

**Assessment of effects on archaeological and other
heritage values of the proposed Kaimai Wind Farm,
Tirohia, Hauraki District.**

Report to:

Kaimai Wind Farm Ltd

&

Ventus Energy New Zealand

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13/06/2018

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Introduction

Kaimai Wind Farm Ltd, a subsidiary company of Ventus Energy New Zealand, are planning a new wind farm development near Tirohia, involving the section of the Kaimai range between the Ohinemuri and Waihou Rivers as highlighted in Figure 1. The project falls within the Hauraki District Council (HDC) area.

The project proposes 24 turbine locations set across approximately 15 km² of hill country as set out in Figure 2. In preparing this report I have considered and incorporated the Civil Engineering Drawings, Resource Consent Issue: Rev A, Tektus Consultants, June 13 2018). The project area encompasses several Maori Land Blocks, now held as multiple free hold land titles by three separate entities, detailed in Table 1, defined in Figure 3.

An archaeological field survey across the project area was completed by the author on 28-29 December 2016. One archaeological site, T13/923, related to gold prospecting, and one archaeological sensitive area (A) was identified. This report assesses the archaeological values and the effects of the proposed development on those archaeological values. The NZAA record for T13/923 is presented in Appendix A.

Two wahi tapu registered with HDC (HAU 310 and HAU 319), and a possible third, undocumented, wahi tapu/burial area (east of Turbine 3), are known within the project area. Wahi tapu places are of significant cultural value and are protected under the Hauraki District Plan (HDP). An assessment of effects on these two heritage properties is also presented as an expected requirement under the resource consent process set out through the HDP Sections 5 and 6.

The pa site (NZAA T13/807), two other urupa (HAU 323 and HAU323) registered with HDC, and one other not yet registered (see 'tapu graves' annotation in Figure 2, within Rotokohu 5B2B Blk), are all located well outside the project area and are not considered in the assessment of values or project effects.

This assessment does not equate to an assessment of cultural values, which can only be defined by mana whenua, and which may differ from that stated herein.



Figure 1. Kaimai Wind Farm Ltd project area (red rectangle) near Tirohia, incorporating the hills between the Waihou and Ohinemuri Rivers. Map section from 1:250k scale topographic map, North Island.

Statutory requirements

HNZPTA 2014

Heritage New Zealand Pouhere Taonga (HNZPT) administers the *Heritage New Zealand Pouhere Taonga Act 2014*, which contains a consent (authority) process for any work affecting archaeological sites, where an 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.

Any person who intends carrying out work that may damage, modify or destroy an archaeological site, must first obtain an authority from the HNZPT. The HNZPTA 2014 contains penalties for unauthorised site damage or destruction.

RMA 1991 and Hauraki District Plan

The Resource Management Act 1991 (RMA) places a responsibility on the Hauraki District Council to recognise and provide for appropriate cultural heritage protection. In particular, the following matters must be recognised and provided for as a matter of national importance:

"The protection of historic heritage from inappropriate subdivision, use, and development" (Section 6(f) RMA)

"The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga." (Section 6(e) RMA)

The Hauraki District Plan (HDP) identifies heritage items for protection in its heritage schedule (Section 6.1.6). This includes historic buildings and structures, cultural landscapes, and some wahi tapu including urupa. The HDP schedule is not a complete register of wahi tapu in the district.

Methodology

This assessment involved desktop research and fieldwork.

Desktop research sources.

Site records relevant to the project were retrieved from New Zealand Archaeological Association site file (NZAA Archsite: www.nzaa.eaglelegis.co.nz). The HNZPT digital library catalogue was accessed for relevant field survey reports. The reports and publications consulted are referenced below. The HDP and the associated planning maps were accessed online (<http://www.hauraki-dc.govt.nz/our-council/district-plan/dp-text>). These show the locations of registered urupa/wahi tapu in the project vicinity.

The 1940s series (SN 488/12-18, 488/59-60, 489/13-21) and 1960s (SN 2993/26-29, 2994/26-32, 2995/27-35) series aerial photographs which canvass the project area were collated from Retrolens Historical Image Resource (www.retrolens.nz). These were inspected for visible evidence of archaeological sites.

Archaeological sites including fortified pa and storage pit complexes are often apparent in these images.

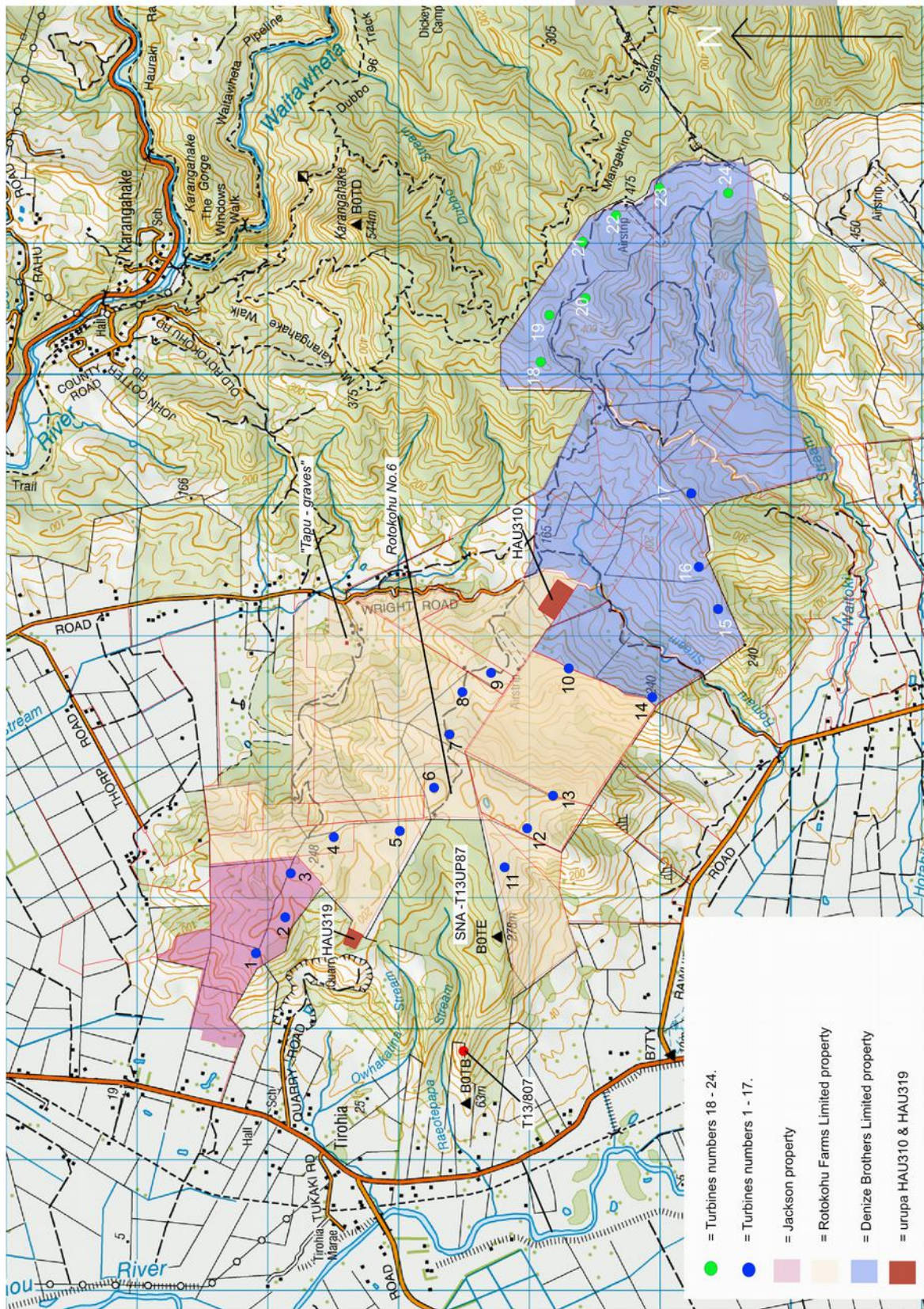


Figure 2. Map showing the proposed turbine locations across the project area properties arranged according to the three landowning entities. Location of the ridge pa site T13/807 shown, along with HDC registered urupa HAU310 and HAU 319 in vicinity of project area works. Scale 1:30,000. Turbine locations individually numbered.

Table 1. Legal title and description, and ownership data for the project properties. Note turbine designations identified by property.

