

# **GLEESON QUARRY, HUNTLY, PROPOSED EXCAVATION AND DISPOSAL OF QUARRY OVERBURDEN: ARCHAEOLOGICAL ASSESSMENT**

Prepared for Paua Planning Ltd

July 2019



By

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## INTRODUCTION

### Project Background

Gleeson Quarries Huntly Ltd are planning excavation and disposal of quarry overburden material onsite and importation of managed and clean fill to identified fill areas within the quarry site. Five Fill Areas (1 to 5) were originally proposed, however, it should be noted that Fill Area 1 has now been discarded. The quarry site is located south of the main Huntly Township on the western side of the Waikato River, 3.1 km south of the Tainui Bridge roundabout (Figure 1). The entrance of the site is located on the western side of Riverview Road and has a formed and sealed 12m wide vehicle access. Riverview road runs parallel to the Waikato River, and morphs into Hakarimata Road a further 0.6km south of the quarry entrance.

The physical address (as recorded on Google Maps) is 310 Riverview Road. Fill Areas 2 to 5 (Figure 2) are contained within Pt Lot 9 DP 1278, Lot 1 DP 25272 and Lot 10 DP 1278 and comprise a total land area of 161.0203 hectares (and will be referred to as the Project Area in this report). Additionally, the active quarry area (contained in Lot 10 DP 1278, Lot 11 DP 1278 and Lot 1 DPS 4285) is referenced, particularly in regard to access to the Fill Areas and disposal of overburden. As well, the adjacent areas of Significant Natural Area (SNA) west of the Fill Areas (located on Lot 1 DPS 75436) are also considered within the site description and subsequent assessment of effects. Finally, it is noted that Lot 12 DP 1278, situated to the south of the existing quarry and privately owned is located within the Aggregate Resource Policy Area in the Waikato Operative and Proposed District Plan, although it will not be affected by the proposed development.

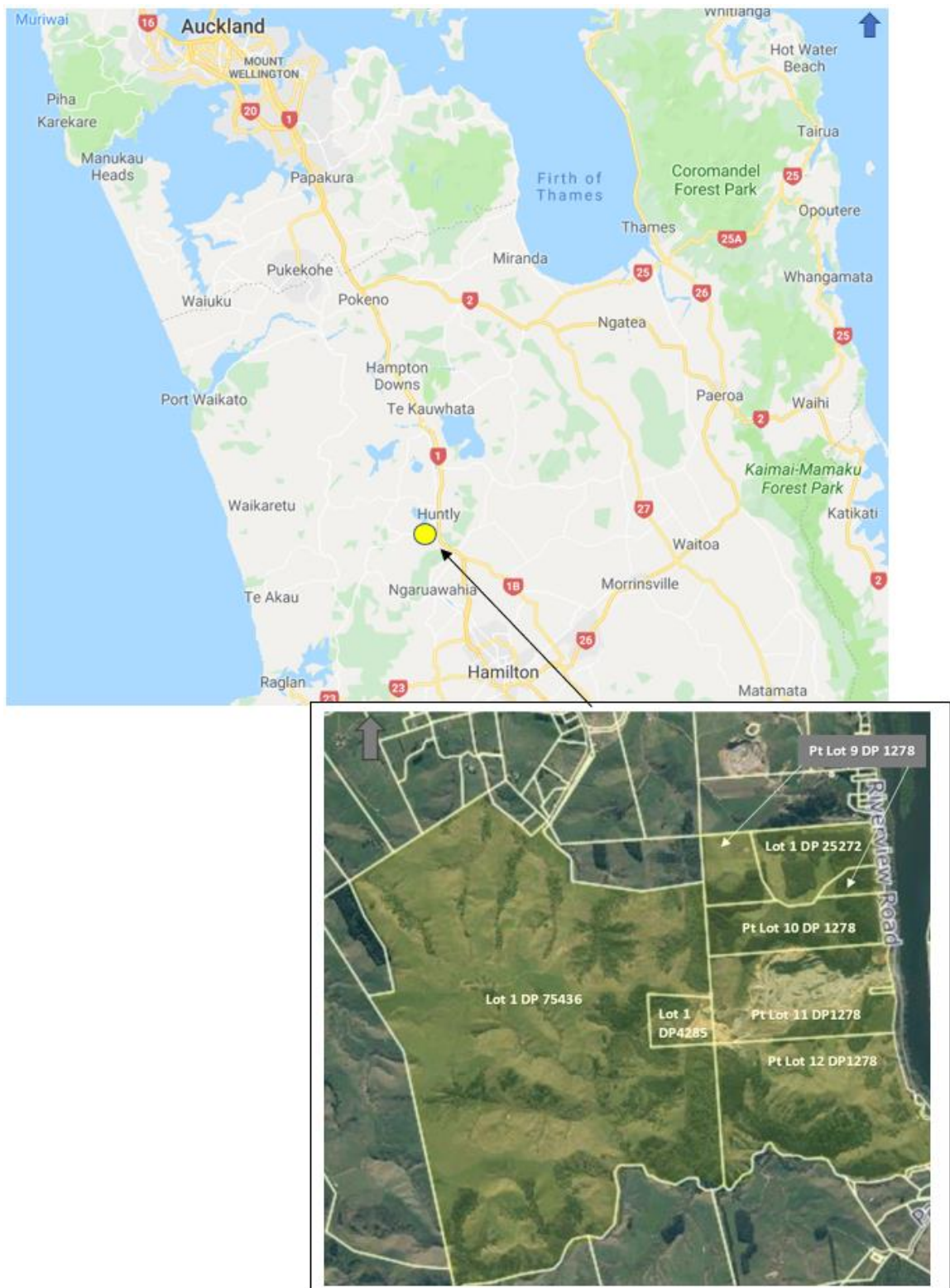
An archaeological assessment was commissioned by Paua Planning Ltd to establish whether the proposed work is likely to impact on archaeological values. This report has been prepared as part of the required assessment of effects accompanying a resource consent application under the Resource Management Act 1991 (RMA) and to identify any requirements under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA). Recommendations are made in accordance with statutory requirements.

### Methodology

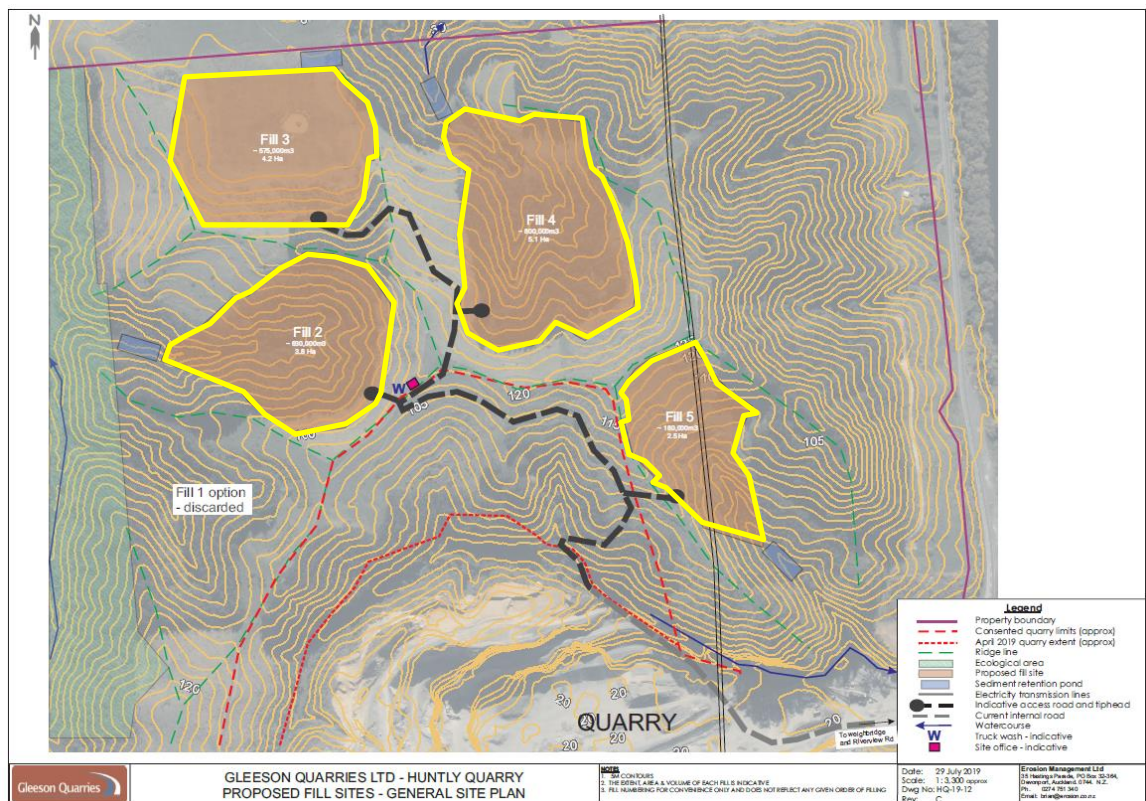
The New Zealand Archaeological Association's (NZAA) site record database (ArchSite), District Plan schedules and the Heritage New Zealand Pouhere Taonga (Heritage NZ) New Zealand Heritage List/Rārangī Kōrero were searched for information on sites recorded in the vicinity. Literature and archaeological reports relevant to the area were consulted (see Bibliography). Early survey plans and aerial photographs were checked for information relating to past use of the Project Area and its surroundings.

A visual inspection of the proposed Fill Areas was conducted on 27 June 2019. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape, or indications of 19th century European settlement remains). Exposed and disturbed soils were examined where encountered for evidence of earlier modification, and an understanding of the local stratigraphy. Particular attention was paid to spur and ridge lines (topographical features where archaeological sites are often found to be located). Photographs were taken to record the topography and features of interest. An inspection of archaeological site S14/14, which

is located to the east of the proposed Fill Areas, was included and the site was photographed and site record form updated.



**Figure 1. Upper map showing the location of the Gleeson Huntly Quarry in its regional setting and lower aerial plan showing the detail of the lot boundaries (source: upper- Google Maps and lower- Waikato District Intramaps)**



**Figure 2. Plan showing the proposed Fill Areas, note that Fill Area 1 which was originally included has been discarded for geological reasons (Gleeson Quarries)**

## HISTORICAL BACKGROUND

### Maori Settlement

In oral tradition the Tainui canoe, captained by chief Hoturoa, made its final landfall at Kawhia some 800 years ago. The canoe had travelled around various parts of the central North Island, including the Bay of Plenty, the Coromandel, the Manukau Heads and the Hauraki Gulf, with some people leaving the voyage and settling in these areas (TeAra Website).

