

# PRELIMINARY SITE INVESTIGATION (PSI)

231 TAHUNA ROAD & 52 LUMSDEN ROAD, OHINEWAI

WAIKATO



**Reference Number:** REP-1352/PSI/JUN19

**PREPARED FOR:** AMBURY PROPERTIES LTD, C/- GAZE HOLDINGS LTD

11 JUNE 2019



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## Statement

This site investigation has been prepared in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. It has been managed by a suitably qualified and experienced practitioner (SQEP); and reported on in accordance with the current edition of the Ministry for the Environment's *Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand*.

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Thank you for the opportunity to carry out this investigation. Should you have any queries regarding this report please do not hesitate to contact us on 09 475 0222.

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## EXECUTIVE SUMMARY

Ambury Property Ltd propose to acquire and develop the piece of land encompassing the properties known as 231 Tahuna Road and 52 Lumsden Road, Ohinewai, Waikato (hereafter referred to as 'the site', Figure 1). The site is composed of approximately 177 Ha of dairy pasture farming, including four farmsteads, one active milking shed, and two historic now inactive milking sheds. The proposed development will include future subdivision of the land and will result in a change of landuse from primary production to several different landuses, including commercial / industrial, medium to high density residential, and recreational / reserve landuse.

Under the National Environmental Standard (NESCS) *for Assessing and Managing Contaminants in Soil to Protect Human Health* (Ministry for the Environment (MfE), 2012) land is considered to be actually or potentially contaminated if it has been the location of an activity or industry listed on the MfE Hazardous Activities and Industries List (HAIL). A Preliminary Site Investigation is therefore required as the first stage to assess the proposed change in landuse, subdivision, and development. Additionally, the Waikato District Plan (WDP) and Waikato Regional Plan (WRP) stipulate rules regarding development of actually or potentially contaminated land within the Waikato Region.

To assess the potential for soil contamination at the site, Geosciences Ltd (GSL) have reviewed the current and historic certificates of title, the available historic aerial photographs of the site, and the Waikato District Council HAIL Report. In addition, GSL performed a visual site inspection which included an interview of the current landowners to reconcile the findings of the desktop investigation. The historic aerial photograph review confirmed that the predominant land use has been dairy farming for the site observable history, with occasional supplementary maize farming for pasture rotation and cattle feed production. A number of structures have been present on the site, most of which are still present, and include residential dwellings and auxiliary buildings, sheds or barns, stock pens, milking sheds, fuel storage tanks, and a historic slaughterhouse. The three milking sheds all had nearby stock effluent dewatering ponds for wastewater treatment.

The Waikato District Council HAIL report did not contain any record of specific HAIL activities having occurred on the site. However, it did raise concern of potentially elevated cadmium concentrations from the use of superphosphate fertilisers on pasture grasses.

Waikato Regional and District Council records notwithstanding, GSL's historic site review and visual site inspection conducted by GSL personnel identified several locations across the site where activities or industries included on the MfE HAIL appear to currently be, or have historically been, undertaken. These activities include fertiliser bulk storage (HAIL Item A.6), bulk storage of petrochemicals above ground (HAIL Item A.13), asbestos products in a deteriorated condition (HAIL Item E.1), dairy effluent wastewater treatment (HAIL Item G.6), burning and burying of refuse and waste building materials (HAIL Item I), potential release of lead to soil from lead-based paint (HAIL Item I), and bulk application of phosphate fertilisers to pasture grass potentially resulting in elevated cadmium concentrations (HAIL Items A.1 and I).

Where HAIL activities have been identified that may present a risk to human health or the environment, appropriate detailed site investigation will be required to characterise that risk against the applicable landuse standard under the requirements of the NESCS, the Waikato Regional Plan, and the Waikato District Plan. Given the nature and extent of the proposed scheme plan, GSL notes that staged detailed site investigation may be appropriate to facilitate the proposed timings for scheme plan approval, subdivision, development and ultimately change in landuse.

The areas requiring detailed, intrusive investigation include the three milking sheds and their associated buildings, the farmstead at 109 Tahuna Toad, the historic shed on Lot 3, the former building footprints on Allot 405, and the pastures within the proposed high-risk residential zones that may have been subject to superphosphate application.

Following the analysis of soil samples further action may be required which may include the remediation of areas of contaminated soil and / or on-going site management and monitoring. In addition, GSL notes that appropriately intrusive asbestos surveys of all buildings and structures identified for demolition are required to satisfy the requirements of the Health and Safety at Work (Asbestos) Regulations 2016.

## 1 INTRODUCTION

Geosciences Ltd (GSL) has prepared the following report for Gaze Holdings Ltd on behalf of Ambury Property Ltd in accordance with the GSL proposal, Ref: *Pro-1764/Apr19/Rev1*, dated 24 April 2019 (revised 9 May 2019).

This report has been prepared in accordance with the Ministry for the Environment (MfE) Contaminated Land Management Guidelines (CLMG): No. 1 - "*Guidelines for Reporting on Contaminated Sites in New Zealand*", and No. 5 - "*Site Investigation and Analysis of Soils*" (References 1 and 2).

## 2 PROPERTY DETAILS

The piece of land under investigation, hereafter referred to as 'the site' in this report, encompasses some 177.8378 Ha at the addresses of 231 Tahuna Road and 52 Lumsden Road, Ohinewai, Waikato (Figure 1). A summary of the multiple legal descriptions and building addresses appears in Table 1 below, with their locations shown on Figure 2. Given the size of the site, these descriptions will be used in this report to refer to the different sections of the site as necessary.

**TABLE 1: ADDRESSES AND LEGAL DESCRIPTIONS OF LOTS COMPRISING THE SITE**

Location	Reference in text	Legal Description	Size	Dwelling Addresses
<b>231 Tahuna Road</b>	Lot 1	Lot 1 DPS 29288	68.1385 Ha	231 Tahuna Road
	Lot 2	Lot 2 DPS 29288	61.1275 Ha	109 Tahuna Road 151 Tahuna Road
	Allot 405	Allot 405 Parish of Whangamarino	36.9554 Ha	None
<b>52 Lumsden Road</b>	Lot 3	Lot 3 DP 474347	10.87 Ha	52 Lumsden Road

The site is located in a predominantly rural pasture farmed area approximately 6 km to the north of Huntly. The majority of the surrounding land is used for dairy farming, with the exception of the land directly north-east of the site forming a reserve around Lake Rotokawau. The site is currently zoned as Rural land.

## 3 PROPOSED CHANGE IN LANDUSE, SUBDIVISION AND DEVELOPMENT

It is proposed to develop the site into a mixed industrial, commercial, residential, and recreational configuration to take advantage of the site's proximity to Huntly, State Highway 1, and the North Island Main Trunk Line railway. The proposed industrial capacity includes one large, single-tenant factory lot and multiple medium to small light industrial lots in the western and north-western

portions of the site. Commercial retail units and a service centre are proposed for the south-western portion of the site, adjacent to light industrial lots.

A range of medium and high-density residential lots are proposed for the central and south-eastern portions of the site, separated from the light industrial and commercial lots by open spaces for recreation and stormwater management. The majority of the eastern portion of the site is proposed to contain a wetland park for recreation and stormwater management.

The proposed development therefore includes a change in landuse from primary production to a mix of commercial / industrial, residential, and high-density residential landuses as described under the National Environmental Standard (detailed below), subdivision of the existing legal lots, and development of the land to achieve the final proposed configuration.

A copy of the proposed scheme plan (illustrative masterplan for discussion purposes only) is attached in Appendix A.

## **4 STANDARDS AND REGULATIONS**

Because of the change in landuse, subdivision, proposed development outlined above it will be necessary to address the requirements of the following standards, rules, and regulations applicable for the site.

### **4.1 NATIONAL ENVIRONMENTAL STANDARD (NESCS)**

The *National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health* (NESCS) (Reference 3) ensures that land affected by contaminants in soil is appropriately identified and assessed. When soil disturbance and/or land development activities take place it should be, if necessary, remediated or the contaminants contained to make the land safe for human use.

Under the NESCS, land is considered to be actually or potentially contaminated if an activity or industry on the MfE Hazardous Activities and Industries List (HAIL) has been, is, or is more likely than not to have been, undertaken on the land. Consequently, a change in landuse, subdivision, or development requires a preliminary site investigation (PSI) of the land to determine if there is a risk to human health because of any current or former activities that are occurring, or may have occurred, on the land under investigation.

### **4.2 WAIKATO REGIONAL PLAN (WRP)**

Section 30(1)(f) of the RMA provides the Waikato Regional Council with a statutory duty to investigate land for the purposes of identifying and monitoring contaminated land and for the control of discharges of contaminants into or onto land or water and discharges of water into water.

Chapter 5 Section 3 of the Waikato Regional Plan deals specifically with contaminated land and maintains that Council is required to manage both the use of land containing elevated levels of contaminants and the discharge of contaminants from land containing elevated levels of contaminants. The provisions of that chapter have been considered where they may have an impact on the proposed development.

### 4.3 WAIKATO DISTRICT PLAN (WDP)

The Waikato District Plan aims to promote the sustainable management of natural and physical resources in the Waikato District through the strategic management of growth, and by managing the effects of land use on the environment.

Under the Waikato Section of the Plan, Part 1 Section 9 deals specifically with contaminated land. The section seeks to manage activities to ensure that they do not suffer from or increase contamination, whilst remediating known sites of contamination to prevent adverse effects on human health. To this end, the section references the MfE HAIL and the NES with regards to changes in landuse, subdivision, or development.

## 5 PSI OBJECTIVES

The objectives of this investigation were to assess:

- if the land is covered by the NESCS as a result of current or former HAIL activities;
- the extent of any current or former HAIL activities on site;
- if the activity can comply with NESCS permitted activity conditions;
- what, if any, contaminated land rules of the WRP and WDP apply to the proposed development; and
- the need, if any, for further detailed investigations.

## 6 SCOPE OF WORKS

To achieve the objectives of the PSI, GSL has undertaken the following:

- A review of the current and historic Certificates of Title of the properties comprising the site;
- a review of currently available historic aerial photographs of the site;
- a review of the HAIL Report compiled by Waikato District Council;
- interviews with the current and former landowners / occupants;
- a visual site inspection of the piece of land; and
- the preparation of this report in accordance with the Ministry for the Environment (MfE) Contaminated Land Management Guidelines (CLMG): No. 1 - "*Guidelines for Reporting on Contaminated Sites in New Zealand*", detailing the findings of this investigation and the need, if any, for further work.

## 7 ENVIRONMENTAL CONTEXT

### 7.1 GEOLOGY & GEOHYDROLOGY

The local geology of the site as described by Edbrooke (Reference 4) can be divided into four distinct areas, all of which fall within the Tauranga Group sediments. The low-lying areas of the site all

derive from material deposited during the Holocene epoch. The western portion of the site, comprising the northern two-thirds of Lot 2 and all of Lot 3 and Allot 405 are described as river deposits of pumice sand, silt, and gravel with charcoal fragments (Taupo Pumice Alluvium).

In contrast the central portion of Lot 1 is described as river deposits of sand, silt mud, and clay with local gravel and peat beds in the area adjacent to the central hills, whilst the eastern portion of Lot 1 bordering the Lake Rotokawau reserve is described as swamp deposits of soft, dark brown to black mud, muddy sand, muddy peat, and peat, with possible peat bogs.

The elevated areas of the site, comprising the western and southern portions Lot 1 and the southern portion of Lot 2 are derived from sediments deposited during the early to middle Pleistocene and are described as pumiceous river deposits of highly weathered, coarse pumiceous and rhyolitic sands and current-bedded grits, with interbedded peat and local gravels.

## 7.2 TOPOGRAPHY AND DRAINAGE

The site is predominantly flat pasture between 7 and 9 m above sea level (asl), with low hills in the central region along the boundary between Lot 1 and Lot 2, and a slope along the entire southern boundary rising to approximately 20 m asl adjacent to Tahuna Road.

The site currently contains a number of drainage channels to direct stormwater into Lake Rotokawau, approximately 220 m to the north-east of the site. The large drainage trench traversing the eastern portion of Lot 1 and the large drainage trench forming the eastern boundary of Allot 405 are identified as land drains under the Franklin-Waikato Drainage Scheme by the Waikato Regional Council.

The low-lying eastern portion of Lot 1 is known to flood during high rainfall events (*pers. comm.* with current landowner). Lake Waikare lies approximately 1,470 m north-east of the site, while Lake Ohinewai lies approximately 270 m south of the site, with the Waikato River approximately 910 m west of the site. The site therefore falls within the Waikato River catchment area and the Lake Waikare sub-catchment area as part of the Lower Waikato Catchment Management Zone.

## 8 SITE HISTORY

A desktop study of publicly available files and photographs was undertaken to determine the history of the site with respect to any current or historic potentially contaminating landuses.

### 8.1 CERTIFICATE OF TITLE

GSL has reviewed copies of the Certificates of Title for the aforementioned properties, including any instruments on the title which detail relevant property information such as: current ownership, registered interests, easements, covenants, lease restrictions and transmissions, to determine if pre-existing consent notices or other restrictions / notifications which may be relevant to historic uses or potential soil contamination are held against the property. No notes of interest regarding actual or potential soil contamination were recorded on the titles beyond mentioning that previous owners of the land were farmers. Copies of these documents are attached in Appendix B.

## 8.2 HISTORIC AERIAL PHOTOGRAPHS

Historic aerial photographs from 1940, 1942, 1961, 1963, 1973, 1977, 1984, and 1991 are available for the site on the Retrolens website (Reference 5), while images from 2002 and 2014 are available from the LINZ data service, and images from 2007, 2009, 2012, and 2017 are available on the Waikato District Council Intramaps GIS website. Additional satellite images of the site are available between 2010 and 2017 on Google Earth. The findings of the historic aerial photograph review are summarised below, while copies of these aerial photographs have been attached in Appendix C.

- 1940     The earliest image available, captured in 1940, only covers the south-western section of the site from just south of Balemi Road to Tahuna Road. The image shows the entirety of Lot 3, and the visible portions of Allot 405 and Lot 2 under pasture. The farmstead containing a dwelling, garages, and garden sheds are visible at 109 Tahuna Road, but no dwelling is yet present at 52 Lumsden Road. However, shed-like buildings are visible on the north-eastern portion of Lot 2 and adjacent to the western boundary of Allot 405.
  
- 1942     The 1942 image is of poorer quality than the 1940 image but covers the full extent of the site. At this time, the entirety of the site appears to be under rough bush and pasture. An additional building is visible to the north of those noted on Allot 405, however no other buildings are visible beyond those noted in the 1942 image.
  
- 1961     The 1961 image is of the same limited extent as the 1942 image, showing only the south-western portion of the site but is of better quality. The buildings noted on Allot 405 adjacent to the western boundary appear to be a residential dwelling (formerly 82 Lumsden Road) with a nearby garage / shed and a domestic vegetable garden. The structures to the north have been expanded and appear to be a small milking shed with attached stock holding pens. A hay barn has also been constructed in the pasture directly east of the residential dwelling.  
  
 Lot 3 appears unchanged, with the shed's in its north-eastern portion more discernible. The larger, southern shed is known to have been used as a cattle slaughterhouse. Vehicle tracks are discernible in paddocks on Lot 3 and Allot 405 that are consistent with tractor / truck mounted application of fertilisers such as superphosphate ('groundspreading').  
  
 The extent of the image limits the area visible at 109 Tahuna Road, however new buildings are visible to the north-west of the dwelling on Lot 2. A small domestic orchard is visible directly west of the dwelling.
  
- 1963     The 1963 image is of lower quality than the 1961 image but shows the entirety of the site. Allot 405 appears unchanged, whilst the dwelling at 52 Lumsden Road on Lot 3 had been constructed by the time the image was captured, with the remainder of Lot 3 remaining unchanged. The farmstead at 109 Tahuna Road appears largely unchanged, with all the buildings visible, including a barn located south-west of the farmstead which fell outside the 1961 frame but was assumed to be present based on the farm track next to it. Lot 1 does not contain any structures by this time, with a large part of it appearing to be under rough bush or swamp.
  
- 1969     The 1969 image is of very low quality, limited the amount of detail discernible. However, it appears that the milking sheds are present on Allot 405 and Lot 2 by this time.