Legal title	Legal description	owner	type	Turbine designation
355146	Lot 3 Deposited Plan 388840	MJ& RG Jackson	fee simple	1, 2, 3
355146	Lot 2 Deposited Plan South Auckland 38728	MJ& RG Jackson	fee simple	-
355146	Part Lot 1 Deposited Plan 28130	MJ& RG Jackson	fee simple	-
SA351/ 188	Taumatawahine No 1 Block	Rotokohu Farms (2014) Ltd	fee simple	4
SA684/ 149	Part Pukehange No 2 Block	Rotokohu Farms (2014) Ltd	fee simple	5
SA684/ 149	Lot 2 Deposited Plan 26637	Rotokohu Farms (2014) Ltd	fee simple	-
SA683/ 179	Rotokohu 5A2 Block	Rotokohu Farms (2014) Ltd	fee simple	-
SA370/ 146	Rotokohu No 6 Block	Rotokohu Farms (2014) Ltd	fee simple	6
SA339/ 161	Rotokohu No 5B Sec 2C Block	Rotokohu Farms (2014) Ltd	fee simple	7, 8
SA1749/ 2	Mangamutu 2B	Rotokohu Farms (2014) Ltd	fee simple	11
SA2A/ 587	Mangamutu 4A, 4B	Rotokohu Farms (2014) Ltd	fee simple	-
SA1729/ 44	Mangamutu 3A, 3B, 3C, 3D	Rotokohu Farms (2014) Ltd	fee simple	12
SA23A/ 876	Lot 1 Deposited Plan South Auckland 18879	Rotokohu Farms (2014) Ltd	fee simple	10, 13
SA319/ 172	Section 14 Block I Aroha Survey District	Rotokohu Farms (2014) Ltd	fee simple	9
NDA	Section 8 Blk I Aroha SD	NDA	NDA	-
SA23A/ 877	Part Pukemokemoke 1C Block	Denize Brothers Limited	fee simple	14
SA343/ 179	Pukemokemoke No 1B Section 2B Block	Denize Brothers Limited	fee simple	15, 16
SA302/ 176	Pukemokemoke 1B Section 1 Block	Denize Brothers Limited	fee simple	-
SA445/ 289	Pukemokemoke No 1B Section 2A Block	Denize Brothers Limited	fee simple	-
77898	Lot 2 Deposited Plan 319768	Denize Brothers Limited	fee simple	-
SA333/ 255	Section 20 Block I Aroha Survey District	Denize Brothers Limited	fee simple	-
SA674/ 162	Section 24 Block I Aroha Survey District	Denize Brothers Limited	fee simple	17
SA683/ 68	Section 21 and Section 25 Block I Aroha Survey District	Denize Brothers Limited	fee simple	-
SA674/ 161	Section 16 Block I Aroha Survey District	Denize Brothers Limited	fee simple	18, 19, 20, 21, 22
SA445/ 233	Section 17 Block I Aroha Survey District	Denize Brothers Limited	fee simple	23, 24
SA4E/ 480	Lot 1 Deposited Plan South Auckland 9393	Denize Brothers Limited	fee simple	-

Historic land survey plans, including plans of the Maori Land blocks and the historic mining claims, were collated using Quickmap software. These were closely inspected for details pertaining to archaeological or other heritage values. Plans of this period sometimes recorded the locations of burials or other notable contemporary places, such as pa, kainga and ‘tapu’ places. Appendix C contains copies of these plans.

Some further context to the area’s history was gained by a review of Maori Land Court minutes (Hauraki Minute Books - HMB) pertaining to the claims over the relevant Maori land blocks of this area, and through

a review of pre-1900 dated Appendices to the Journals of the House of Representatives held online (<https://atojs.natlib.govt.nz>).

A review of Downey’s (1935) publication on the gold mines of the Hauraki district was made with principle reference to the Karangahake area of the Ohinemuri gold fields. His work is a principle reference for information on historic mining activity in the region. Further information regarding the timing of historic mining activities was also found in several of the Appendices to the Journals of the House of Representative.

Fieldwork component

Ventus Energy Ltd provided the author with accurate GPS map grid coordinates of all 24 proposed turbine locations. The NZTM map grid coordinates and elevation data area presented in Table 2 below. The turbine locations 1-24 were established through wind-modelling and other processes. Each proposed turbine location was visited by the author and assessed with respect of archaeological potential. This involved a visual inspection for surface evident features such as pit depressions, ditches and presence of shell midden.

Road line data was made available subsequent to fieldwork. These mostly follow existing farm access tracks, which will be upgraded. A few will be newly formed. The road lines are designated as ‘PR ROAD 1’ to ‘PR ROAD 12’.

Recorded site T13/807, Rae-O-Te-Papa pa and associated wahi tapu HAU 323 and 324 are located well outside the project area. Another wahi tapu known with (Rotokohu 5B2B) is also outside the project area foot print (see annotation ‘tapu graves’ in Figure 2). These were not visited.

Table 2. NZTM map grid coordinate and elevation data for each turbine designation.

Turbine ID	NZTM E	N	elevation (m asl.)	Turbine ID	NZTM E	N	(m asl.)
1	1835533	5854117	182	13	1836812	5851770	304
2	1835837	5853892	202	14	1837527	5851039	237
3	1836210	5853821	230	15	1838158	5850540	290
4	1836427	5853498	237	16	1838624	5850740	312
5	1836467	5852984	233	17	1839089	5850779	310
6	1836802	5852739	319	18	1840055	5851893	482
7	1837207	5852571	270	19	1840450	5851827	473
8	1837549	5852535	230	20	1840453	5851455	487
9	1837739	5852234	259	21	1840980	5851581	485
10	1837781	5851737	240	22	1841229	5851285	452
11	1836154	5852122	265	23	1841420	5851006	460
12	1836483	5851953	300	24	1841381	5850475	461

Constraints

There are no constraints pertinent to this assessment.

Physical environment

The project area comprises the section of the Kaimai range that is isolated between the Ohinemuri and Waihou River valley’s, south of Paeroa. The area geology is a part of the Coromandel Group Miocene andesite and basaltic andesite lava, known in many locations through the Kaimai and Coromandel ranges for it auriferous qualities. The loam soil type across the hills and steep land country are strewn with numerous and massive boulders, most prominent where eroded in place on the high knolls.

This hill country is typically steep with some broad ridges. It is dissected by multiple stream tributaries including the Waitoki, Romaru, Reotepapa, Owhakatina which exit to the Waihou River, and the Kuaoit Stream that exits into the Ohinemuri.

The project land is above 200m. The lower elevation foothill type landforms below c. 120m asl and facing the Waihou River are largely outside the project area.

The proposed turbines will be positioned on high and prominent ridge knolls. The average elevation of the proposed turbines is 310 m above sea level (asl). One only turbine (Turbine 1) is below 200 m asl. Turbines 18 – 24, all designations within the Denize property, will be above 450 m elevation.

The project area land is currently under pasture farming regimes. Aerial photographs show much of the Denize Brothers farm land was cleared relatively recently, just prior to 1960. The bulk of the balance was cleared prior to 1948.

Historic Background

The deep and complex Maori history of the contested landscape that was Hauraki is only canvassed in brief here. Hako is the eponymous ancestor of Ngati Hako, who lived in the Hauraki region c. AD 1400-1450. He is the earliest ancestor referred to by claimants of this region during the Maori Land Court's hearings recorded in the Hauraki Minute Books (HMB) (Phillips 2000:54).

Early historical records emphasise the settlement foci along both the Waihou and Puriri Rivers, and the fluidity of the contemporary population along both associated with movements between pa and cultivations (Crosby 1991). The Waihou River and landscape was rich in resources including flax and eels. The majority of settlements were located on the banks of the river and concentrated at and along major stream junctions, such as the Puriri, Hikutaia and Komata streams. Along much of the lower Waihou River many settlements were built on raised foundations of sub-fossil shell ameliorating the generally wet conditions in this environment. Here suitable land for horticulture was available, principally in the form of river levees composed of better draining sediments, and up stream provided access into the hills and ranges.

Marutuahu the confederation of tribes Ngati Tamatera, Ngati Whanaunga, Ngati Maru and Ngati Paoa, invaded Hauraki approximately between AD 1650-1700. These tribes subsequently held manawhenua over the portion of Hauraki north of Komata Stream on the east bank of the Waihou, and north of Kurinui on the west bank (Phillips 2000:53). South of Paeroa the settlements marked boundaries between the Thames people and Waikato people (Crosby 1991:8).