Hoturoa is said to have made his base at Kawhia and over the years the Tainui people expanded inland from here. This included movement into the Waikato and caused the displacement, either through warfare or assimilation, of the people who occupied the Waikato region prior to the 16th century (Parker 1986:33 4). Maori settlements spread throughout the region, with many concentrated along the coast to exploit the rich resources available there. Further inland, settlements were made along navigable waterways, such as the Waikato and Waipa Rivers and their tributaries, with numerous pa sites identified as well as gardening and food storage sites. Intertribal conflicts occurred periodically as a result of alliances, disputes and competition for resources. In the late 18th century there was a major encounter near Ohaupo, referred to as the battle of Hingakaka, which saw the defeat of Ngati Toa by the Waikato tribes (Sole 2005: 137). The Project Area is located to the south of the old Maori settlement of Rāhui Pōkeka. There was also a large village located across the river from Taupiri and a pa at Taupiri Kuaō (located on the northern side of the Mangawara Stream). Archaeological research has identified a large number of sites associated with Maori settlement and horticulture in the Huntly area, the details of which will be discussed in the archaeological background section of this report.

### Early European Settlement and the New Zealand Wars

The earliest European presence in the area related to missionaries and traders. In the 1840s the Reverend Benjamin Yates Ashwell set up a mission station opposite Taupiri Mountain at Kaitotehe and it was during his time there that a landslip uncovered a deposit of coal, which he is believed to have used for his own domestic purposes (WDC Sitefinity Website). In 1850, Dr Arthur G. Purchas was stationed at the mission. Purchas, as well as being a vicar also had a keen interest in geology and he managed to uncover large quantity of coal deposits which were sent to Auckland for testing. As a result the coal deposits were inspected by Dr Ferdinand von Hochstetter in the late 1850s. Hochstetter was the geologist aboard an Austrian scientific expedition ship, the *Novara*, and investigated the geology at various locations across New Zealand at the request of the government. Based on these investigations, the coal was found to be suited for domestic purposes and steam boilers. As a result, a small mine was set up just to the north of the current Project Area (ibid.). It was named the Kupa Kupa mine and the coal was used primarily to fuel the military steamers that carried supplies to the government military camps on the Waikato River during the New Zealand Wars. As well, to the north of the mine a stockade was built on the riverbank at Rāhui Pōkeka (now modern-day Huntly) that was used for animals and stores by the British military (Heritage Consultancy Services 2017: 97) .

The Kupa Kupa coal mine continued in use during the Waikato Campaign of the New Zealand Wars during 1863-64. A newspaper article from 1864 described the coal workings as located about 500 yards from the Waikato River with tunnels or 'drives' dug into the coal deposits which all met at a common road at the entrance from which the coal was

transported to the river by an incline tramway. The article also described the miners' camp as situated on 'a beautiful flat, nicely and conveniently raised above the level of the river at one side of the coal hill, and within four minutes' walk of the works' (*New Zealander* 31 August 1864). The government continued to utilise the mine until 1876, when the Waikato Steam Navigation Company began to mine the coal commercially. In 1883 the mine was renamed the Waikato Mine and remained in use by that company until 1899 (WDC Sitefinity website).

## Later European Settlement

The British military camp at Rāhui Pōkeka was abandoned by mid-1864 and the land at Rāhui Pōkeka (mostly on the east side of the river) was granted in 50 acre parcels to militiamen as part of the military settlement programme set up by the government under which the militia soldiers had enlisted. The land on the western side of the river was also surveyed by the government into parcels of varying sizes and much of it was granted to Maori owners (Heritage Consultancy Services 2017: 97).

One of the early European settler families in Huntly were the Ralphs. Anthony and Margaret Ralph arrived in New Zealand with five children in 1849 as military settlers and took up residence in Onehunga. After the New Zealand Wars, Anthony Ralph acquired land at Rāhui Pōkeka around 1867. One of the Ralph sons, Robert, had enlisted in the 4<sup>th</sup> Waikato Regiment and received a 50-acre Crown grant of land at the end of his service. The exact location of this land has not been determined, as he may have swapped his original grant for another, but in 1870 he discovered a thick seam of coal on his property and soon afterwards the Ralph family opened a coal mine. The Ralph family expanded their land holdings and coal mining business at Huntly, supplying the river steamers which transported passengers and freight up and down the Waikato River. This was necessary, as even though the Great South Road had been constructed through Huntly in 1868, it remained suitable only for horse and rider for many years (Heritage Consultancy Services 2017: 98). Huntly continued to grow as a coal mining town and many of the miners came to Huntly from the west coast of the South Island of New Zealand, with others from Northern England and Scotland (NZ History Website).

As noted earlier, the settlement was originally known as Rāhui Pōkeka. The name Huntly was not adopted until 1870, when Mr James Henry arrived in the settlement as postmaster and renamed it Huntly Lodge after his home in Scotland; eventually the Lodge part of the name was dropped and the settlement became as we know it today, Huntly (NZ History Website).

## Information from Early Maps and Plans

Early maps and plans were reviewed to obtain additional information on the history of land use in the Project Area and the surrounding properties. The earliest plan found showing the Project Area is dated 1867 (Figure 3). This plan shows the location of the Kupa Kupa Mine which was located to the north of the Project Area in Lot 8 DP 1278.

Two plans dated both dated 1892 were also able to provide information on past land use. The first in Figure 4 shows a plan taken from a surveyor's notebook which has 'old pah' written at the location of archaeological site S14/14 (in the very northeast corner of the Project Area). As well, the plan has an annotation of 'old tramway' further to the north. This tramway (which has been recorded as archaeological site S14/157) lies outside of the boundary of the Project Area and is associated with the Kupa Kupa Mine mentioned above.

The second plan dated 1892 (Figure 5) shows the subdivision of the lots containing the Project Area (Lot 9 and Lot 10 DP 1278) with areas of bush present, but no other relevant information is contained on the plan. As can be seen in the plan in Figure 6, dated 1923, most of modern Lot 1 DP 75436 to the west of the subdivided lots was at that time owned by Sarah Margaret Ralph, who was a daughter of Anthony and Margaret Ralph, mentioned previously. Sarah, who was born in Auckland in 1857, had entered a convent as a young woman in Dunedin. Her father Anthony Ralph had died in 1873; however, her mothers and siblings had carried on with and expanded the family mining business, including purchasing large tracts of land around Huntly, after his death. This was especially true of her older sister, Louisa Jane, who, along with being granted the licence to the Huntly Hotel, acquired over 1,100 acres of land at Huntly in her own name, to which she secured mining rights. Another sister, Rosanna Esther, and her husband bought land at Taupiri and built a store and hotel. Unfortunately, the settlement at Taupiri did not prosper and in 1903 Sarah Margaret moved north to assist her mother and siblings with the family businesses, including the Taupiri mine. Sarah was known as an astute businesswoman and also for her charitable offerings, for which she received a papal blessing in 1914. She died in Auckland in 1928 (Innes 1993). As noted by Colin Innes in his biography of Sarah Ralph's mother, Margaret Ralph Schlinker, Margaret and her three daughters '...defied convention by becoming involved in commercial activities. Through judicious purchases of land and shares, they put the family coalmining business on a secure footing. They acquired considerable personal wealth, and made an important contribution to the economic development of Huntly' (ibid.).

A slightly later plan dated 1934 in Figure 7 shows details of the subdivision of Lot 9 DP 1278, which contains part of the Project Area. The plan does not provide any details of usage or presence of any structures. The first plan to show activities related to mining on the quarry property is dated from 1955 (Figure 8), which shows Lot 1 DP 4285 with an annotation of 'open cast mine', 'screen' and 'sheds'.



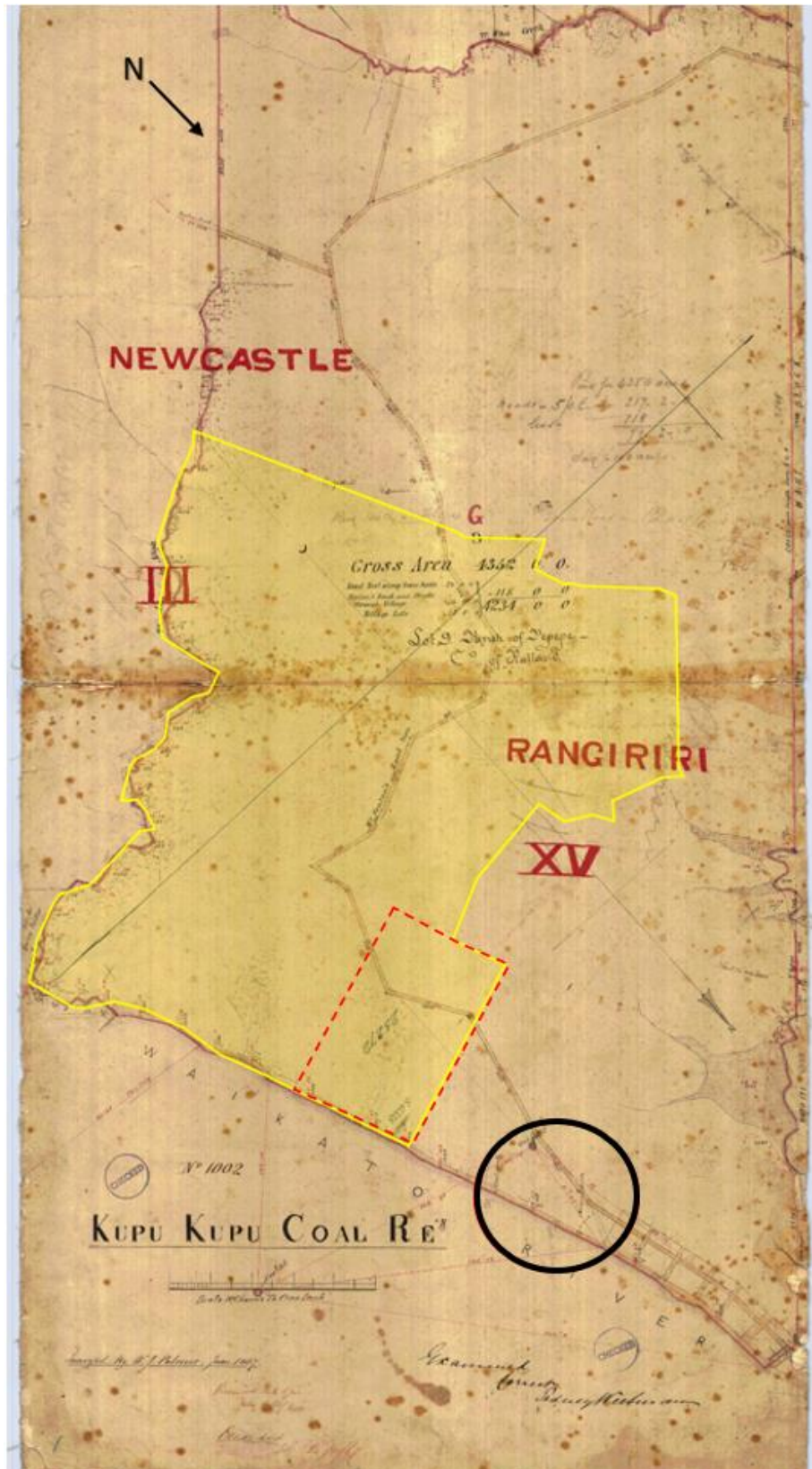


Figure 3. HNC SO357 I plan dated 1867, showing the location of the Kupa Kupa coal reserve and miners' cottages (circled in black) located to the north of the Project Area which is outlined by a red dashed line (source: Quickmap)