- 1973 The 1973 image is of marginally better quality than the 1969 image and shows the full extent of the site. The milking sheds are now visible on Allot 405 and Lot 2. A barn-like structure has been constructed adjacent to the dwelling at 52 Lumsden Road. Some of the land has been reclaimed from swamp in the north-eastern section of Lot 1 for use as pasture.
- 1976 & The 1976 images are again of limited extent, showing the western portion of the site.  
1977 However, their higher quality show that the dwelling on Allot 405 (formerly 82 Lumsden Road) appears disused, with the nearby garage already removed from site. A maize crop is visible in the pasture south-west of 109 Tahuna Road on Lot 2.
- Although of lower quality than the 1976 image, the 1977 image appears to show the western portion of the site in the same configuration as in 1976, but also shows that the bush reclamation has been completed on Lot 1 to create the current pasture configuration, and that the residential dwelling at 231 Tahuna Road had been constructed by the time the image was captured.
- 1983 & Multiple high-quality low altitude images were captured across the site in 1983, with a  
1984 single lower quality high altitude image captured in 1984. By the time of the 1983 images, the milking shed and a single barn had been constructed on Lot 1, west of 231 Tahuna Road. By 1984, a second barn had been added in the same location. The 1983 images clearly show the locations of the stock effluent ponds, south east of the milking shed on Allot 405, and directly east of the milking sheds on Lot 1 and 2. Several pastures across the site also exhibit vehicle tracks consistent with groundspreading of fertiliser.
- Between the time of the 1983 and 1984 images, the dwelling on Allot 405 (formerly 82 Lumsden Road) was removed.
- 1991 The site appears largely unchanged by the time of the 1991 image, with no new buildings visible. Vehicle tracks are again visible in several paddocks, but the quality of the image limits the discernible details, so it is not clear if they are from groundspreading or maize crop.
- 2002 The 2002 image is the first colour image of the site but is of poor quality. However, it appears that the site is largely unchanged from the 1991 image, with a garage adjacent to the 231 Tahuna Road dwelling and covered stock pens adjacent to the Lot 1 milking shed the only new structures visible on site.
- A large, white object is visible in a paddock to the north-west of the milking shed on Lot 2, however it is not clear whether it is a structure or a silage cover as it only appears in the 2002 image. A silage bunker is also visible to the west of the milking shed on Allot 45, adjacent to the western boundary of the site.
- 2007 & By the time of the 2007 image, the dwelling at 151 Tahuna Road and a new barn / large  
2009 shed adjacent to the dwelling at 52 Lumsden Road had been constructed. An artefact visible in the 2002 image adjacent to Tahuna Road on the eastern section of Lot 1 is discernible as a covered silage bunker / pit. Another covered silage stockpile is visible on the western boundary of Lot 1, north of the 151 Tahuna Road dwelling. A fertiliser storage bunker is visible between the milking shed and barn on Lot 2.



The 2009 image is of limited extent, only covering the western edge of the site, south of the milking shed on Allot 405. However, an unidentifiable artefact in the 2007 image visible south-west of the milking shed on Allot 405, between the access road and Lumsden Road is discernible as a pile of partially buried debris in the 2009 image. The visible portions of Lot 3 appear to have been converted from pasture maize cropping, with the pasture fences having been removed between 2007 and 2009.

- 2010, 2012 & 2014 The site appears unchanged in the 2010 satellite image and 2012 aerial photograph compared to the 2007 & 2009 images. The 2014 aerial image is of the same limited extent as the 2009 image, but clearly shows Lot 3 under maize crop.
- 2015 2016 & 2017 By the time of the 2015 satellite image the barn south west of the dwelling at 109 Tahuna Road had been removed, and a single garage/shed had been added adjacent to the existing double garage east of the dwelling. Excavations to upgrade the drainage ditches south of the milking shed on Lot 2 are visible, with excavated material stockpiled adjacent to the excavations and in the footprint of the removed barn. These works persisted into 2016 and are again visible in the 2016 image. By the time of the 2017 image, the works appear largely complete, with the stockpiled material removed from the ex-barn footprint. The stock effluent dewatering pond on Allot 405, south east of the milking shed appears to have been decommissioned or filled in between the 2014 and 2015 images. No other significant changes to the site were noted during this period.

### 8.2.1 SUMMARY OF HISTORIC AERIAL PHOTOGRAPHS

The site has been predominantly used for dairy farming for the majority of its observable past. However, Lot 3 has been used for maize cropping between 2009 and 2017, whilst occasional paddocks across the rest of the site were used in a similar fashion from as early as 1976. The farmstead located on Lot 2, addressed as 109 Tahuna Road, is the oldest collection of buildings on the site, having been present since prior to 1940, the earliest image available. Buildings from this time were also present on Allot 405 (formerly 82 Lumsden Road) and Lot 3 but were removed during the 1970's and 1980's. One of the original buildings, a large wooden shed, is still present on the eastern portion of Lot 3. The dwelling at 52 Lumsden Road was constructed between 1961 and 1963, whilst the dwelling at 231 Tahuna Road was constructed by 1977. The dwelling at 151 Tahuna Road was a later addition, constructed between 2002 and 2007.

The milking sheds present on Lot 2 and Allot 405 were constructed between 1963 and 1965, with the third milking shed, located on Lot 1 first appearing in the 1983 image. All three milking sheds have stock effluent ponds visible nearby, along with stock pens and barns. It is not clear from the aerial photographs at what point the milking sheds on Lot 2 and Allot 405 ceased operation; however, a partially buried pile of debris is visible near to the milking shed on Allot 405 from 2009, possibly associated with its decommissioning.

General farming infrastructure, such as lean-to's and small sheds are visible on the site between 1940 and 2017, along with covered silage and wrapped hay bales. Vehicle tracks consistent with fertiliser groundspreading are visible in several paddocks since as early as 1961. Only minor earthworks associated with the construction of drainage channels were noted.

### **8.3 WAIKATO DISTRICT COUNCIL HAIL REPORT**

GSL requested the HAIL Report from Waikato District Council for review of historic activities. The following records (where applicable) were reviewed in the assessment: the property file; the Waikato District Council Land Use Register; the Waikato Regional Council Selected Land Use Register; subdivision consent files; land use consent files; building consent files; and aerial photography. Copies of the HAIL Reports have been attached in Appendix D.

The reports concluded that no record of any HAIL activity having occurred on site is retained on Council records. However, the reports did note that the site has been the location of dairy farming for its recorded history, and that prolonged application of superphosphate fertiliser to pastures has the potential to elevate cadmium concentrations in soil. Although more refined phosphate fertilisers such as monoammonium phosphate and diammonium phosphate require a lower application rate than superphosphate fertilisers, they have still been found to contain cadmium which can contribute, albeit more slowly, to elevated concentrations in soils.

The reports also identified structures constructed on the site prior to 1940, some of which remain. The presence of asbestos containing materials (ACM) and lead-based paint are therefore likely, which can result in elevated lead concentrations and asbestos fibres in soil surrounding those structures.

### **8.4 INTERVIEW WITH LANDOWNER**

The following information was gathered during interviews with the owners of 52 Lumsden Road and 231 Tahuna Road during the site inspection on 23 May 2019.

### **8.5 52 LUMSDEN ROAD**

A current tenant of 52 Lumsden Road was interviewed at the property during GSL site inspection. He confirmed that the property had been used for dairy farming since its creation until 2004, when the paddock fences were removed so that it could be used for maize cropping. He confirmed that the large wooden shed located in the eastern paddock of the property had been used as a slaughterhouse for cattle for meat to be transported to Auckland via the nearby railway. He was not aware of any dumping or fly-tipping having occurred on the site and was not aware of any other specific activities that may result in impacted soils.

### **8.6 231 TAHUNA ROAD**

Mr Graham Bowers was interviewed at the milking shed on Lot 2. He confirmed that they had been on the Lot 1 and Lot 2 sections of the farm since the early 1990's, and had obtained Allot 405 more recently in the early 2000's. In that time, they had used the land for dairy farming, with occasional maize cropping in some paddocks. During their time of ownership, Mr Bowers used phosphate ammonium fertiliser, but did not know whether superphosphate had been applied to the pastures by the previous owners. He also indicated that no cattle dips or sprays had been used on the site during his tenure and what was not aware of any historic structures that could have been used for such activities.

Mr Bowers identified one area on Allot 405 where scrap metal taken from the nearby milking shed had been dumped and buried, west of the milking shed. He was not aware of any other dumping or fly-tipping having occurred.

## 9 SITE INSPECTION & INFRASTRUCTURE

GSL personnel performed a site inspection on 23 May 2019. Buildings identified during the inspection included four farmsteads containing dwellings and auxiliary buildings, one active milking shed and two inactive milking sheds and their auxiliary buildings, one active hay barn, and one historic timber shed (former slaughterhouse). Each of these areas are described further below, with site photographs attached in Appendix E and Figures 3a to 3d (farmsteads) and 4a to 4c (milking sheds) presenting the identified infrastructure.

The general farm area outside the areas identified above did not contain any evidence to suggest actual or potential gross contamination. Minor structures, inferred to be sheds containing control units for electric cattle fences are located on Lot 1, Lot 2, and Lot 3. Several drainage trenches are located between pastures. Two silage bunkers are located on the eastern portion of the site, one on the eastern side of the flood protection trench on Lot 1, and one on the boundary between Lots 1 and 2.

### 9.1 FARMSTEADS

#### 9.1.1 52 LUMSDEN ROAD

The farmstead at 52 Lumsden Road (Figure 3a) contains a large dwelling, a garage, a small shed with attached parking bays for vehicles and farming equipment, and a large, relatively new shed. The dwelling contained both old and modern construction materials, mostly clad in brick, with some areas of weatherboard and timber, and a corrugated iron roof. Visual observation of the exterior of the dwelling did not note any specific materials considered likely to contain asbestos; however, the presence of asbestos containing materials (ACM) cannot be ruled out given the age of the building and an appropriate asbestos survey is required prior to demolition or removal. Given the use of unpainted brick cladding, and the good condition of the remaining painted cladding, it is unlikely that the historic use of lead-based paint has impacted the surrounding soils. A possible underground septic tank is located south of the dwelling, adjacent to the small shed; however, no plans have been cited confirming the location of a septic tank.

The garage, shed, and attached parking bays form a single structure constructed of steel, timber, and unpainted corrugated iron. The open parking bays contained several farming implements at the time of the inspection, including a small, mobile diesel tank trailer in good condition. No staining was noted on the compact hardstand surface in any of the parking bays. The small shed on the western end of the structure, and the parking bay directly adjacent to it had concrete floors which appeared in good condition. A rainwater tank is located at the eastern end of the building.

The large, relatively new shed at the southern end of the farmstead also contains a rainwater tank on its eastern end, as well as a concrete pad for farm vehicle parking. The shed is constructed from long-run iron / coloursteel with a concrete floor in good condition and appears to be used for farm vehicle storage and maintenance activities.

The accessway from the road to the farmstead is of compact hardstand material, with a single culvert crossing approximately two-thirds of the way from the road to the house. The hardstand material continues up to the house in the north, and between the small and large sheds in the south until the start of the farm tracks in the east. The general farmstead area contains some landscaped features alongside several farming implements, vehicles, and cattle loading race, but no signs of actual or potential gross contamination readily observable.

#### **9.1.2 FORMER 82 LUMSDEN ROAD**

The farmstead previously located at 82 Lumsden Road had been completely removed from the site by 1984, with the garage / implement shed removed earlier, by 1977, and as such no trace of them was identified during the site inspection. However, given the age of the dwelling, it is possible that the exterior may have been painted with lead-based paint which may persist in the topsoil horizon. Similarly, the garage / implement shed east of the dwelling may have been a source of lead if it had been painted.

Potential contamination identified in this area therefore includes discharge of lead to soil from lead-based paint (HAIL Item I).

#### **9.1.3 109 TAHUNA ROAD**

The farmstead at 109 Tahuna Road (Figure 3b) is smaller than that of 52 Lumsden Road, and currently only contains a dwelling, a double garage, and a single garage / shed. Both the house and the garage have rainwater collection tanks. The dwelling again contained both old and modern construction materials, with an addition noted on the northern end of the building. The accessway and vehicle parking areas were of hardstand material in good condition. No signs of actual or potential gross contamination were noted.

Given the age of the dwelling and double garage, potential contamination identified in this area includes discharge of lead to soil from lead-based paint (HAIL Item I).

#### **9.1.4 151 TAHUNA ROAD**

The farmstead at 151 Tahuna Road (Figure 3c) is the smallest on the site, containing a single dwelling, two small sheds (metal and timber), and a concrete water tank. The dwelling appeared to be clad with 'rusticated HardiePlank' weatherboard (or similar). However, it is not known whether the building is of modern construction or if it is an older building that was relocated from elsewhere onto the site between 2002 and 2005. The hardstand accessway and parking area was in good condition, with no signs of actual or potential gross contamination noted.

#### **9.1.5 231 TAHUNA ROAD**

The farmstead at 231 Tahuna Road (Figure 3d) is the easternmost one on the site and is also relatively small. It contains a dwelling, a double garage, a rainwater tank, and a concrete slab for carparking at the north eastern corner of the house. The dwelling and garage contained several different cladding materials, all of which were in good condition. Similarly, the hardstand accessway and parking areas, and the concrete parking area were all in good condition. No signs of actual or potential gross contamination were noted.

## 9.2 MILKING SHEDS

### 9.2.1 LOT 1 ACTIVE MILKING SHED

The milking shed on Lot 1 (Figure 4a) is still currently active, with a stock effluent dewatering pond and field east of the milking shed, and three barns structures containing stock pens on the shed's western side. The milking shed appeared to be clad in fibrous compressed cement weatherboard, suspected to contain asbestos. Several fragments of broken weatherboard were lying on the hardstand surface on the south western side of the building, where several panels had been damaged and subsequently replaced.

Four small, old above-ground diesel storage tanks with bowzers are located on the eastern side of the central barn structure, west of the milking shed; however, only the central two units appeared to still be in use, below which significant staining was visible. Whilst the units were not bunded, the staining was on the surface of compact hardstand material. No intrusive investigation was made into whether the staining may have penetrated the compact hardstand to the underlying soils.

The three barn structures west of the milking shed were all of timber and unpainted corrugated iron construction and used for housing stock pens and storing some farming implements. Additional farming implements were stored in the grassed area on the western boundary of the yard, between the southern and northern barns. Multiple small areas of partially buried and overgrown refuse were noted in this area, including partially burnt materials such as timber, metal, glass, and plastic.

Potential contamination identified in this area therefore include localised hotspots of stored and spilled petroleum and polycyclic aromatic hydrocarbons (HAIL Item A.13), asbestos containing materials in a damaged and deteriorated condition (HAIL Item E.1), dumping of burnt refuse (HAIL Item I), and stock effluent dewatering ponds (HAIL Item G.6).

### 9.2.2 LOT 2 INACTIVE MILKING SHED

The milking shed on Lot 2 (Figure 4b) is no longer active; however, the western side of the building is still used as stalls for storing farming equipment and for stock pens. Most of the milking shed is constructed of timber, corrugated iron, and concrete cinderblock. However, sections of suspected asbestos containing material (ACM) weatherboards were also noted, some of which were in a damaged and deteriorated condition. A pile of burnt material was noted south east of the milking shed, including a shattered piece of ACM cladding. The former stock effluent dewatering pond is located to the east of the milking shed.

South of the milking shed, adjacent to the pile of burnt material, is a large timber fertiliser storage bunker. The bunker is essentially empty, with only small remnants of what appear to be ammonium phosphate granules. The floor of the bunker appears to be compacted but unlined clay.

The barn to the south east of the fertiliser bunker, likely a former calf barn given the interior stall configuration, is currently used for general storage. The barn is constructed on an unpainted concrete cinderblock base, with a timber frame clad with poorly maintained painted timber, with an unpainted corrugated iron roof. The timber cladding is highly weathered, with patches of multiple layers of paint visible. However, a large portion of the wood is visible where old paint has

flaked off. General construction materials such as concrete, metal, timber, and ceramics are piled in and around the yard, but no signs of buried materials were noted.

Potential contamination identified in this area therefore include localised hotspots of asbestos containing materials in damaged and deteriorated condition (HAIL Item E.1), bulk storage of fertiliser (HAIL Item A.6), discharge of lead to soil from lead-based paint on the former calf barn (HAIL Item I), discharge of potential contaminants from the incomplete combustion of refuse and building materials (HAIL Item I), and stock effluent dewatering ponds (HAIL Item G.6).

### 9.2.3 ALLOT 405 INACTIVE MILKING SHED

The milking shed on Allot 405 (Figure 4c) is currently inactive and partially dismantled. The building is constructed from unpainted concrete cinderblocks with a corrugated iron roof. However, some potential ACM panels are present at the southern end of the building and appear to be in weathered condition. The milking shed also contains a concrete water tank at its southern end, with the former stock effluent dewatering ponds further south east (decommissioned / fill in between August 2014 and March 2015).

Directly west of the milking shed, adjacent to Lumsden Road is a silage bunker cut into a natural rise. Adjacent to the bunker are an unpainted timber and corrugated holding pen and old concrete pads, remnants from the former milking shed and holding pens located there between the 1940's and 1960's.

The surface of the area identified by the owner of Allot 405 as containing buried scrap metal was visually inspected; however, whilst minor surficial metal was noted, the overgrown nature of the area precluded a full assessment of the material.

Potential contamination in this area therefore includes possible asbestos containing material in deteriorated condition (HAIL Item E.1), potential waste disposal to land (HAIL Item G.5), and stock effluent dewatering ponds (HAIL Item G.6).

### 9.3 ALLOT 405 HAY BARN

The hay barn constructed prior to 1961 on Allot 405 is of steel and timber frame clad in corrugated iron. No evidence of actual or potential contamination was noted in or around the structure.

### 9.4 LOT 3 TIMBER SHED (FORMER SLAUGHTERHOUSE)

The timber shed formerly used as a slaughterhouse is still present on Lot 3. The timber structure, built prior to 1940, may have had a painted exterior; however, almost no paint remains on the exterior wooden cladding with only hints of red paint visible between the boards. Both the interior of the building and the corrugated iron roof appear to have been painted. Given the age of the building and condition of the painted surfaces, lead from lead-based paint is considered a potential contaminant in soils surrounding the building (HAIL Item I).

