the following available information:

- Shaft yearly depth information state the depth of No. 1 shaft was 125m and the No. 2 shaft was 163m, which are both within the current pit shell (Figure 30).

³ Smallman. E. 26 April 2016. Martha Mine has major rockfall but mayor says there is no risk to public. <http://www.stuff.co.nz>.

- The Waihi Gold Mining Company records state development on Level 6 commenced in 1902, on level 7 in 1904 and on Level 8 in 1906.
- Pre-1900 stoping is annotated on lode long sections from level 3 and above.



Figure 25.1942 aerial showing Martha Pit (sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0: ref SN229 Crown 229 486 30)



Figure 26. Martha Pit showing modern open-cast mining landscape with a deeply excavated sequence of berms and batters (photo: Brown 2017)



Figure 27. Mine collapse from 2016 evident along the north rim of Martha Pit (photo: Brown 2017)

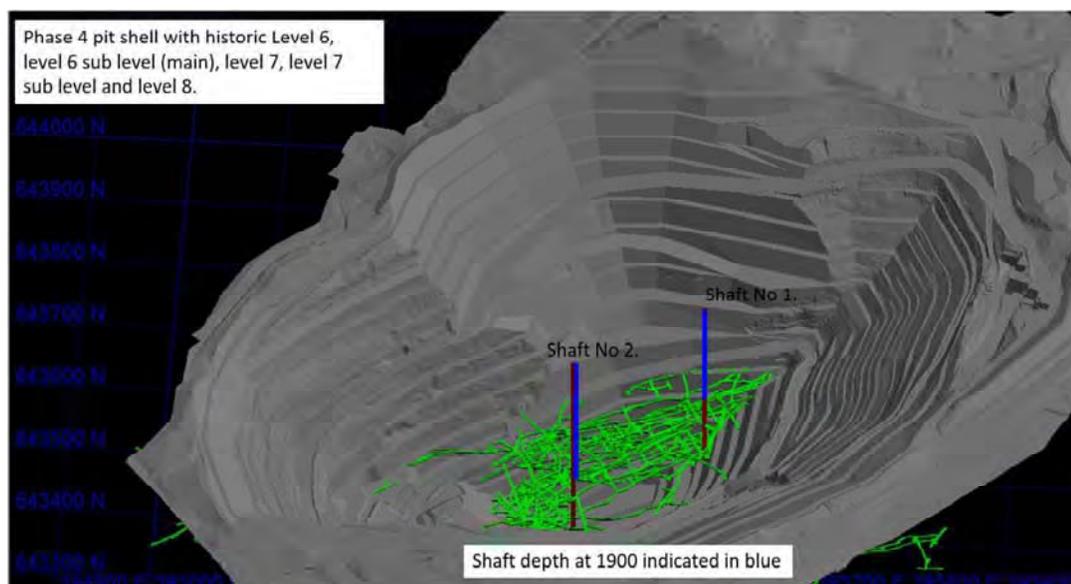


Figure 30. Plan showing 1917 and later levels (in green), with Shaft No. 1 and 2 depths at 1900 indicated in blue (source: Buxton-Blue Feb 2018)

85 William Street

As part of the Project Martha MP4 proposed works, an area of land adjacent to the existing pit rim north wall will be affected by lateral expansion of the mine. Subsurface or near surface features relating to mining activities were not specifically identified during the site visit to this area, but access was restricted. Remains relating to mining activities are likely to be present within areas of undergrowth or topsoil and may be exposed during the mine expansion.

The biggest impact of the pit works will be on 85 William Street, which falls entirely within the proposed new pit and would be destroyed. The property was not accessible at the time of the site visit; however, the aerials and Google street view show that it is occupied by several modern buildings, including a house and shed (Figure 31; Figure 32). Based on the photographs provided by Oceana Gold, the external physical characteristics of these buildings are late 20th century in date. The house is of brick clad masonry construction and the shed has metal sheathing, probably over a metal frame (Figure 33–Figure 35).

The standing structures on 85 William Street are therefore not likely to be of historic heritage value. There may, however, have been a historical residence constructed on the site around the turn of the century, as indicated by the historical research.⁴ Today there is no evidence for this earlier dwelling on aerial photographs, indicating it may have been demolished or relocated. It is possible that subsurface remains, such as domestic rubbish deposits found in other locations around the existing pit rim, may survive. At this stage it is uncertain if any such remains have survived, and if they have what date they would be; however, it is considered there is some/ low archaeological potential at this property.

⁴ On 14 April 1900 the *Thames Star* reported that the Warden's Court in Paeroa had awarded a residence site licence for Section 580, Waihi to John Gerrard.



Figure 31. View of main dwelling at 85 William Street from the driveway (photo: Google Street Maps, accessed 19/02/2018)



Figure 32. View of shed at 85 William Street from the driveway (photo: Google Street Maps, accessed 19/02/2018)



Figure 33. Northern elevation of main house 85 William Street (photo: Oceana Gold March 2018)



Figure 34. Western elevation of main house 85 William Street (photo: Oceana Gold March 2018)



Figure 35. 85 William Street, west and south elevations (photo: Oceana Gold March 2018)

MP4 Road Realignment

The proposed realignment of Cambridge/ Bulltown Roads was inspected from the road. In addition to the carriageway itself, two residential properties will also be affected where the existing road will need to be realigned.

12 Cambridge Road is located on the north side of Cambridge Road, on the corner with Bulltown Road. During the site visit the building was identified as being possibly pre-1900 in date, based on its architectural characteristics – a typical Late Victorian or Edwardian square fronted villa (Figure 36–Figure 38). The historical research carried out since the site visit was presented above (see historical research section). The villa was constructed sometime around the turn of the 20th century and is now recorded in the NZAA ArchSite database as T13/928, although further investigation is required to determine the exact date.

The square-fronted villa has been modified in the past, with original bay windows replaced by French doors. The chimney appears to have been removed also and extensions made to the rear. A fair proportion of original fabric apparently survives, however. A detailed condition survey was not available at the time of inspection. Based on visual inspection from the public realm, the condition of the fabric is fair to moderate.

Cambridge Road itself comprises modern road surfaces, kerbing and footpaths (Figure 39). The properties in the vicinity of the road realignment are all modern. The street appears to consist predominantly of mid–late 20th century housing, with one other historical house at the western end of Cambridge Road (Figure 40). Therefore, although the roads were laid out at least by 1899/1901 and some houses are known to have been constructed around this

time, Cambridge Road today does not have a strong historical character or a cohesive group of historical buildings that have survived.

77 Bulltown Road is north of 12 Cambridge Road, located on the west side of Bulltown Road. The property is occupied by several modern buildings, including a house and shed. The external physical characteristics of these buildings are mid–late 20th century in date, consisting of timber framed and weatherboard construction (Figure 41).

The standing structures on 77 Bulltown Road are therefore not likely to be of historic heritage value. There may, however, have been a historical residence constructed on the site around the turn of the century, as indicated by the historical research.⁵ Today there is no evidence for this earlier dwelling on aerial photographs, indicating it may have been demolished or relocated. It is possible that subsurface remains may survive; however, it is uncertain at this stage if any such remains have survived and if so whether they would be pre-1900 in date.

This part of Bulltown road has a semi-rural character, with sparsely spread housing, which is predominantly modern (Figure 42). It does not have a cohesive historical character or group of heritage buildings that would be affected by the road realignment or house demolitions.



Figure 36. Villa at 12 Cambridge Road now recorded as T13/928 (photo: Brown 2017)

⁵ 8 February 1900 the Warden’s Court in Paeroa granted a licence for Section 80, Bulltown, Waihi, to Robert Lockhart. 31 January 1901 Licence for a Residence Site for Section 98 Township of Waihi granted to Eliza Patty Jones for a term of 42 years.



Figure 37. View looking west along Cambridge Road, with villa at 12 Cambridge Road on the right (photo: Google Street Maps, accessed 19/03/2018)



Figure 38. Corner of Cambridge Road, looking northeast towards where the new road will pass through 12 Cambridge Road (photo: Google Street Maps, accessed 19/03/2018)



Figure 39. Cambridge Road looking east, showing modern properties to the west of 12 Cambridge Road, modern road surfaces, kerbing and footpaths (photo: Google Street Maps, accessed 19/03/2018)



Figure 40. No. 2 Cambridge Road appears to be the only other historical house on the street (photo: Google Street Maps, accessed 19/02/2018)



Figure 41. 77 Bulltown Road, view of house and shed from the road (photo: Google Street Maps, accessed 19/02/2018)



Figure 42. Looking south down Bulltown Road towards the intersection of Cambridge Road (on right) (photo: Google Street Maps, accessed 19/02/2018)

The Martha Underground (Including the Rex Orebody) Area

The Martha and Rex underground components of the project will not affect any properties at the surface. In the area of the Martha underground project there are previously unmined ore blocks, as well as remnant mining blocks from the old Martha Mine under the existing pit, comprising either backfilled stopes or skins on unfilled voids. The proposed Martha underground component will extract the ore from both the virgin stopes and the remnant stopes (remnant ore skins and historical backfill) from under the existing Martha Pit and land to the east.

There is a possibility of encountering underground archaeological remains associated with the old Martha Mine workings (T13/926) as part of the Martha underground component. Further research and modelling was carried out by Buxton-Blue, Resource Development Geologist, Oceana Gold to determine the likely extent of pre-1900 underground workings.