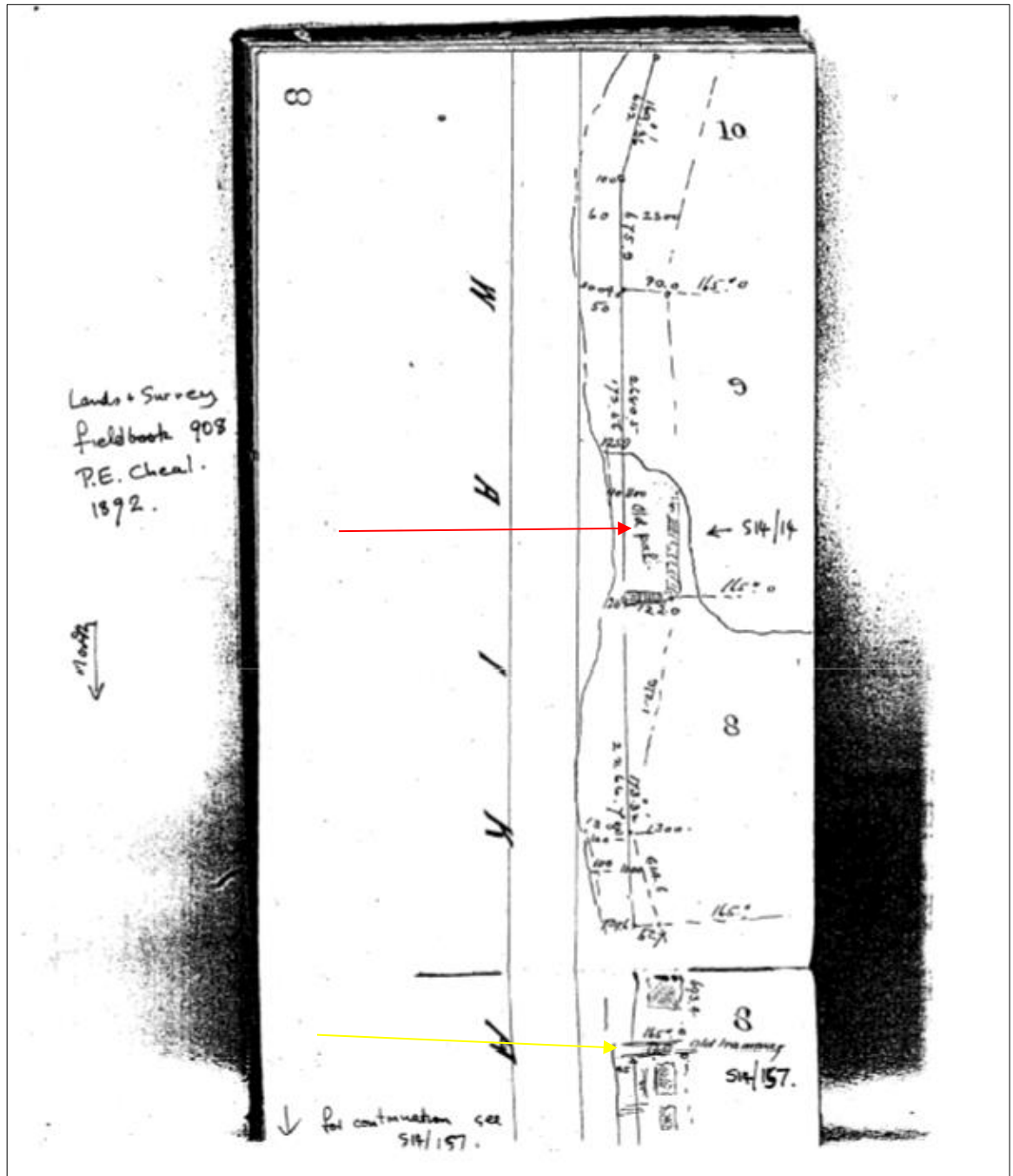


Figure 4. Plan from Lands and Survey Field Book 908 P.E. Cheal, dated 1892, showing the location of the 'old pah' at the northeast corner of the Project Area indicated by red arrow and 'old tramway' of the Kupa Kupa mine indicated by yellow arrow (source: NZAA site record)

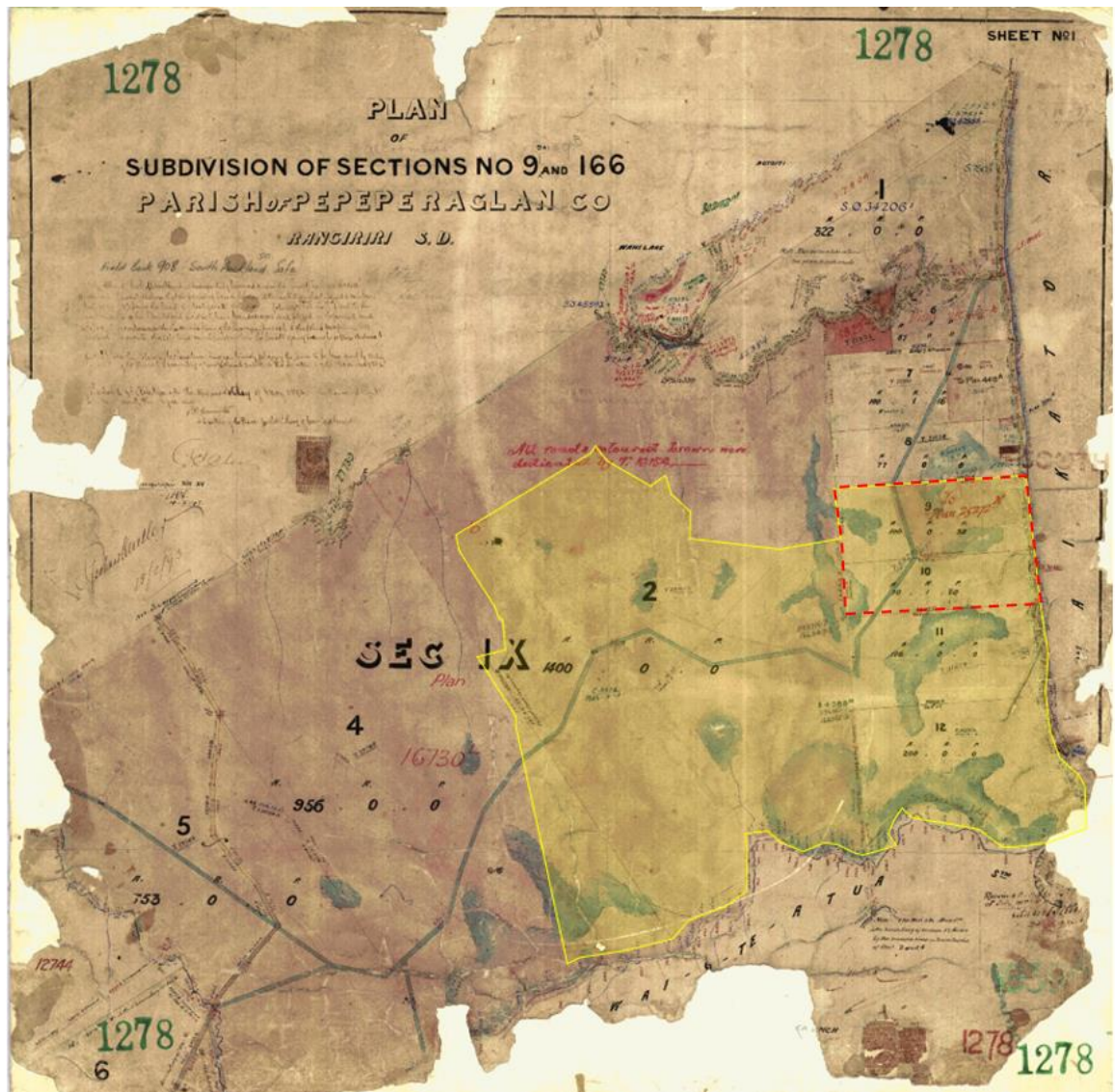


Figure 5. HNC DP 1278 plan from 1892 showing subdivision including the Project Area which is located in Lot 9 and Lot 10 outlined by red dashed line (source: Quickmap)