## 10 POTENTIAL FOR CONTAMINATION

The results of the investigation have indicated that the following potential sources of soil contamination exist on site (Figure 5):

**TABLE 2. CURRENT & FORMER HAIL ACTIVITIES AND POTENTIAL HAZARDOUS SUBSTANCES**

ACTIVITY	POTENTIAL HAZARDOUS SUBSTANCES
Application of phosphate fertilisers to paddocks	Cadmium (homogenous distribution)
Bulk storage of phosphate fertilisers	Cadmium (hotspot)
Asbestos containing material in damaged and deteriorated condition <sup>1</sup>	Asbestos fibres
Historic lead-based paint use <sup>2</sup>	Lead
Burnt and / or buried refuse and building material <sup>3</sup>	Heavy metals, asbestos fibres, polycyclic aromatic hydrocarbons (PAHs)
Bulk fuel storage (diesel)	Polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPHs)
Stock effluent dewatering ponds <sup>4</sup>	Heavy metals, biological hazards (bacteria, viruses)

Notes:

1. Only suspected asbestos containing materials (ACM) identified during investigation – appropriate asbestos surveys by licensed asbestos surveyors required to confirm ACM presence / absence prior to development in accordance with the Health and Safety at Work (Asbestos) Regulation 2016;
2. Lead discharge to soil from lead-based paint likely restricted to topsoil / shallow soil horizons within a few meters of source building;
3. Nature and extent of buried materials unknown, so contaminants of concern may vary depending on material encountered during intrusive investigation;
4. Stock effluent dewatering ponds are considered low risk if properly decommissioned, however, the nature of decommissioning of the pond on Allot 405 is not known.

GSL notes that although the use of phosphate fertilisers on pasture grass and the resulting potentially elevated cadmium concentrations have been included in the table above as a potential source of contamination, it has not been included on Figure 5 as it is assumed to encompass the entire site. Representative assessment of proposed high risk (residential) landuse areas is recommended as set out in Section 12 below.

## 11 CONCLUSIONS

GSL has conducted a preliminary site investigation, in accordance with the MfE Contaminated Land Management Guidelines to determine the location and extent of current and / or former HAIL Activities on site and the potential for soil contamination, and the associated risk to human health and the environment, as a result. GSL has consequently concluded that:

- the site has been predominantly cattle grazing for dairy farming for the majority of its observable past;
- there is no evidence of any cattle dips or races on site;
- the site has been used for occasional maize cropping in its recent past as part of pasture rotation practices and feed production;
- discrete portions of the piece of land have been subject to activities or industries listed on the MfE Hazardous Activities and Industries List (HAIL);



- screening of topsoil via soil sampling is required to assess the risk of elevated cadmium concentrations from bulk application of phosphate fertilisers (superphosphate or phosphate ammonium) to pasture grass according to the proposed future landuses of the site;
- whilst minor hotspots of contamination requiring further investigation were identified on the site, no obvious evidence of gross contamination that could have significant impacts on the proposed development were encountered during the investigation.

### 11.1 NATIONAL ENVIRONMENTAL STANDARD (NESCS)

Portions of the site, including the three milk sheds and their associated buildings, the farmstead at 109 Tahuna Toad, the historic shed on Lot 3, and the former building footprints on Allot 405 meet the definition of potential HAIL land (Figure 5). Additionally, the bulk application of phosphate fertilisers to pastures within the proposed development's residential zones may have elevated cadmium concentrations, potentially in excess of the soil contaminant standard for residential landuse.

Where HAIL activities have been identified that may present a risk to human health, appropriate detailed site investigation will be required to characterise that risk against the applicable landuse standard. Given the nature and extent of the proposed scheme plan, GSL notes that staged detailed site investigation may be appropriate to facilitate the proposed timings for scheme plan approval, subdivision, development and ultimately change in landuse.

The recommendations for further investigation are outlined in Section 12 below and GSL notes that should detailed investigation identify concentrations of priority contaminants in excess of the applicable landuse standard, appropriate remediation and / or management will be required to address the identified risks.

### 11.2 WAIKATO REGIONAL PLAN (WRP)

The contaminated land policies of Chapter 5.3.3 of the WRP provide a means through which discharges of contaminants from contaminated land can be assessed and remediated, if necessary, so that they can be managed effectively to not present a significant risk to human, environmental, or social health.

As this PSI has identified potential sources of contamination described by the MfE HAIL, detailed investigation with intrusive soil sampling is required under the WRP to confirm whether these identified potential sources have impacted soil on site. As identified for the NES above, staged investigation may be appropriate as a result of the scope and scale of the scheme plan.

### 11.3 WAIKATO DISTRICT PLAN (WDP)

The objective of Part 1(9) of the Waikato Section of the WDP is to ensure that *human health or the environment is not harmed by the use or development of contaminated land*. To achieve this, the WDP sets out six policies regarding the use and development of contaminated land. Policy 9.2.2 states that *sensitive activities, such as residential, educational, recreational or childcare activities, should not locate on contaminated land*. Under Appendix P of Part 3 of the Waikato Section of the WDP defines contaminated land as *an area of land on which hazardous substances occur at*



*concentrations above background levels and where assessment indicates the substance poses, or is likely to pose an immediate or long-term risk to human health or the environment.*

By referencing the MfE HAIL and the regulations of the NESCS, detailed investigation with intrusive soil sampling is required under the WDP to determine if the site is contaminated by the multiple items recorded on the MfE HAIL identified in discrete locations across the site. The recommendations as set out for the NES are therefore directly applicable to the WDP.

## 12 RECOMMENDATIONS / FURTHER INVESTIGATIONS REQUIRED

As a result of the findings of this report as outlined above, the piece of land under investigation have been subject to activities and industries included on the MfE HAIL and as such is considered potentially impacted. These areas include the three milking sheds and their associated buildings, the farmstead at 109 Tahuna Toad, the historic shed on Lot 3, the former building footprints on Allot 405, and the pastures that may have been subject to superphosphate application. To assess whether any risk to human health or the environment exists with respect to these identified activities, detailed site investigation will be required to cover the following:

- Composite soil sampling to screen cadmium concentrations in surface soils of paddocks. Investigation can focus on the high-risk areas of the proposed development, being residential zones as cadmium is unlikely to exceed the commercial industrial landuse standard. Additional screening for soil disposal may be required should earthworks require significant offsite disposal;
- Discrete surface and depth soil samples in and around the fertiliser storage bunker near the milking shed on Lot 2;
- Analysis of soils where asbestos containing materials are positively identified and are in a broken or deteriorated condition;
- Discrete surface and depth soil sampling of total recoverable lead in soil around the dwelling and garage at 109 Tahuna Road, around the historic shed on Allot 405, around the calf barn on Lot 2, and in and around the former building footprints at the western entrance to Allot 405 to assess potential impacts of lead-based paint;
- Test pit excavation within the area of buried metal on the western portion of Allot 405, and the area of burnt and buried material near the milking shed on Lot 1 to assess the nature of materials buried in these areas, including discrete soil sampling for analysis of potential contaminants based on the materials identified. Priority contaminants such as heavy metals, asbestos fibres, and polycyclic aromatic hydrocarbons (PAHs) may require laboratory analysis;
- Discrete surface and depth soil sampling in and around the former stock effluent dewatering pond on Allot 405 as the nature of the decommissioning activities are unknown; and
- Appropriate validation soil sampling following decommissioning of the stock effluent dewatering ponds on Lot 1 and Lot 2, and the above ground fuel storage tanks at the milk shed on Lot 1 (including removal of the underlying hardstand gravel visibly stained by hydrocarbons).

Given the size and nature of the proposed development, the required detailed, intrusive investigations may be performed in a staged manner as development progresses, with investigation

and approval by Council required prior to development of any area identified as containing HAIL items. Following the analysis of the soil samples further actions may be required which may include the remediation of areas of contaminated soil and / or on-going site management and monitoring.

In addition, GSL notes that to satisfy the requirements of the Health and Safety at Work (Asbestos) Regulations 2016, appropriately intrusive asbestos surveys of all buildings and structures identified for demolition will be required to inform demolition controls.

## 13 REFERENCES

1. Ministry for the Environment (2003) — *Contaminated Land Management Guidelines No.1: Reporting on contaminated Sites in New Zealand*. Ministry for the Environment, Wellington, New Zealand.
2. Ministry for the Environment (2003) — *Contaminated Land Management Guidelines No.5: Site Investigation and Analysis of Soils*. Ministry for the Environment, Wellington, New Zealand.
3. Ministry for the Environment (2012) - Users Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Ministry for the Environment, Wellington, New Zealand.
4. Edbrooke, S.W (2005) — *Geology of the Waikato Area*. Institute of Geological and Nuclear Sciences Geological Map 4, Lower Hutt, New Zealand.
5. Retrolens Historical Image Resource - [www.retrolens.co.nz](http://www.retrolens.co.nz)

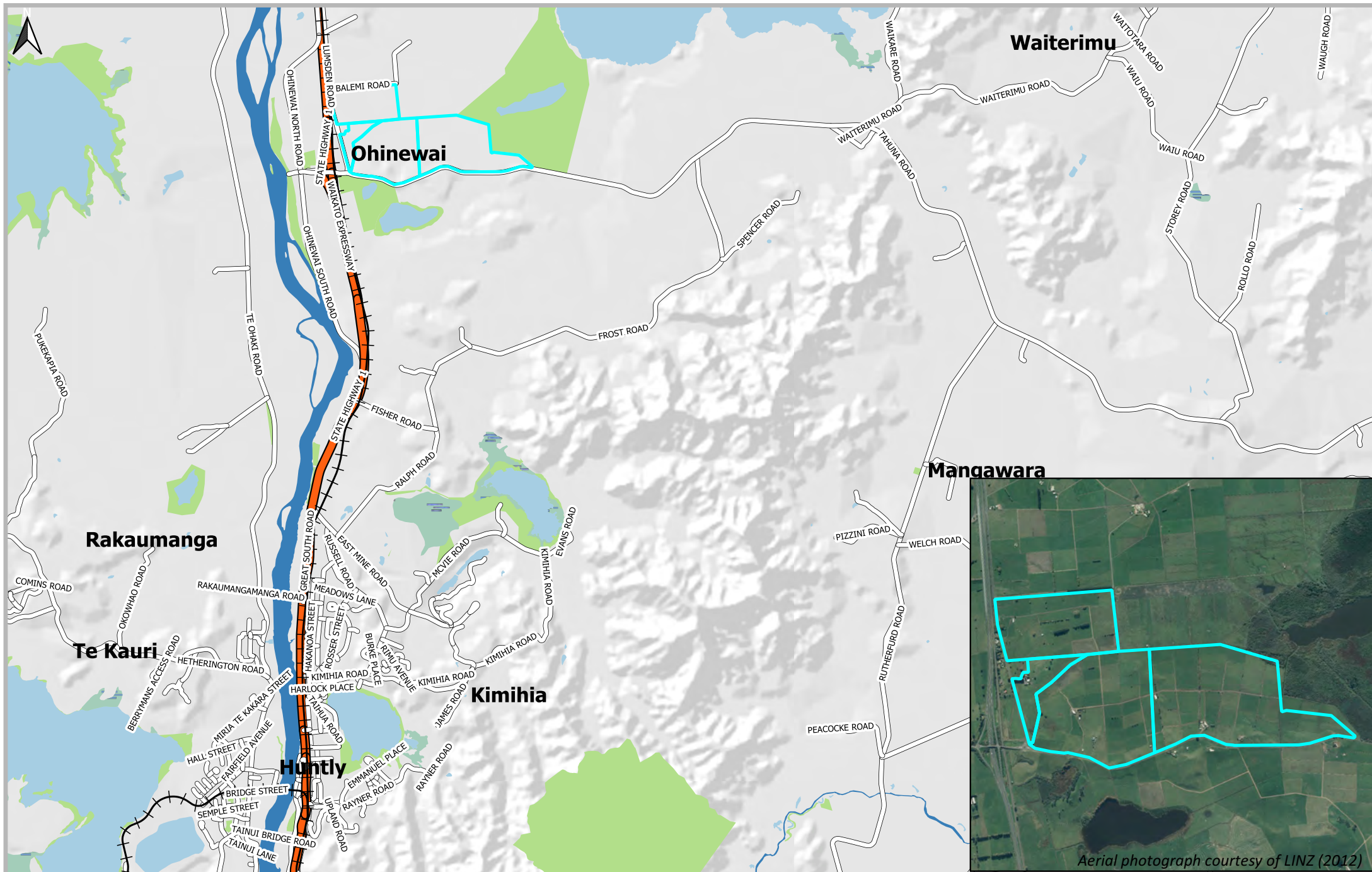
## 14 LIMITATIONS

The conclusions and all information in this Report are given strictly in accordance with and subject to the following limitations and recommendations:

1. The assessment undertaken to form this conclusion is limited to the scope of work agreed between GSL and the client, or the client's agent as outlined in this Report. This report has been prepared for the sole benefit of the client and neither the whole nor any part of this report may be used or relied upon by any other party.
2. The investigations carried out for the purposes of the report have been undertaken, and the report has been prepared, in accordance with normal prudent practice and by reference to applicable environmental regulatory authority and industry standards, guidelines and assessment criteria in existence at the date of this report.
3. This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by GSL for use of any part of this report in any other context.
4. This Report was prepared on the dates and times as referenced in the report and is based on the conditions encountered on the site and information reviewed during the time of preparation. GSL accepts no responsibility for any changes in site conditions or in the information reviewed that have occurred after this period of time.
5. Where this report indicates that information has been provided to GSL by third parties, GSL has made no independent verification of this information except as expressly stated in the report. GSL assumes no liability for any inaccuracies in or omissions to that information.
6. Given the limited Scope of Works, GSL has only assessed the potential for contamination resulting from past and current known uses of the site.
7. Environmental studies identify actual sub-surface conditions only at those points where samples are taken and when they are taken. Actual conditions between sampling locations may differ from those inferred. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from that predicted. Nothing can be done to prevent the unanticipated and GSL does not guarantee that contamination does not exist at the site.
8. Except as otherwise specifically stated in this report, GSL makes no warranty or representation as to the presence or otherwise of asbestos and/or asbestos containing materials ("ACM") on the site. If fill has been imported on to the site at any time, or if any buildings constructed prior to 1970 have been demolished on the site or materials from such buildings disposed of on the site, the site may contain asbestos or ACM.
9. Except as specifically stated in this report, no investigations have been undertaken into any off-site conditions, or whether any adjoining sites may have been impacted by contamination or other conditions originating from this site. The conclusion set out above is based solely on the information and findings contained in this report.
10. Except as specifically stated above, GSL makes no warranty, statement or representation of any kind concerning the suitability of the site for any purpose or the permissibility of any use, development or re-development of the site.
11. The investigation and remediation of contaminated sites is a field in which legislation and interpretation of legislation is changing rapidly. Our interpretation of the investigation findings should not be taken to be that of any other party. When approval from a statutory authority is required for a project, that approval should be directly sought by the client.
12. Use, development or re-development of the site for any purpose may require planning and other approvals and, in some cases, environmental regulatory authority and accredited site auditor approvals. GSL offers no opinion as to whether the current or proposed use has any or all approvals required, is operating in accordance with any approvals, the likelihood of obtaining any approvals, or the conditions and obligations which such approvals may impose, which may include the requirement for additional environmental works.
13. GSL makes no determination or recommendation regarding a decision to provide or not to provide financing with respect to the site. The on-going use of the site and/or planned use of the site for any different purpose may require the owner/user to manage and/or remediate site conditions, such as contamination and other conditions, including but not limited to conditions referred to in this report.
14. Except as required by law, no third party may use or rely on, this report unless otherwise agreed by GSL in writing. Where such agreement is provided, GSL will provide a letter of reliance to the agreed third party in the form required by GSL.
15. To the extent permitted by law, GSL expressly disclaims and excludes liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this Report. GSL does not admit that any action, liability, or claim may exist or be available to any third party.
16. Except as specifically stated in this section, GSL does not authorise the use of this report by any third party.