Using the Oceana Gold archive development records stated in the mine records, Figure 43 shows a plan and isometric view of the recorded historic levels to reflect the extent of the development on levels 3 and 4 of the mine. Levels 2 and above do not have records of distance, but records described encountering younger Rhyolites and ‘Sandstone Country’ on the level 2 and above. Based on this it is assumed that intersecting these lithologies would mark the extent of the development.

The relationship of the proposed new works in relation to the pre-1900 historical workings are also shown in Figure 43. This is based on a 3D historic workings model and records of mine development from the Mine reports for 1899. Based on this analysis, the pre-1900 workings are likely to be present above, and generally further northeast of the proposed underground works.

According to Buxton-Blue analysis, the majority of the pre-1900 historical workings have already been taken out by the current pit. The Rex orebody/ Martha Underground component will not intersect the pre-1900 historic workings and therefore is not likely to affect pre-1900 historical workings. However, there will be some interaction in the Martha Project MP4 pit where further cutting back of the pit edge will further impact on historical mining levels that have already been intersected on the current pit walls (as discussed above).

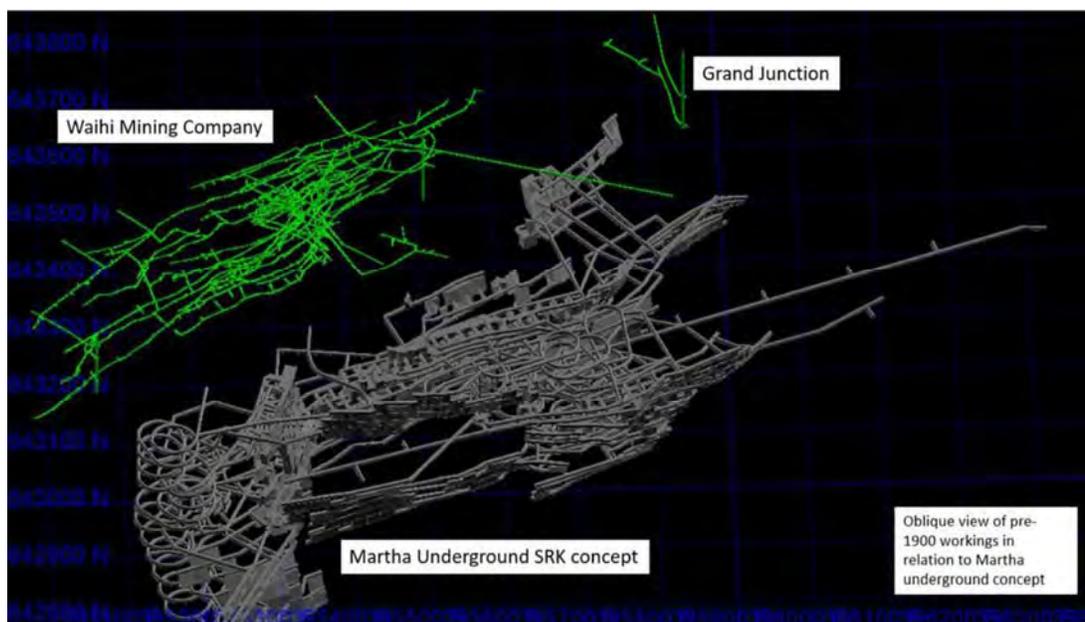
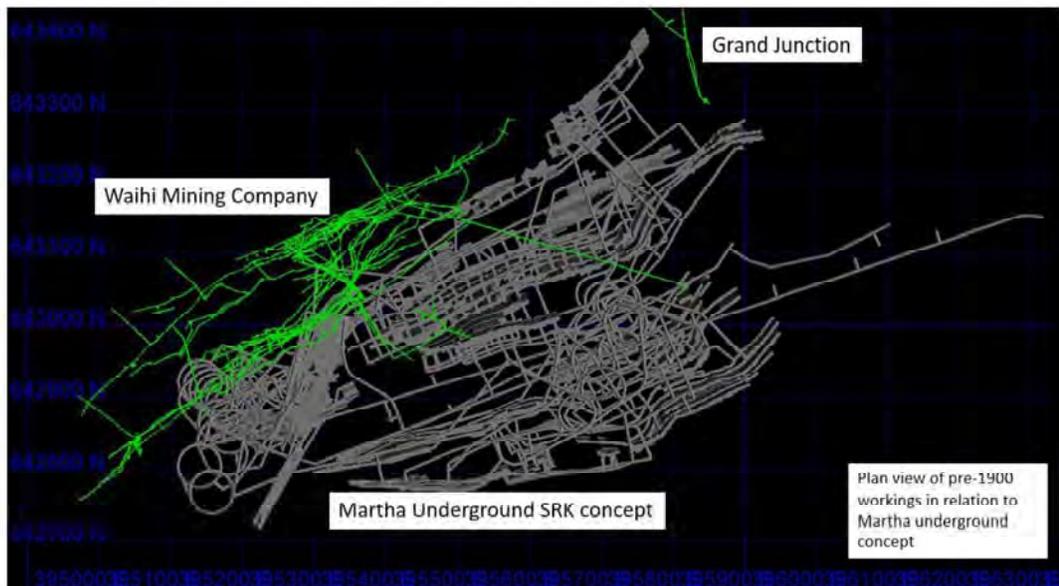


Figure 43. The relationship of the proposed new Martha Underground works in relation to the pre-1900 historic workings, shown in green (source: Buxton-Blue Feb 2018)

HISTORIC HERITAGE ASSESSMENT

Summary of Results

The historical research and site visit has established that Project Martha will impact on the following recorded historic heritage places:

- Possible pre-1900 dwelling identified at 12 Cambridge Road (Lot 1 DP 88853, part of Section 279 (previously Section 101) BLK XV Ohinemuri SD); and,
- Underground historical workings from the original Martha and Grand Junction Mines (T13/926);

Furthermore, there is some/ low potential for archaeological remains within 77 Bulltown Road and 85 William Street, as there may have been historical residences on the properties in the past, which means that pre-1900 subsurface remains are possible.

Other subsurface or near surface features relating to mining activities have not been specifically identified, but are likely to be present within areas of undergrowth or topsoil and may be exposed during the mine expansion.

Maori Cultural Values

This is an assessment of effects on archaeological values and does not include an assessment of effects on Maori cultural values. Such assessments should only be made by the tangata whenua. Maori cultural concerns may encompass a wider range of values than those associated with archaeological sites.

The historical association of the general area with the tangata whenua is evident from the recorded sites, traditional histories and known Maori place names.

There are no recorded sites of significance or value to Mana Whenua within the project area or nearby.

Survey Limitations

It should be noted that archaeological survey techniques (based on visual inspection and limited subsurface testing) cannot necessarily identify all sub-surface archaeological features, or detect wahi tapu and other sites of traditional significance to Maori, especially where these have no physical remains.

Martha mine was active at the time of the site visit and although the project team was able to visit the previously recorded surface historic heritage places, the entire open pit was not investigated due to obvious health and safety considerations. Martha mine has, however, been well researched and archaeological investigations have been carried within the pit in the past. This enables a reasonable assessment of archaeological potential.

The survey did not include a detailed site visit for the individual historical buildings identified. These buildings were identified from the public footpath based on their architectural style and were later researched to establish a likely date. No structural or condition surveys for the buildings were carried out.

Archaeological Value and Heritage Significance

Heritage NZ, has provided guidelines setting out criteria that are specific to archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2006: 9-10). These criteria have been used to evaluate the value and significance of the archaeological sites below.

The archaeological value of sites relates mainly to their information potential, that is, the extent to which they can provide evidence relating to local, regional and national history using archaeological investigation techniques, and the research questions to which the site could contribute. The surviving extent, complexity and condition of sites are the main factors in their ability to provide information through archaeological investigation. For example, generally pa are more complex sites and have higher information potential than small midden (unless of early date). Archaeological value also includes contextual (heritage landscape) value. Archaeological sites may also have other historic heritage values including historical, architectural, technological, cultural, aesthetic, scientific, social, spiritual, traditional and amenity values.

The Hauraki District Plan (2014) contains a Schedule of Historic Heritage Inventory,⁶ which is divided into Category A and B Heritage Features; Category C Heritage Items; and, Category A and B Heritage Areas in section 6.1. In Appendix 1 of the Hauraki District Plan (6.1.6.8) the criteria for assessing heritage significance is grouped under historic, architectural, technological/scientific, archaeological, spiritual/cultural and context (see Appendix 2 of this report).

The old Martha mine underground workings (T13/926) have not been scheduled for protection on the Hauraki District Plan. They are not listed by Heritage NZ in the New Zealand Heritage List/Rārangi Kōrero. Table 5 contains the assessment of the archaeological values of the Martha mine T13/926 based on the Heritage NZ criteria (Heritage NZ 2006: 9-10) and Table 6 assesses heritage values using the Hauraki District Plan criteria.

Overall, site T13/926 (Martha mine), is considered to have moderate archaeological value based on the criteria discussed. It is likely that archaeological evidence of mining activity survives in places, but that much of the pre-1900 workings has now been destroyed by the change to open-pit mining activities (see the Buxton-Blue analysis above) and previous flooding of the underground workings. Any possible surviving remains would be of archaeological interest for their ability to provide information on mining techniques in the 19th century. However, it is noted that such techniques are also very well documented historically, so that archaeological investigation would typically confirm this documented history, rather than provide new information.