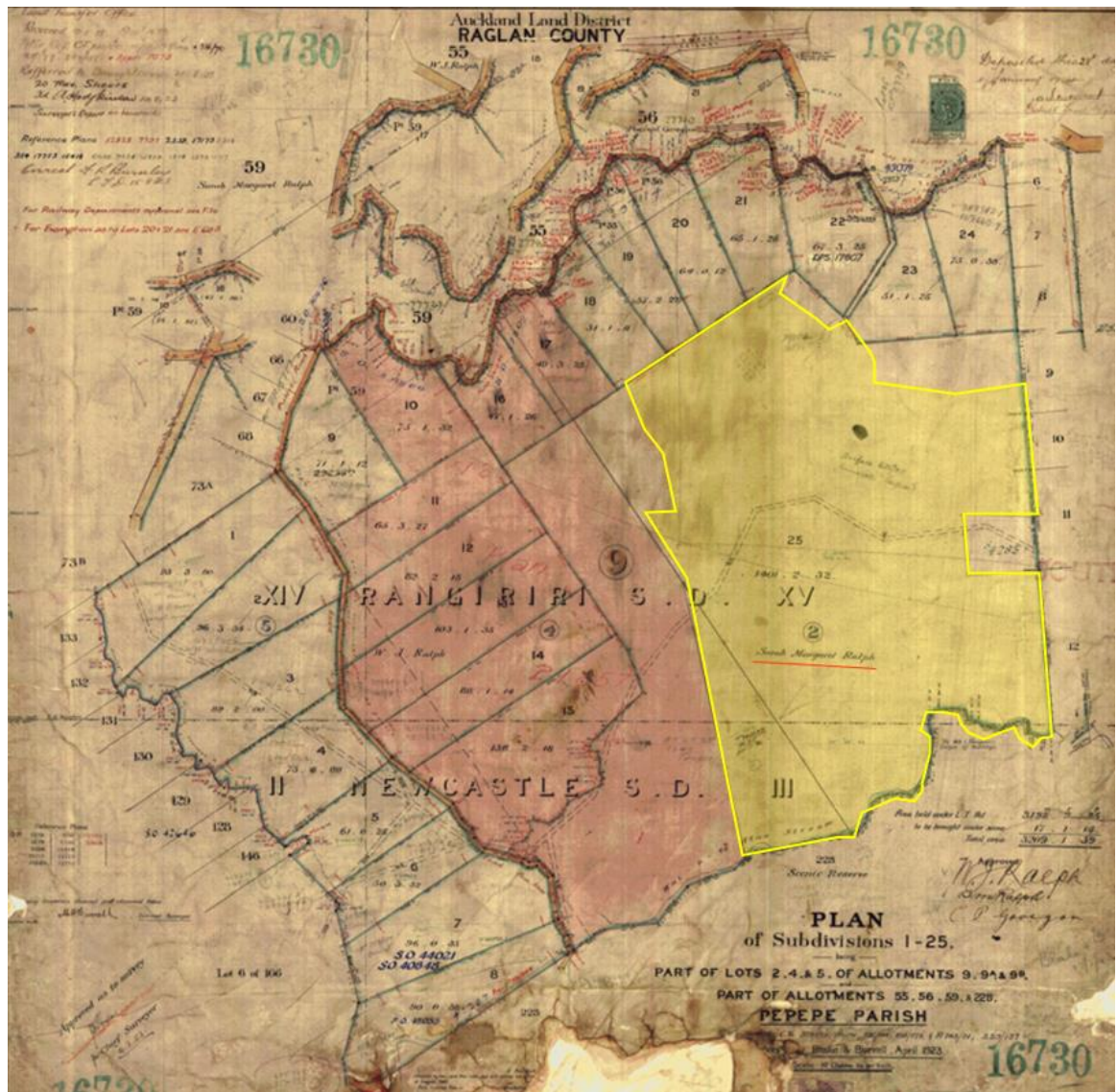


Figure 6. HNC DP 16730 plan dated 1923, showing Lot 1 DP 75436 (shaded in yellow) most of which was owned at that time by Sarah Margaret Ralph (name underlined in red) with the eastern lots 9 through 12 partially visible on the far-right hand side of the plan (source: Quickmap)

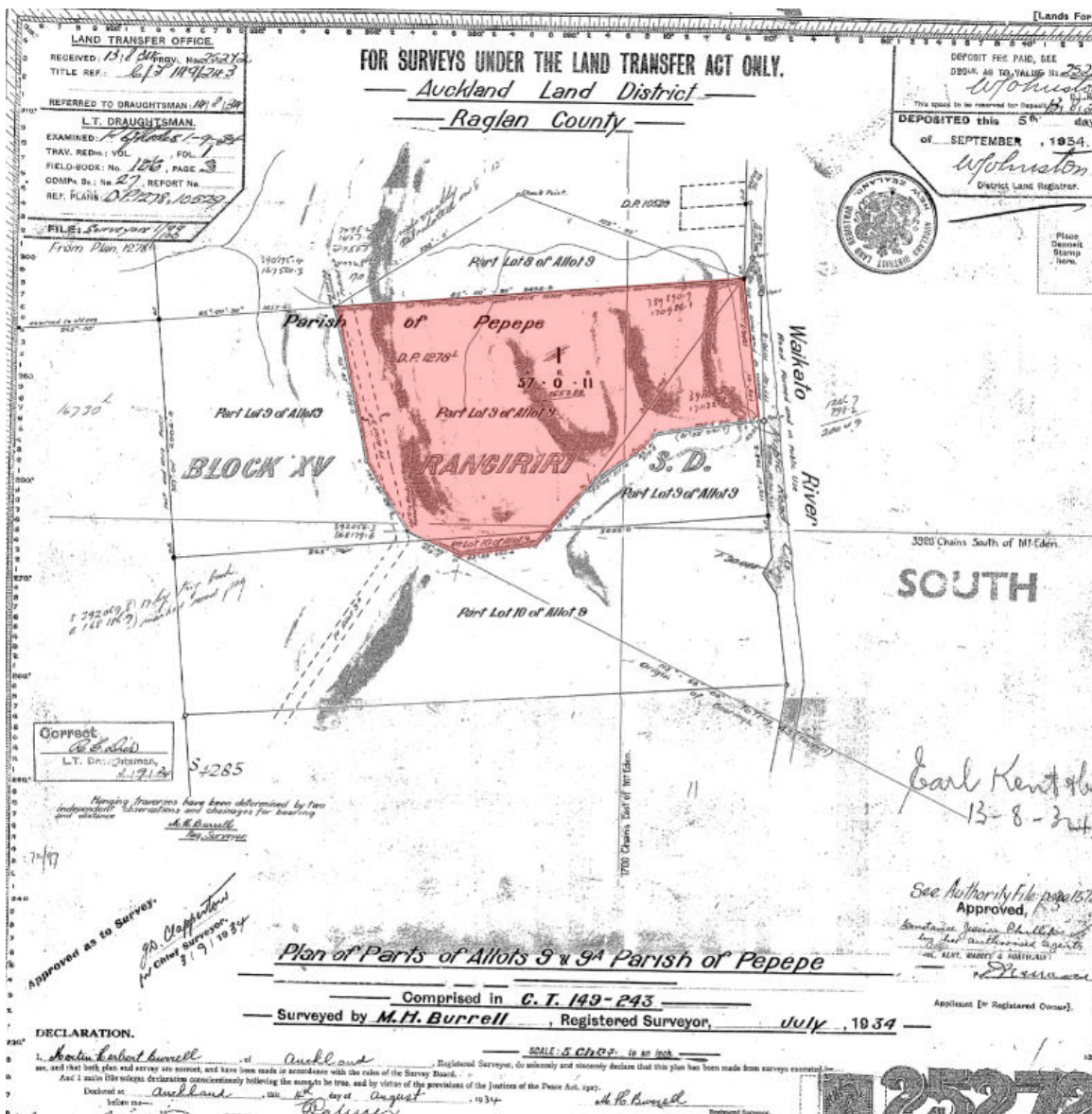
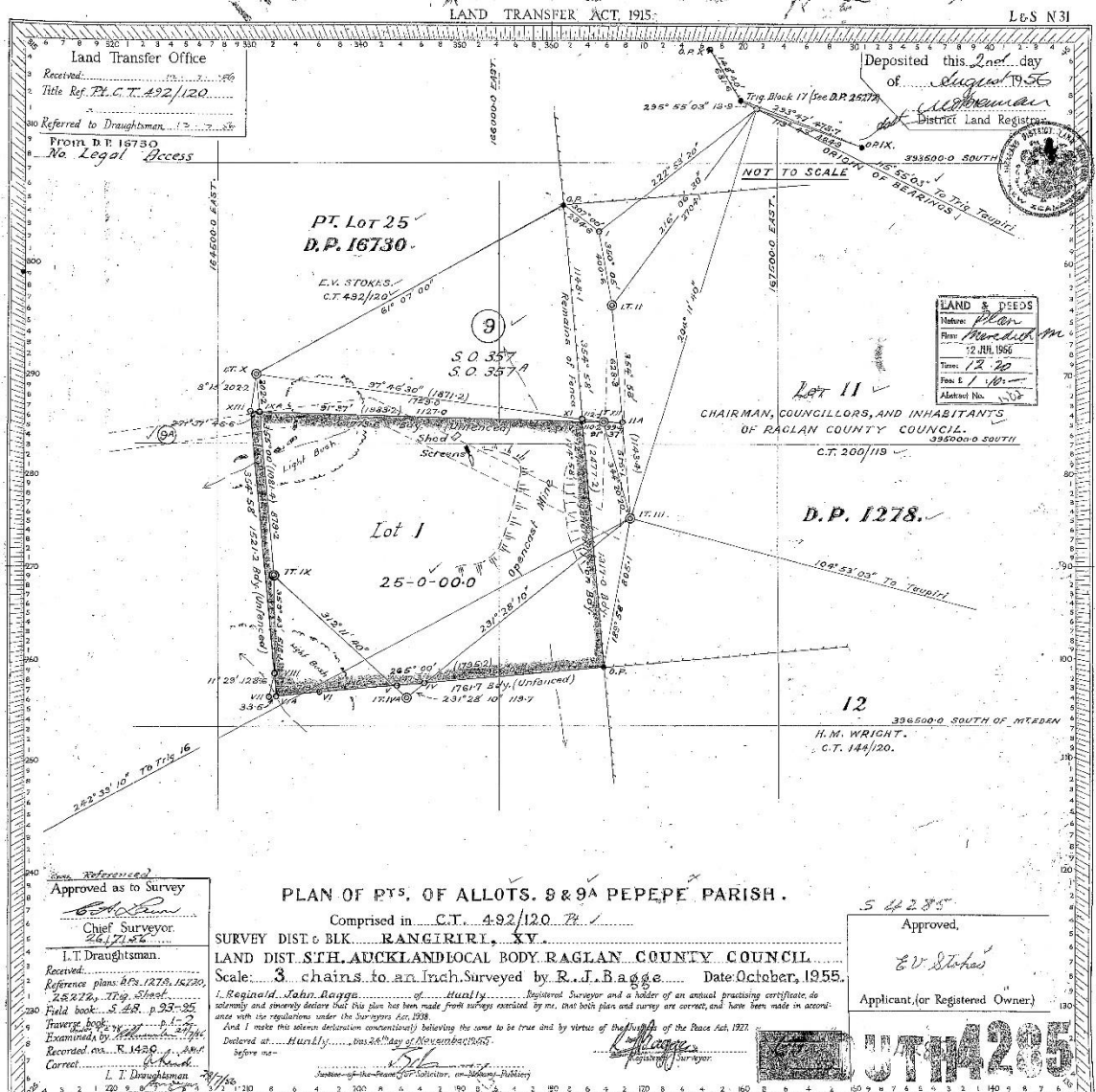


Figure 7. HN DP 25272 dated 1934, showing subdivision of Allot 9 and 9A with Lot 1 DP 25272 (shaded in red) with boundaries as they still exist today (source: Quickmap)



Land Information New Zealand, Custom Software Limited, Date Scanned 2002, Last modified September 2018, Plan is not current as at 27/06/2019

Figure 8. HN DPS 4285 dated 1955 showing Lot 1 DP 4285 with annotations of 'opencast mine', 'shed' and 'screens' and light bush in the northwest and southwest corners (source: Quickmap)

## ARCHAEOLOGICAL BACKGROUND

### Recorded Archaeological Sites

There is one archaeological site (S14/14, a pa site) recorded in the Project Area. It is situated in the northeast corner of the Project Area near the Waikato River and is not located near the proposed Fill Areas or Haul Roads. The site is located on a low northwest–southeast oriented spur and there is a defensive scarp on the south end and eastern side. Remains of a transverse ditch to the north of the spur (possibly two) were also noted. Five sequential pits were identified along the flat top of the spur and a small scree of midden was identified on the western slope near the northern part of the spur (NZAA site record – which is appended to this report for reference).