At around this time the area to the south Komata, including the project area, was occupied by descendents of Tuhara (also of Marutuahu) who had married into Ngati Hako. For perhaps as much as the next century the battles continued for the control over the lands around the Ohinemuri junction, until Te Popo of Ngati Tamatera made peace around AD 1750-1775. At some later time other groups under Te Kiko and Tara of Ngati Raukawa descent took control of the lands in the area of the Ohinemuri junction (see Phillips 2000:50-55). The Ngapuhi invasion of 1820-21 led to a general abandonment of large areas of Hauraki for nearly a decade. After 1830 the Hauraki tribes returned and commenced trading with Europeans who had established themselves in the district.

With the growth townships over the following decades many of the traditional settlements were left for places like Grahamstown, Shortland (Thames) or Ohinemuri (Paeroa).

Maori Land Court

The Maori Land Court heard cases from Hauraki from 1866 (see Phillips 2000:51). An important case regarding Ohinemuri and Owharo was heard in 1870, at a time of increasing pressure on government to open

the Ohinemuri Gold field, and to negotiate between those groups willing to cede land for those purposes, particularly the Ngati Koi, and those who wanted to keep the area out of European hands, particularly influential chiefs of Ngati Tamatera (see AJHR 1870, A-19). With regard to Owharo, the court ruled in favour of Ngati Koi, not Ngati Tamatera, which contrary to the governments probable intentions, actually heightened difficulties in opening of the gold field, which was delayed till 1875.

The 1870 hearing saw Ngati Hako side with Ngati Tamatera’s stance on the gold field, to the effect they unwittingly divested themselves in the eyes of the court of their right as claimants to land in the district, disclaiming to own any land without permission of Tamatera. The effect of this led to a repeated failures in court over the coming decade and building tension over land issues among Ngati Hako (see AJHR 1879, G-6).

In 1879, following a dubious sale to the government by Ngati Koi of the Pukehange Block, a block which had yet to go through court, those tensions erupted and led to the ‘Ohinemuri disturbance’ (AJHR 1879, G-6). When several of Ngati Hako ambushed the survey party at Pukehange and twice shot one of the surveyors. Central to this dispute was the issue that part of the lands Ngati Koi had defined were also claimed by Ngati Hako.

The land court records and survey plans for the below listed blocks provide some information relevant to this assessment and are briefly summarised below. Figure 3 is an attempt to reconcile the contemporary cadastre with these early land blocks.

Maori Land blocks relevant to the project area include:

Takapau Blk	ML 4031		
Taumatawahine Blk –	ML 4383		
Pukehange Blk –	ML 6714,	ML 15664	
Rae O Te Papa Blk -	ML 6574	ML 8765	
Mangamutu Blk -	ML 6347	ML 10692	ML 18236
Rauwharangi tapu –	SO 3652,	ML 20766	
Pukemokemoke Blk	ML 4487	ML 11146	
Rotokohu Blk -	ML 6572	ML 10567	ML 11628

Pukehange Blk - Pukehange No.1 - HAU319.

The claim by Kingi Haua, of Ngati Koi, for Pukehange Blk (HMB 49, p.280) identified the burial of Waihi, the man, at Pukehange, along with another (name indecipherable) earlier burial there. He also mentioned kainaga related with the block and the adjacent Taumatawahine Blk.

The plan ML 6714 shows a square which is presumed to identify the burial location. A much later subdivision plan, ML15664 (1936), defines Pukehange No.1 as a separate 4 acre area and is described as the location of the urupa. The boundaries of Pukehange No.1 are registered in the HDP as wahi tapu HAU319 (see Figure 2). The boundaries of Pukehange have been encroached upon by the modern quarry works and are not easily reconciled with the modern cadaster. The block boundaries are not shown in Figure 3.

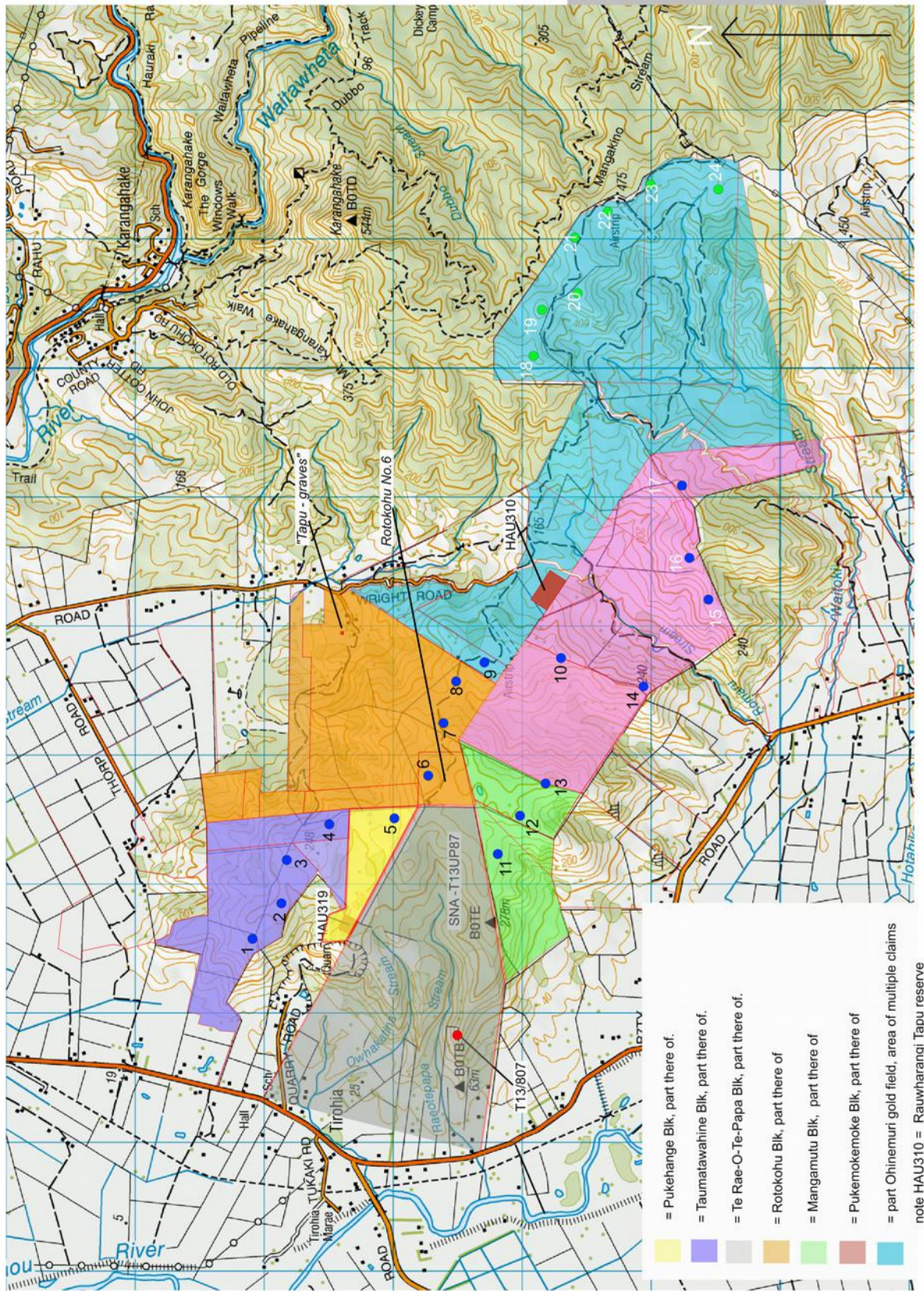


Figure 3. Reconciliation of modern cadastral boundaries with original Maori Land blocks. Note actual total area of the Maori Land blocks are not shown, only those parts of each block within/equating to the project area properties.

Taumatawahine Blk

The claim for the Taumatawahine Block (HMB 12, p.336) by Haeroa Mimiha of Ngati Koi mentions the presence of several unnamed burials, the locations of which are not defined.

Plan ML 4383, dated to 1878, has shows the higher hills of the block under a cover of mixed bush at this time.