The ability to access and enter historic workings is limited due to safety considerations. Notwithstanding this, it is expected that there will be opportunities to:

- Use laser scanning underground to accurately identify the extent of the old workings,
- From a safe position, photograph any pre-1900 workings that are intersected by the open pit,

⁶ There are also identified Areas of Significance of Maori, which are not covered by this report.

- Where it is safe to do so, retrieve items from the historic workings that might be useful for displays and interpretation, and carry out additional photography within the workings.

The old Martha mine underground workings have moderate to high historic heritage value. Any surviving historical workings have strong contextual values in relation to the development of the Waihi Gold Mine and Waihi Town. The discovery of gold at Martha hill in 1878, early on in the New Zealand goldmining industry, is significant. The Martha Mine went on to be the largest and most profitable goldmine in New Zealand (Thornton 1982: 64). However, how much the underground workings reflect these historical aspects, past events and associations with important people/ companies, is probably limited by the inaccessible nature of the site and fragmentary survival of the remains themselves.

The 19th/ early 20th century domestic villa (T13/928) identified during the site visit has not been recorded or evaluated previously. Table 7 contains the assessment of the archaeological values of the possible pre-1900 dwelling based on the Heritage NZ criteria (Heritage NZ 2006: 9-10). Table 8 contains the assessment of historic heritage values under the HDP.

Overall, T13/928 is considered to have moderate historic heritage/ archaeological value based on the criteria discussed. This is because although villas are relatively common site types nationally and regionally, locally they are representative of the early development of Waihi as a township and together form a group of places representing this theme. The villa has potential to provide information on early inhabitants of the town through archaeological study of the building, associated subsurface features or artefacts that may be present. When compared to other places already included on the Hauraki District Plan heritage inventory, and without further information as to historical associations, the villa might be equivalent to a Category C item, but is unlikely to reach the threshold for higher categories.

Other, so far unidentified, subsurface or near surface features relating to mining activities are likely to be present within areas of undergrowth or topsoil and may be exposed as part of Project Martha. These cannot be assessed for significance because the nature of any surviving features is unknown. However, as most of the significant sites and features within the project area have already been identified, it is likely that any previously unidentified features would have no more than a moderate contribution to our overall understanding of the mine and its historic operation.

Similarly, any subsurface remains associated with 19th century domestic activities within the properties identified (77 Bulltown Road and 85 William Street) are likely to contribute moderately to our understanding of the development of Waihi town/ settlement.

Table 5. Assessment of the archaeological values of the old Martha Mine underground workings T13/926 based on Heritage NZ criteria (Heritage NZ 2006: 9-10)

Value	Archaeological Assessment
Condition	It is likely that some of the old underground workings may survive in places from the original Martha Mine (1800s–1952). The pit has been greatly modified since this time, so a fair proportion of the original workings are unlikely to remain, but they will still survive in some places as evidenced by past archaeological investigations in the area.
Rarity	The historical underground workings are not rare locally, but nationally and regionally, mining activities from this date are relatively rare.
Contextual value	The historical Martha Mine has considerable contextual value as one of a number of mining places in a much larger mining landscape in the Waihi area. It is associated with 19th and early 20th century mining in the region and other places operating in New Zealand at this time.
Information potential	The historical workings could include remnants of vertical shafts, the 175km long network of tunnels spread over many horizontal levels, as well as artefacts and remnant mining structures. Worked-out tunnels may show evidence of structural engineering, tool marks, quarry marks for identifying seams, or more informal evidence such as graffiti. The likelihood of encountering subsurface archaeological remains during works in this area is high (see the Buxton-Blue analysis above). This is of archaeological interest for its ability to provide information on mining techniques in the 19th and early 20th century. It is noted that such techniques are very well documented historically, but modern survey technology could offer new ways to investigate and display the archaeological values of the site.
Amenity value	The workings are not visible at the surface, they are inaccessible to the public and in private ownership. There is no potential for amenity value to be enhanced through the proposal for operational reasons, and eventually the pit will be flooded at the completion of mining.
Cultural associations	The site at this depth is not known to have any specific associations with pre-European cultural groups. The site has European cultural associations, linked with European mining communities of the late 19th and early 20th century.
Other	The mine has historical value through its association with early mining companies in New Zealand, e.g. by the mid-1890s the Waihi Gold Mining Company was the largest producer of gold in New Zealand, and one of the largest in the world by the first decades of the 20th century. The mining history is strongly linked to the identity of Waihi so is likely to have public associations. The site has social interest with groups such as local historical societies, museums/ education centres and tourist operators. However, the historical mining activities are perhaps better represented by other places/ features that are more accessible and visible in the Waihi area.

Table 6. Assessment of the historic heritage values of the Martha Mine old underground workings based on the Hauraki District Plan criteria (Section 6.1 Appendix 1: 6.1.6.8)

Value	Historic Heritage Assessment
Historic	<p>The discovery of gold at Martha Hill in Waihi in 1878, early on in the New Zealand goldmining industry, is significant. The Martha Mine went on to be the largest and most profitable goldmine in New Zealand (Thornton 1982: 64). The old mine began in 1879 and closed in 1952, during which time it produced 35,500,000 ounces of gold, worth 28,500,000 pounds at the time (ibid.). The underground workings themselves have largely been destroyed due to the substantial modern open-pit mining activities and it is unclear how much of these workings survive. It is therefore not possible to comment on whether it is a representative example of site type, age or other historical aspects. Martha mine is associated with many historical events, important people that have worked there, the mining companies themselves and the miners as a community. How much the underground workings physically reflect these historical aspects, commemorate or symbolise this past history is probably limited by the inaccessible nature of the site and fragmentary survival of the remains themselves.</p>
Architectural	<p>The various buildings and structures developed in the early Martha mine period consisted of drying kilns, stamper batteries, pumphouse, workshops, poppet heads, assay house, refinery building, water races and tramways. These were straightforward functional structures; however, No. 5 pump house at Waihi was one of the largest of its kind (along with Thames) and notable in this regard. The underground workings, where they survive, would be an example of the various methods of constructions for drives, adits, shafts etc. and their design was imported from England, which has an ancient metal-mining tradition going back thousands of years. However, they are not ‘architectural’ in the strict sense of the term, which is usually applied to buildings or visible structures, rather than utilitarian tunnels underground.</p>
Technological/ Scientific	<p>Some of the big innovations in the industry (see Thornton 1982), such as pioneering the use of electricity in gold mining, the development of the gold dredge, and tremendous impact on gold production brought about by the advances in the cyanide process of gold extraction, are perhaps better represented at other sites locally (such as Union Hill, which has the largest remaining B & M tanks in New Zealand) and in New Zealand. Notwithstanding this, the particular local conditions and scale of mining (when at its height) did lead to the testing of new technology as it was developed and innovation in the mining process. According to McAra ‘it was only by making use of scientific techniques in assaying, and persistent metallurgical experimentation... that the Waihi Gold Mining Company achieved the success which led to the establishment of the Martha as one of the great mines of the world. The large stopes in the friable oxidised ore in the shallow workings of the mine also presented problems requiring new techniques. It is a testimonial to the skill and ingenuity of those concerned’ (1988: 170). Notwithstanding this, the underground workings are largely destroyed and the formation of these followed conventional practice, which is well documented, so there is probably limited opportunity for the site to be a representative example of engineering innovation.</p>
Archaeological	<p>The site has potential to expand upon our knowledge of early mining activities through archaeological methods and meets the definition of an archaeological site for the pre-1900 underground workings. Due to the</p>

Value	Historic Heritage Assessment
	substantial modern open-pit mining activities it is unclear how much of the pre-1900 workings survive. It is therefore not possible to comment on whether it is a representative example of a site type, feature or activity. It is not a Heritage NZ listed archaeological site, but has been recorded as an archaeological site through this assessment.
Spiritual/ Cultural	Given the long mining legacy and celebration of this history within Waihi today (such as display and interpretation of the pumphouse, poppet replica head, pit rim walk, interpretation panels and sculptures in the town) it is likely that the community does have some association with the site. Given that this aspect of mining is not publicly accessible or visible, this perhaps will limit the value of the site in terms of being a physical marker/ source of identity.
Context	The old Martha mine underground workings are an important part of Waihi's historical mining landscape and a component of what physically survives today at Martha mine from the 19th and early 20th century. The Martha mine is also important within the context of the New Zealand industry as a whole. Gold was first recovered in the northern district of New Zealand in 1852 near the Coromandel (Thornton 1982). In the 1950s gold was found in Collingwood, various parts of Otago and the west coast of the South Island and Marlborough. However, according to Thornton, 'The real impact of goldmining as an industry was to follow the discovery of the quartz reefs, first in Thames from 1867 onwards, and then the Coromandel spreading to Karangahake, Waihi, Waikino, Waitekauri, Kuaotuna and many other places in the Coromandel and Ohinemuri districts' (Thornton 1982: 64). The site is not in a listed historic area and the underground workings are not visible to the public, so do not have visual amenity/aesthetic value.