A number of additional archaeological sites have been recorded outside of the Project Area and those within c. 200 m of the Project Area boundary are described below to provide background on the archaeological setting of the area. S14/157 is located approximately c. 200m to the north of the Project Area. This site is an old incline tramway associated with the Kupa Kupa Mine. The tramway was in use during the late 19th century and was used to transport coal from the mine down to the Waikato River. Another site associated with coal mining in the area is located on the opposite side of the Waikato River – S13/181, a miner’s cottage that was constructed in 1899 and demolished in 2016. Four sites associated with Maori settlement and horticulture have also been recorded on the opposite side of the Waikato River across from the Project Area. The first is a pa site, S14/169. This site is located on a hilltop and is described in the NZAA site record as a narrow, elongated ridge pa with terraces and pits. It has not been visited and has only been observed from a distance. The remaining three sites are S14/433, S14/434 and S14/435, consist of groups of borrow pits (associated with Maori horticulture) that are thought to be related to and part of a larger group. Finally, S14/172 (pits/ terraces) is located in Lot 12 DP 1278. The site consists of a house platform and terraces with pits on a hilltop. The site was identified through aerial photographs and local informants and has not been visited (NZAA site record). Figure 9 shows the locations of the archaeological sites described above and a summary description of each is provided in Table 1.

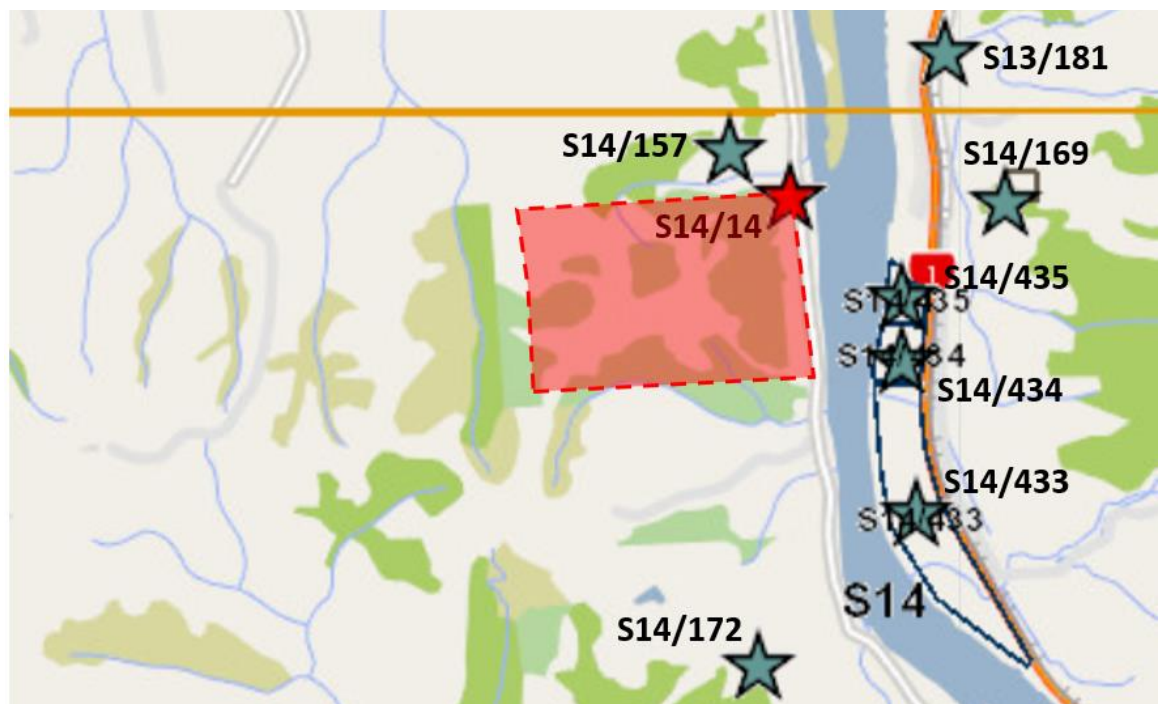
No evidence of early European settlement or mining activities has been identified in the Project Area, although a 19th century coal mine (the Kupa Kupa Mine) was located to the north. Based on historical research, it is considered unlikely that the proposed Fill Areas or Haul Roads were utilised during the 19th century, apart possibly for tree clearance.

### Archaeological Landscape

The sites listed above associated with Maori settlement and horticulture are part of a broad archaeological landscape that spread out on both sides of the Waikato River. In general, the Waikato District contains a large number of such archaeological sites. The main site types are categorised as Pit/Terrace, Pa, Midden/ Oven and borrow pits and ‘made’ gardening soils (Hutchinson & Simmons 2016:17). The majority of the identified archaeological sites in the Waikato are located along the coast or in the vicinity of major waterways. Many of the horticultural sites have been identified through remote sensing and through inspection of historic aerial photographs. This is especially true of features known as borrow pits. These pits, which can cover several metres in area and are usually between 1m and 1.5m in depth, were dug to collect sands and gravels that were present below the upper soil layers. The extracted material was then added to the topsoil to create a ‘made

soil’ for gardening. The purpose of this ‘made soil’ was to improve soil quality (drainage, friability) for the cultivation of plants brought to New Zealand from warmer climates by Maori. The borrow pits are often found in association with the modified gardening soils for which they were dug, and it has been noted that the pits were often located in proximity to the gardening areas (Walton and Cassels 1992: 166). In the Waikato, borrow pits are often closely associated with archaeological sites related to settlement and it has been suggested that this could allow for estimations of population density and intensity of cultivation within the archaeological landscape over time (Furey 2006: 44).

As noted previously, archaeological sites associated with Maori settlement (pa site S14/169) and horticulture (S14/433, S14/434 and S14/435) have been identified on the opposite side of the Waikato River. The latter three sites consist of a large cluster of c. 43 borrow pits which have been identified through review of remote sensing data and aerial photographs. These sites along with pa site S14/14 (pa) which is located in the northeast corner of the Project Area indicate usage of the general area by Maori, with settlements and gardening areas in pre-European times. The proposed Fill Areas, which are located on steep sided hills and in gullies, are unlikely to have been utilised for horticultural purposes or complex sites such as pa for topographical reasons. Although, as the area is in the vicinity of known settlement areas, it may have been visited by Maori for resource collection and could contain isolated finds/ small camp sites/ middens, all of which would be considered part of the archaeological landscape of Maori usage of the area in the past.



**Figure 9.** Map showing the locations of archaeological sites in and within c. 200m of the Project Area (source: NZAA ArchSite)



**Table 1. Summary descriptions of the previously recorded archaeological sites on and within c.200m of the Project Area (sites within the Project Area shaded)**

<b>NZAA Ref</b>	<b>Site Type</b>	<b>Description</b>	<b>NZTM Easting</b>	<b>NZTM Northing</b>
S14/14	Pa	Located on a low spur alongside the Waikato River with pits, a defensive ditch and remnants of a shell midden.	1790200	5838080
S14/157	Transport/communication	‘Kupa Kupa Mine incline tramway’ used to convey coal from the mine to the Waikato River. Remnants may survive.	1789998	5838238
S14/169	Pa	Located on a hilltop, observed from a distance and located on aerial photographs.	1790918	583060
S14/172	Pit/ Terrace	Pits and terraces on a hilltop with possible building platform. Identified from aerials and local informants.	1790089	5836530
S13/181	Historic/ Domestic	Miner’s cottage built in 1889 and demolished in 2016.	1790715	5838560
S14/433	Maori Horticulture	Nineteen borrow pits on terrace by Waikato River/ part of a larger group	1790620	5837030
S14/434	Maori Horticulture	Sixteen borrow pits on terrace by Waikato River/ part of a larger group	1790570	5837540
S14/435	Maori Horticulture	Seven borrow pits on a terrace by Waikato River/ part of larger group	1790570	5837750

## PHYSICAL ENVIRONMENT

### *Geology and Geomorphology*

The geological basement foundation consists of greywacke rocks of the Hakarimata Formation, being part of the Triassic aged Newcastle Group. This is generally described as comprising indurated siltstone with fossiliferous sandstone within its upper parts. Overlying the basement rock are members of the Tertiary aged Te Kuiti Group including erosional remnants of the Waikato Coal measures, overlaid by Recent Taupo Pumice ash. As there is little exposure of fresher greywacke in this area north of the existing quarry extension plan, it has been deemed generally the least suitable for future mining prospects.

There are two main soil types in the Project Area, Otawhi/ Pukemiro soils which are imperfectly drained soils and Mataikona/ Otorohanga soils which are well drained. The archaeological site in the Project Area (S14/14) is situated on the latter. Of the four proposed Fill Areas, areas 2, 3 and 4 are situated on generally more poorly drained soils and Fill Area 5 on the better drained soil type. It is noted that Fill Area 5 consists of a very steep-sided narrow valley. The locations of the proposed Fill Areas with regards to soil type are shown in Figure 10.

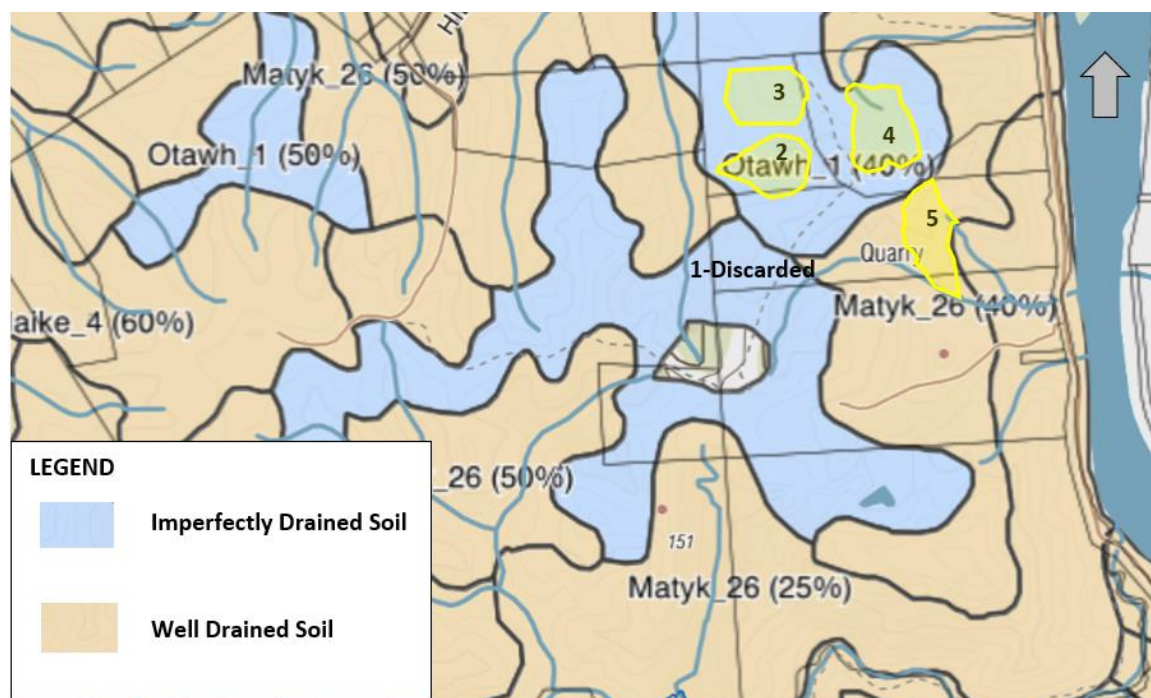


Figure 10. Map showing soil types in the Project Area with the proposed Fill Areas 2 through 5 outlined in yellow (source: S-Maponline)

