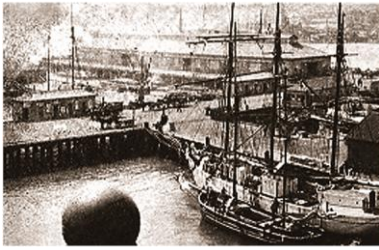


Appendix X Archaeological Authority Application Bundle

- **Archaeological Authority Application and Checklist**
- **Archaeological Assessment and Cultural Values Report**
- **Archaeological Management Plan**
- **Taharoa C Block Incorporated - Landowner consent letter**

Archaeological Authority Application and Checklist



Archaeological Authority Application

From Checklist F – Archaeological Authority of the Fast-Track Approvals Substantive Application Form.

Clause, Schedule 8	Information required for an approval described in section 43(3)(i) Archaeological Authority	Relevant information
2(1)(a)	a legal description of the land or, if one is not available, a description that is sufficient to identify the land to which the application relates	The Central and Southern Blocks of the land legally described as Taharoa C Block, as shown on Figure 1.
2(1)(b)	<p>the name of the owner of the relevant land, if the applicant is not the owner of the land</p> <p><i>Guidance note 1: If the substantive application is to be lodged by more than 1 authorised person, the reference to the applicant in subclause (1)(b) will be read as a reference to the authorised person who is to be identified in the application as the proposed holder of the archaeological authority.</i></p> <p><i>Guidance note 2: If multiple landowners will be affected, provide the legal description of the land owned by each affected owner.</i></p>	The Proprietors of Taharoa C Block Incorporated.
2(1)(c)	<p>proof of consent, if the owner of the relevant land has consented to the proposed activity</p> <p><i>Guidance note: Landowner consent in relation to an archaeological authority means that they have:</i></p> <ul style="list-style-type: none"> •<i>read and understood the description of proposed activity included in this application and acknowledge and accept any implications the activity may have on them and their land;</i> 	Attached to the AEE.



	<ul style="list-style-type: none">• <i>been consulted regarding the proposed activity and give their consent to the activity being carried out; and</i>• <i>have read and understood the following information on legal responsibilities concerning archaeological material:</i> <p><i>Archaeological material includes any material removed from an archaeological site. This can mean artefacts, faunal material, botanical material and environmental material.</i></p> <p><i>The conditions provided in an archaeological authority may require that analysis be undertaken on any archaeological material found. Once analysis is completed the long-term management and final repository of the material must be considered.</i></p> <p><i>When considering ownership, archaeological material can be classed as either:</i></p> <p><i>Taonga tūturu</i></p> <ul style="list-style-type: none">• <i>defined in the Protected Objects Act 1975 as any artefact removed from an archaeological site that relates to Māori culture, history, or society, and was or appears to have been manufactured or modified in New Zealand by Māori, or brought into New Zealand by Māori, or used by Māori, and is more than 50 years old.</i>• <i>once found, the Crown assumes ownership</i>• <i>the legislation relating to taonga tūturu is managed by the Ministry for Culture and Heritage. For further information please visit the Ministry's website at http://www.mch.govt.nz/nz-identityheritage/protectedobjects</i> <p><i>Other material (i.e. not taonga tūturu):</i></p>	
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	<ul style="list-style-type: none"> • <i>this is property of the land owner at the time the material was recovered</i> • <i>this includes any artefacts that don't fall within the definition of taonga tūturu, as well as faunal material, botanical material and environmental material</i> 	
2(1)(d)	<p>confirmation that the application complies with sections 46(2), 42, 43, and 44 of the Act, confirmation that the application relates solely to a listed project or a referred project, confirmation that any fee, charge, or levy payable under regulations in respect of the application is paid.</p>	<p>The application complies with sections 46(2), 42, 43, and 44 of the Act.</p> <p>It relates solely to Taharoa Ironsands Limited's (TIL) Central and Southern Blocks Project (which is a listed project under the Act).</p> <p>We understand that TIL intends to pay any fee, charge, or levy payable under regulations in respect of the application at the time of lodgement.</p>
2(1)(e)	<p>a description of each archaeological site to which the application relates and the location of each site</p> <p><i>Guidance note: Please provide the New Zealand Archaeological Association's (NZAA) site reference if your proposed activity may affect a known archaeological site.</i></p>	<p>The description of each archaeological site is provided in the Taharoa Ironsands Central and Southern Blocks: Archaeological Assessment (prepared for TIL) dated October 2025 (Archaeological Assessment), in both the review of the recorded sites and the field survey sections. The site record forms are also provided in Appendix A to the Archaeological Assessment.</p>
2(1)(f)	<p>a description of the activity for which the authority is sought</p> <p><i>Guidance note: Please include a list of all earthworks or ground-disturbing activities for your project. Attach related final plans, drawings, engineering specifications and/or photographs. Plans need to show the activity in relation to the location and extent (if known) of the affected archaeological sites.</i></p>	<p>The proposed activity involves continued sand extraction across the Central and Southern Blocks of the Taharoa Mine, which cover approximately 911 ha. Earthworks will include land preparation, vegetation clearance, construction of various ponds, and mining operations. Mining will involve dredging and dewatering of pits to access underlying sand, or using heavy machinery for excavation. Associated infrastructure includes processing facilities and haul roads. A detailed description of these activities is provided in the AEE and further information showing the activity in relation to the location and extent of known archaeological sites is set out in associated Archaeological Report.</p>