Te Rae-O-Te Papa Blk

The claim by Ngati Hako for the Te Rae-O-Te-Papa Block (HMB 49, p.176) mentions two kainga, Te Raeotepapa and another (name indecipherable), the location of which is not made clear, and notes ancestors lived at Pukehange. The burial of one of their ancestors, Te Poporo, is mentioned, but no location given. It is noted that this block is closely related to the Managmutu Block and to kainga therein, including Okahukukura and Tihiroa.

Plan ML 8765, dated 1913, of Rae-O-Te-Papa identifies three areas of ‘cultivations’ all located along the east bank of the Waihou, and each associated with houses, including “Ngawiki’s house” to the north, a “meeting house” near the present Tirohia Marae at the junction of the Owhakatina Stream, and a group of two unnamed houses at the junction of Raeotepapa Stream with the Waihou.

The earlier 1893 dated plan ML6574 shows none of the above cultivations or houses. Either the area was not occupied in that manner at that time, or the surveyor thought not to include that information. The only other relevant information from this early plan is the suggestion that the upper higher hill country, adjacent to Pukehange and Rotokohu Blocks, remained under bush cover.

Neither the pa known as Te Rae-O-Te Papa (NZAA record T13/807), nor the locations of the burial mentioned in the land court minutes is identified in these early plans. Nonetheless, two separate burial/urupa or wahi tapu are identified in the modern cadastre and listed in the HDP as follows:

HAU 323, Rae-O-Te Papa South No.2B Blk; and

HAU 324, a Maori Reservation within Pt Rae-O-Te Papa South 3B2A Blk.

These are located close by to the west and south of Te Rae-O-Te Papa pa (T13/807).

Rotokohu Blk

The earliest plan, ML 6572, dated to 1894, and both later plans ML 10567 (1917), and ML 11628 (1919) all show the higher hill country parts of this block, i.e. those areas adjacent to the shared boundaries with the Pukemokomoke, Managmutu and Taumatawahine Blocks, under native bush. The ridges north below the bush line are described as in fern, probably bracken.

These plans all also indicate a small ‘old clearing’ of bush existed along the south western margin of the block, within the subdivided section Rotokohu No.6. The plan ML 6347, for Mangamutu blk, also identifies this same clearing and refers to it as an old cultivation.

The 1917 and 1919 plans also identify cultivations along part of the lower country, adjacent to the upper reaches of Kuaoit Stream (called Rotokohu Stream in the plan), in the vicinity of today's Wright Road (or Rotokohu Road).

Plan ML 6572 shows two penciled in square areas marked ‘tapu’ which are probable references to burial places. They are positioned close to each other at the northern property margin, on a low spur above a swampy wetland associated with Kuaoit Stream, which I think equates to an area within or north of the golf course.

In the 1919 dated plan another single square area is demarked and referenced with a description “Graves *TAPU*”. The different locations suggest these are not referring to the same place as in . This ‘reserve’ area is maintained in the modern cadastre as an associated element of Rotokohu 5B2B. It does not have separate reserve or legal title of itself. This wahi tapu area is yet to be registered with HDP.

Mangamutu Blk.

Plan ML 6347 (1891) shows the bulk of this block was under bush. Importantly, it identifies an area of ‘open clearing, old cultivations’ within the adjacent Rotokohu No 6 Blk. This location equates to a high standing part of the project area, being a broad flattish portion of the main ridge forming this part of the range, and at the junction of several main spurs.

Pukemokemoke Blk

Plan ML 4487 (1880) defines the Pukemokemoke Blk from Waitoki Stream north and encompassing much of the western aspect hills facing the Waihou beyond the Romaru Stream to the shared boundary with the Mangamutu Blk. It incorporates most of the western half of the Denize Brothers land and the Rotokohu Farms Ltd property. The northern boundary was defined by the 1875 Ohinemuri Goldfield boundary.

ML 4487 identified a portion of the ‘old road’ and ‘new road to Te Aroha’, adjacent to what must be Romaru Stream, and is otherwise only notable for the identification of two small areas labelled ‘fern clearing’.

The later plan of Pukemokemoke, ML 11146, dated 1918, shows almost the entire block was under bush at that time. It also delineates fully the extension of today’s Wright Road/Rotokohu Road which was an important access route between Paeroa and Ohinemuri to Te Aroha. ML 11146 also shows similar areas of ‘fern clearing’ surrounding the upper reaches of Romaru Stream, and most notably these are in the immediate vicinity of the small Maori Land block Rauwharangi tapu.

It is worthwhile also mentioning the adjoining Maori Land block, Te Paeroa No.1A and 1B blocks, which took up the lower land adjacent Waitoki Stream and west of Pukemokemoke Blk out to the Junction with the Waihou River. Plans ML 3988 (1878) show an area of plantations and cultivations close to the junction, along with an associated single ‘house’ and several ‘whare’.

Rauwharangi tapu

This is a 10-acre reserve area located near the top of Romaru Stream and adjacent to the old Paeroa-Te Aroha road mentioned above. Its location is highlighted in Figure 2. This is a registered wahi tapu in the HDP, designated HAU 310.

The land was set out from the southern Ohinemuri Gold Field boundary (see SO 3652 (1884) and ML 20766 (1973), where it backed onto Pukemokemoke Blk. It was vested in Hoera Mimiha, of Ngati Koe in 1882 (HMB 14, p.308). The HMB does not detail any further information as to nature of any past settlement or presence of burials at this location.

The reserved land is possibly associated with areas marked as fern clearings in plans ML 3652, ML 4487 and ML 11146, and this may be indirect evidence of a previous settlement there, but this can not demonstrated conclusively.

Gold prospecting and mining

The Ohinemuri Gold Field was opened in 1875 (see AJHR 1875, H-15). The old gold field’s southern boundary ran a line NW-SE from near the top of Wright Road (see plans SO 3652 [1884], ML4487 [1886] and 9062 [1896] for example), and included much of the Denize Brothers Ltd, and part of the Rotokohu Farm Ltd lands.

The nearest active area was Karangahake where presence of auriferous leaders and veins associated with Karangahake Mtn had been known for several years prior. Numerous claims were set out across the Karangahake area. Early claims were focused across the section of hills south above the Waitawheta Stream, including the Dubbo Stream (see SO 4479). The Adeline claim, situated at the top of Dubbo Stream just north of the project area boundary, along with many other claims, was thrown open to tributers for prospecting in early 1890s due to its limited success (Downey 1935: 201).

In the mid to late 1890s a number of claims including Germanic S.C. (SO 7754), Princess May S.C. (SO 8585) and Union Jack S.C. (SO 8070), were set out through the very southern part of the field and equate to parts of the project land. The later claims seems to have been spurred on by the potential for improved gold recovery via introduction of the cyanide process around this time (Downey 1935: 204). None of the claims in the southern margin of the gold field are mentioned in Downey (1935: 199-211), suggesting prospecting there was a lack lustre affair.

In his 1898 report to government summarising his geological survey in the area from Tirohia to Ohinemuri and Owharoa to Waihi (AJHR 1898 C-9, p.9), Alexander McKay noted there was yet to be any real successful workings across Karangahake. After this time the main success was the Woodstock and Tailsman mines closer to the Ohinemuri itself.

Previous Archaeological work

The project area has not been the direct subject of previous archaeological field surveys. All previously recorded sites in the project area vicinity are located in Figure 4.

In 1991 Ritchie and Gumbley conducted a survey of the east bank of the Waihou from Tirohia to Te Aroha, during which they found only a single questionable site (T13/737). While taking into consideration the few late 19th and or early 20th Century settlements of small groups at locations close to streams junctions with the Waihou River, such as those at Waitoki and Owhakatina as per ML 3988 (1878) and Plan ML 8765 (1913), Ritchie (1992: 157) remarked that his survey area appeared remarkably bereft of early Pre-European sites. Ritchie reported an apparent absence of raised shell areas or mounds and of associated cultural midden deposits, pre-European settlement landscape features which are a comparatively numerous along the lower Waihou River. No further more detailed survey involving sub surface testing has been made to better delineate this apparent absence of sites. It is notable that Ritchies' survey did not identify evidence in the area of the possible pa T13/816 (an L-shape ditch recorded in 2000 from aerial photographs) at the junction of Raeotepapa Stream. The methodology of Ritchies' survey is unclear, and further work would need to determine if the perceived lack of shell is evidence of a lack of settlement, or if settlements in this area lack shell and are only observable as areas of charcoal blackened living surfaces, possibly buried. Also, the 1979 record by Best of a now destroyed midden, T13/25, which was described as located on the west bank of the Waihou River, adjacent Hotahika Stream junction, suggests other buried midden may occur (see location in Figure 4). Ritchie surmised a possible reason for the apparent absence of sites was in the areas the social context as a potential frontier or disputed area between Ngati Haua to the south and the Marutuahu and Ngati Hako people.