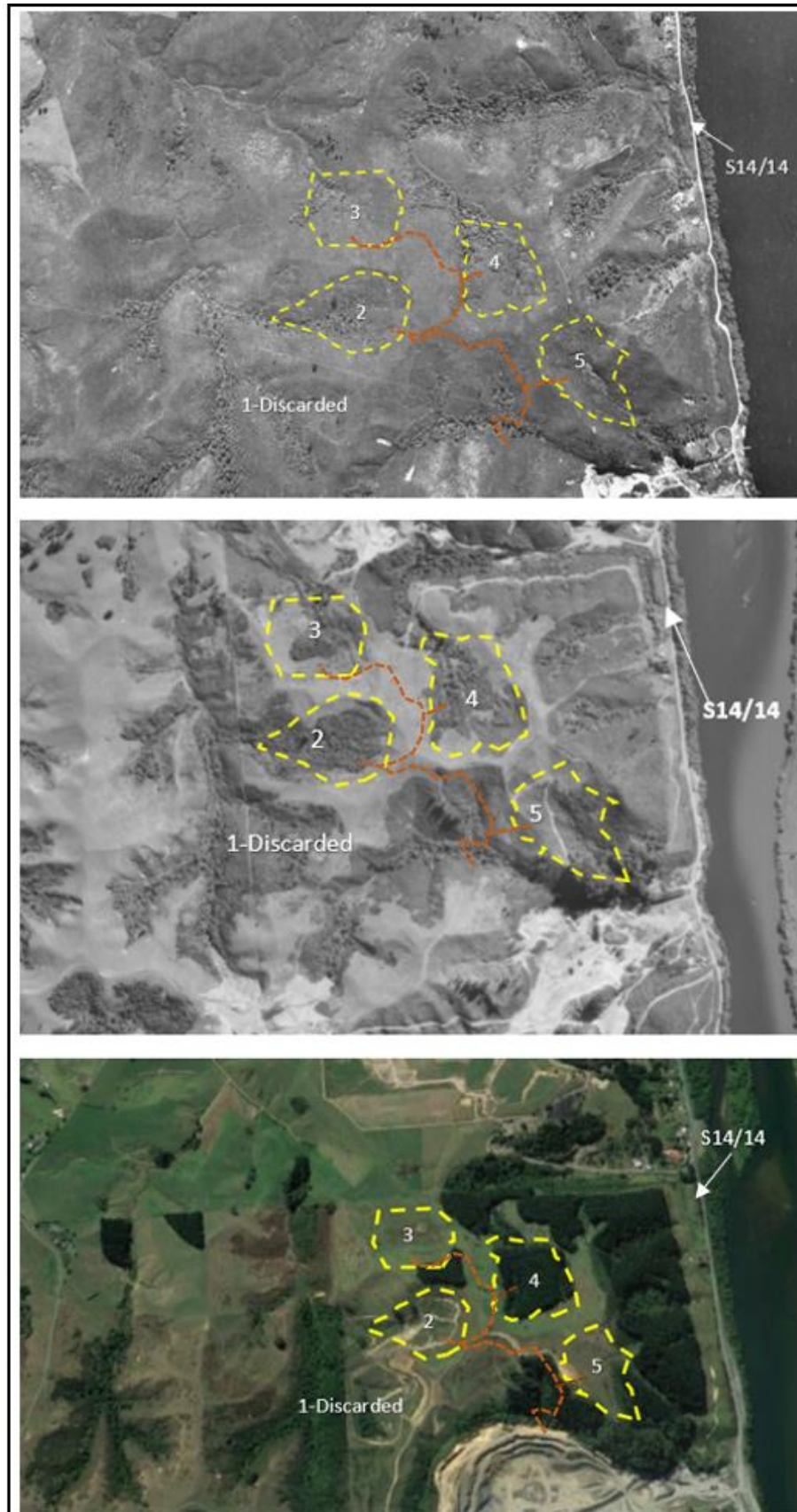
### **Topography, Vegetation and Historical Modification**

The proposed Fill Areas are situated on hilly terrain reaching up to c.100m asl. The land is characterised by deep gullies and narrow ridgelines. The existing landform relating to the proposed Fill Areas 2-5 rises steeply towards the west from the front boundary with Riverview Road, creating a natural physical landform buffer from the proposed Fill Areas. From this ridgeline, the Fill Areas comprise of a series of steep gullies and ridges, rising to a height of 100m above sea level, with the lowest point of the gullies being 50m above sea level. The ridgelines run both east to west and north to south, creating five distinct depressions in the landform. Fill Areas 2, 3 and 4 are located north of the existing quarry pit, with Fill Area 5 north east of the pit (Figure 11).

The land has historically been used for both farming, quarry associated activities and a small amount of forestry logging. Farming has been limited due to the steepness of the terrain, which is predominately covered in rank pasture and weed species such as gorse. Small pockets of both native and exotic vegetation are dispersed over the site, tending to cluster in the existing valleys and adjacent to overland flow paths and small streams. The hillside and ridgeline closest to Riverview Road is clad in a pine plantation, some of which has been harvested. Towards the quarry entrance (near Fill Area 5) there is an area of Eucalyptus trees and regenerating natives, planted by the quarry for screening purposes. The aerial photographs in Figure 12 show the Project Area in 1941, 1966 and 2016. An expanding quarry area is visible on all three of the aerial photographs and as can be seen, the proposed Fill Areas have not been directly impacted by the quarry expansion.



**Figure 11. Topographical map with the proposed Fill Areas 2 through 5 outlined and shaded in yellow (source: [www.topomap.co.nz](http://www.topomap.co.nz))**



**Figure 12. Aerial photographs: from top to bottom from 1941 (Crown 174 295 21), 1966 (Crown 1848 4092 7) and 2016, showing the four proposed Fill Areas outlined by yellow dashed lines and access roads by brown dashed line with archaeological site S14/14 indicated (top and middle photographs sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0 and lower from GoogleEarth)**

## FIELD ASSESSMENT

### Field Survey Results

The proposed Fill Areas were visited on 27 June 2019, by Ellen Cameron and Doug Gaylard. The archaeological survey involved walking ridge lines and accessible parts of the Fill Areas, along with examination of exposed scarps and soil profiles. Fill Areas 3 and 4 were physically examined, while Fill Areas 2 and 5, were examined from a distance due to concerns regarding safety. No evidence of archaeological features or deposits were noted during the course of the survey. In addition, recorded archaeological site S14/14, located to the east of the proposed Fill Areas, was visited and the site record form updated.

#### Fill Area 2

This area is located in a steep-sided gully with varying degrees of slope and covers an area 3.8 ha in size. The land showed signs of modification through both forestry and farming activity and areas of recently cleared land were visible. The area was not able to be safely accessed due to the terrain and heavy gorse cover in places. Exposed scarps were observed and found to exhibit no archaeological evidence. The gullies also showed no evidence of pre-historic landscape modification such as pits, ditches, or terraces. Photograph is provided in Figure 13.



Figure 13. Photograph showing proposed Fill Area 2 (looking west)

### Fill Area 3

Fill Area 3 is located on a large, flat partially swampy area bordered by gullies to the north and northeast and hill slopes to the south and southwest and covers an area of 4.2 ha. The flat areas provided long views to the north and west. The area was examined for archaeological evidence, but apart from the swampy area, the ground surface was found to have been modified through forestry/tree clearance activities, including track cutting and levelling and no evidence of archaeological deposits or features was able to be detected (photographs in Figure 14).



**Figure 14.** Left photograph showing the flat swampy area at Fill Area 3 (looking west); and right photograph showing an area affected by tree clearance activities in Fill Area 3 (looking north)

### Fill Area 4

Fill Area 4 is located on slopes dropping down to a stream and pond in a wooded gully and covers an area of 5.21 ha. Exposed roading scarps in this area allowed examination of soil profiles which provided no evidence of archaeological features or deposits. The area showed evidence of having been cleared of trees in the past and much of the cleared ground was covered by regrowth gorse. Likewise, the slopes displayed no archaeological features or deposits, although the gorse did not allow for clear views of the ground surface in many places. Photographs are provided in Figure 15.



**Figure 15.** Left photograph showing the pond in proposed Fill Area 4 with gorse cover (looking south); and right photograph showing example of an exposed soil profile along a track cut (looking east)

### Fill Area 5

Fill Area 5 is located adjacent to the existing quarry and covers an area of 2.5 ha. The land slopes down sharply to the south, entering into a very narrow stream gully. Pine tree plantations were observed on the lower elevations, while the higher land was grassed and had been used for stock grazing with water troughs present. As was seen in the other Fill Areas, the land here had been recently cleared of trees and displayed gorse regrowth. The area had also been previously impacted from the installation and maintenance of power pylons. No evidence of archaeological features or deposits were identified in this area. Photographs are shown in Figure 16.



Figure 16. Left photograph showing the higher elevated part of proposed Fill Area 5, with planted pines, the recently cleared area with gorse and grass in the foreground (looking east); and right photograph looking south at the top of proposed Fill Area 5 towards the narrow stream gully

### Recorded Archaeological Site S14/14

This site is located on the western side of Riverview Road on a raised knoll above a generally flat area bordering the Waikato River. The site was visited in 1996 and a number of pit features and a large depression were identified, along with a remnant shell midden scree. A photograph (Figure 17) and sketch plan (Figure 18) made at that time are shown below. In 1996 the site was covered by short grass and relatively free of gorse and shrubs. At the time of the current survey the site was found to be quite overgrown with long grass on the flat top and with gorse and shrubs on the side slopes. Although the vegetation cover was thick in places, the originally recorded features were able to be relocated apart from the shell scree, which had either eroded away or was covered by vegetation. The site is considered to be in similar condition to that described in 1996. A photograph of the site taken during the current survey is shown in Figure 19.