Table 7. Assessment of the archaeological values of the possible pre-1900 dwelling 12 Cambridge Road T13/928; based on Heritage NZ criteria (Heritage NZ 2006: 9-10)

Value	Archaeological Assessment
Condition	The square-fronted villa has been modified in the past, with original bay windows replaced by French doors. The chimney appears to have been removed and an extension added to the rear. A fair proportion of original fabric apparently survives, however. A detailed condition survey was not available at the time of inspection. Based on visual inspection from the public realm, the condition of the fabric is fair.
Rarity	The square-fronted villa is not a rare form nationally or regionally, but is relatively rare in the local context. There is just one other villa identified on the street, despite Cambridge Road being laid out at the turn of the century. No. 12 Cambridge Road therefore has some value as a surviving example of a locally rare building typology.
Contextual value	The square-fronted villa has contextual value as one of a group of locally surviving places associated with the former 19th and early 20th century mining/rural environment of the Waihi Township – an example of an Edwardian mine worker’s domestic residence.
Information potential	The villa has some archaeological interest for its ability to provide information on construction techniques and traditional plan forms for modest dwellings of the late 19th and early 20th century. There may be surviving sub-surface features which could provide more information on the subject site during this period.
Amenity value	The square-fronted villa has some amenity and landscape value as an example of late 19th or early 20th century vernacular domestic architecture. The building owned by OGNZL, but the exterior is visible from the public realm.
Cultural associations	The site is not known to have any specific associations with pre-European cultural groups. The site has European cultural associations, linked with European Waihi mining/farming communities of the late 19th and early 20th century.
Other	The earliest licence for a residence site that could be found was granted to Daniel McLennan (also referred to as McClennan), of Waihi (a carpenter) in 1900, but earlier records could exist. During the early 20th century the property was owned by a local miner and battery hand.

Table 8. Assessment of the historic heritage values of 12 Cambridge Road based on the Hauraki District Plan criteria (Section 6.1 Appendix 1: 6.1.6.8)

Value	Historic Heritage Assessment
Historic	The property records do not suggest that anyone nationally or regionally important has lived at the residence. The local significance of any historical associations is unknown at this stage; however, research to date does not indicate the residence is associated with any important historic event. 12 Cambridge Road relates to the first road formation and settlement in this area, around the turn of the century. Records suggest the property was been owned by a local carpenter, miner and battery hand in the past.
Architectural	The square-fronted villa has been modified over the years, although a fair proportion of original fabric apparently survives. The villa is not a rare form nationally or regionally, but is a typical example of Late Victorian/Edwardian period domestic architecture in the local context. Due to past changes to the building more intact examples are apparently evident within Waihi, which may be better examples of a villa typology (noting that a full inspection of the building by the author has not been carried out). The villa is not an important work of a notable architect, designer, engineer or builder.
Technological/Scientific	As seen from the public realm, the villa appears to have been constructed using standard techniques and materials available at the time. The interior was not examined.
Archaeological	The villa has some archaeological interest for its ability to provide information on construction techniques and traditional plan forms for domestic villas of the late 19th and early 20th century, as well as the inhabitants that once lived there. There may be surviving sub-surface features which could provide more information on the subject site during this period.
Spiritual/Cultural	Not assessed. To be determined by Mana Whenua and the local community.
Context	The square-fronted villa has contextual value as one of a number of locally surviving places associated with the former 19th and early 20th century mining/residential environment of the Waihi Township – an example of an Edwardian mine worker’s domestic residence.

EFFECTS OF THE PROPOSAL

The Proposal

Project Martha comprises two key components:

- The Martha Phase 4 pit (MP4); and,
- The Martha Underground, including the Rex orebody.

The MP4 cut back will be mined in a single top down sequence at the northern wall of the existing Martha pit. The conceptual plan of MP4 within the Project Area is shown in Figure 44. Points of note are that MP4 requires partial relocation / realignment of Bulltown Road; provides overburden to backfill the underground mine, and, requires noise bunds or fences to be constructed on the north wall. Once completed the pit area will be approximately 51 hectares, with a depth of approximately 275metres and the total volume will be approximately 43 million cubic metres. The earthworks for the road realignment are shown in Figure 3 (above). The total cut volume for these earthworks is approximately 2127.600m³, and the total fill volume is 2957.927m³. Areas of cut are predominantly to the west of Bulltown Road (pitside) which requires a maximum depth of excavation up to 1.12m. The east side of the road will require fill up to 1.34m above existing ground level, but there may be discrete locations of cut up to 1m in depth where localised deposits are unsuitable as a base for the fill. The total area of possible cut is not known at this stage.

Construction of a noise bund or noise control fence is also required along the north-eastern and northern edge of the pit rim within OGNZL land (Figure 45). This will be achieved through raising fill along the perimeter of the pit edge. A 3m-wide pit rim walkway will then be re-established in this location. The construction of the bund may require some minor grading of the pit edge and driving of retaining walls at one location as indicated in the plan.

The Martha Underground involves mining underneath the existing Martha pit and to the east (Figure 46). Ore sources comprise previously unmined blocks – AVOCA stopes, remnant mining blocks either backfilled or skins on unfilled stopes and ore development. The earthworks are believed to be below the existing level of historical (i.e. pre-1900) workings. It is planned to place 490,000 cubic metres of backfill into the historic voids as part of the mining method in the Royal, the Empire, the Edward and the Martha. The Martha Underground Mine will utilise existing authorised surface and underground facilities, so there is a very limited surface expression of the project (Figure 47).

Rex is included as part of the Martha Underground component of the project (Figure 48). This will extract 225,000 tonnes of ore. There will be no surface expression of the project and the historic stope will not be intersected.

Following completion of the MP4 and Martha Underground mining works, rehabilitation activities will be undertaken including decommissioning of plant, spreading of soil and planting. In the case of the pit, flooding will be undertaken to create a recreational lake, with provision of some community facilities at the eastern end of the pit (within the current surface facilities area).



Figure 44. Conceptual Plan of Martha Phase 4 Pit within the Project Area

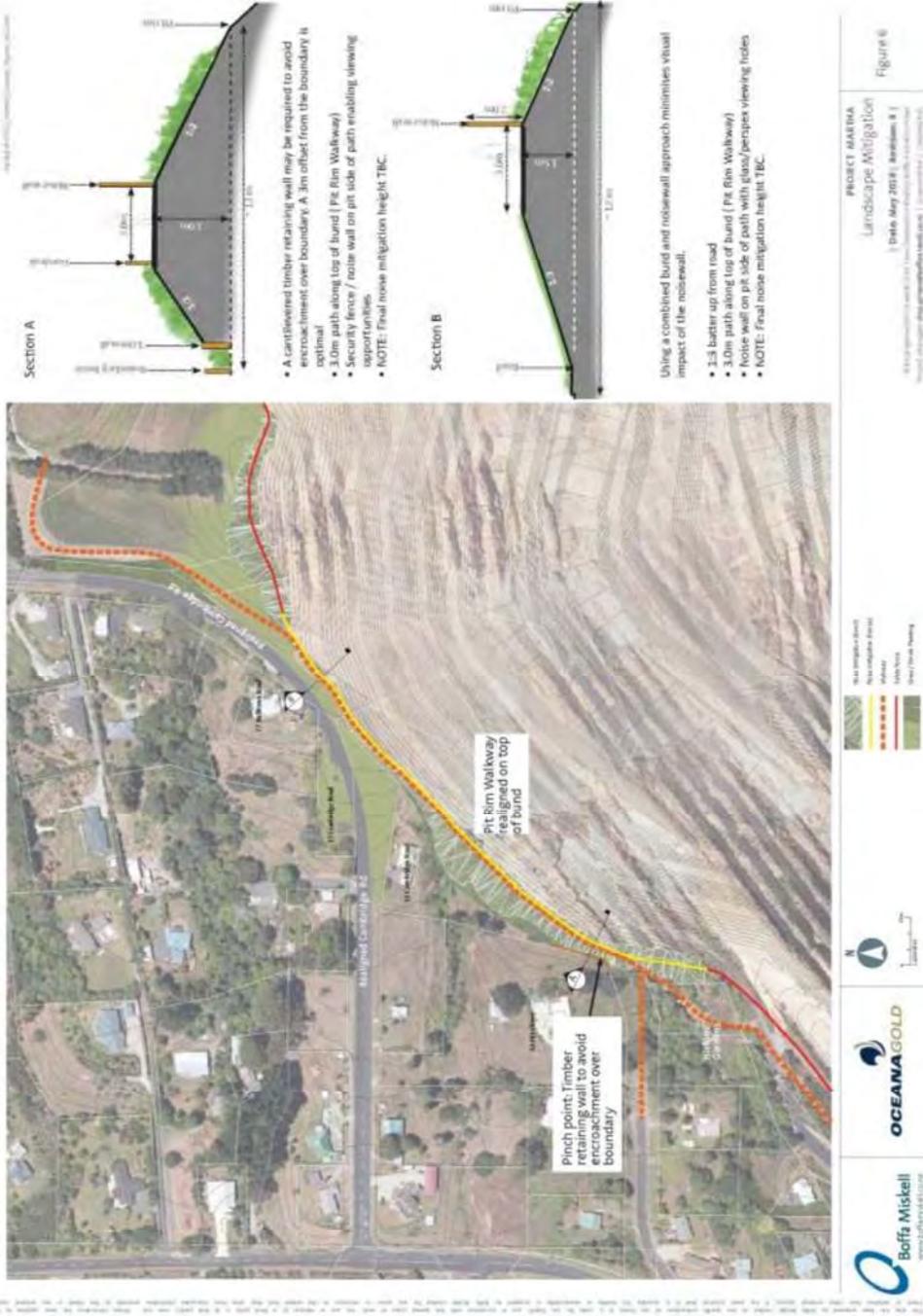


Figure 45. Location and cross-section of noise bund and noise control fence (source: Boffa Miskell March 2018)