2(1)(g)	a description of how the proposed activity will modify or destroy each archaeological site	<p>The Archaeological Assessment identified multiple archaeological sites within the Central and Southern Blocks, but most of these are considered to have been destroyed in the past or will not be subject to proposed mining activities (i.e. within reserve areas).</p> <p>However, there are eleven recorded sites (of unknown or intact status) that will be impacted by the proposed excavation areas or potentially impacted by ancillary mining operations.</p> <p>The Central Block, where mining activities are proposed, encompasses a total of 32 recorded archaeological site locations. Two of these sites (R16/61 and R16/117) are considered to be either intact or have an unknown status and be impacted.</p> <p>The northern area of the Southern Block, where mining activities are also proposed, encompasses a total of 13 recorded archaeological sites. All of these sites are considered to be destroyed.</p> <p>The mining pit extensions in the southern area of the Southern Block encompass a total of 11 recorded sites. Seven of these sites are considered to be destroyed, with an additional site located outside of the property. Three sites have unknown status (R16/52, R16/89 and R16/327) any may be affected through mining activity. R16/327 is located in the northern area and the other two sites are in the southern area of the Southern Block.</p> <p>Eighteen sites are located in areas where ancillary mining-related activities are proposed. Eleven are considered destroyed; the remaining seven (Northern Zone: R16/58, R16/150, R16/151, and R16/155. Southern Zone: R16/12, R16/88, and R16/572) are either partially intact or of unknown condition. All except R16/12 may be impacted.</p> <p>The proposed mining activity will require deep excavation of the sands and, as such,</p>
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		<p>will completely destroy all materials relating to these sites.</p> <p>There is some potential for accidental finds to be made in those areas to be mined that have not previously been mined. Materials such as shell midden and oven stones would be the most likely to be encountered.</p>
2(1)(h)	<p>except in the case of an approval described in section 44(b) of the HNZPT Act, an assessment of— (i) the archaeological, Māori, and other relevant values of the archaeological site in the detail that is appropriate to the scale and significance of the proposed activity and the proposed modification or destruction of the archaeological site; and (ii) the effect of the proposed activity on those values</p>	<p>Detailed assessment of the values are presented in the Archaeological Assessment. However, sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, and R16/155, are considered to have limited archaeological value.</p> <p>Site R16/572 is a pit/terrace site and is considered to have limited to moderate archaeological value.</p> <p>R16/327 is a burial site and if koiwi remains are still present the site will have a higher value, and particularly cultural values.</p>
2(1)(i)	<p>a statement as to whether consultation with tangata whenua, the owner of the relevant land (if the applicant is not the owner), or any other person likely to be affected—</p> <p>(i) has taken place, with details of the consultation, including the names of the parties and the tenor of the views expressed; or</p> <p>(ii) has not taken place or been completed, with the reasons why consultation has not occurred or been completed (as applicable).</p>	<p>Tangata whenua were consulted on this application as part of TIL's wider Fast-track Approvals application. This includes, the Proprietors of Taharoa C Block Incorporated (the Māori landowner), Te Kooraha Marae, Aaruka Marae and Maketuu Marae (the three marae connected to Ngaati Mahuta ki Tai – the hapu with mana whenua within he rohe), Te Ruunanga o Ngati Mahuta ki to Hauaaruru Charitable Trust (Te Ruunanga) and Waikato-Tainui.</p> <p>Through consultation:</p> <ul style="list-style-type: none"> • Te Kooraha Marae explained the cultural importance of the area as being a <i>“special place that stands as a testament to the rich heritage of the mana whenua”</i>. It expressed a desire to review the Archaeological Assessment. • Te Ruunanga expressed a desire for clarity over the process when archaeological material is found and to review the Archaeological Assessment. <p>A Māori cultural values report has been prepared by the Committee of Management</p>