Figure 17. Photograph of site S14/14 taken in 1996 (NZAA site record)

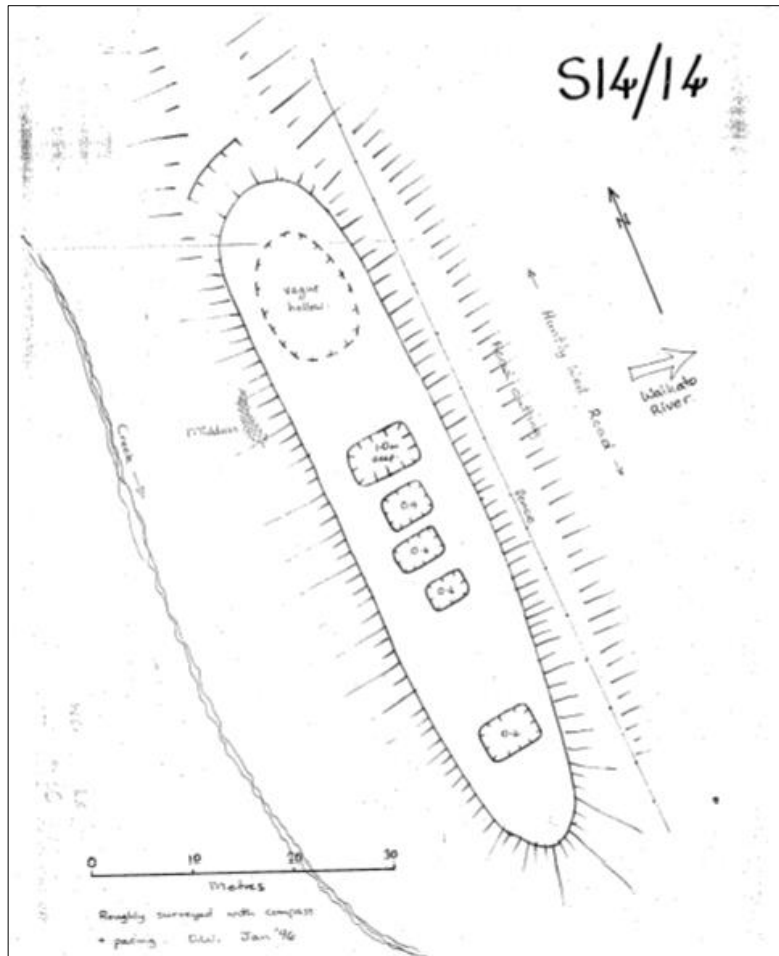


Figure 18. Sketch plan of recorded archaeological site S14/14 drawn in 1996 (source: NZAA site record)



Figure 19. Photograph of recorded archaeological site S14/14 looking south, taken during field survey in June 2019



## **DISCUSSION AND CONCLUSIONS**

### **Summary of Results**

One archaeological site S14/14, a pa site has been previously recorded in the Project Area and reflects the use of the area by Maori for settlement in the past. The site is not located in the vicinity of the proposed Fill Areas and it will not be affected by the currently proposed development. As well, archaeological sites outside the boundaries of the Project Area have been recorded and represent the intensive usage of the general area by Maori for settlement and horticultural activities in the past. The proposed Fill Areas are situated in hilly country characterised by steep gullies that have been modified by farming and forestry/ tree clearance in the past, as well as the installation of large power pylons. No archaeological sites were identified in the area containing the proposed Fill Areas and their presence is considered unlikely based on the terrain, soil type and heavy bush cover that would have existed in the past.

### **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.

### **Survey Limitations**

It should be noted that archaeological survey techniques (based on visual inspection and minor sub-surface 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.

Access to all parts of the Fill Areas was not possible due to the steep terrain and thick vegetation, with gorse, shrubs and tall grass covering many parts of the survey area. As such, scanning of the ground surface was not possible in some places.

### **Archaeological Value and Significance**

The Waikato Regional Policy Statement (RPS) identifies several criteria for evaluating the significance of historic heritage places. In addition, 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). Both sets of criteria have been used to evaluate the value and significance of archaeological site S14/14 a pa site (Table 2 and Table 3). Overall, site S14/14 is considered to have moderate archaeological value based on the criteria discussed, both as a relatively well-preserved site and as part of the broader archaeological landscape. If any additional unrecorded archaeological sites are present in the Project Area and are exposed during development they would have some archaeological value, as they would also contribute to the existing knowledge of Maori settlement in the area and to the archaeological landscape, although the level of significance would depend on the site type and its condition.

**Table 2. Assessment of the historic heritage values of site S14/14 and based on the Waikato Regional Policy Statement criteria (Section 10A table 10.1)**

<b>Archaeological Qualities</b>	
Information	The site is relatively well preserved and contains archaeological deposits/ features that could contribute to the existing knowledge of Maori settlement in the area.
Research	Any intact features, including material that could be used for radiocarbon dating could be used to provide information on patterns of past Maori settlement in the area.
Recognition or Protection	The site is recorded in the NZAA Site Recording Scheme and is a protected archaeological site as defined in the HNZPT Act 2014.
<b>Architectural Qualities:</b> Not applicable to this site.	
<b>Cultural Qualities</b>	
Sentiment	The site is not currently important as a focus of spiritual, political, national or other cultural sentiment. Its cultural value to Maori should be determined by tangata whenua.
Identity	The site is not currently a context for community identity or sense of place and does not provide evidence of cultural or historical continuity.
Amenity or Education	Limited, as the site is situated on private land. Although it can be partially observed from nearby Riverview Road.
<b>Historic Qualities</b>	
Associative Value	The site does not have any known direct association with, or relationship to, a person, group, institution, event or activity that is of historical significance to Waikato or the nation.
Historical Pattern	Intact archaeological features and datable material could be used to provide information on patterns of Maori settlement in the area.
<b>Scientific Qualities</b>	
Information	The site does not have any particular potential to contribute information about an historic figure, event, phase or activity.
Potential Scientific Research	The research potential of the site is of an archaeological nature and is addressed under the first heading.
<b>Technological Qualities</b>	
Technical Achievement	There is no evidence that the site shows a high degree of creative or technical achievement or is associated with scientific or technical innovations or achievements.

**Table 3. Assessment of the archaeological values of site S14/14 based on Heritage NZ criteria (Heritage NZ 2006: 9-10)**

<b>Value</b>	<b>Assessment</b>
Condition	The site is in good condition.
Rarity	There are a number of pa sites in the area. It is not a rare site type.
Contextual value	The site is part of a wider archaeological landscape of Maori settlement and horticultural activities along the Waikato River, a highly desirable area for settlement in the past. Its contextual value lies in its contribution to the wider archaeological landscape of the area.
Information potential	This depends on both the ability of a site to provide information relating to the history of New Zealand through archaeological investigation, and on the research questions to which it could contribute. This site is in good condition and the information to be gained from scientific investigation would contribute to knowledge of Maori settlement of the area.
Amenity value	The site is on private land and currently has limited amenity value, although it can be partially observed from a nearby public road.
Cultural associations	The site has Maori cultural associations. Its cultural significance is for tangata whenua to determine.
Other	No other values were identified.

## Effects of the Proposal

One archaeological site has been identified in the Project Area: S14/14, a pa site in the northeast corner of Lot 1 DP25272. This archaeological site is not located in or in proximity to proposed Fill Areas 2 through 5<sup>1</sup> or proposed Haul Roads and is not expected to be adversely affected by the currently proposed works. The locations of the proposed Fill Areas, Haul Roads and archaeological site S14/14 is shown in Figure 20. It should be noted that archaeological sites should be avoided wherever possible and it is recommended that if any works are proposed in future, they should take into account the locations of the recorded archaeological site and ensure that it is avoided.

With respect to the currently proposed works, in any area where archaeological sites have been recorded in the general vicinity it is possible that unrecorded subsurface remains may be exposed during development. While it is considered unlikely in this situation based on the terrain, soil types and past activities including agriculture and tree clearance, the possibility can be provided for by putting procedures in place ensuring that the Council and Heritage NZ are contacted should this occur.



Figure 20. Aerial plan showing the location of the four proposed Fill Areas and Haul Roads in relation to recorded archaeological site S14/14 (source: Waikato District Intramaps)

<sup>1</sup> The originally proposed Fill Area 1 has been discarded for geological reasons and will not be developed

## 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 District Plan (Franklin Section) is relevant to the proposed activity.

This assessment has established that the currently proposed activity will not affect the recorded archaeological site, S14/14, in the Project Area and has little potential to affect unrecorded subsurface remains. This site is not scheduled on the Waikato Operative District Plan, although an identification and mapping exercise of previously recorded and unrecorded sites has been commissioned by the Waikato District Council and the archaeological site may be afforded some protection through the Waikato District Plan in future.

If resource consent is granted for the development of the Fill Areas, consent conditions relating to archaeological monitoring or protection would therefore not be required. A general condition relating to the accidental discovery of archaeological remains has been accepted. The development offers this condition to be attached to any consent granted. It will require that if any archaeological remains are exposed during development, work should cease in the immediate vicinity and the Council and Heritage NZ should be informed.

## 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)<sup>2</sup>

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.

An archaeological authority is not required for the currently proposed development of the four Fill Areas as no known archaeological sites will be affected and it is unlikely that any undetected sites are present. However, should any sites be exposed during development, works must cease in the immediate vicinity and the provisions of the HNZPTA must be complied with.

## Conclusions

The Project Area contains one archaeological site, S14/14, a pa site. This archaeological site is not located in proximity to the four proposed Fill Areas or Haul Roads and is not expected to be adversely affected by the currently proposed works. It is considered unlikely that any unrecorded archaeological sites are located in the proposed areas of works. However, if any unrecorded sites are exposed during the works, the effects are considered likely to be minor and can be appropriately mitigated by recording and information recovery under the archaeological provisions of the HNZPTA.

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<sup>2</sup> Under Section 42(3) an Authority is not required to permit work on a pre-1900 building unless the building is to be demolished. 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.

## RECOMMENDATIONS

- There should be no constraints on the currently proposed works on archaeological grounds, since no archaeological sites are known to be present in the proposed Fill Areas and it is considered unlikely that any will be exposed during development.
- As one archaeological site has been recorded in the far northeast corner of the Project Area, any future works, should take account of the location of the recorded archaeological site and ensure that it is avoided.
- If subsurface archaeological evidence should be unearthed during construction (e.g. intact shell midden, hangi, storage pits relating to Maori occupation, or cobbled floors, brick or stone foundation, and rubbish pits relating to 19th century European occupation), work should cease in the immediate vicinity of the remains and Heritage NZ and the Council should be notified.
- If modification of an archaeological site does become necessary, an Authority must be applied for under Section 44(a) of the HNZPTA and granted prior to any further work being carried out that will affect the site. (*Note that this is a legal requirement*).
- In the event of koiwi tangata (human remains) being uncovered, work should cease immediately in the vicinity of the remains and the tangata whenua, Heritage NZ, NZ Police and Council should be contacted so that appropriate arrangements can be made.
- Since archaeological survey cannot always detect sites of traditional significance to Maori, such as wahi tapu, the tangata whenua should be consulted regarding the possible existence of such sites on the property.

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*New Zealander* Volume XXI Issue 2211, 31 August 1864.