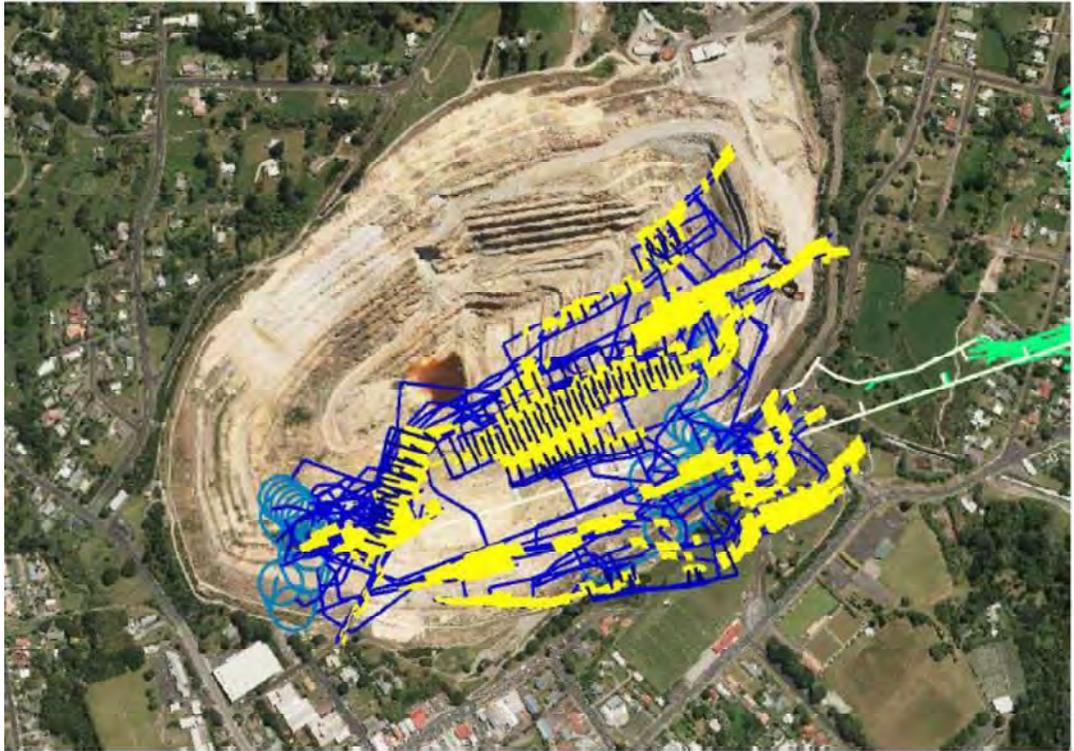


Figure 46. Conceptual plan of Martha underground mine within the project area



Figure 47. Surface expression of the Martha Underground Project



Figure 48. Plan of Rex Underground Mine within the Project Area

Heritage Effects of the Proposal

The nature and significance of the historic heritage places within the project area have been assessed above. The potential impact of the proposal on the identified places is now considered, particularly in relation to direct physical impacts, as well as setting and context.

The likely adverse effect on historic heritage as a result of Project Martha is largely confined to the Martha Phase 4 pit (MP4) component. The proposed Martha Underground, including the Rex orebody, will have no direct physical impact on any historic heritage items recorded or protected within and adjacent to the Martha pit.

The MP4 component will result in the following historic heritage effects:

- Demolition of one late 19th century/ early 20th century villa at 12 Cambridge Road (T13/928)
- Destruction or modification of possible 19th century archaeological underground mining workings (T13/926) arising from land disturbance, and eventual flooding of the mine
- Destruction or modification of possible unrecorded 19th century archaeological subsurface remains relating to settlement/ domestic dwellings or mining activities arising from land disturbance

One historical house (late 19th or early 20th century) will need to be removed for the new road realignment at Cambridge/ Bulltown Road. Although this property is not scheduled, it has been assessed to have moderate local historic heritage value as a surviving miner's residence on one of Waihi's early streets. The building is possibly pre-1900 in date so there would potentially be a moderate impact on archaeological values as well.

Oceana Gold have confirmed that they will relocate the building at 12 Cambridge Road, to an appropriate property in Waihi. Relocation options were still being considered at the time of this report. This recommended mitigation is based on a long-term consideration of cumulative effects on heritage and archaeology, for example if other historical buildings in Waihi may need to be relocated through future mining projects.

Adverse effects should also be mitigated by the monitoring of earthworks within the property at 12 Cambridge Road (T13/928), in case pre-1900 archaeological remains are present.

It is likely that the MP4 component will impact upon some of the old underground workings (T13/926) that may survive in places from the original Martha Mine (1879 – 1952). Due to modern open-pit mining activities much of the old workings have been destroyed previously. It is likely that the effects on pre-1900 underground workings will be limited to the destruction of one historical workings level, which is already largely destroyed, at the existing northern pit wall. The underground remains are currently inaccessible to the public and their knowledge potential cannot be utilised in situ, but any archaeological investigations could be publicly disseminated.

Although health and safety considerations will limit the techniques available it is possible that adverse effects on T13/926 can be appropriately mitigated through archaeological investigation consisting of laser scanning underground to accurately identify the extent of the old workings, photography and retrieval of items where it is possible to do so safely. This additional information will aid our understanding of early mining activities at Martha.

Past archaeological investigation within and near the Martha pit have revealed numerous industrial features and foundations associated with early mining activity, as well as the remains of 19th and early 20th century domestic house sites, particularly the southeast and south sides of Martha Hill. The historical research indicates that two historical houses may have been present within the area of works which are now gone, but associated subsurface remains are still possible. It is possible that earlier 19th century road surfaces may survive under the base course of the existing Cambridge and Bulltown Roads. There is some potential for unrecorded subsurface remains to be uncovered during earthworks.

There will be no effects on the setting and views of key historic heritage items or heritage landscapes as a result of any components of Project Martha. The impact of the Cambridge/ Bulltown Road realignment was considered in terms of the streetscape context and it was concluded that although the roads and housing in this area was developed around the turn of the century, there is very little of this historic character evident today. Furthermore, the majority of these streets will remain intact, with just a small section of road altered.

The likely mitigation for any adverse effects on historic heritage as a result of Project Martha includes:

- Archaeological research and investigation of underground workings from the original Martha Mine (T13/926),⁷ which will aid our understanding of early mining activities at Martha;
- Relocation or building recording of the late 19th century/ early 20th century villa at 12 Cambridge Road (T13/928) and archaeological monitoring of earthworks, which will aid our understanding of early residential settlement in Waihi and the mining communities that once lived in the area;
- An archaeological report (required as part of any archaeological investigations) will be provided to Heritage NZ, Hauraki District Council (Cultural Heritage Inventory), and the NZAA ArchSite database, which will further our understanding of Waihi's heritage and inform future research;
- Subject to what is uncovered, new information could be included in future projects/ upgrades to the Martha Pit Rim Walkway heritage interpretation, which is a resource for visitors and the community; and,
- Further heritage interpretation, outreach and education opportunities for the local community (e.g. there is potential to do this through the Waihi Heritage Vision, Ohinemuri website, Martha Mine education centre, Gold Discovery centre/ Waihi Visitor centre, Oceana Gold website and/ or a booklet.

Overall, the effects on historic heritage are likely to be of a minor adverse nature in relation to the proposed Project Martha and can be appropriately managed through the mitigation measures outlined (above).

⁷ The methodology for this is still to be confirmed with the Oceana Gold. This will necessarily be guided by health and safety considerations and may use 'remote' technology. It is expected that this could assist with historical interpretation of the 3D mapping of the filled and unfilled stopes, which will aid our understanding of early mining activities at Martha Hill

STATUTORY REQUIREMENTS

Resource Management Act 1991 Requirements

Section 6 of the RMA recognises as matters of national importance: *‘the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga’* (S6(e)); and *‘the protection of historic heritage from inappropriate subdivision, use, and development’* (S6(f)).

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when *‘managing the use, development and protection of natural and physical resources’*. There is a duty to avoid, remedy, or mitigate any adverse effects on the environment arising from an activity (S17), including historic heritage.

Historic heritage is defined (S2) as *‘those natural and physical resources that contribute to an understanding and appreciation of New Zealand’s history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological’*. Historic heritage includes: *‘(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Maori, including wahi tapu; (iv) surroundings associated with the natural and physical resources’*.

Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The plans are prepared under the rules of the RMA. The Waikato Regional Policy Statement (2016), Hauraki District Plan (2014) and Waikato Regional Plan (2012) are relevant to the proposed activity.

Waikato Regional Policy Statement (RPS)

Chapter 3 (objectives) of the Waikato RPS states that *‘Sites, structures, landscapes, areas or places of historic and cultural heritage are protected, maintained or enhanced in order to retain the identity and integrity of the Waikato region’s and New Zealand’s history and culture’* (3.18 Historic and cultural heritage).