## FIGURES

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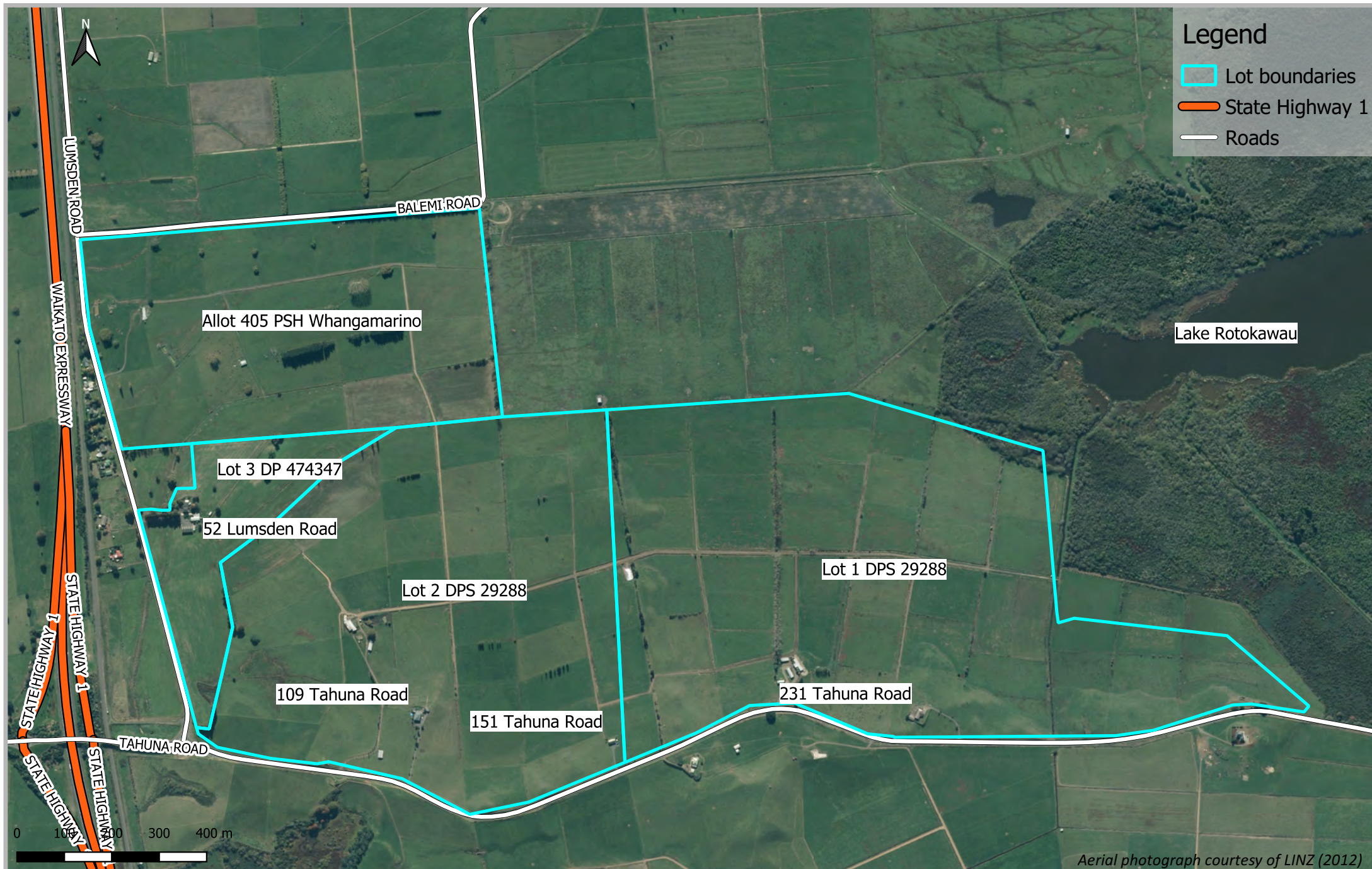


Aerial photograph courtesy of LINZ (2012)

**Figure 1 - Site Location**

**231 Tahuna Road and 52 Lumsden Road, Ohinewai, Waikato**

















## Legend

-  Lot boundaries
-  Infrastructure

Sheds

Dwelling

Water tank



0 10 20 30 40 m

*Aerial photograph courtesy of LINZ (2012)*





## Legend

-  Lot boundaries
-  Infrastructure

Double garage

dwelling

Water tank

0 10 20 30 40 m

**geosciences** ltd  
ENVIRONMENTAL

Level 1, 47 Clyde Road,  
Browns Bay, 0630  
Tel: (09) 475 0222

### Figure 3d - 231 Tahuna Road and surrounds

231 Tahuna Road and 52 Lumsden Road, Ohinewai, Waikato

Reference: J1352  
Date: 27/05/2019  
Drawn: CD  
Approved: COB

*Aerial photograph courtesy of LINZ (2012)*



**Legend**

- Lot boundaries
- Infrastructure



Aerial photograph courtesy of LINZ (2012)













## APPENDIX A      PROPOSED SCHEME PLAN

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YIELD	Land Use Areas																Yield					Totals		
	Factory Site m2	% of total	Commercial m2	% of total	Industrial m2*****	% of total	Residential Gen m2	% of total	Residential High m2	% of total	Open Space m2	% of total	Road Reserve m2	% of total	Land Not Owned m2	% of total	Commercial GFA m2*	Industrial GFA**	General Density Homes ***	Medium Density Homes ****	Total # of Homes	Total Area m2 *****	Total Developable Area m2	% of total
	228,568	13%	86,875	5%	342,078	19%	136,947	8%	190,562	11%	569,880	32%	207,393	12%	16,075	1%	43,437	136,831	382	856	1238	1,778,378	985,030	55%

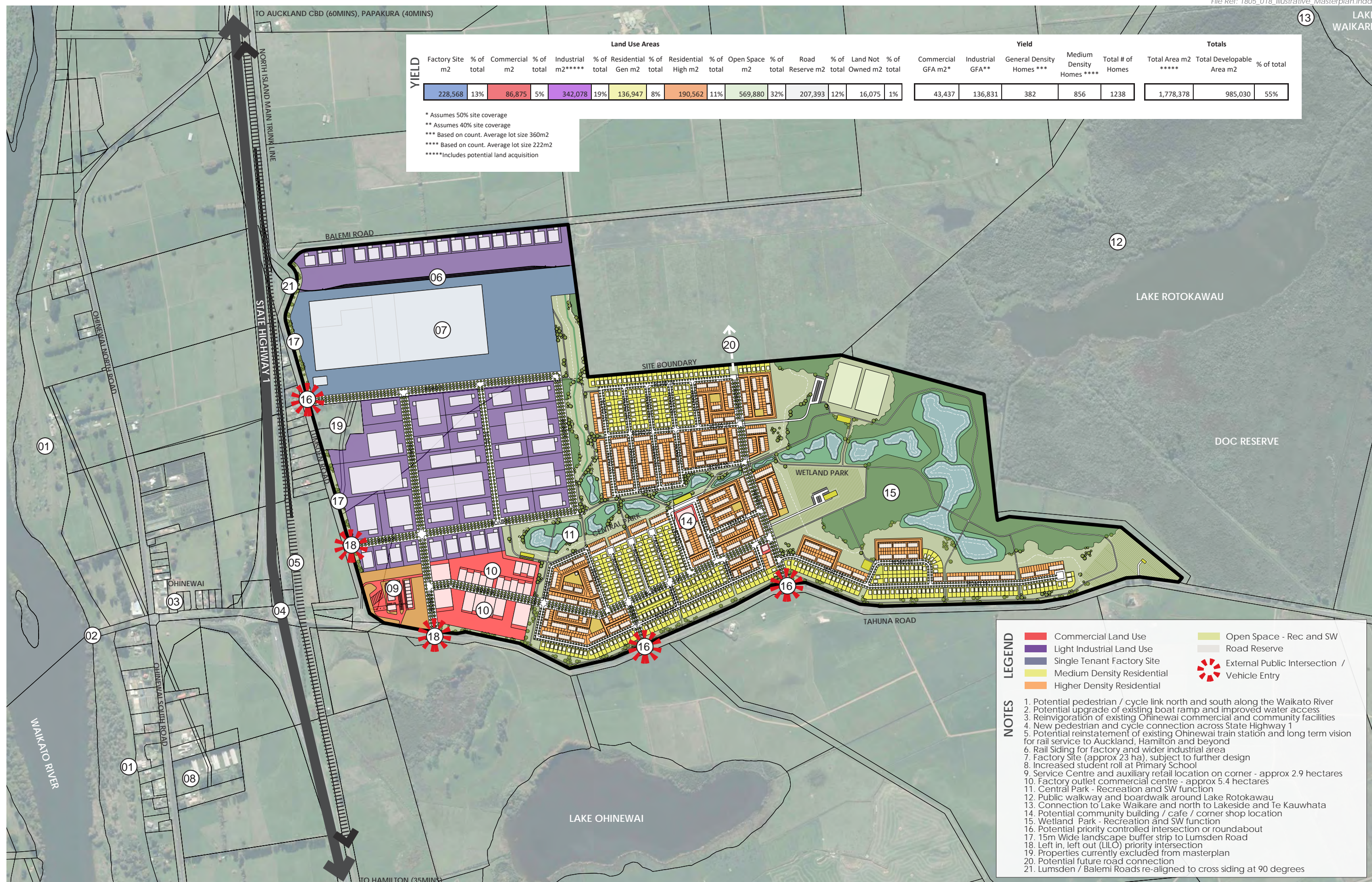
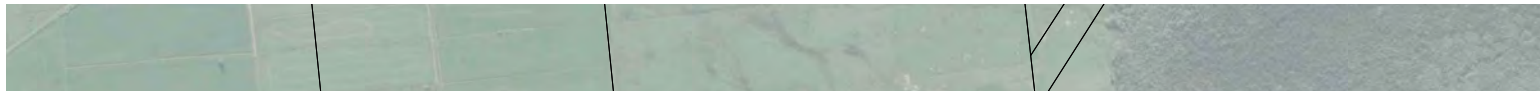
\* Assumes 50% site coverage

\*\* Assumes 40% site coverage

\*\*\* Based on count. Average lot size 360m2

\*\*\*\* Based on count. Average lot size 222m2

\*\*\*\*\*Includes potential land acquisition





## **APPENDIX B                      CERTIFICATES OF TITLE**

---



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** SA44B/473  
**Land Registration District** South Auckland  
**Date Issued** 22 August 1989

**Prior References**

GN H646420

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<b>Estate</b>	Fee Simple
<b>Area</b>	68.1385 hectares more or less
<b>Legal Description</b>	Lot 1 Deposited Plan South Auckland 29288

**Registered Owners**

Graham Roger Bowers, Susan Georgina Bowers and J W Trustees Limited

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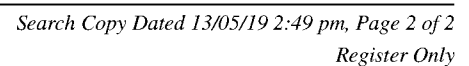
**Interests**

Subject to water rights over part created by Transfer H366246

Subject to Section 8 Mining Act 1971

Subject to a reservation of mines and minerals to (now) the Public Trustee created by Transfer 93548

10036552.3 Mortgage to ASB Bank Limited - 4.5.2015 at 12:01 pm





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier** SA44B/473  
**Land Registration District** South Auckland  
**Date Issued** 22 August 1989

**Prior References**

GN H646420

---

<b>Estate</b>	Fee Simple
<b>Area</b>	68.1385 hectares more or less
<b>Legal Description</b>	Lot 1 Deposited Plan South Auckland 29288

**Original Registered Owners**

Graham Roger Bowers as to a 1/2 share  
Susan Georgina Bowers as to a 1/2 share

---

**Interests**

Subject to water rights over part created by Transfer H366246  
Subject to Section 8 Mining Act 1971  
Subject to a reservation of mines and minerals to (now) the Public Trustee created by Transfer 93548  
B662038.4 Mortgage to ASB Bank Limited - 7.6.2001 at 2:55 pm  
6822398.1 CAVEAT BY SOLID ENERGY NEW ZEALAND LIMITED - 11.4.2006 at 9:00 am  
7829169.1 Withdrawal of Caveat 6822398.1 - 3.6.2008 at 3:20 pm  
7829169.2 Discharge of Mortgage B662038.4 - 3.6.2008 at 3:20 pm  
7829169.3 Transfer to Solid Energy Land Holdings Limited - 3.6.2008 at 3:20 pm  
9545317.2 Mortgage to Her Majesty the Queen - 22.10.2013 at 4:18 pm  
10036552.1 Discharge of Mortgage 9545317.2 - 4.5.2015 at 12:01 pm  
10036552.2 Transfer to Graham Roger Bowers, Susan Georgina Bowers and J W Trustees Limited - 4.5.2015 at 12:01 pm  
10036552.3 Mortgage to ASB Bank Limited - 4.5.2015 at 12:01 pm  
10036552.4 CAVEAT BY SOLID ENERGY LAND HOLDINGS LIMITED - 4.5.2015 at 12:01 pm  
10940593.13 Withdrawal of Caveat 10036552.4 - 26.10.2017 at 11:03 am

## References

Prior C/T  
Gazette Notice H.646420  
Transfer No.  
N/C. Order No. H.895373.1



**REGISTER**  
Land and Deeds 69

No.

44B / 473

**CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT**

**This Certificate** dated the 22nd day of August one thousand nine hundred and eighty nine under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

**WITNESSETH** that HER MAJESTY THE QUEEN is seized of an estate in fee simple for coal mining operations under Part IV Coal Mines Act 1979

~~XXXXXX~~ (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 68.1385 HECTARES more or less situated in Block VIII Rangiriri Survey District being Lot 1 on Deposited Plan S.29288



ASSISTANT LAND REGISTRAR

**THIS CERTIFICATE IS AFFECTED BY THE FOLLOWING INTERESTS AS AT THE DATE OF ISSUE**

Subject to a reservation of mines and minerals to (now) the Public Trustee created by Transfer 93548

Subject to water rights over part herein appurtenant to Lot 2 DPS.29288 (CT 26D/299) created by Transfer H.366246

H.895373.2 Transfer to Dennis John Powell and Lynette Joy Powell both of Te Aroha farmers as tenants in common in equal shares - 22.8.1989 at 10.49 o/c

Subject to Section 8 Mining Act 1971

A.L.R.

B.036779.1 Transfer to Graham Roger Bowers and Susan Georgina Bowers both of Ohinewai dairy farmers as tenants in common in equal shares - 14.8.1991 at 10.43 o/c

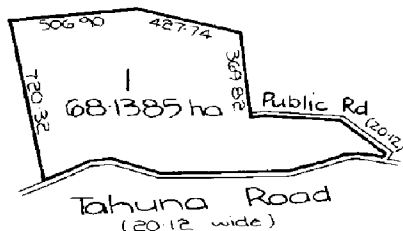
B.036779.2 Mortgage to The Rural Bank Limited - 14.8.1991 at 10.43 o/c  
B654759.1

B.262729 Variation of Terms of Mortgage  
B.036779.2 - 21.3.1995 at 10.43 o/c

B.328967.3 Variation of terms of Mortgage  
B.036779.2 - 7.3.1996 at 11.00 o/c

B530968.1 MORTGAGE to AUCKLAND FINANCE LIMITED  
- 8.3.1991 at 10.43 o/c

B6327074.1 FOR RGL  
B662038.4 Mortgage to ASB Bank Limited  
- 7.6.2001 at 2.55



Measurements are Metric  
m

Identifier

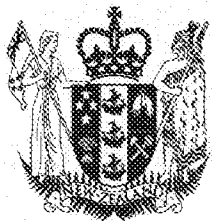
SA44B/473

REGISTER

CERTIFICATE OF TITLE No. /

93560H-50.000/2/89MK





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

**Identifier** SA26D/299  
**Land Registration District** South Auckland  
**Date Issued** 18 March 1981

**Prior References**

SA1105/273 SA194/256

---

**Estate** Fee Simple  
**Area** 61.1275 hectares more or less  
**Legal Description** Lot 2 Deposited Plan South Auckland  
29288

**Registered Owners**

Graham Roger Bowers, Susan Georgina Bowers and J W Trustees Limited

---

**Interests**

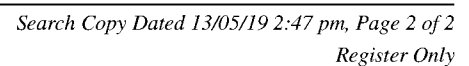
Appurtenant hereto are water rights created by Transfer H366246

93548 Transfer reserving mines and mineral to (now) The Public Trustee - produced 5.7.1916 and entered 7.11.1983

9262 Proclamation defining middle line of a road - 14.1.1937 at 1.00 pm (affects part formerly contained in CT SA1105/273)

9817903.3 Mortgage to ASB Bank Limited - 25.8.2014 at 1:49 pm







**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier** SA26D/299  
**Land Registration District** South Auckland  
**Date Issued** 18 March 1981

**Prior References**

SA1105/273 SA194/256

---

**Estate** Fee Simple  
**Area** 61.1275 hectares more or less  
**Legal Description** Lot 2 Deposited Plan South Auckland  
29288

**Original Registered Owners**

Graham Roger Bowers as to a 1/2 share  
Susan Georgina Bowers as to a 1/2 share

---

**Interests**

Appurtenant hereto are water rights created by Transfer H366246  
93548 Transfer reserving mines and mineral to (now) The Public Trustee - produced 5.7.1916 and entered 7.11.1983  
9262 Proclamation defining middle line of a road - 14.1.1937 at 1.00 pm (affects part formerly contained in CT SA1105/273)  
B662038.4 Mortgage to ASB Bank Limited - 7.6.2001 at 2.55 pm  
9817903.1 Discharge of Mortgage B662038.4 - 25.8.2014 at 1:49 pm  
9817903.2 Transfer to Graham Roger Bowers, Susan Georgina Bowers and J W Trustees Limited - 25.8.2014 at 1:49 pm  
9817903.3 Mortgage to ASB Bank Limited - 25.8.2014 at 1:49 pm  
10036552.4 CAVEAT BY SOLID ENERGY LAND HOLDINGS LIMITED - 4.5.2015 at 12:01 pm  
10940593.13 Withdrawal of Caveat 10036552.4 - 26.10.2017 at 11:03 am

Reference:  
Prior C/T. 1105/273 194/256

Land and Deeds 70

Transfer No.  
N/C Order No. H.332706.2



No. 26D/299

32/06.2

**CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT**

**REGISTER**

This Certificate dated the 18th day of March one thousand nine hundred and eighty-one under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that R.E. HARVEY LIMITED a duly incorporated company having its registered office at Buntly

is seized of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing **61.1275 HECTARES more or less being Lot 2 on Deposited Plan S.29288 and being part Allotments 406 407 and 436A Parish of Whangamarino**



ASSISTANT LAND REGISTRAR

9262 Proclamation defining middle line of  
a road entered 14.1.1937 at 1.00 o/c  
(affects the part formerly in G.T. 1105/273)

S.609708 Mortgage to The National Bank of  
New Zealand Limited produced 28.6.1973 at  
1.50 o/c

Bik VIII Rangiriri S. D.