## APPENDIX A: SITE RECORD FORMS

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

 <p><b>Site Record Form</b></p>	<p><b>NZAA SITE NUMBER:</b> S14/14</p> <p><b>SITE TYPE:</b> Pa</p> <p><b>SITE NAME(s):</b> Kupakupa</p> <p><b>DATE RECORDED:</b></p>
<p><b>SITE COORDINATES (NZTM) Easting:</b> 1790200      <b>Northing:</b> 5838080      <b>Source:</b> CINZAS</p>	
<p><b>IMPERIAL SITE NUMBER:</b> N56/16      <b>METRIC SITE NUMBER:</b> S14/14</p>	
	
<p><b>Finding aids to the location of the site</b> S of Huntly, on W bank of Waikato River, directly W of Riverview Road roughly midway between Huntly West and Parker Road.</p>	
<p><b>Brief description</b> Defensive scarp, transverse ditch, five well preserved rectangular pits, medium sized midden (small pipi).</p>	
<p><b>Recorded features</b> Ditch - transverse, Midden, Pit, Scarp</p>	
<p><b>Other sites associated with this site</b></p>	

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

SITE RECORD HISTORY	NZAA SITE NUMBER: S14/14
<p><b>Site description</b></p> <p>Updated 03/07/2019 (Field visit), submitted by rodclough , visited 27/06/2019 by Gaylard, Doug Grid reference (E1790200 / N5838080)</p> <p>Defensive scarp located on south end and eastern side of low spur. Five sequential pits located along length of spur, erring closer to eastern side. Remains of transverse ditch to extreme north of spur adjacent to fenceline further north. Possible second transverse ditch located to immediate north of fenceline.</p> <p><b>Condition of the site</b></p> <p>Updated 03/07/2019 (Field visit), submitted by rodclough , visited 27/06/2019 by Gaylard, Doug</p> <p>Site was visited on 27/7/19 by Doug Gaylard and Ellen Cameron. Condition of the site is good, although covered by thick kikuyu grass. Pits, terraces and transverse ditch are all still clearly visible. Midden scree was not able to be relocated due to thick grass and gorse bushes.</p> <p>Location clear from description and accurate. Faintly visible on WRC Aerial photo (ca. 2002). Site is in pasture and apparently unmodified since 1996 visit. Threats: road widening, farming practices, fencing.</p> <p><b>Statement of condition</b></p> <p><b>Current land use:</b></p> <p><b>Threats:</b></p>	

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

<b>SITE RECORD INVENTORY</b>	<b>NZAA SITE NUMBER: S14/14</b>
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Supporting documentation held in ArchSite

AD AK -- -- AA

NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION <b>SITE RECORD FORM</b>		SITE NUMBER N56/16 <hr/> SITE NAME: MAORI OTHER <hr/> SITE TYPE Pa
Map number N56 Map name Ngaruawahia Map edition NZMS 1 3rd ed. 1965 Grid Reference 665715		
1. Aids to relocation of site <span style="float: right; margin-right: 20px;">E266500 N571500</span> On the west bank of the Waikato River, directly west of Huntley West Rd. roughly midway between Huntley West and Parker Rd.		
2. State of site; possibility of damage or destruction To be ascertained.		
3. Description of site <i>(NOTE: This section is to be completed ONLY if no separate Site Description Form is to be prepared.)</i>  Pa located using aerial photographs. Ground inspection to follow presently.		
4. Owner Address To be ascertained.	Tenant/Manager Address	Attitude  Attitude
5. Methods and equipment used Aerial photo inspection only.  Photographs taken: Yes/No (Describe on Photograph Record Form) Date recorded February, 1977.		
6. Aerial photograph or mosaic No. 4092/6 & 7 3271/ 11 & 12		Site shows: Clearly/badly/not at all S. C. EDSON
7. Reported by S. Edson, Address Waikato Art Museum, Box 937, Hamilton.		Filekeeper <b>WAIKATO ART MUSEUM</b> <b>BOX 937 HAMILTON</b> Date 25th July, 1977.

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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

N Z ARCHAEOLOGICAL ASSOCIATION  
SITE RECORD FORM (Metric)

<u>MAP NO</u>	S 14	<u>SITE NO</u>	14
<u>MAP NAME</u>	Hamilton	<u>VISIT DATE</u>	8 Jan 96
<u>EDITION</u>	1	<u>SITE TYPE</u>	pa
<u>GRID REF</u>	005 997	<u>NAME</u>	Kupakupa *

1. LOCATION West Huntly  
About 25 m south of the entrance to O'Reilly's coal mine, on the inland side of the Huntly West Rd.

2. STATE OF SITE Quite good by Waikato standards.

3. DESCRIPTION Pa  
A low spur end almost cut off from the hills rises about 5 m above the Waikato terrace level, creating perfect location for a pa. On the riverward (eastern) side a defensive scarp has been created by excavating a narrow lateral terrace. On the western side the slopes down to a small creek have probably also been steepened. There are remains of a transverse ditch. Several reasonably well preserved pits on the level interior. A small scree of midden of medium size and small pipi, with rare cockle, in charcoal-free matrix.

area within defences	875 sq m
area including defences	1325 sq m

4. OWNER ? TENANT

5. SOURCE OF INFO Brief visit. Surveyed by compass & pacing. [Field notes, p. 1820-21.]  
\* Name pencilled in on NZAA index map by a person unknown.

PHOTOS: Enclosed.

6. REPORTED BY Owen Wilkes  
210 River Rd  
Hamilton

FILEKEEPER *Ow. 96/2.*

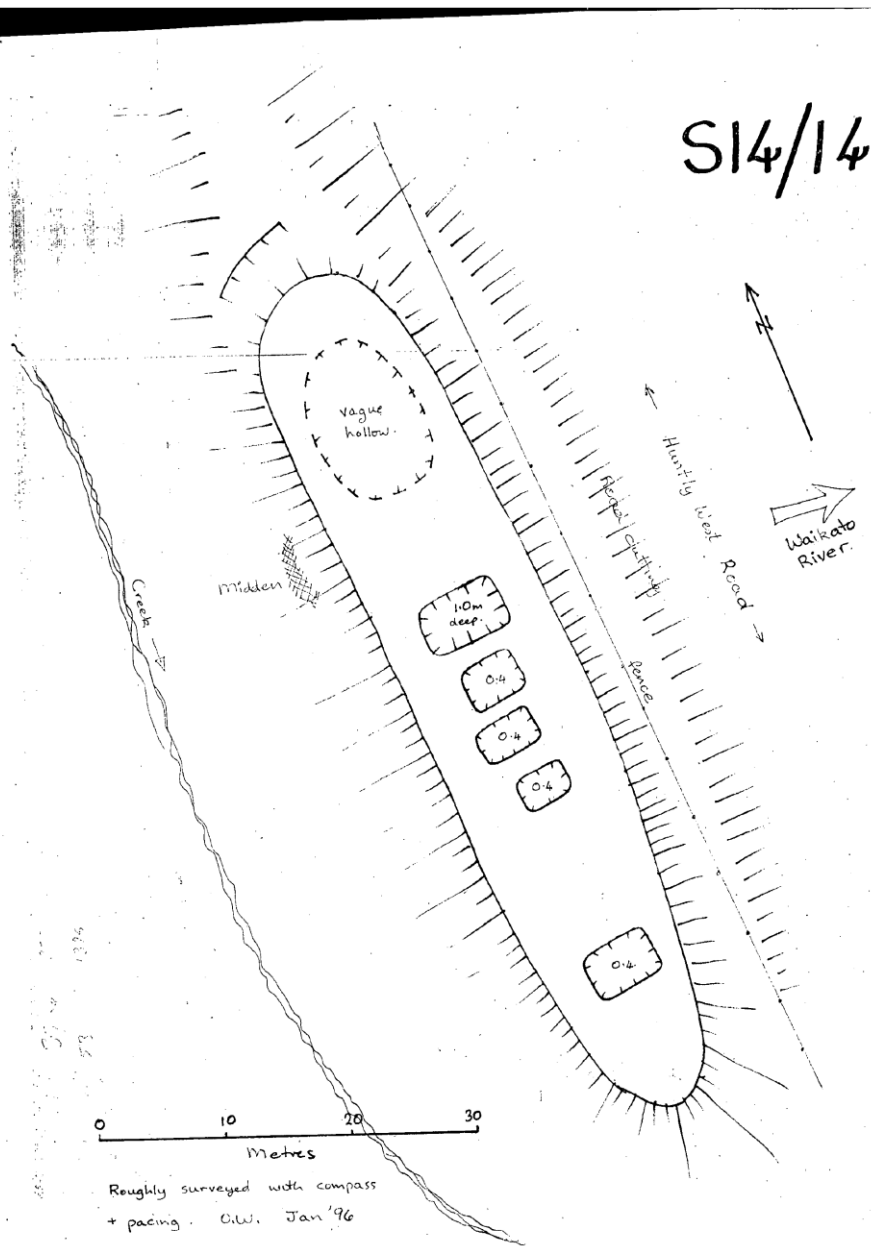
7. NZ Register

----- 	Type	----- 	Condition, future danger
	Local envmt		Local body
	Land clasfn	-----	

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10/07/2019

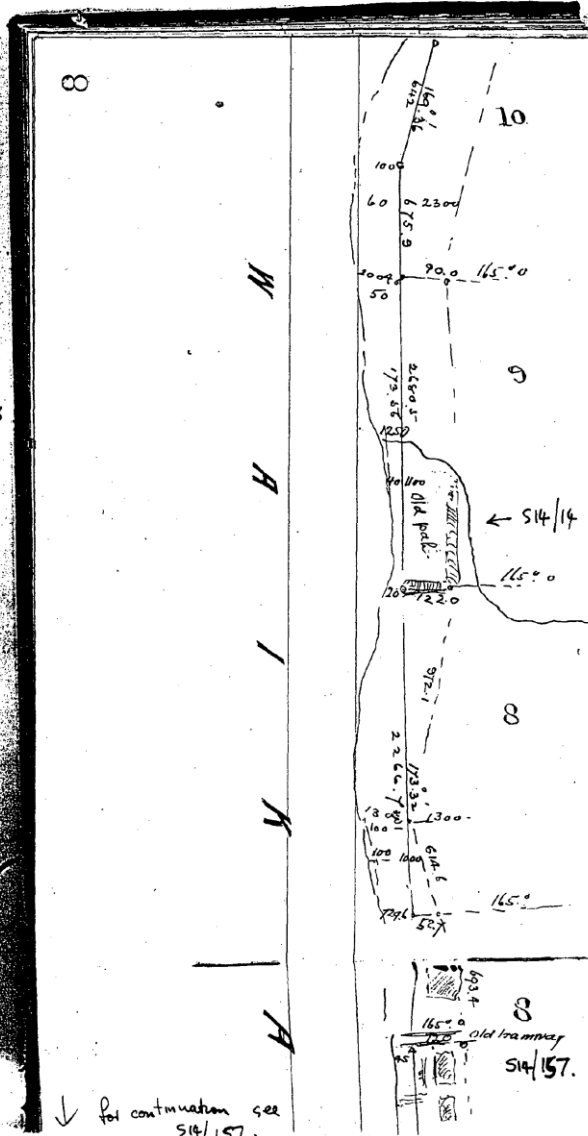
4 of 6



C

S14/14

Lands + Survey  
Fieldbook 908  
P.E. Cheal.  
1892.



S14/14.  
NS6/16



↑ 101-12.

↓ 101-10

101-11 ↑

Jan '96

↑ View towards east  
← View toward north.





Northern end of pah visible thru gap in trees .



Southern end of pah.