Policy 4.4 (on regionally significant industry and primary production, such as mining) aims to ensure:

‘The management of natural and physical resources provides for the continued operation and development of regionally significant industry and primary production activities by:

- c) ensuring the adverse effects of regionally significant industry and primary production are avoided, remedied or mitigated;*
- g) promoting positive environmental outcomes.’*

Policy 6.1 (on the built environment) states that:

‘Subdivision, use and development of the built environment, including transport, occurs in a planned and co-ordinated manner which:

- a) has regard to the principles in section 6A’*

The General development principles in section 6A outline that:

‘New development should:

j) *maintain or enhance landscape values and provide for the protection of historic and cultural heritage;*

The other policies in the RPS that are of most relevance to heritage and archaeology include:

- *‘Policy 10.1 Managing historic and cultural heritage. Provide for the collaborative, consistent and integrated management of historic and cultural heritage resources. Improve understanding, information sharing and cooperative planning to manage or protect heritage resources across the region;*
- *Policy 10.2 Relationship of Māori to taonga. Recognise and provide for the relationship of tāngata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga;*
- *Policy 10.3 Effects of development on historic and cultural heritage. Manage subdivision, use and development to give recognition to historic and cultural heritage and to integrate it with development where appropriate; and,*
- *Policy 12.3 Maintain and enhance areas of amenity value. Areas of amenity value are identified, and those values are maintained and enhanced. These may include:... b) ... historic areas;’*

This assessment addresses objective 3.18 of the Waikato Regional Policy and the above policies through the archaeological survey and research of the project area, to determine whether significant historic heritage places, or previously unidentified historic heritage, is affected by the proposal. The assessment has determined that two archaeological sites of moderate value (T13/926 and T13/928) will be affected, but that these effects can be mitigated through archaeological investigation and recording, and possibly by relocation of a heritage building. No significant historic heritage places (either those included in the Hauraki District Plan, or listed by Heritage New Zealand) will be affected.

Hauraki District Plan (HDP)

Section 6.1 of the HDP on Historic Heritage is relevant to all aspects and locations within the project area. Key objectives, policies and assessment criteria for the proposal are provided in the table below (Figure 49). There are no controlled or prohibited activities in Section 6.1.

The HDP contains a Schedule of Historic Heritage Inventory, which is divided into Category A and B Heritage Features; Category C Heritage Items; and, Category A and B Heritage Areas. There are also identified Areas of Significance to Maori, which is not covered by this report.

Under the exceptions (6.1.5.1) of the Historic Heritage provisions are archaeological sites (1). This states (a) that:

‘There are no rules applying in the District Plan with particular respect to archaeological sites. Where an archaeological site is included in the schedule of Historic Heritage Inventory as an Area of Significance to Maori, the rules in Sections 6.1.5.2 - 6.1.5.8 apply. All other known archaeological sites are shown on the planning maps for information purposes only.’

The Advice Note to this exception states that:

'(i) The Heritage New Zealand Pouhere Taonga Act 2014 provides for the recording, protection and preservation of archaeological sites whether registered or not.

(ii) If any land use activity (such as earthworks, fencing or the erection or removal of structures) is likely to damage, modify or destroy any pre-1900 archaeological site (whether recorded or unrecorded), an 'authority' consent from Heritage New Zealand must be obtained for the work to lawfully proceed. This applies to all sites, regardless of whether Building or Resource Consents have been granted or not. Heritage New Zealand should be contacted for further information on this requirement.'

The historic heritage provisions therefore relate to those places on the Schedule of Historic Heritage Inventory, with archaeological sites being managed through the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA 2014). Policy A (iv) does provide for including (where appropriate) accidental discovery protocols, as a condition of resource consent and/or as advice notes with resource consents, advising developers and property owners of their obligations under the HNZPTA 2014 with regards to archaeology.

Figure 49. Hauraki District Plan Section 6.1 – Historic Heritage

<p>6.1.3 – Objectives and Policies</p> <p>(1) OBJECTIVE 1</p> <p>To protect a range of heritage items that reflect the past history of the Hauraki District from the adverse environmental effects of other activities.</p> <p>(a) Policies</p> <p>Objective 1 will be achieved by the implementation of the following policies:</p> <p>(i) Identify and afford protection to a representative range of historic heritage items of value to the community and the nation, recognising that it is not sustainable to protect all built heritage in the District and that some items have greater heritage value and deserve a higher level of protection than others.</p> <p>(ii) Minimise the effects of activities, subdivision and development which could damage or destroy the historic heritage values associated with scheduled historic items.</p> <p>(iii) Ensure the heritage and amenity values of the built heritage resource are not adversely affected by a change in context or physical location.</p> <p>(iv) Encourage the design of new buildings and structures and external alterations or additions to building facades to be compatible with the scale, detailing, style, materials and heritage character of the Waihi and Paeroa Town Centre pedestrian frontage areas. Note: The rules and guidelines are set out in section 5.11 Town Centre Zone.</p> <p>(v) Liaise with and seek advice from Heritage New Zealand on heritage planning generally and on all matters relating to sites listed by Heritage New Zealand, and consult with and seek advice from recognised local heritage groups on local heritage matters.</p>

- (vi) Consult with and seek advice from the tangata whenua on all matters relating to identified waahi tapu sites, areas, and other features of significance to them.
- (vii) Draw to the attention of developers the requirements of the Heritage New Zealand Pouhere Taonga Act 2014, where the Council is of the view a proposed development may involve the destruction, or modification, of any archaeological site.
- (viii) Where it is appropriate to require them, have regard to cultural values assessments and/or cultural impact assessments, heritage assessments and conservation management plans.

(2) OBJECTIVE 2

To protect significant archaeological sites which contribute to the District's heritage, knowledge and appreciation of the past.

(a) Policies

Objective 2 will be achieved by the implementation of the following policies:

- (i) Identification and scheduling of archaeological sites with significant historic, cultural, scientific, heritage or visual amenity value.
- (ii) Ensure that subdivision, land use and development does not result in inappropriate damage or destruction of scheduled archaeological sites and their surrounds.
- (iii) Draw the attention of developers and property owners to the requirements of the Heritage New Zealand Pouhere Taonga Act 2014 where a proposed subdivision, land use or development may involve the destruction or modification of any archaeological site.
- (iv) Include where appropriate accidental discovery protocols, as a condition of resource consent and/or as advice notes with resource consents, advising developers and property owners of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 with regards to archaeology.

(3) OBJECTIVE 3

To recognise and protect sites of significance to Maori.

(a) Policies

Objective 3 will be achieved by the implementation of the following policies:

- (i) Identification and protection, in consultation and partnership with local iwi, of sites of significance to Maori.
- (ii) Avoid a reduction of historical, cultural and spiritual values associated with sites of significance to Maori.
- (iii) Avoid, remedy or mitigate the adverse effects of subdivision, land use and development on identified Areas of Significance to Maori.
- (iv) Ensure that local iwi are consulted over the use, development or protection of sites of significance to Maori.

(5) OBJECTIVE 5

Sustainable management of the built heritage resource by encouraging and promoting adaptive reuse of the built heritage features resource.

(a) Policies

Objective 5 will be achieved by the implementation of the following policies:

- (i) Encourage the continued use or adaptive reuse of scheduled heritage buildings, provided any adverse effects of the activity on the heritage values can be avoided, remedied or mitigated.
- (ii) Relaxation or waiving of parking requirements or bulk and location rules where this would encourage sustainable reuse and protection of heritage values.

6.1.5.9 ASSESSMENT CRITERIA FOR DISCRETIONARY ACTIVITIES

(1) The following criteria will be used to assess any application for a Discretionary Activity:

- (a) Reasons for inclusion of the Heritage Item, and its significance, in the schedule of Historic Heritage Inventory.
- (b) The extent to which the heritage values are likely to be retained, protected and/or enhanced.
- (c) The reasons why the works are necessary and whether there are other means of achieving the same or similar ends with less adverse affects on the Heritage Item.
- (d) Degree of modification or alteration that will be caused to the Heritage Item, whether the modification is reversible and whether it will have cumulative adverse effects on the Heritage Item.
- (e) Design, materials and finish of proposed alterations or additions to the Heritage Item.
- (f) Impact on the cultural landscape or streetscape values from an amenity and heritage perspective.
- (g) Whether the relevant iwi have been consulted (for any Heritage Item which is significant to them) and whether the consultation supports the application.
- (h) The extent to which the works may adversely affect cultural and spiritual values.
- (i) Whether the proposal is consistent with the objectives of any current iwi management plan, current conservation management plan or heritage assessment relating to the Heritage Item, and more particularly the stated conservation policies and strategies they identify for the item.
- (j) Whether Heritage New Zealand has been consulted and whether the consultation supports the application.
- (k) Whether the conservation principles contained within the ICOMOS NZ Charter for the Conservation of Places of Cultural Heritage Value are applicable, and where applicable, have they been substantially adhered to.
- (l) The costs and technical feasibility of remediation and restoration.
- (m) In relation to an application for alteration or addition to a Heritage Building not in conformity with the zone development standards and/or the District wide performance standards:

- (i) whether conformity with the zone development standards would change the intrinsic value and character of the Heritage Building;
- (ii) whether the purpose of the addition or alteration is to accommodate an activity that will positively encourage the protection and preservation of the Heritage Building.
- (n) In relation to an application for the removal and relocation of a Heritage Feature:
 - (i) The appropriateness of the proposed site, where relocation is proposed.
 - (ii) The ability of the feature to withstand relocation from a structural perspective.
 - (iii) The importance (if any) of the land or street setting surrounding the Heritage Feature in its present location.
 - (iv) The extent to which the historical, cultural and community associations with the building will be reduced by the relocation.