Several surveys of the he lower Waihou River, north of Paeroa, are important to mention as they provided a general framework for understanding the typical pre-European period settlement pattern of the district.

Best's (1978) work along the east bank of the Waihou from Paeroa to Thames included all the main side streams in between up to the foothill boundary. He also covered all main ridges and spurs of the hill country between Kirikiri and Puriri Streams, from the low rolling hills up to the 450 m asl contour. Best recorded over 100 sites, mainly shell midden and demonstrated that while midden sites and storage pits do occur in the

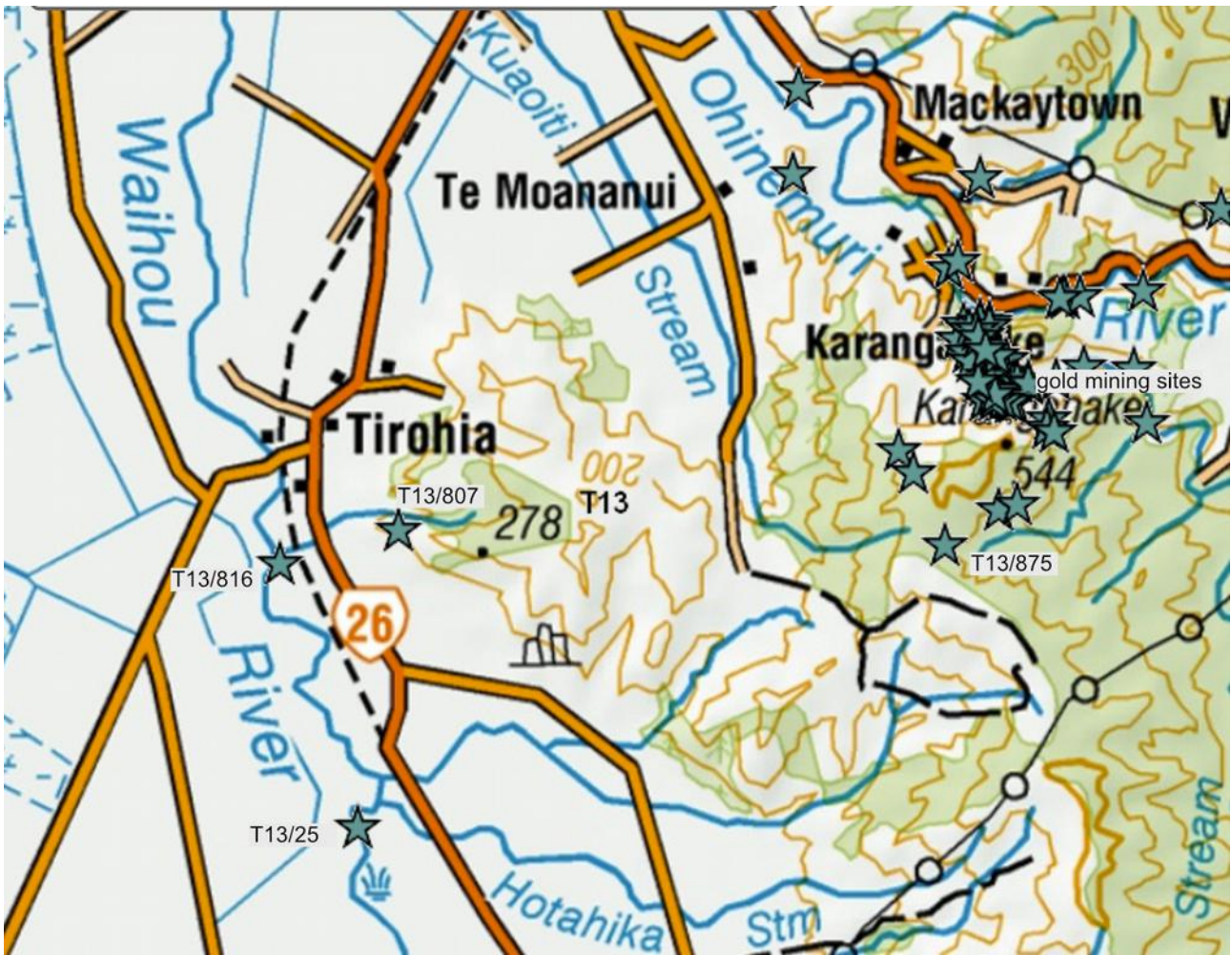


Figure 4. Excerpt from NZAA site distribution map. T13 map sheet. www.archsite.eaglegis.co.nz/NZAA/Map

foothills, most of the occupation evidence is concentrated close to the banks of the Waihou River and is characterised by shell midden.

Twohill's (1979) survey focused on the foothills and higher ridges on both sides of the lower Kauaeranga River valley, and areas south to Matatoki Stream. In doing so he covered some of the same ground around as Best (1979). Twohill recorded over 70 sites, the majority comprising midden and storage pits. His observed site distribution reinforced an interpretation that pre-European settlement patterns were focused primarily on coast and river. He noted concentrations of midden close to the sea cliffs and on spurs overlooking extensive flat river valley flood plains where cultivation of kumara is presumed. He also recorded several pit sites on the higher hills, on knolls or spurs between the 200 - 350 m asl contour.

Crosby & Loughlin (1991) undertook a survey of the western bank of the Waihou from its mouth upstream to Paeroa. This survey aimed to fill that gap in then survey coverage, and to compare site distribution evidence on either side of the Waihou River. About 70 sites were identified all along the river edge including flat land pa, small and large raised shell mound complexes, shell midden and associated areas of blackened charcoal enriched soils. They noted four areas of concentrated settlement, 1) around Oruarangi (Matatoki Stream junction); 2) a cluster of immediately upstream of Turua across to the adjacent Puriri stream area; 3) sites concentrated around Te Kare pa and the Hikutaia Stream; 4) a cluster of pa and shell mounds located near the old junction of the Ohinemuri and Waihou Rivers, including Ruapa and Opitaa.

Some site excavations have taken place including a number of pa on the Waihou, such as Oruarangi (Best 1980), Opita pa (Phillips 1994), Hurumoimoi and Pukehue (Allen et al. 1994), as well as several sites on the Puriri Stream (Bedford & Allen 1992). The details of these works are beyond the scope of this assessment.

A number of later smaller scale surveys were done across properties along the western flank of the Kaimai Range for afforestation and subsequent forestry related work. Coster & Johnson (1979a, 1979b) survey of Mitchels and Klaus Blocks, south of Te Aroha, prior to those lands being planted in pines, identified a complex set of sites including pits and terraces (T14/57 and T14/58) at elevations between 180 – 210 m asl, with a defended pa (T14/15) located higher at 310 m asl. Furthermore, Coster's (1980) excavation of two sites, prior considered doubtful sites with vague surface expression, of which one (T14/58) proved to be definite storage pit and the other is considered probable evidence of cultivation. Coster's investigation adds a degree of confirmation of the potential for pits and small area cultivation at or just above the 200 m asl contour in this district.

Both Gumbley's (2006) and Hoffmann's (2013) later work in the Kilarney Lakes and Manuwaru area respectively, offer a level of elevation control on Coster's findings. In both cases sites believed to be storage pits that were described at and above the 300 m asl contour were shown to be natural tree throw features. Hoffmann (2013) undertook substantial subsurface investigation across large areas of the ridge below Motutapere, where T14/128 was recorded from aerial photographs. No archaeological evidence was encountered between the 300-400 m elevation on this ridge.

In summary, available archaeological data shows that the vast majority of pre-European archaeological sites in this region of Hauraki were focused along the river banks, often at junctions with its' main streams. It also show the settlement pattern involved considerable territory across the foothills, and in few instances also included places higher up ridges up to about 300 m asl. Without a major review of site locations and GIS based statistics it is difficult to be precise, however, the suit of recorded sites depicts a pattern with sites such that pa, pit and terrace type sites, sometimes with shell midden, being commonly found between 100 – 200 m asl, on the lower rolling hills, with some few examples at elevations between approximately 200 – 300 m asl, and a minority of these are higher than c. 250 m asl.