H.105187 Site for Land Charge under the Rural  
Housing Act 1959 in the Waikato County Council  
entered 28.10.1959 at 2.01 o/c  
H 346466 O hon  
A.L.R.

H.206354 Mortgage as to the part formerly in  
C.T. 1105/273 to The Rural Banking and Finance  
Corporation of New Zealand produced 9.11.1978  
at 9.31 o'clock  
H288334

Appurtenant hereto are water rights over  
part Lot 1 Plan S.29288 (C.T. 26D/298)  
created by Transfer H.366246

93548 Transfer reserving mines and mineral  
to (now) The Public Trustee produced 3.7.1916  
and entered 7.11.1983

B.281072 Mortgage to The National Bank of New Zealand Limited - 29.6.1995 at 2.56 o/c

B654079.1 CAVEAT WITHDRAWN for A.L.R.  
AND SUSAN GEORGINA BOWERS - 10.4.2001 AT  
11.05

B662038.3 Transfer to Graham Roger Bowers and Susan Georgina Bowers in equal shares

B662038.4 Mortgage to ASB Bank Limited  
all 7.6.2001 at 2.55

for RGL  
2843F-2.000/6/73 V



Register copy for L. &amp; D. 69, 71, 72



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

**Identifier** **650547**  
**Land Registration District** **South Auckland**  
**Date Issued** 04 September 2014

**Prior References**

SA43A/588 SA43A/589

---

**Estate** Fee Simple  
**Area** 10.8720 hectares more or less  
**Legal Description** Lot 3 Deposited Plan 474347

**Registered Owners**

Bruce Alexander Holmes, Juedi Anne Shirley Holmes and Evans Bailey Trustees 2017 Limited

---

**Interests**

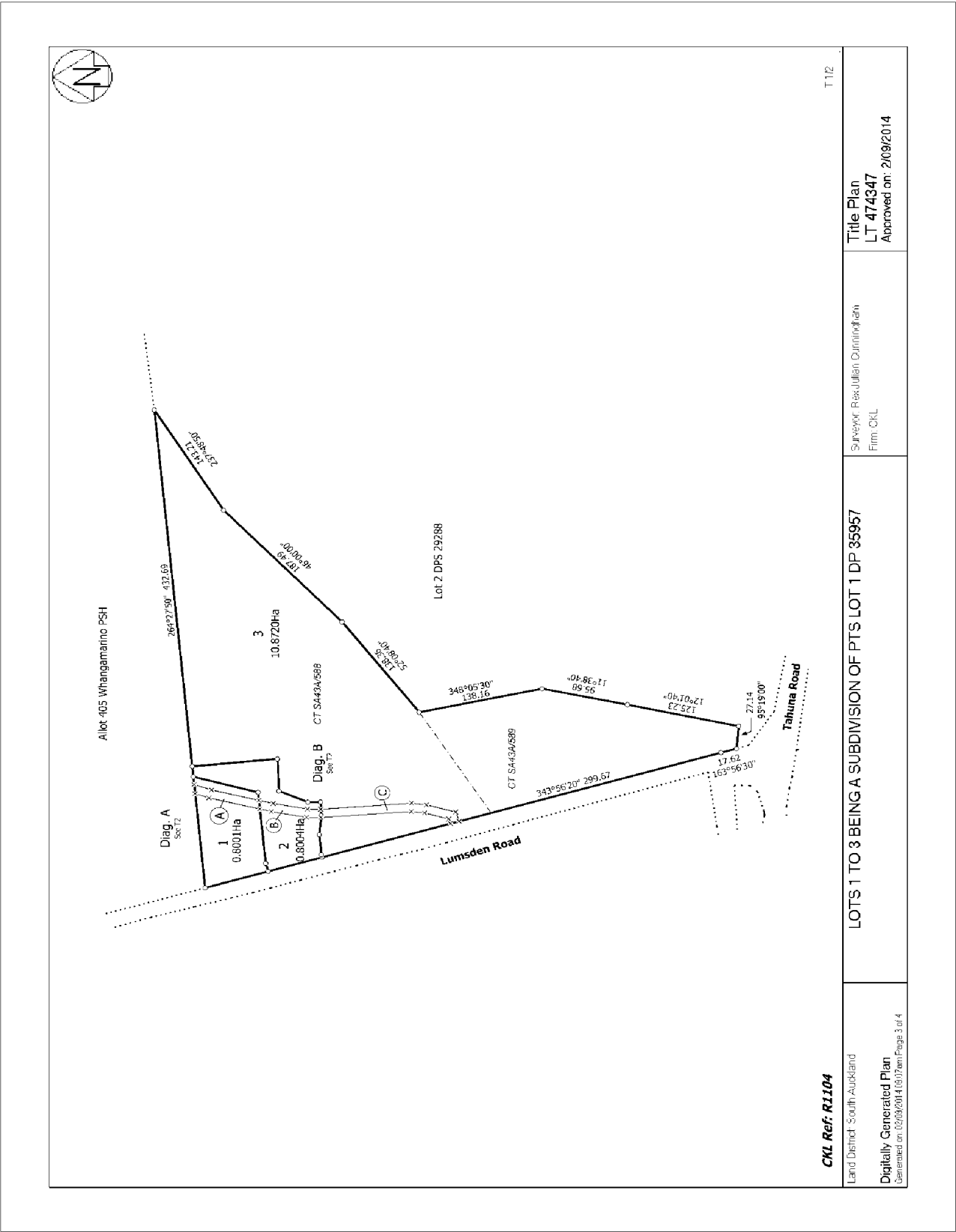
Subject to Section 8 Mining Act 1971

5734867.4 Mortgage to Bank of New Zealand - 19.9.2003 at 9:00 am

Subject to a right to drain water (in gross) over part marked C on DP 474347 in favour of the Waikato Regional Council created by Easement Instrument 9793463.4 - 4.9.2014 at 9:25 am

The easements created by Easement Instrument 9793463.4 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 10367839.2 - 21.3.2016 at 4:43 pm





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier** 650547  
**Land Registration District** South Auckland  
**Date Issued** 04 September 2014

**Prior References**

SA43A/588 SA43A/589

---

**Estate** Fee Simple  
**Area** 10.8720 hectares more or less  
**Legal Description** Lot 3 Deposited Plan 474347

**Original Registered Owners**

Bruce Alexander Holmes, Juedi Anne Shirley Holmes and Michael Wayne Crawford

---

**Interests**

Subject to Section 8 Mining Act 1971

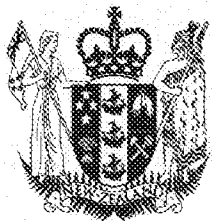
5734867.4 Mortgage to Bank of New Zealand - 19.9.2003 at 9:00 am

Subject to a right to drain water (in gross) over part marked C on DP 474347 in favour of the Waikato Regional Council created by Easement Instrument 9793463.4 - 4.9.2014 at 9:25 am

The easements created by Easement Instrument 9793463.4 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 10367839.2 - 21.3.2016 at 4:43 pm

10836883.1 Transfer to Bruce Alexander Holmes, Juedi Anne Shirley Holmes and Evans Bailey Trustees 2017 Limited - 25.8.2017 at 10:01 am



**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

**Identifier** SA42D/983  
**Land Registration District** South Auckland  
**Date Issued** 25 January 1989

**Prior References**

GN H600735

---

**Estate** Fee Simple  
**Area** 36.9554 hectares more or less  
**Legal Description** Allotment 405 Parish of Whangamarino

**Registered Owners**

Graham Roger Bowers, Susan Georgina Bowers and JW Trustees Limited

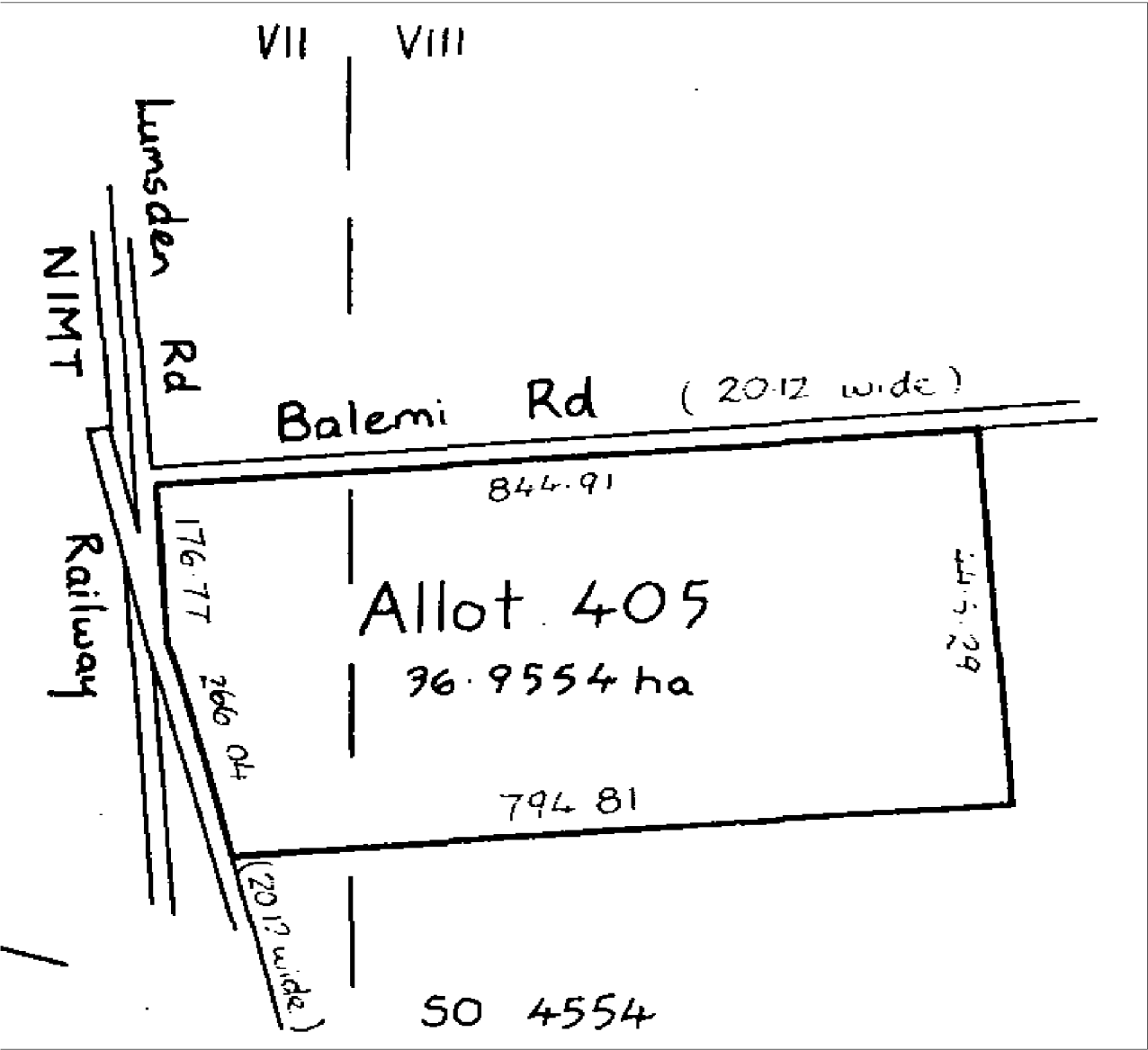
---

**Interests**

Subject to Section 8 Mining Act 1971

6445331.3 Mortgage to ASB Bank Limited - 3.6.2005 at 9:00 am

7840923.1 Variation of Mortgage 6445331.3 - 9.6.2008 at 9:00 am







**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Historical Search Copy**



  
R. W. Muir  
Registrar-General  
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

**Identifier** SA42D/983  
**Land Registration District** South Auckland  
**Date Issued** 25 January 1989

**Prior References**

GN H600735

---

**Estate** Fee Simple  
**Area** 36.9554 hectares more or less  
**Legal Description** Allotment 405 Parish of Whangamarino

**Original Registered Owners**

Bruce Alexander Holmes as to a 1/2 share  
Judith-Anne Shirley Holmes as to a 1/2 share

---

**Interests**

Subject to Section 8 Mining Act 1971

H897865.2 Mortgage to Westpac Banking Corporation - 1.9.1989 at 9:08 am  
B449866.1 Variation of Mortgage H897865.2 - 13.11.1997 at 9:10 am  
B587324.1 Variation of Mortgage H897865.2 - 13.1.2000 at 2:49 pm  
B587324.2 Mortgage to Bank of New Zealand - 13.1.2000 at 2:49 pm  
5734867.1 Discharge of Mortgage B587324.2 - 19.9.2003 at 9:00 am  
5734867.2 Discharge of Mortgage H897865.2 - 19.9.2003 at 9:00 am  
5734867.3 Transfer to Bruce Alexander Holmes, Juedi Ann Shirley Holmes and Michael Crawford - 19.9.2003 at 9:00 am  
5734867.4 Mortgage to Bank of New Zealand - 19.9.2003 at 9:00 am  
6445331.1 Discharge of Mortgage 5734867.4 - 3.6.2005 at 9:00 am  
6445331.2 Transfer to Graham Roger Bowers, Susan Georgina Bowers and JW Trustees Limited - 3.6.2005 at 9:00 am  
6445331.3 Mortgage to ASB Bank Limited - 3.6.2005 at 9:00 am  
7840923.1 Variation of Mortgage 6445331.3 - 9.6.2008 at 9:00 am  
10036552.4 CAVEAT BY SOLID ENERGY LAND HOLDINGS LIMITED - 4.5.2015 at 12:01 pm  
10940593.13 Withdrawal of Caveat 10036552.4 - 26.10.2017 at 11:03 am

## References

Prior C/T GN H.600735

Land and Deeds 69

Transfer No.

N/C. Order No. H.848411



## REGISTER

## CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 25th day of January one thousand nine hundred and eighty nine under the seal of the District Land Registrar of the Land Registration District of SOUTH AUCKLAND

WITNESSETH that HER MAJESTY THE QUEEN is seised of an estate in fee simple for the purposes of Part IV of the Coal Mines Act 1979

is ~~subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon~~ in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 36.9554 HECTARES more or less situated in Blocks VII and VIII Rangitikei Survey District being Allotment 405 Parish of Whangamarino



H.882504 Transfer to Howard Ian Falconer and Gaelene Audrey Falconer both of Tokoroa farmers as tenants in common in equal shares - 30.6.1989 at 11.15 o'clock

for A.L.R.

Subject to Section 8 Mining Act 1972

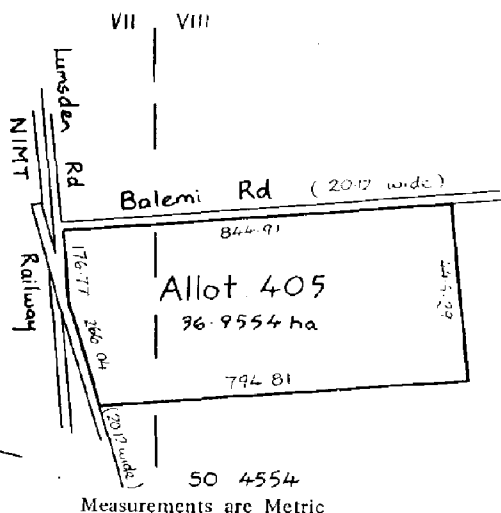
for A.L.R.

H.897865.1 Transfer to Bruce Alexander Holmes of Ohinewai farmer and Judith-Anne Shirley Holmes his wife as tenants in common in equal shares - 1.9.1989 at 9.08 o'clock

for A.L.R.

H.897865.2 Mortgage to Trust Bank Waikato Limited - 1.9.1989 at 9.08 o'clock

for A.L.R.



Measurements are Metric

B. 379504 Court Order vesting Mortgage H.897865.2 in Westpac Banking Corporation produced 18.11.1998 at 9.00 and entered 13-11-1997 at 9.10

B449866.1 Variation of Mortgage H897865.2 - 13.11.1997 at 9.10

for DLR

B587324.1 Variation of Mortgage H897865.2

B587324.2 Mortgage to Bank of New Zealand

all 13.1.2000 at 2.49

For RGL

No. 42D-25,000-5-86 NRK

Register copy for L. &amp; D. 69, 71, 72.