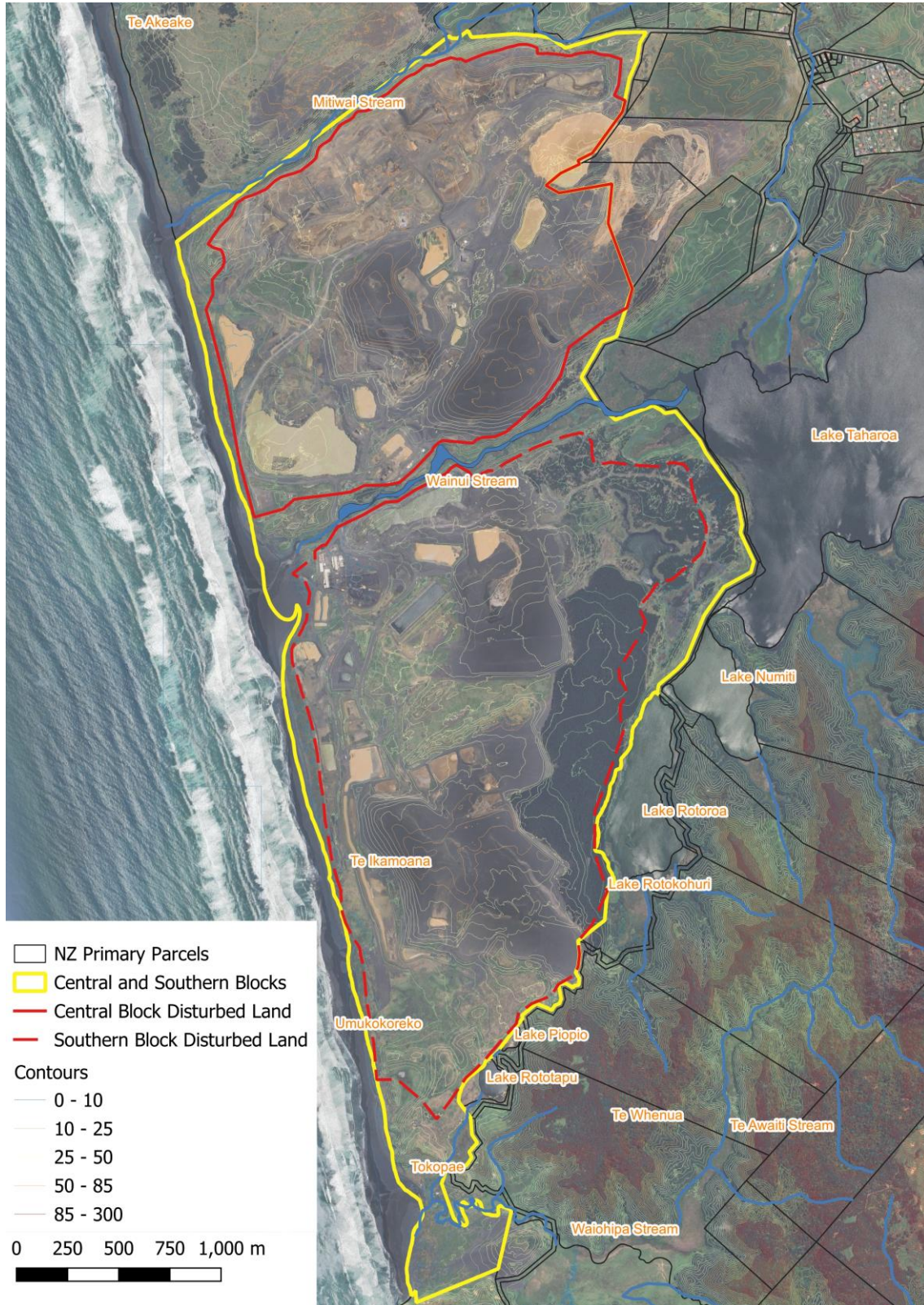
		<p>of Taharoa C for the purposes of informing the Archaeological Authority Application.</p> <p>The cultural values report, and draft Archaeological Authority Application was provided to the above tangata whenua groups for their review and feedback (Te Kooraha Marae, Aruka Marae, Maketuu Marae, Te Runaga, and Waikato Tainui). Te Kooraha Marae and Te Runanga provided feedback on 24 October 2025. A summary of that feedback and context, and an explanation of how that feedback is addressed in the Archaeological Application (and associated documents) is provided in Appendix A. In reviewing the draft application documents, Taharoa C requested some changes to Taharoa Ironsands Limited’s Finding Human Remains Protocol which have been incorporated into.</p>
6(2)	Duration of archaeological authority	Taharoa Ironsands Limited (TIL) seeks an Authority under the Fast-track Approvals Act 2024, covering a period of 35 years.
	Additional information applicants may include in their application for an approval described in section 43(3)(i) Archaeological Authority	
	Have any archaeological authorities been granted for this location in the past?	<p>Yes.</p> <p>The 1970-1972 investigations will not have been authorised by an Authority as this work took place prior to the Historic Places Amendment Act 1975 which granted such powers. It is unclear if an Authority was granted for the 1976 investigation.</p> <p>Several archaeological authorities have been granted in recent years:</p> <p>2008/324 to NZ Steel Mining Ltd – for R16/69 in the Central Block</p> <p>2017/334 to NZ Steel Mining Ltd for sites R16/4, R16/5, R16/6, R16/17, R16/60, R16/62, R16/63, R16/64, R16/65, R16/66, R16/67, R16/68, R16/69, R16/70, R16/71, R16/72, R16/73, R16/103, R16/104, R16/105, R16/106, R16/107, R16/108,</p>