Gold mining sites

The vast majority of surface visible mining features, such as adits and shafts, related to the historic gold mining activity at Karangahake were first recorded by Ritchie in the 1980s and later relocated by Hoffmann in 2010 as part of the DoC and NZAA site record upgrade programme. Due to the nature of these mining activities most of the workings are under ground. These sites, primarily adits and surface evidence of stampers and other buildings relate to the Talisman and Woodstock mines, and much of it post dates 1900, so a large portion does not technically fall under the purview of the HNZPTA 2014. Nonetheless, this complex of sites forms an important suit of sites for other heritage values and is managed and protected by DoC.

Results

A single previously unrecorded site related to gold prospecting was identified within the project area (see Figure 5). It is now recorded as NZAA site T13/923. See attached site record.

A single archaeologically sensitive area (A) was also identified (see Figure 7) based on information from historic plans indicating old cultivations present there.

The relative locations of the HDP registered wahi tapu HAU 310 and HAU 319, in the vicinity of the project area, are further detailed below (see Figures 6 and 8).

The author was also told by the current landowner (Mr. R Thorpe) of a possible wahi tapu within the Taumatawahine No.1 Blk, known to him through story handed down by his father. It is understood to be a single burial, described as on the knoll c. 100 m east of proposed Turbine 3.

No other archaeological feature or deposit was identified at any proposed turbine location.

T13/923 – mining adits:

Two adits are identified within the property SA674/161, part of the Denize Brothers limited farm. NZTM map grid references are given below. The location of these adits is shown in Figure 5. These prospecting features corresponds to land within the area of either the Union Jack or Golden Reef claim, which date to 1896.

Adit 1[E1840097 / N5851739] is located at the above grid reference, 425m asl. Its a partially collapsed prospecting adit and was not entered. A small mullock heap/terrace (tailings dump) is visible on eastern aspect slope forward of entrance, under grass. The existing benched farm access track is c.30 below the adit, c. 10 m below the lowest point of mullock heap, and 2.5 m from the top of earthworks batter for the road upgrade (see Figure 5).

Adit 2 [E1840489/N5851680] is a completely collapsed prospecting adit entrance with a Mullock heap visible on western aspect fore slope.

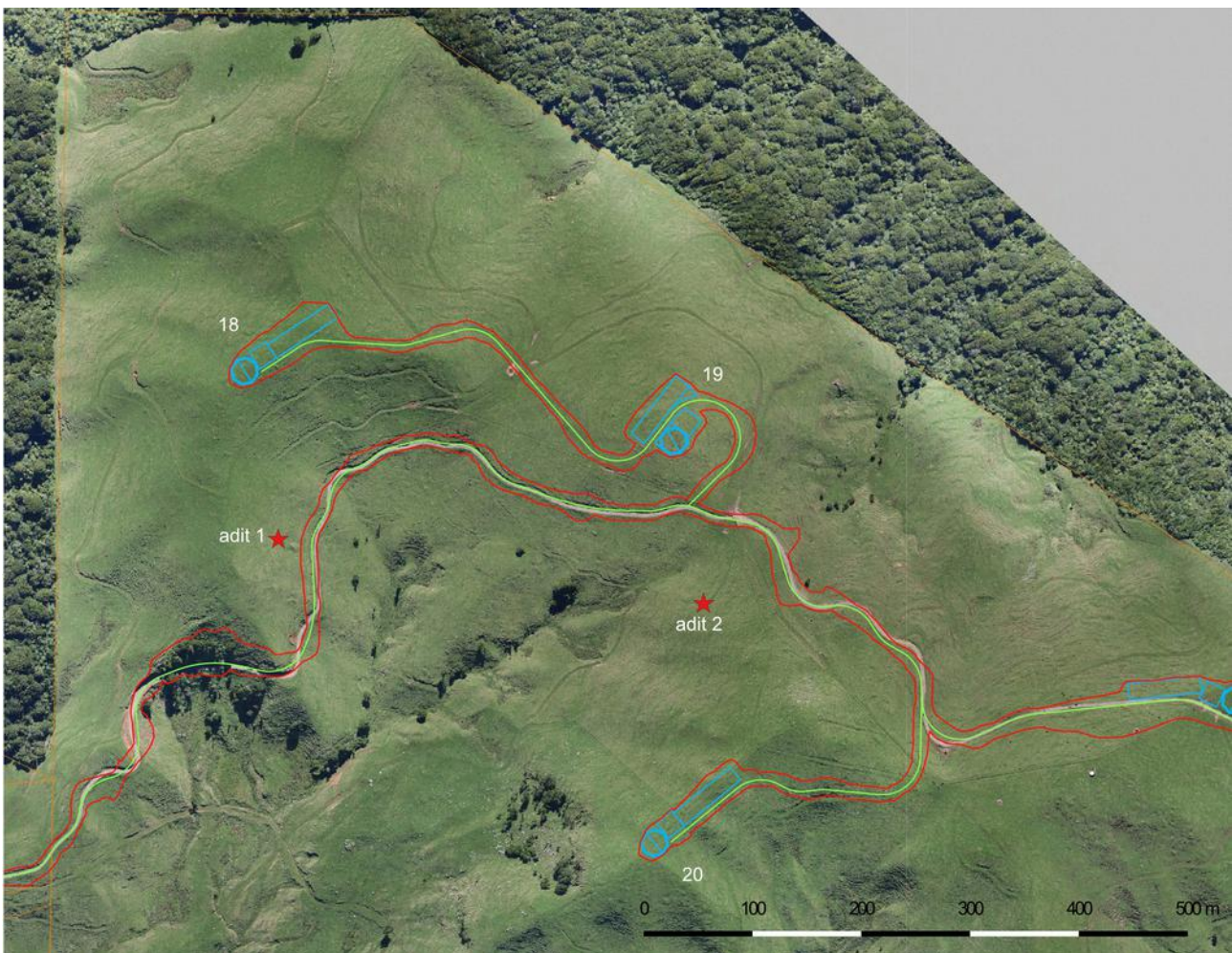


Figure 5. Location of adit features (red stars) recorded as T13/923, in vicinity of proposed turbine designations 18-19 (blue polygons). Note red line is extent of road earthworks cut. Green line is road centre line.

Turbines 18 - 24:

Turbines 18 - 24 will occupy locations over 450 m asl elevation, at or near the peak of the range, with views north across to Waihi and down to the Dubbo Stream/Waitawheta Stream catchment.

There are numerous tree throw depressions all over the knolls where these turbines are proposed. The depressions exhibit mounds on the fore slope side and are a clear artefact of the clearance of bush between 1945-60.

These depressions are not kumara storage pit features. There are no archaeological constraints at these locations.

Rauwharangi tapu – wahi tapu - HAU310:

This 10-acre reserve area is a relatively low lying piece of land involving the northern end of a branch spur and its northern aspect slopes down to the Romaru Stream, near to its head waters. The area is under grass pasture.