Identifier

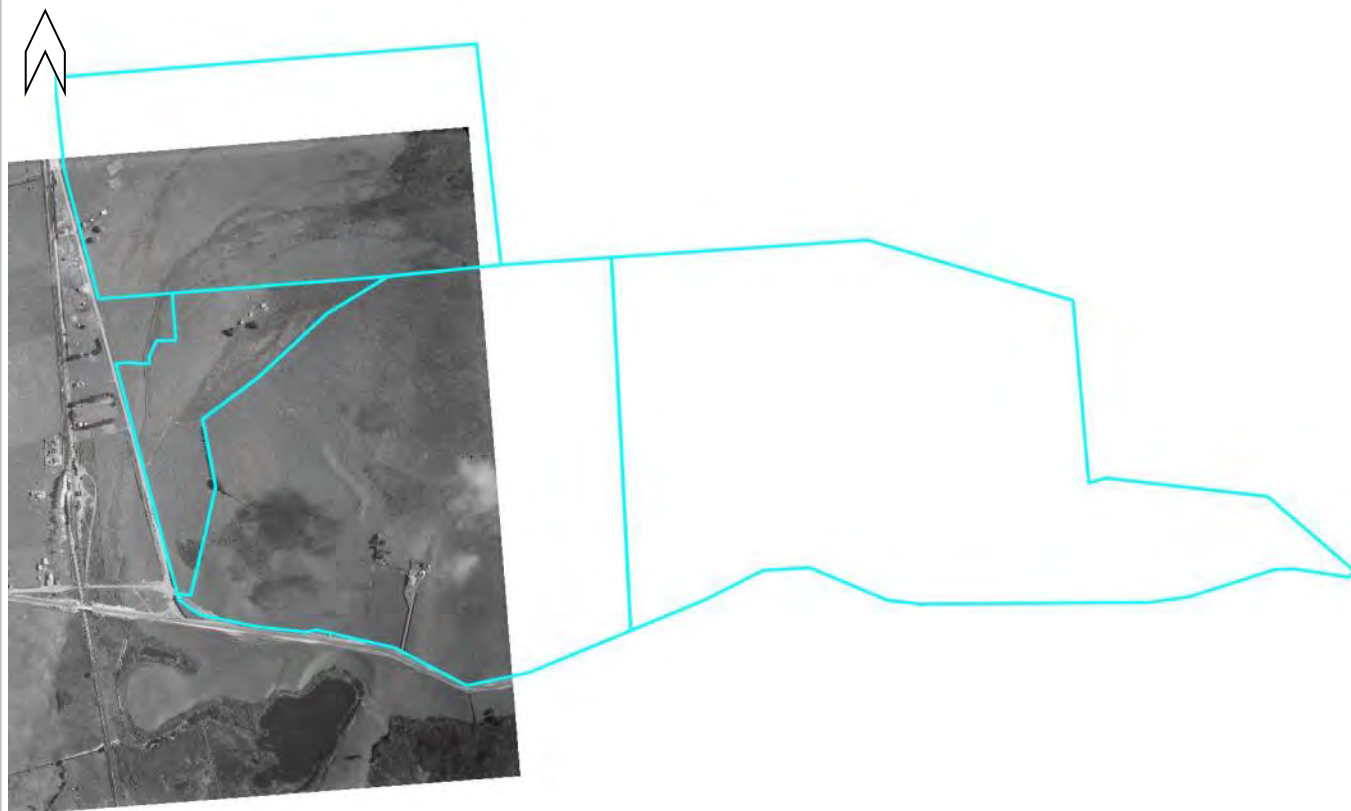
SA42D/983

REGISTER



## **APPENDIX C      HISTORICAL AERIAL PHOTOGRAPHS**

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**1940**

*Aerial photograph courtesy of Retrolens*

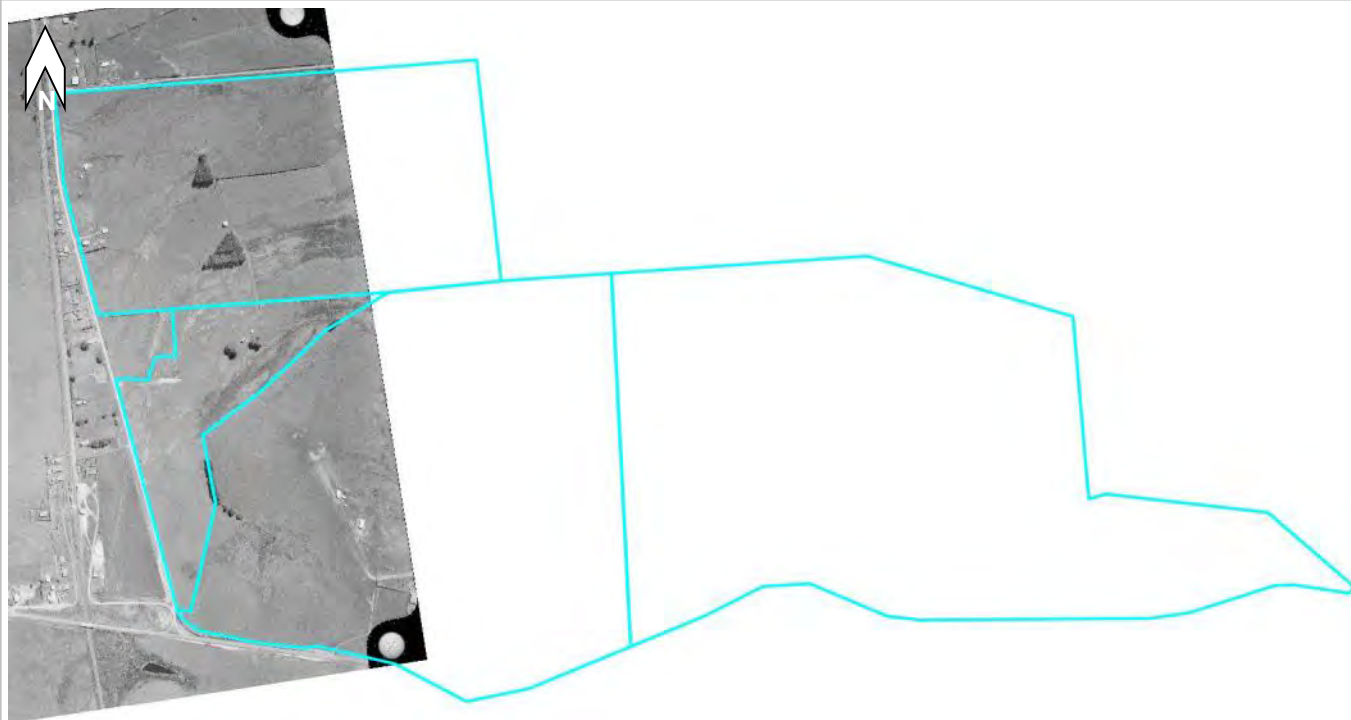


**1942**

*Aerial photograph courtesy of Retrolens*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





**1961**

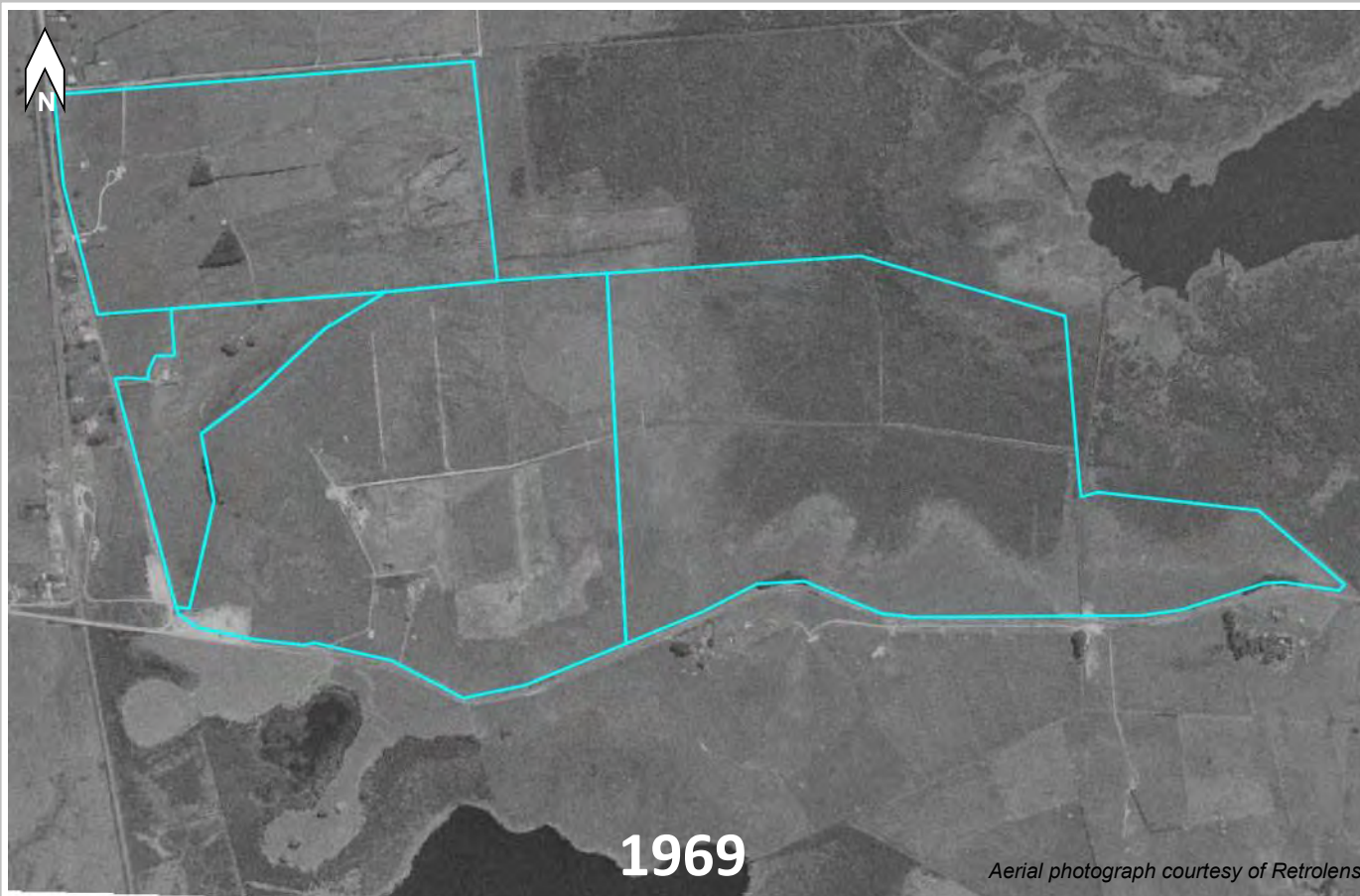
*Aerial photograph courtesy of Retrolens*



**1963**

*Aerial photograph courtesy of Retrolens*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB

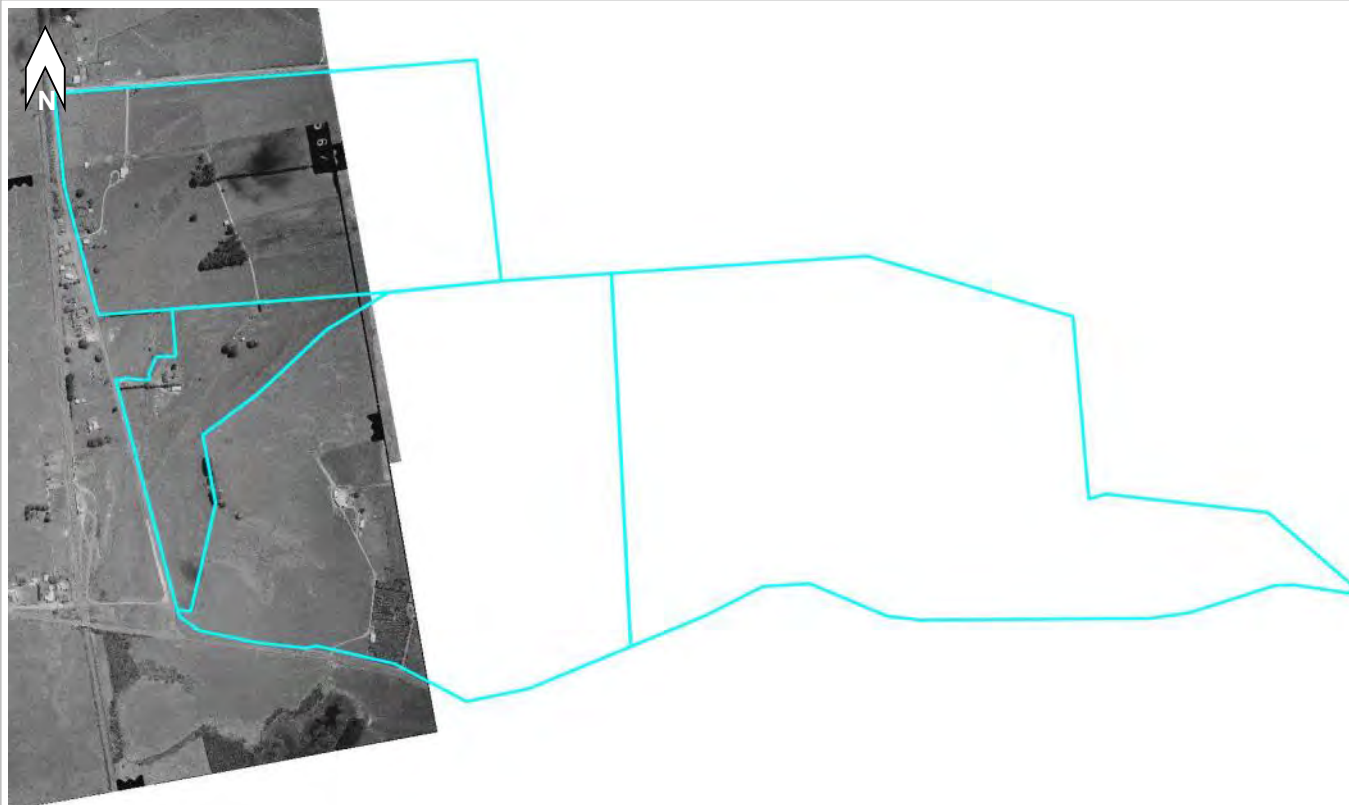


**1973**

*Aerial photograph courtesy of Retrolens*

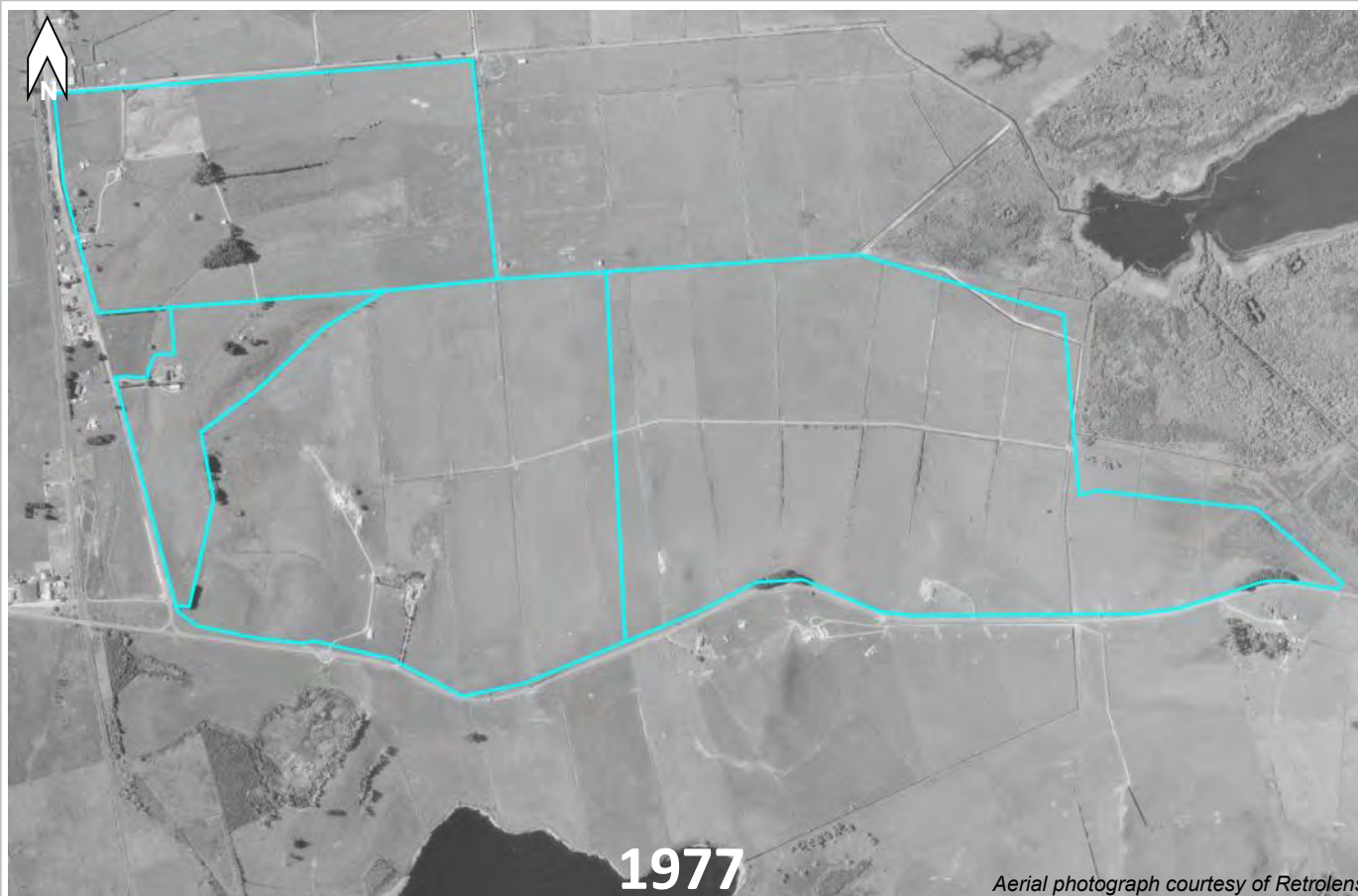
<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