The assessment has determined that two previously unrecorded archaeological sites of moderate value (T13/926 and T13/928) will be affected by the project, but that these effects can be mitigated through archaeological investigation and recording, and possibly by relocation of a heritage building. This assessment has established that the likely heritage values of these sites are moderate overall as they relate to the HDP criteria for assessment. No significant historic heritage places (either those included in the Hauraki District Plan as heritage items, or those listed by Heritage New Zealand) will be affected.

Place/ Zone Specific Provisions

In addition to the objectives and policies above, there are a number of place or zone specific policies within the HDP which are also relevant to historic heritage.

Waihi Objective 1 seeks *‘To enable the people and community of Waihi to provide for its service town role to the surrounding rural area, as well as its role in the mining and tourist industries, at the same time as maintaining an attractive residential environment’* (5.6.4). Objective 1 will be achieved by implementation of the following policies (a):

‘(ii) Recognise the significance of mining and the ongoing associated developments to the social and economic wellbeing of the residents of Waihi, subject to maintaining the amenity values of Waihi.

‘(iii) Recognise and protect the Goldfields Steam Train complex, protect buildings and sites for their historic importance, and seek to retain and enhance other heritage features (eg. group of historic "Miners Cottages").’

Waihi Objective 2 seeks *‘To enable and encourage development that responds to and enhances the distinctive natural and built character of Waihi’* (5.6.4). Objective 2 will be achieved by implementation of the following policies (a):

‘(i) Enhance the mainstreet historic mining character of the central area in respect of the form, scale, bulk, location, heritage and architecture of buildings and infrastructure.

(ii) *Respect the existing townscape character of Waihi (street layout, existing residential character, cottages) in new development and encourage visual and physical linkages to local features such as the Pumphouse, Waitete Stream, Ohinemuri River, and hills of the Coromandel Range (to the north of Waihi).*

(iii) *Enhance the presence of town centre heritage/character buildings and local landmarks through streetscape design and any redevelopment/development initiatives that may affect the viewing quality and appreciation of these buildings/features...*

(vi) *Maintain and enhance the amenity of the residential environment in the Residential and Low Density Residential Zones.*

The Town Centre Zone (Section 5.11) Objective 4 is ‘*To maintain and enhance the historical style and scale of buildings which contribute to the attractive character of the town centres of Paeroa and Waihi*’. Objective 4 will be achieved by implementation of the following policies (a):

(i) *Ensure new development and alterations and additions to the street façade in the pedestrian areas of the Paeroa and Waihi town centres are sympathetic to the character of the streetscape.’*

The proposal supports the mining industry, which is a strong historical and community identity, and does not affect the historic town centre.

Section 5.17.2 of the HDP contains specific objectives and policies relating to the Martha Mineral Zone. Objective 1 seeks ‘*To provide for the utilisation of the mineral resource in a sustainable manner*’. Objective 1 will be achieved by the implementation of the following policies:

(i) Recognise the development of the mine and its processing areas, its ongoing rehabilitation and its longer term likely uses.

(ii) Provide for the social, economic and cultural well-being of the people of the District and for their health and safety.

(iii) Ensure that the amenity values of Waihi and the wider community are protected.

(iv) Recognise that the risks associated with the historic underground working areas require a mixture of approaches to avoid, remedy or mitigate those hazards and provide for appropriate longer term land use activities.’

The further working of the mine will remove some of the historic underground workings that still survive within the Martha mine pit. This would presumably meet the direction of policy (i), and policies (ii) and (iv) where they relate to historical mining hazards. The loss of these historical features can be mitigated to an acceptable level, through archaeological recording. Any information gained could ‘provide for cultural well-being’, through public interpretation or any remains uncovered, and through making technical heritage reports accessible to the general public.

Waikato Regional Plan (Waikato RP)

The Waikato Regional Plan primarily considers matters of cultural heritage where they are identified as matters of significance to Maori. Most relevant to this project is Section 5 of the regional plan ('the Land and Soil Module'). This section contains policies on the management of soil erosion, and Section 5.1.3 Policy 1 contains the following statement with regard to sites of importance to Tangata Whenua, including archaeological sites of Maori origin:

'Policy 1: Managing Activities that Cause or Have the Potential to Cause Accelerated Erosion and Encouraging Appropriate Land Management Practices Through permitted activities and non-regulatory methods manage activities that cause or have the potential to cause accelerated erosion, with particular regard to:

e) the potential to adversely affect waahi tapu and archaeological sites or other identified sites of importance to tangata whenua as Kaitiaki.'

It should be noted that although no sites of importance to tangata whenua have been recorded in the project area, there are archaeological sites of Maori origin recorded elsewhere in the region of Waihi. Accidental discovery protocols should be therefore followed should any previously unidentified archaeological sites be revealed as a result of the proposed works. For any sites pre-dating 1900 this is a legal requirement under the HNZPTA 2014 (discussed in more detail in the following section).

Summary of Historic Heritage Requirements under the RMA

- No resource consents will be required for historic heritage as no scheduled historic heritage items are affected by the proposal.
- Any consent granted should include accidental discovery protocols, as a condition of resource consent, advising OGNZL of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 with regards to archaeology.
- There is a general requirement under the Resource Management Act 1991 to protect historic heritage from inappropriate development (S6(f)) if unknown significant historic heritage items are uncovered during the proposed works.

Heritage New Zealand Pouhere Taonga Act 2014 Requirements

In addition to any requirements under the RMA, the HNZPTA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by Heritage NZ (Section 42).

An archaeological site is defined by the HNZPTA Section 6 as follows:

'archaeological site means, subject to section 42(3), –

(a) any place in New Zealand, including any building or structure (or part of a building or structure) that –

(i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1)⁸,

Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be entirely demolished.

Authorities to modify archaeological sites can be applied for either in respect to archaeological sites within a specified area of land (Section 44(a)), or to modify a specific archaeological site where the effects will be no more than minor (Section 44(b)), or for the purpose of conducting a scientific investigation (Section 44(c)). Applications that relate to sites of Maori interest require consultation with (and in the case of scientific investigations the consent of) the appropriate iwi or hapu and are subject to the recommendations of the Maori Heritage Council of Heritage NZ. In addition, an application may be made to carry out an exploratory investigation of any site or locality under Section 56, to confirm the presence, extent and nature of a site or suspected site.

The likelihood of encountering subsurface archaeological remains related to former 19th century mining activities (T13/926) is high and they cannot be avoided. An Authority should therefore be obtained prior to works commencing. The conditions of the authority are likely to include the archaeological recording/investigation of any remains affected.

If the development involves the total demolition of the potentially pre-1900 building (T13/928) at 12 Cambridge Road, an Authority must be obtained from Heritage NZ before any work can be carried out that may affect the site. The conditions of the authority are likely to include the archaeological recording and investigation of the building prior to and during demolition, if it is not feasible to relocate it. Given the moderate archaeological significance of the building the recommended level of recording is a Level III (based on Heritage NZ 2014 guidelines). This is consistent with the assessed archaeological significance of the building. If the building can be relocated rather than demolished, as OGNZL have confirmed, recording will not be necessary, but an authority would still be required as there is the potential for associated subsurface pre-1900 remains.

While no other known archaeological sites will be affected by the proposed works, it is considered possible that unidentified subsurface archaeological remains may be exposed during development. To avoid any delays should unidentified subsurface features be exposed by the proposed works, consideration could be given to applying for an authority under Section 44(a) of the HNZPTA to cover all works undertaken for the MP4 project, as a precaution. This approach would have the advantage of allowing any archaeology uncovered during the development of the property to be dealt with immediately, avoiding delays while an Authority is applied for and processed.

⁸ Under Section 43(1) a place post-dating 1900 (including the site of a wreck that occurred after 1900) that could provide ‘significant evidence relating to the historical and cultural heritage of New Zealand’ can be declared by Heritage NZ to be an archaeological site.

Conclusions

The MP4 component of Project Martha will result in the following historic heritage effects:

- Realignment of Bulltown Road will result in the relocation of one late 19th century/ early 20th century villa at 12 Cambridge Road (T13/928);
- Realignment of Bulltown Road may also reveal or destroy unrecorded 19th century subsurface archaeological remains relating to settlement/ domestic dwellings or mining activities within the project area;
- There is a high probability that any pre-1900 subsurface archaeological features (T13/926) surviving in historical workings along the northeast edge of the Martha Mine pit will be destroyed by the pit expansion in this area. This cannot be avoided, but can be mitigated through archaeological techniques; and,
- Any findings from archaeological recording and analysis of the sites to be affected will add to the general knowledge of the historical mining community at Waihi, and this information can be interpreted or made accessible to the public.

No resource consents will be required for historic heritage as no scheduled historic heritage items are affected by the proposal. However, two previously unrecorded archaeological sites (T13/926 and T13/928), have been identified as a result of field survey and research. Therefore any consent granted should, as a condition of resource consent, include accidental discovery protocols and an advice note advising OGNZL of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 with regards to archaeology.

The proposal involves the removal of the building at 12 Cambridge Road, which is possibly pre-1900 in date. OGNZL have confirmed that the building will be relocated rather than demolished. However, any earthworks within the property are likely to disturb any surviving sub-surface archaeological features associated with the dwelling at 12 Cambridge Road, effects on which will also require an Authority under the HNZPTA, and there is some potential for similar deposits to be disturbed at 77 Bulltown Road. There is a lesser potential for such features to be revealed at 85 Williamson Street, but the possibility of surviving archaeological features of pre-1900 date cannot be discounted.