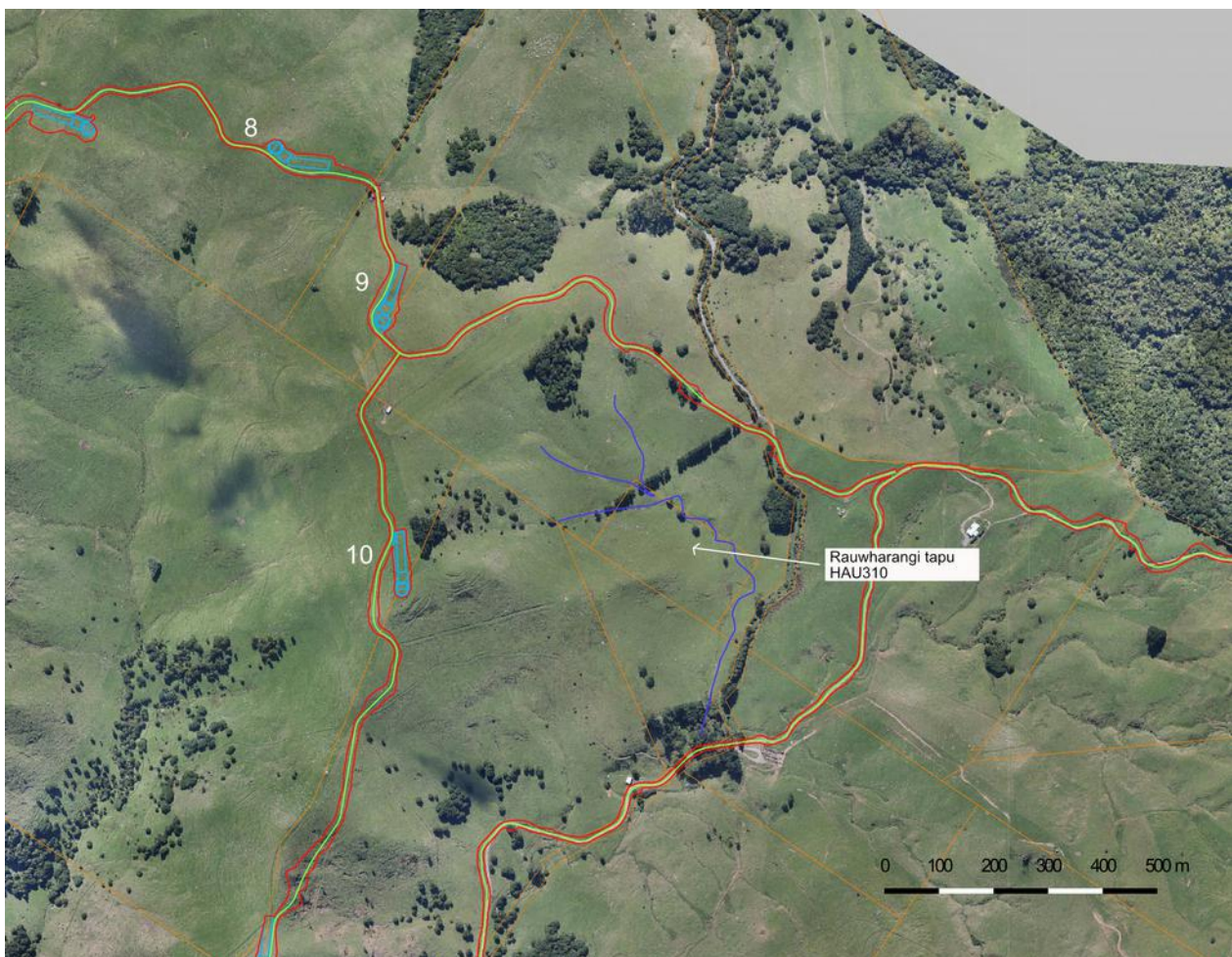


Figure 6. Rauwharangi Tapu, HAU 310, cadastral boundary data, road lines and proposed Turbines 8 – 10. Note approximate alignment of the Romaru Stream line shown in blue.

I inspected the top of the spur, the slopes and part of the flatter land closer to the stream bank and saw no surface visible evidence of archaeological features or deposits, and did not detect shell midden.

The available information from the Maori Land Court minutes provides no direct indication of the nature of past use of the area, such as a kianga settlement, or presence of burial(s) at this location. The historic plans, particularly, ML 3652 and ML11146 indicate the area was associated with cleared fern lands, which may indirectly imply a use of this area following clearance of the native bush cover for either crop cultivation, or as a settlement for a period, or potentially, the area was a specifically chosen location for maintenance of fern land for edible bracken (*Pteridium esculentum*) harvest? For these reasons this property would be rightly also considered as archaeologically sensitive.

Turbines 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17:

These locations are at prominent ridge peaks between 230 and 310 m asl, across parts of the ex-Pukemokemoke, Mangamutu and Rotokohu blocks.

No evidence of archaeological features was evident on the ground at any of these location. No evidence suggestive of ditch, pit or other type earthworks is visible at or in the vicinity of any of these locations in the aerial photographic series reviewed.

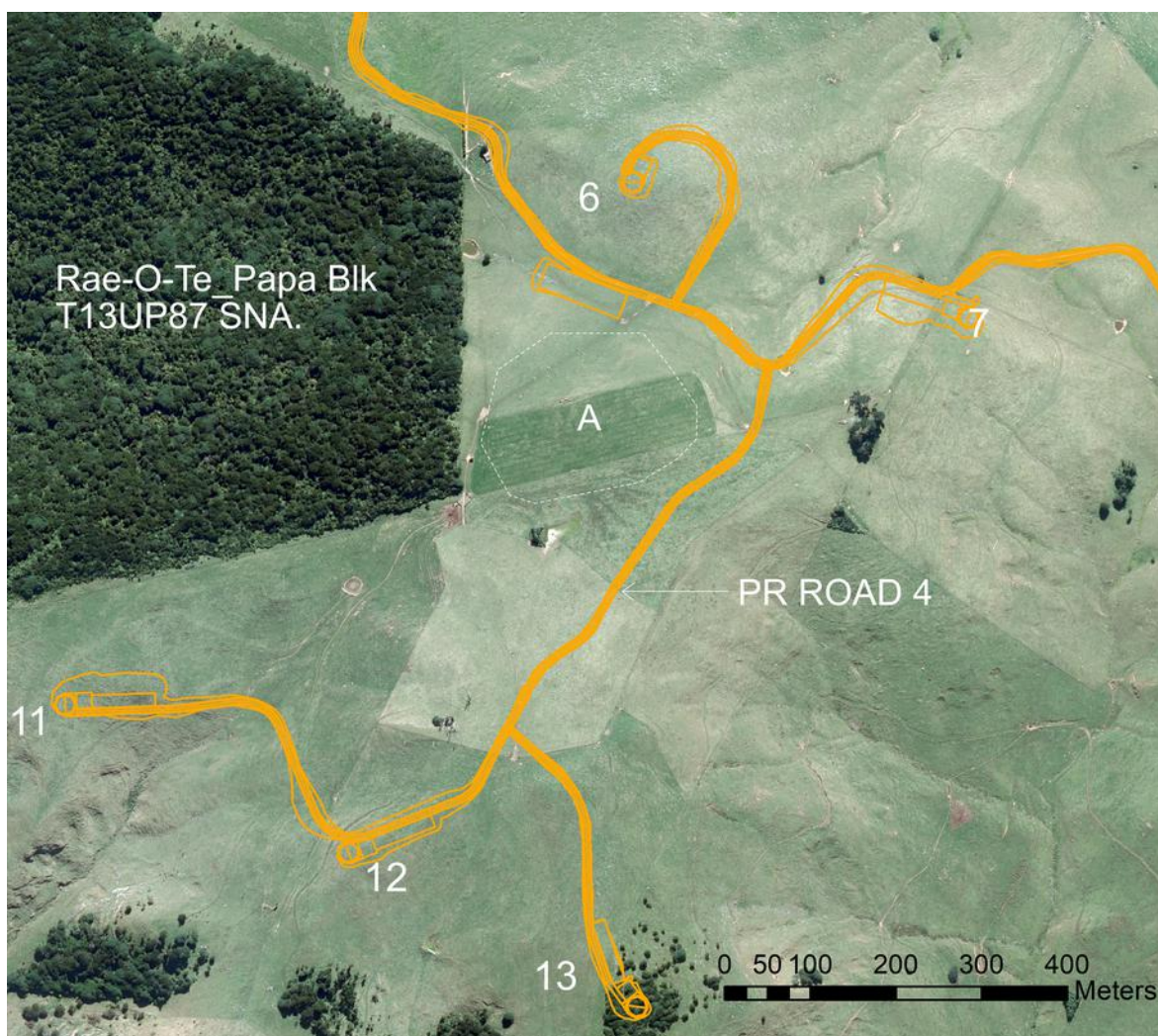


Figure 7. Sensitive area A, is the area approximately marked within the dotted white line, equating to the estimated extent of the old clearing/old cultivation described in ML6347, ML6572, ML10567, ML10692. Note location of proposed PR ROAD 4 avoids it to facilitate access to Turbines 11 – 13.

PR ROAD 4 – access road – sensitive area A:

A sensitive area is defined as a location for which there is no clear surface evidence, but for reasons stipulated there is cause to suspect archaeological features or deposits may exist which may be identified if investigated by archaeological methods.