**1976**

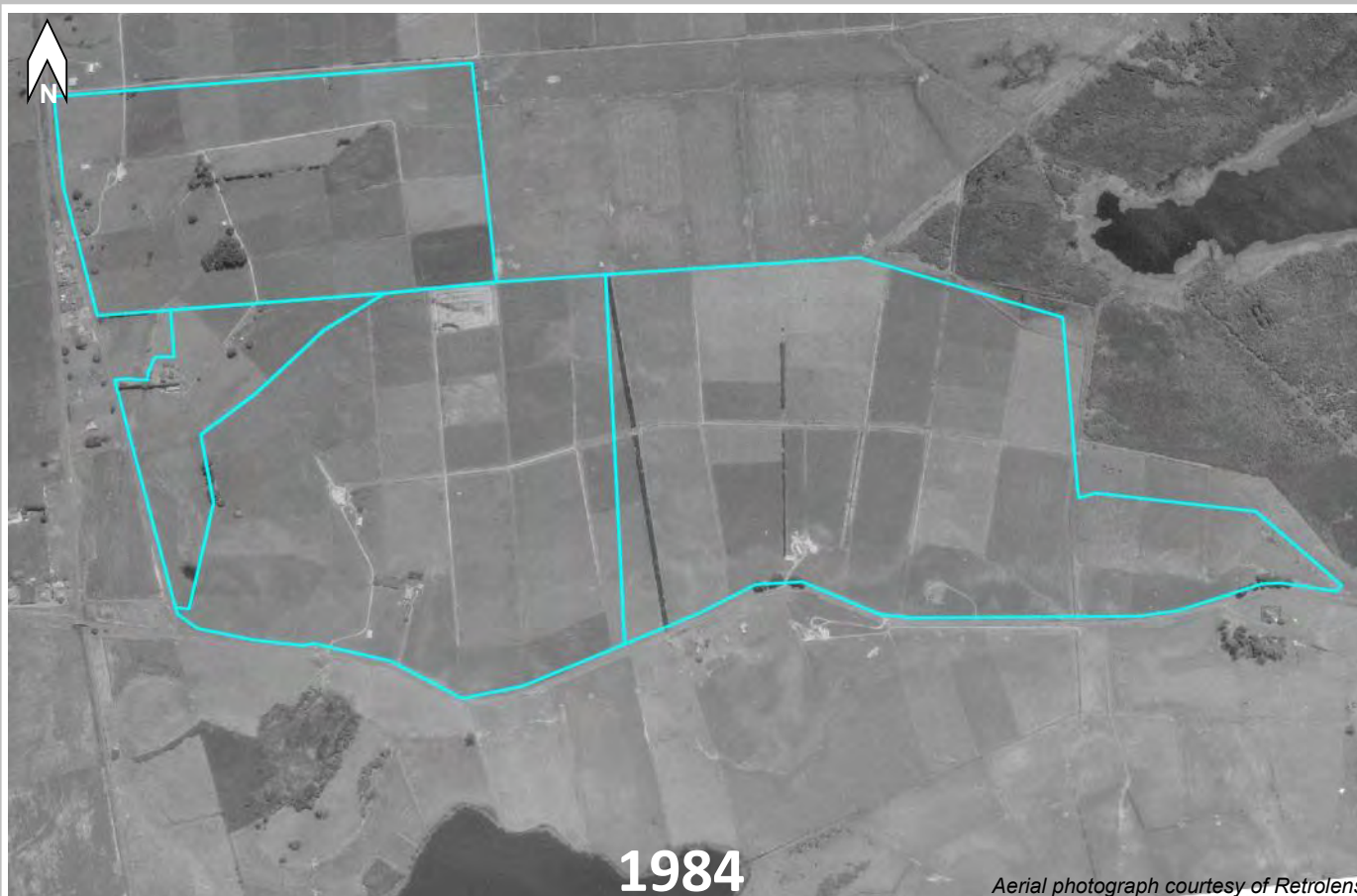
*Aerial photograph courtesy of Retrolens*



**1977**

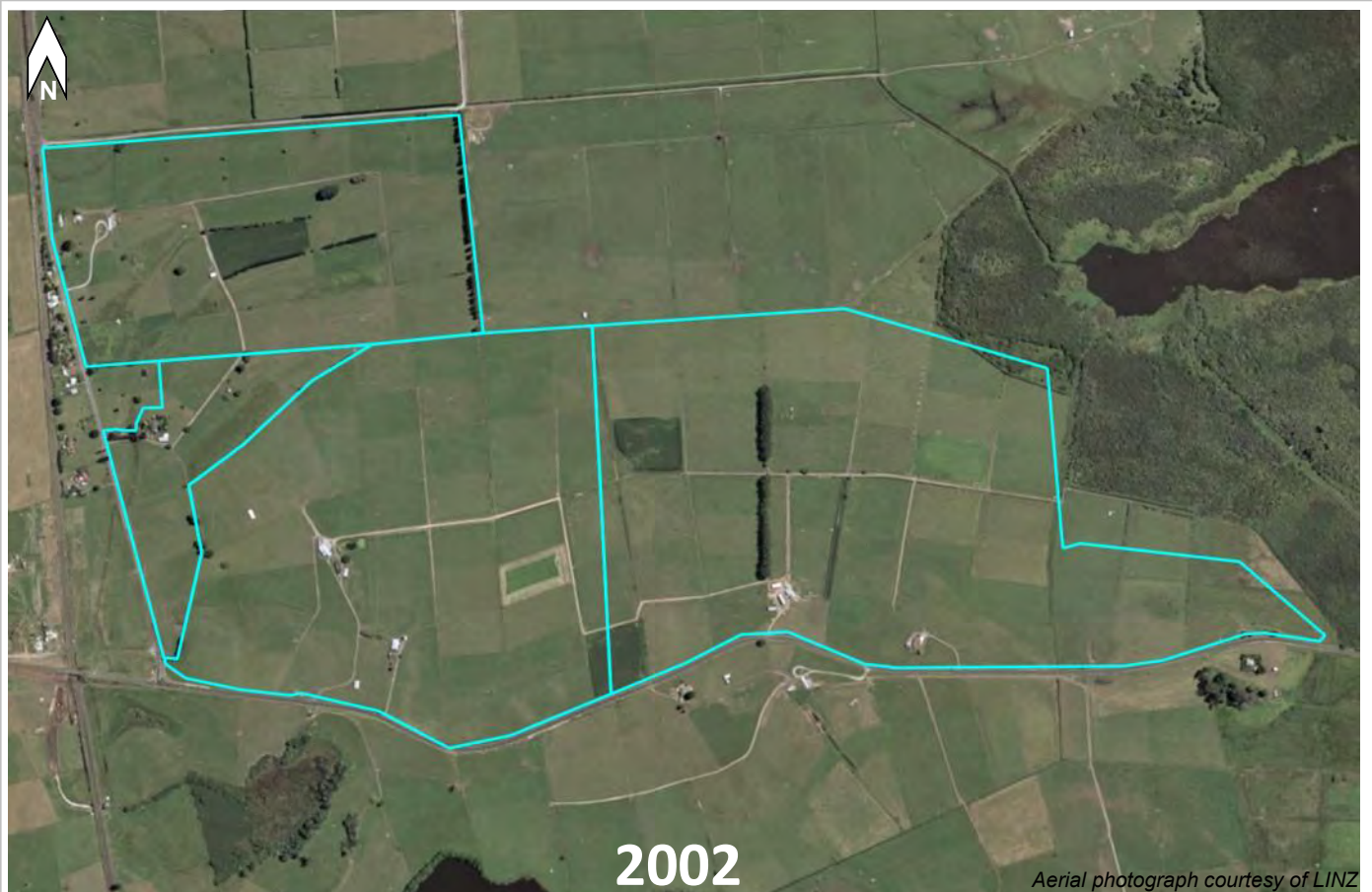
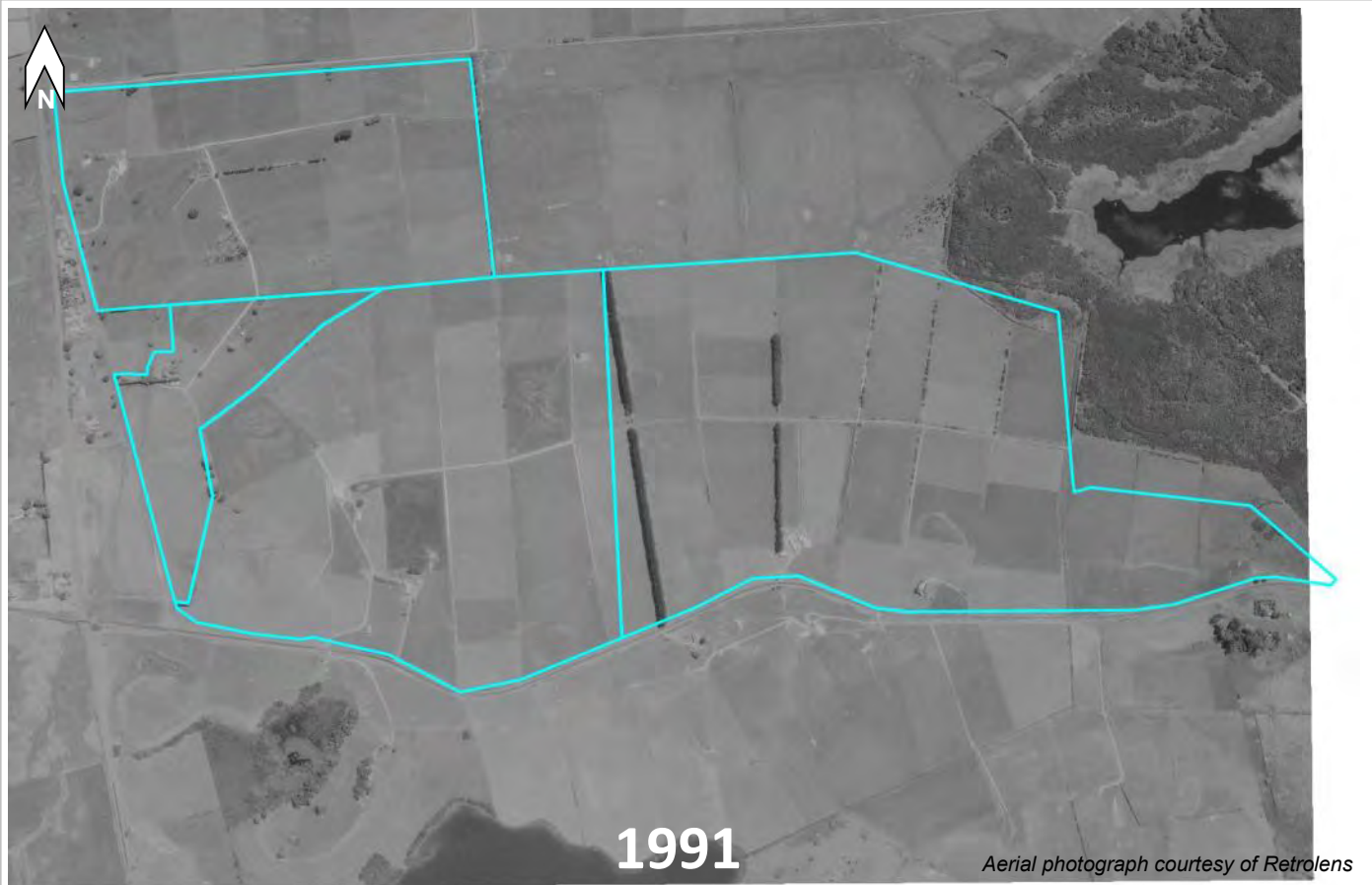
*Aerial photograph courtesy of Retrolens*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB



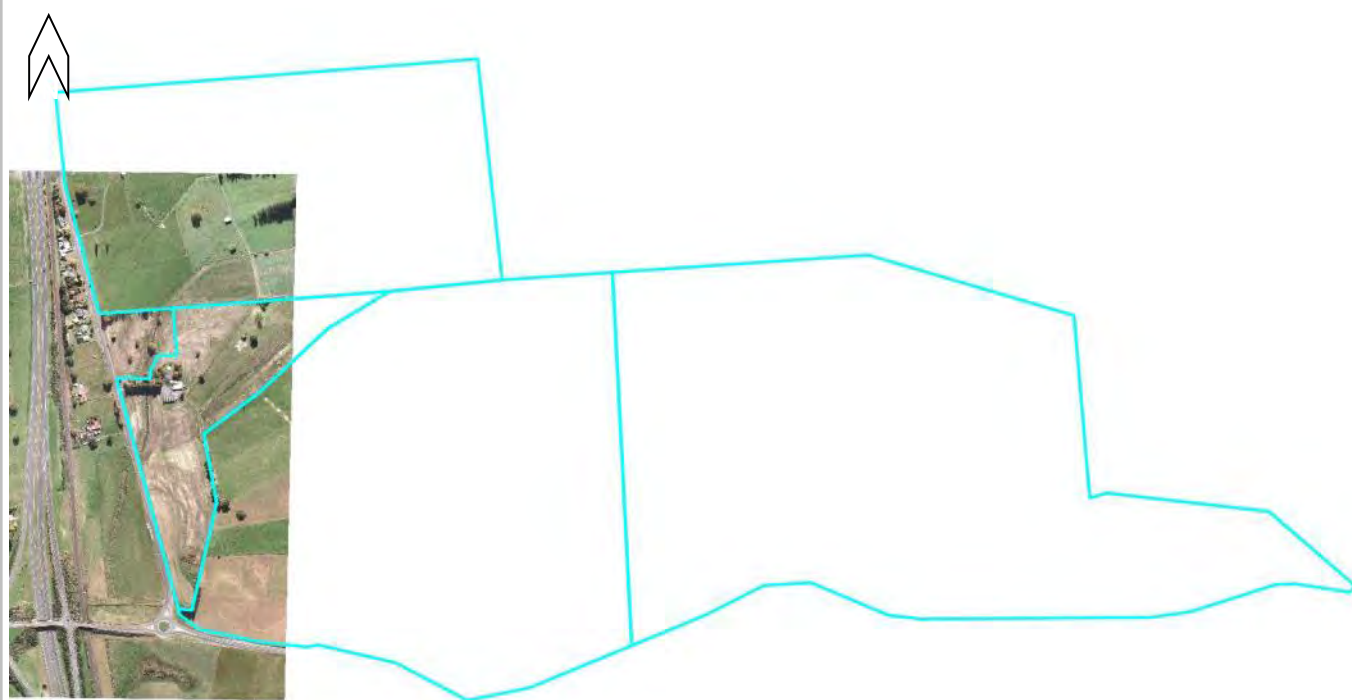
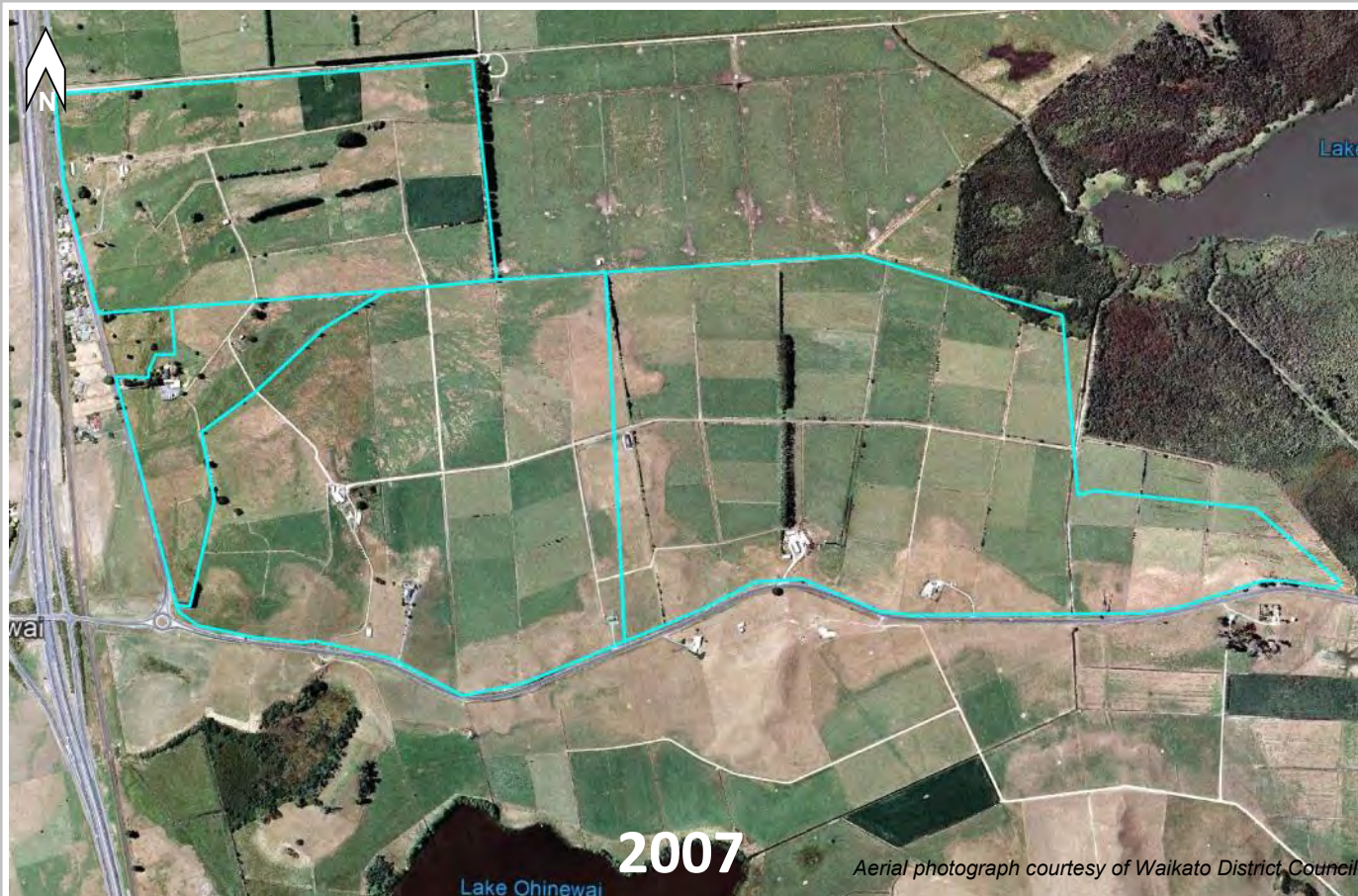
<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