		<p>R16/109, R16/110, R16/111, R16/112, R16/113, R16/114, R16/115, R16/117, R16/174, R16/545, R16/553 in the Central Block</p> <p>2018/387 to Taharoa Ironsands Mine Limited for R16/566 in the Eastern Mining Block (adjacent to the Central and Southern Block)</p> <p>2024/532 to Taharoa Ironsands Limited for sites R16/6, R16/75, R16/76, R16/77, R16/78, R16/79, R16/80, R16/120, R16/121, R16/123, R16/124, R16/125 in the Northern Block (adjacent to the Central Block)</p>
	<p>Identification of the relevant planning overlays, i.e. are there any relevant Heritage or QEII covenants or Heritage Orders, District Plan schedules, New Zealand Heritage list/Rārangi Kōrero entries?</p>	<p>The Operative Waitomo District Plan (Chapter 21, Schedule 3) holds a record of archaeological sites derived from the ArchSite database, and records no additional sites of interest. The Proposed Waitomo District Plan records sites of heritage significance in Schedules 1 – 5. Schedule 3, Sites and areas of significance to Māori. Two sites are identified in this Schedule as being within the Central and Southern Blocks of the Taharoa C Block. Sites SSM074-A and SSM113-A are both situated within the Central Block.</p>



Figure 1. Plan of the Central and Southern Blocks of Taharoa C Block





Information provided in support of application for approval of person to carry out activity under archaeological authority

Details

Name of approved person	Glen Farley
Company	Clough & Associates
Contact	██████████
Archaeological authority to which approval relates	General authority sought in relation to works associated with the mining of the Central and Southern Areas of the Taharoa C Block
Documents relevant to the archaeological authority to which this application for an approved person relates	Gaylard, D., G. Farley and J. Low. October 2025. Taharoa Ironsands Central and Southern Blocks: Archaeological Assessment. Clough & Associates Ltd report prepared for Taharoa Ironsands Limited. Farley, G. October 2025. Archaeological Management Plan: Taharoa Ironsands Mine Central and Southern Blocks. Clough & Associates Ltd report prepared for Taharoa Ironsands Limited

Clause 7 (5), Schedule 8

Confirmation of skill and competency

I, Glen Farley, confirm that I possess the necessary skill and competency, and that I am fully capable, of ensuring that the activities covered by the archaeological authority sought for works for the Taharoa Ironsands mine are carried out to the satisfaction of Heritage New Zealand Pouhere Taonga.

I am a Co-Director at Clough & Associates. Clough & Associates is a heritage consultancy specialising in archaeological and historic heritage assessment and management. I hold a Master of Arts degree in Anthropology (Archaeology) from the University of Auckland which I completed in 2002. I am also a member of the New Zealand Archaeological Association (NZAA).

I have 22 years of professional experience in the heritage consultancy field. My experience includes archaeological research, survey, excavation, analysis and report



preparation, primarily in New Zealand. I was approved as a section 45 archaeologist by Heritage New Zealand in 2011, and have served, and continue to serve, as the section 45 archaeologist for over one hundred archaeological Authorities.

I confirm that I will adhere to and follow accepted archaeological practice in undertaking the archaeological work required by the conditions of any authority granted as a result of the application.

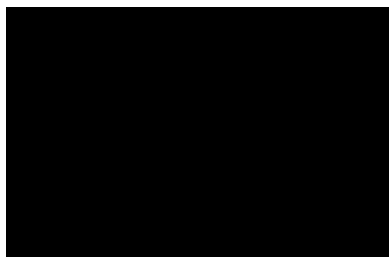
I confirm that I meet the criteria required to be an approved person to undertake an activity under the authority under sections 7(5) of the Act and 45(2)(a) of the Heritage New Zealand Pouhere Taonga Act 2014.