The location of an “old clearing/old cultivation” is marked on plans ML 6347, ML6572, ML 10567, ML 10692 of the Rotokohu and Mangamutu Blocks, and its position is estimated in Figure 7 (white dotted line). From the limited information available the author can only surmise that this clearing either related to an upland area of either kumara cultivation (somewhat unlikely), or of white potato in the early post European period (somewhat likely). Alternatively, it may be the area was a specifically chosen location for maintenance of edible bracken stands, an important staple of the Maori diet also. The location along what may have been a walking route across the range would support the idea it formed a ‘stop over’ point with food resource available. Archaeological features or deposits in these instances would take the form of artificially deepened soil horizon (Ap-horizon), which conform to the definition of a site under HNZPTA 2014.

This location is situated at a relatively flat broad piece of terrain, c. 300 m asl, which places it at around the inland limit of pre-European Maori sites.

A fresh water pond exists in this area, shown in the NZTM topographic map (see Figure 2) and highlighted in Figure 7 (light blue area). The pond is a natural depression that is filled naturally with rain water surface run off. This may also have been a reason the clearing existed.

Turbines 4 and 5

Between 230-240m asl, no archaeological features or deposits were evident at any of these two proposed locations. No indication of the possible presence of archaeological deposits was identified in any aerial photograph or historic plan.

Pukehange No.1 – wahi tapu - HAU 319

The location of Pukehange No.1, registered as urupa HAU319 with HDP is highlighted in Figure 8. There is a small knoll within this block on the top of which is a fenced off area (shown as solid red area in Figure 8), which is believed to be the burial location. There are no other surface evident indications of an archaeological features or deposits.

Turbine 3 - Possible wahi tapu - burial:

A possible wahi tapu place is known in the area of proposed Turbine 3 (see Figure 8). This location equates to a high knoll strewn with large boulders. Information about this area derives from Mr. R Thorpe, landowner (Rotokohu Farms Ltd) who recalls his father’s mention of it. The Thorpe family are one of the original European families in the district. The wahi tapu is described as a single burial.

The location is not presently registered with HDP. Further information about this place may be gained from discussion with mana whenua. The area did not exhibit any surface visible indications of archaeological feature or deposit.



Figure 8. Location of Pukehange No.1 – wahi tapu HAU 319, shown relative to the proposed turbines 1 – 6. And location potential

Turbines 1 and 2

No archaeological features or deposits were evident at either of these two proposed locations. There was no indication of a likely presence of archaeological deposits in either the earliest aerial photograph (488/60) or historic plans.

With respect to Turbine 1, the knoll directly NW of it, at grid reference (E1835486/N5854104), shows an unusual linear feature forming a cut bank across the shoulder slope and above a saddle. I inspected this area closely, including the adjacent slopes, but found no convincing evidence it is of archaeological origin. Aerial photographs from 1948 (488/60) have no indication of the linear feature in this location, nor anything suggesting presence of a pa for example there. The 1960s aerial image (2994/27) similarly lacks any sign of this feature. I can only conclude that the feature is a modern cutting into the hill slope for unknown purpose. A similar, clearly bulldozed, bank was evident on this farm on an adjacent ridge knoll.

Archaeological values

This section is limited to archaeological considerations of the single recorded gold mining site T13/923, and of the archaeological potential of Sensitive Area 'A'.

T13/807, Rae-O-Te_Papa pa is not located within the project area and is not discussed.

T13/923:

Condition: The feature adit 1 remains in fair surface condition, still partially open. Adit 2 is in poor condition having completely collapsed.

Rarity: Not rare. Common

Context: Features are a part of prospecting activities at the southern margin of the Ohinemuri goldfield.

Information: Other than the location information they provide within the margin of the gold field, these features offer no further information potential.

Amenity: None.

Cultural: An isolated part of the historic European gold mining exploration in the District.

Sensitive Area "A"

Condition: unknown, possible subsurface evidence.

Rarity: Uncertain.

Context: Possible evidence representing upland kumara cultivation (somewhat unlikely), or possibly post-European contact period cultivation of white potato (somewhat likely), or possibly of a clearing maintained for edible bracken recovery (somewhat likely).

Information: There is a slim chance that investigation may yield evidence of crop cultivation by Maori, in the form of anthropic soils, or of fern harvest and maintenance, or elements of an inland occupation. Modern farming practices may have obliterated this evidence. If Maori Ap-horizon soils are preserved the area would fall within the definition of an archaeological site. Microfossil samples could yield evidence of white potato cultivation, a result that would assist understanding an early European period settlement/use of this area. A presence of Ap-soils may also offer a chance to obtain comparative soil profile data that may assist differentiating interpretations of pre-European cultivation/harvest of kumara vs. bracken.

Amenity: None.

Cultural: Maori. Uncertain. Potentially pre-European or early-European period cultivation activity.

Heritage values

The Hauraki District Council registered wahi tapu HAU 310 (Rauwharangi Tapu) and HAU 319 (Pukehange) are areas of significant to mana whenua, and are a physical connection to their ancestral heritage.

The heritage values of these wahi tapu can only be adequately expressed by mana whenua. These places are protected under the HDP and RMA 1991.

The heritage value of the possible wahi tapu/burial east of the proposed location of Turbine 3 is unclear. It is located within the Taumatawahine Block (HMB 12, p.336), where Haeroa Mimiha of Ngati Koi mentioned presence of burials during Maori Land Court Hearing in 1880. Discussions with mana whenua in conjunction with the land owner could assist in order to gain clarity on the cultural heritage of this place.

Assessment of effects

Turbine construction

The construction foot print for each proposed turbine is approximately 0.5 – 1 acre. Earthworks will involve formation of a flat platform of that size, and will require substantial cut work in most instances.

Road construction

Road alignment and construction has been defined as PR ROADS 1 to 12. The road alignments are annotated and detailed in Appendix B. The majority of instances will involve upgrade earthworks along existing farm tracks, particularly widening and grading to allow for the large transporters to navigate the area. In a few instances, including PR ROAD 4, new short sections of road will be constructed to reach turbine locations.

No likely effects to T13/923

Construction of turbines 18, 19 and 20 will not effect Adits 1 or 2.

An existing benched farm track will be upgraded to formation requirements for PR ROAD 7. Adit 1 entrance is located 20 m uphill from the proposed top of batter for PR ROAD 7, and the lowest part of the mullock heap is 2.5 m from the top of batter. Batter cutting earthworks will not modify Adit 1 or its mullock heap. Road upgrade works will not impact Adit 2.

Sensitive Area A:

Construction of PR ROAD 4 avoids Sensitive Area A and will not be modified by it. Appendix B, drawing 200-3, Revision A, shows several potential clean fill site along PR ROAD 4. The northern most of these is at the southern margin of Sensitive Area A. The project manager has been notified of this by email and has confirmed this particular proposed site will be removed from the plan and no dump used at this position (pers.com Glenn Star, 13 June 2018). There are no envisaged effects on Sensitive Area A (see Figure 7).

Rauwharangi tapu – wahi tapu – HAU310:

This property is between 200 - 400 m from the closest proposed turbine location (10) and any road construction work. The proposed works will have no physical effect on this property.

Pukehange No.1 – wahi tapu - HAU 319:

The eastern boundary of this property is 850 m from the nearest construction activity. There are no envisaged physical effects to this property.

Turbine 3 - Possible wahi tapu – burial:

This turbine location is 80 m west of the knoll centre identified by R. Thorpe as the location of a possible wahi tapu/burial place. The turbine pad footprint does not fall within the area of this knoll and will not modify it.

Recommendations

- 1) Project works will not modify the mining site T13/923 and an authority from Heritage New Zealand is not required prior in respect of this site.

- 2) The HDP registered wahi tapu HAU 310 and 319 properties are at least 200 m from any construction work and will not be modified. The proposed turbine locations and road alignments accessing the turbines will have no direct physical effect on either wahi tapu place.

- 3) The proposed location of Turbine 3 is 80m west of a knoll understood to be a possible wahi-tapu place. The turbine platform footprint falls outside of the physiographic topography of this knoll and is considered as such to suitably avoid physical effect to it.

- 4) PR ROAD 4 will not intersect or modify Sensitive Area A and considered suitably placed to avoid physical effect to it. The northern most potential clean fill site along PR ROAD 4, as shown in Appendix B drawing 200-3, must not be used.

- 4) If not completed already, I advise the project managers to undertake consultations with mana whenua and facilitate a field visit whereby the wahi tapu and possible wahi tapu are specifically visited, and effects of the project works on cultural values discussed and defined.

- 5) The wind farm construction activities avoid effects to all identified heritage areas within the project properties. There is no requirement under this proposal version to obtain an authority from Heritage New Zealand.

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