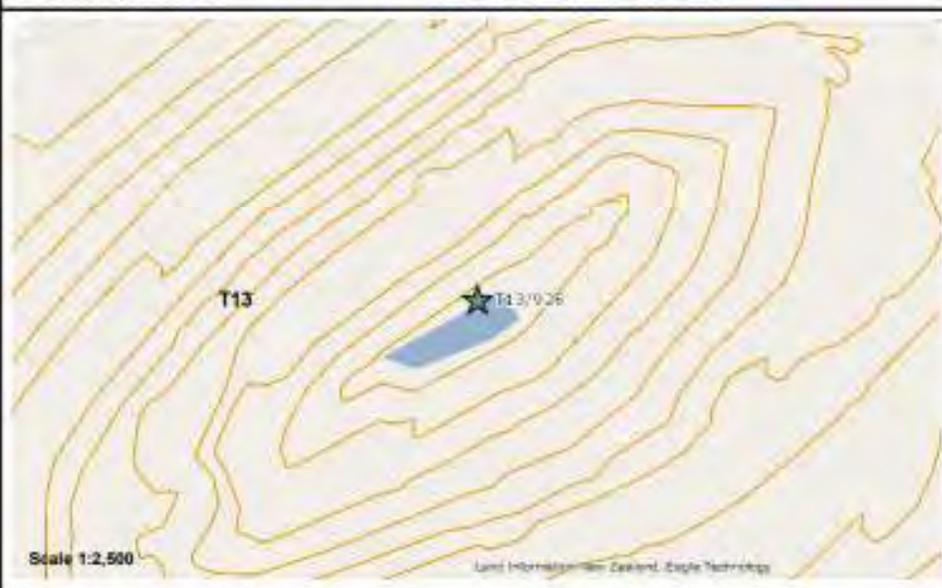
RECOMMENDATIONS

- Any consent granted should, as a condition of resource consent, include accidental discovery protocols and an advice note advising OGNZL of their obligations under the Heritage New Zealand Pouhere Taonga Act 2014 with regards to archaeology.
- Since the proposal may involve the destruction of archaeological remains associated with a pre-1900 building at 12 Cambridge Road, and destruction of 19th century underground mining workings, an Authority must be applied for under Section 44(a) of the HNZPTA and granted by Heritage NZ prior to the start of any works that will affect the building or could impact on pre-1900 subsurface remains. (*Note that this is a legal requirement*).
- The conditions of the authority should include investigation and recording of any pre-1900 archaeological remains affected by project works.
- The conditions of the authority should include remote investigation and research using modern survey techniques to recover information about the underground mining workings.
- The Authority should include all earthworks within the MP4 area as a precaution so that potential delays can be avoided should other sites be exposed.
- Detailed recommendations for archaeological investigation and recording should be set out in the Archaeological Management Plan (AMP) that will accompany an application for an Authority to modify an archaeological site.
- The proposal should provide for permanent or temporary interpretative material, which is visible to the public, and explains the history of the Waihi Mine if access is limited to the pit rim walk during works.
- Information on the history of the site and any outcomes from the archaeological investigations should be made available to the public, including on the Oceana Gold website.

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- Thornton, G. 1982. *New Zealand's Industrial Heritage*. A.H. and A.W. Reed Ltd., Wellington

APPENDIX 1: SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION		
 <p>Site Record Form</p>	NZAA SITE NUMBER: T13/926	
	SITE TYPE: Industrial SITE NAME(s): Underground workings at Martha Mine DATE RECORDED:	
SITE COORDINATES (NZTM) Easting: 1851632 Northing: 5858541 Source: On Screen		
IMPERIAL SITE NUMBER: METRIC SITE NUMBER: T13/926		
 <p>Scale 1:2,500</p> <p>Land Information New Zealand, Eagle Technology</p>		
Finding aids to the location of the site Martha pit, formerly Martha (Fukewa) Hill, Waikato. The historical Martha Mine generally occupied the area between Bullfrown Road in the north and Moresby Ave in the south, with Grey St and Seddon St to the east and Savage Road to the west.		
Brief description Underground workings of the Martha Mine including remnants of vertical shafts, the 175km long network of tunnels spread over many horizontal levels, as well as artefacts and remnant mining structures.		
Recorded features Mine		
Other sites associated with this site T13/215		

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: T13/926
<p>Site description</p> <p>Updated 13/09/2017 (Field visit), submitted by adinabrown , visited 13/09/2017 by Brown, Adina Grid reference (E1851832 / N5858541)</p> <p>The original Martha and Grand Junction Mines (1800s – 1952) are well documented. According to Mc Ara (1988): Mining operations at Waihi fall into five main periods related to the development and workings of the Martha and Grand Junction mines during the seventy years after 1862. The first period begins with the initial discovery of the presence of gold in the Martha reef by Robert Lee and John McCombe in 1878, and extends to 1891, by which time the mine had been purchased by T.H. Russell for 3,000 and along with other adjacent properties had been sold to the Waihi Gold Mining Company of London. The Company embarked on a vigorous programme of experimentation to discover a means of extracting a payable proportion of the gold from the ore and began scientific development of the mines.</p> <p>The second period goes from 1891 to 1894 and it was then that the economic feasibility of the mining was proved. Thomas Gilmour was appointed min manager and H. P. Barry superintendent. A profitable technique was worked out, and to set the seal of success on the operation the cyanide process of gold extraction became available.</p> <p>The third phase covered from 1894 to 1902 and was the period of maximum development, during which time new capital was infused into the operation and large-scale construction, including the Victoria battery at Waihi and the installation of heavy pumping gear, was completed. This made possible large-scale production, which marked the beginning of the fourth phase. From 1902 to 1910 were the boom years of Waihi mining; the output of the Waihi Gold Mining Company in 1908 reached 417,000 tons of quartz worth nearly 1,000,000 and brought unprecedented prosperity to Waihi.</p> <p>The final phase is represented by the forty years of steady production which followed a drop in output to about half the earlier maximum. * (pg 26-27).</p> <p>It is known, based on past archaeological investigations and mapping of historical shafts and tunnels, that some of the old underground workings survive in places from the original Martha and Grand Junction Mines (1800s – 1952) under the present pit and areas of the town. This could include remnants of vertical shafts, the 175km long network of tunnels spread over many horizontal levels, as well as artefacts and remnant mining structures. Within the underground works there are likely to be traces of previous mining activity, including tool marks, quarry marks, graffiti or other markings, and buried artefacts or features associated with the mining process.</p> <p>The underground workings at Martha Mine were not physically investigated at the time of the site visit due to reasons of health and safety.</p> <p>Condition of the site</p> <p>Updated 13/09/2017 (Field visit), submitted by adinabrown , visited 13/09/2017 by Brown, Adina</p> <p>It is likely that some of the old underground workings may survive in places from the original Martha Mine (1800s – 1952). The pit has been greatly modified since this time, so a fair proportion of the original workings are unlikely to remain, but they will still survive in some places as evident by past archaeological investigations in the area.</p> <p>Statement of condition</p> <p>Updated: 28/09/2017, Visited: 13/09/2017 - Below surface - Surface evidence has been obliterated, however, there is likely to be subsurface material present. Note that this is different from a destroyed site.</p> <p>Current land use:</p> <p>Updated: 28/09/2017, Visited: 13/09/2017 - Industrial/commercial</p> <p>Threats:</p> <p>Updated: 28/09/2017, Visited: 13/09/2017 - Quarrying</p>	

APPENDIX 2: HDP HISTORIC HERITAGE ASSESSMENT CRITERIA

The Hauraki District Plan (2014) Schedule of Historic Heritage Inventory assessment criteria is set out in Appendix 1 (HDP 6.1.6.8). The criteria for assessing heritage significance is:

(1) HISTORIC

- (a) The heritage item is important as a representative example of its type
- (b) The heritage item is important as a representative example in terms of age, historical aspects, time period, patterns or themes
- (c) The heritage item is associated with important people, groups, organisations or institutions who have owned, worked in, lived in or carried out activities in or on the heritage item
- (d) Associated with important historic events or actions
- (e) Settlement date
- (f) Commemorates an important person, event, idea, activity
- (g) Symbolises a feature of Hauraki District's past history.

(2) ARCHITECTURAL

- (a) The heritage item provides a notable, rare or representative example of architectural style, type or convention in either interior or exterior layout
- (b) Example of architectural innovation
- (c) Important example of a particular method of construction, use of material or design feature
- (d) Important example of a particular form of craftsmanship
- (e) Important work of a notable architect, designer, engineer or builder.

(3) TECHNOLOGICAL/SCIENTIFIC

- (a) Heritage item is/was important in the development of technology, technological innovation or technological process
- (b) Important technological process is still carried out
- (c) Representative example of engineering innovation and may include infrastructure.

(4) ARCHAEOLOGICAL

- (a) Potential to define/expand knowledge of early occupation through archaeological methods (any development pre-1900 would qualify here)
- (b) Representative example of site type, feature or activity
- (c) Formally recorded or listed archaeological site.

(5) SPIRITUAL/CULTURAL

- (a) Focal point for spiritual, cultural, customary, religious, social, political, philosophical values of the community
 - (b) Symbolic value
 - (c) Strong feelings of community association
 - (d) Distinctiveness of community identity, social history or way of life
 - (e) Tangata whenua values.
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- (6) CONTEXT
 - (a) Part of a wider cultural landscape/streetscape
 - (b) Listed historic area
 - (c) Important component of a group of buildings
 - (d) Important in terms of visual amenity/aesthetic value