**2009**

*Aerial photograph courtesy of Waikato District Council*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





**2010**

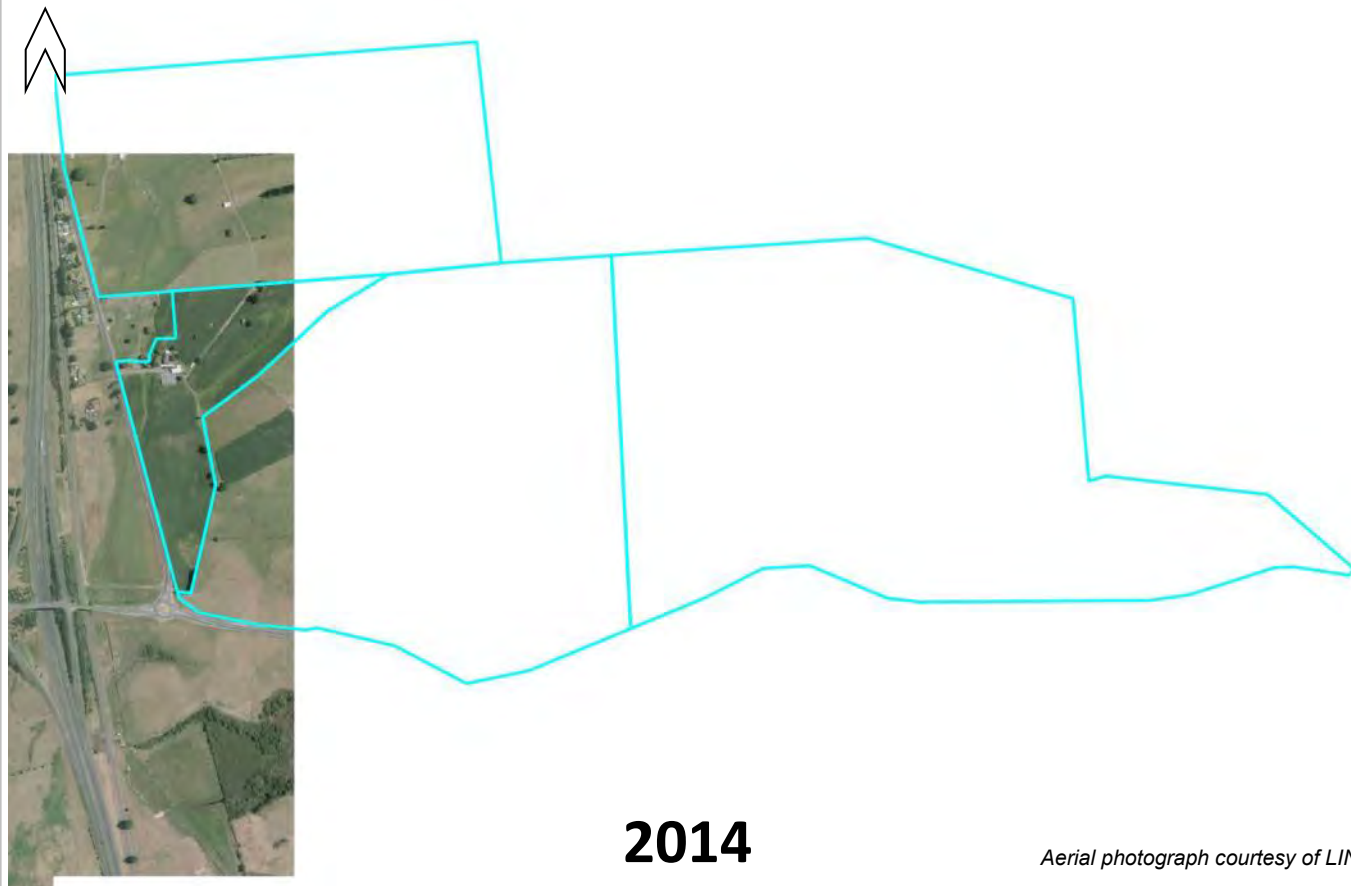
*Satellite image courtesy of Google Earth*



**2012**

*Aerial photograph courtesy of Waikato District Council*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB



<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> Ltd ENVIRONMENTAL	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB





**2016**

*Satellite image courtesy of Google Earth*



**2017**

*Satellite image courtesy of Google Earth*

<b>Title:</b>	<b>Appendix C—Historic Aerial Photographs</b>	<b>Reference:</b> J1352
<b>Project name:</b>	231 Tahuna Road & 52 Lumsden Road, Ohinewai	<b>Date:</b> 2019-05-28
<b>geosciences</b> <small>ENVIRONMENTAL</small>	Level 1, 47 Clyde Road, Browns Bay, 0630, Tel: (09) 475 0222	<b>Drawn:</b> CD
		<b>Approved:</b> COB

## APPENDIX D

## WAIKATO DISTRICT COUNCIL HAIL REPORTS

---

Your Ref

In reply please quote  
HAIL0220/19

If calling, please ask for  
Alan Parkes



16 May 2019

Postal Address  
Private Bag 544, Ngaruawahia 3742  
New Zealand

0800 492 452  
[www.waikatodistrict.govt.nz](http://www.waikatodistrict.govt.nz)

Geosciences Ltd  
PO Box 35366  
Browns Bay  
Auckland 0753

Dear Sir/Madam

### Property Enquiry - HAIL report

Further to your request for details of whether or not council records indicate that an activity or industry described in the Ministry for the Environment Hazardous Activities and Industries List (HAIL) is being, has been or is more likely than not to have been undertaken on a piece of land I can advise the following:

**Property address:** 231 Tahuna Road OHINEWAI  
**VNZ Property ID:** 04401/109.01  
**Legal description:** LOT 1-2 DPS 29288 ALLOT 405 WHANGAMARINO PSH SO 4554

No record of a HAIL activity has been found on Council records. **NOTE:** please see comments below for clarification required in respect of some matters found on the records if development on the property is proposed.

### Comments:

The site has been used for pastoral farming activities including dairy farming. Prolonged application of superphosphate fertiliser has the potential to elevate cadmium in soil above the rural-residential soil contaminant standard of 0.8 mg/kg. If residential activities are proposed, information should be supplied on superphosphate fertiliser use on the property using Council's site history checklist to determine if any investigation in respect of cadmium in soil is required. Where consistent application of fertiliser over time is identified or there is limited information available a screening sample or samples for cadmium should be provided to determine if soil has been impacted by cadmium such that it could be considered a HAIL activity. The samples need not be taken by a contaminated land specialist but should be taken by an independent person with experience in soil analysis such as a fertiliser company representative or soil scientist. Composite samples comprising a maximum of 4 subsamples across the proposed residential areas of the site would be appropriate. Sample depth should be between 0-100mm. Soil pH should also be recorded as the soil contaminant standard for cadmium is pH dependent. A soil sample should also be taken for cadmium and pH if possible from an area on the property with similar soil characteristics where the soil has not been modified by application of superphosphate fertiliser and liming to give an indication of the natural soil. Such an area may include gardens of existing older homesteads, roadside berms, etc. The location and description of this sample site should be clearly identified.



A plan of the site should be provided showing the area where the soil cores comprising the composite samples were taken. If the samples show cadmium levels well below the soil contaminant standard then no further action would be necessary. If the sample however indicates cadmium at or very close to the standard then we would conclude that a HAIL class I has occurred and a site investigation and report carried out by a suitably qualified and experienced practitioner in contaminated land, prepared in accordance with the Ministry for the Environment Contaminated Land Management Guidelines would be required.

Please be advised that the review identified structures on the property present in 1942 and since. These structures are likely to have used asbestos containing materials (ACM) and/or lead based paint given the era of construction. Whilst such activities are not specifically identified on the HAIL, the use of lead based paint and presence of ACM can result in the presence of such contaminants at elevated concentrations in the surrounding soil.

The following records (where applicable) were reviewed in this assessment:

Property file including any parent property file from which the property was developed  
Waikato District Council Land Use Register  
Waikato Regional Council Selected Land Use Register  
Subdivision Consent files  
Land Use Consent files  
Building Consent files  
Aerial Photography:

1942	Site is pastoral. Small structures are present on Allot 405 Whangamarino PSH adjacent Lumsden Road and a likely dwelling on Lot 2 DPS 29288 off Tahuna Road
1963, 1973	Three further sheds are now present on Lot 2 DPS 29288 and stock pens are visible on Allot 405 Whangamarino PSH
1977	Another dwelling is now present on Lot 1 DPS 29288 off Tahuna Road
1984, 1991, 2002, 2008, 2012	Structures to the north-west of the dwelling on Lot 2 DPS 29288 are better established having the appearance of a milking shed. A cluster of several sheds is now present on Lot 2 DPS 29288 off the curve in Tahuna Road.

#### **Disclaimer:**

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If this information indicates that no record of a HAIL activity has been identified on council records, this does not imply that no HAIL activity has been undertaken on the site. This simply means that the council holds no record of a HAIL activity being undertaken on the property at this point in time. However, council records may be incomplete. Similarly, if one HAIL activity is identified, this does not preclude another HAIL activity having been undertaken of which no record is held. If an activity is proposed to be undertaken on the site that is covered by the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES), council retains the right to seek further information on the site history of the subject property. Where pastoral farming

activities have been identified, Council may seek information in respect of cadmium in soil resulting from application of superphosphate fertiliser if residential activities are proposed.

If you have any queries please feel free to call me.

Yours faithfully

A handwritten signature in black ink, appearing to be 'AP' followed by a stylized, cursive flourish.

Alan Parkes  
**Contaminated Land Specialist**

**1942**



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**1963**



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**1973**



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**1977**



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**1984**



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**1991**



Sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0



**2002**



Sourced from Waikato District Council Intramaps GIS

**2008**



Sourced from Waikato District Council Intramaps GIS

2012



Sourced from Waikato District Council Intramaps GIS

Your Ref

In reply please quote  
HAIL0221/19

If calling, please ask for  
Alan Parkes



16 May 2019

Postal Address  
Private Bag 544, Ngaruawahia 3742  
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0800 492 452  
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Geosciences Ltd  
PO Box 35366  
Browns Bay  
Auckland 0753

Dear Sir/Madam

### Property Enquiry - HAIL report

Further to your request for details of whether or not council records indicate that an activity or industry described in the Ministry for the Environment Hazardous Activities and Industries List (HAIL) is being, has been or is more likely than not to have been undertaken on a piece of land I can advise the following:

**Property address:** 52 Lumsden Road OHINEWAI  
**VNZ Property ID:** 04401/069.07  
**Legal description:** LOT 3 DP 474347

No record of a HAIL activity has been found on Council records. **NOTE:** please see comments below for clarification required in respect of some matters found on the records if development on the property is proposed.

### Comments:

The site has been used for pastoral farming activities including dairy farming. Prolonged application of superphosphate fertiliser has the potential to elevate cadmium in soil above the rural-residential soil contaminant standard of 0.8 mg/kg. If residential activities are proposed, information should be supplied on superphosphate fertiliser use on the property using Council's site history checklist to determine if any investigation in respect of cadmium in soil is required. Where consistent application of fertiliser over time is identified or there is limited information available a screening sample or samples for cadmium should be provided to determine if soil has been impacted by cadmium such that it could be considered a HAIL activity. The samples need not be taken by a contaminated land specialist but should be taken by an independent person with experience in soil analysis such as a fertiliser company representative or soil scientist. Composite samples comprising a maximum of 4 subsamples across the proposed residential areas of the site would be appropriate. Sample depth should be between 0-100mm. Soil pH should also be recorded as the soil contaminant standard for cadmium is pH dependent. A soil sample should also be taken for cadmium and pH if possible from an area on the property with similar soil characteristics where the soil has not been modified by application of superphosphate fertiliser and liming to give an indication of the natural soil. Such an area may include gardens of existing older homesteads, roadside berms, etc. The location and description of this sample site should be clearly identified.



A plan of the site should be provided showing the area where the soil cores comprising the composite samples were taken. If the samples show cadmium levels well below the soil contaminant standard then no further action would be necessary. If the sample however indicates cadmium at or very close to the standard then we would conclude that a HAIL class I has occurred and a site investigation and report carried out by a suitably qualified and experienced practitioner in contaminated land, prepared in accordance with the Ministry for the Environment Contaminated Land Management Guidelines would be required.

Please be advised that the review identified structures on the property present in 1940 and since. These structures are likely to have used asbestos containing materials (ACM) and/or lead based paint given the era of construction. Whilst such activities are not specifically identified on the HAIL, the use of lead based paint and presence of ACM can result in the presence of such contaminants at elevated concentrations in the surrounding soil.

The following records (where applicable) were reviewed in this assessment:

Property file including any parent property file from which the property was developed

Waikato District Council Land Use Register

Waikato Regional Council Selected Land Use Register

Subdivision Consent files

Land Use Consent files

Building Consent files

Aerial Photography:

1940, 1942	Site is pastoral with 3 small structures toward the north-east corner of the site
1961	One of the 3 structures appears to have been removed with its location still being visible
1963	A dwelling is now resented toward the centre-west of the site, consistent with a 1962 building permit for a dwelling
1973, 1976, 1977	A shed is now present adjacent to the dwelling. Another of the 3 structures toward the north-east corner has been removed and another shed built to the west of the southern most of the 3 structures
1983, 1984, 1991	A farm track is now established from the shed adjacent the dwelling running north-east to the boundary
2002	The shed adjacent the dwelling appears to have been extended on the northern side
2008, 2012	A further large shed has been established on the south side of the shed adjacent the dwelling

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record is held. If an activity is proposed to be undertaken on the site that is covered by the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES), council retains the right to seek further information on the site history of the subject property. Where pastoral farming activities have been identified, Council may seek information in respect of cadmium in soil resulting from application of superphosphate fertiliser if residential activities are proposed.

If you have any queries please feel free to call me.

Yours faithfully

A handwritten signature in black ink, appearing to be 'AP' followed by a stylized, cursive flourish.

Alan Parkes  
**Contaminated Land Specialist**



1940



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1942



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1961



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1963



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**1973**



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1976



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1977



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1983



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1984



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1991



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2002



Sourced from Waikato District Council Intramaps GIS

2008



Sourced from Waikato District Council Intramaps GIS



2012



Sourced from Waikato District Council Intramaps GIS



## APPENDIX E      SITE PHOTOGRAPHS



**PLATE 1: VIEW SOUTHWEST TOWARDS FOOTPRINT OF FORMER BUILDINGS AT ENTRANCE TO ALLOT 405 FROM LUMSDEN ROAD**



**PLATE 2: VIEW SOUTHEAST TOWARDS FARMSTEAD AT 109 TAHUNA ROAD**





**PLATE 3: ABOVE GROUND DIESEL STORAGE TANKS WITH STAINS ON HARDSTAND SURFACE**



**PLATE 4: DAMAGED AND DETERIORATED SUSPECTED ASBESTOS CONTAINING MATERIAL (ACM) AT LOT 1 MILKING SHED**





**PLATE 5: REPLACED CLADDING PANELS ON LOT 1 MILKING SHED SOURCE OF SUSPECTED ACM FRAGMENTS**



**PLATE 6: EXAMPLE OF AREA OF DUMPED REFUSE AT LOT 1 MILKING SHED**





**PLATE 7: VIEW EAST TOWARDS LOT 1 STOCK EFFLUENT DEWATERING POND**



**PLATE 8: DAMAGE AND DETERIORATED SUSPECTED ACM ON LOT 2 MILKING SHED**





**PLATE 9: LOT 1 BULK FERTILISER STORAGE BUNKER WITH MILKING SHED IN BACKGROUND**



**PLATE 10: LOT 1 CALF BARN**





**PLATE 11: BURN PILE NEAR LOT 1 MILKING SHED WITH CALF BARN AND FERTILISER BUNKER IN BACKGROUND**



**PLATE 12: DAMAGED AND DETERIORATED SUSPECTED ACM FRAGMENTS IN BURN PILE AT LOT 1 MILKING SHED**





**PLATE 13: DETERIORATED SUSPECTED ACM ON ALLOT 405 MILKING SHED**



**PLATE 14: AREA OF SUSPECTED BURIED MATERIAL ON ALLOT 405**





**PLATE 15: AREA OF SUSPECTED BURIED MATERIAL ON ALLOT 405**



**PLATE 16: HISTORIC TIMBER SHED (SLAUGHTERHOUSE) ON LOT 3**