I have the requisite competences for recognising and respecting Māori values through my experience as a section 45 archaeologist on projects with archaeological sites associated with Māori occupation and settlement.

There are multiple recorded archaeological sites within the development site, however most are considered to have been destroyed by mining in the past or will not be subject to proposed mining activities (i.e. within reserve areas). Eleven recorded sites will be impacted by proposed mining (R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572). The current status of these sites is considered to be either intact or unknown. There is potential for there to be other sites of interest to Māori within the project envelope.

Should any such site be uncovered, I have access to appropriate cultural support through the engagement undertaken by Taharoa Ironsands Limited with tangata whenua. Tangata whenua will be contacted in accordance with the Accidental Discovery Protocol proposed for the site if a site of interest to Māori is encountered.

In addition to cultural support, I confirm that I have access to appropriate institutional and professional support and resources. Clough & Associates maintains a team of qualified archaeologists, along with professional affiliations and peer networks. These provide me with the ability to draw on additional technical expertise, to ensure the high-quality work and respond to any unforeseen challenges.



Glen Farley

31 October 2025



Proposed Archaeological Approval Conditions

Condition 1

The approval holder must ensure that all personnel undertaking works in the vicinity of sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572 are briefed on site by the project archaeologist, approved under the Fast-track Approvals Act 2024 to undertake activities under the authority (who may appoint a person to carry out the briefing on their behalf) prior to any bulk earthworks commencing which have the possibility of encountering archaeological evidence relating to those sites. The briefing shall include how to identify possible archaeological sites during works, the archaeological work required by the conditions of this approval, and operators' responsibilities with regard to notification of the discovery of archaeological evidence to ensure that the approval conditions are complied with.

Condition 2

Prior to the commencement of any work that may impact upon sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572, the approval holder must ensure that Heritage New Zealand Pouhere Taonga and at least one of the kaumātua representatives is advised of the date when work will begin. This advice must be provided at least 2 working days before work starts. The approval holder must also ensure that Heritage New Zealand Pouhere Taonga is advised of the completion of the on-site archaeological work, within 5 working days of completion.

Condition 3

The approval must be exercised in accordance with the Archaeological Management Plan (Farley, G. 2025 Archaeological Management Plan: Taharoa Ironsands Mine Central and Southern Blocks, prepared for Taharoa Ironsands Limited) attached to this approval.

Condition 4

Any earthworks that may affect sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572 must be monitored by the approved project archaeologist (who may appoint a person to carry out monitoring on their behalf).



Condition 5

Any archaeological evidence encountered during the exercise of this approval must be investigated, recorded and analysed in accordance with archaeological practice and the procedures in the Archaeological Management Plan.

Condition 6

Following the discovery of any archaeological materials, and in addition to any tikanga agreed to between the approval holder and the kaumātua representatives nominated by the Māori landowners, the Proprietors of by Taharoa C Block Incorporated, the following shall apply:

- Access for the nominated kaumātua representatives shall be enabled in order to undertake tikanga (provided this access is consistent with any site safety requirements), including in accordance with *Taharoa Mine Site Health and Safety – Environmental Procedure: Discovery of Human Remains and/or Items of Cultural Significance* (TIL, October 2025);
- At least one of the nominated kaumātua representatives shall be informed 48 hours prior to investigation;
- If any kōiwi (human remains) are encountered, all work should cease within 10 metres of the discovery. The Heritage New Zealand Pouhere Taonga Senior Archaeologist, New Zealand Police, and at least one nominated kaumātua representative must be advised immediately in accordance with Guidelines for Kōiwi Tangata/Human Remains (AGS8 2010) and no further work in the immediate area of the kōiwi may take place until future actions have been agreed by all parties;
- At least one of the nominated kaumātua representatives shall be informed if any possible taonga or Māori artefacts are identified to enable appropriate tikanga to be undertaken, so long as all statutory requirements under the Heritage New Zealand Pouhere Taonga Act 2014 and the Protected Objects Act 1975 are met; and
- The nominated kaumātua representative who attend a discovery shall be provided with a copy of any reports completed as a result of the archaeological work associated with this authority and be given an opportunity to discuss it with the person approved under the Fast-track Approvals Act 2024 to undertake activities under this authority if required.

Condition 7

Within 20 working days of the completion of the on-site archaeological work associated with this approval, the approval holder shall ensure that:



- An interim report following the Archaeological Report Guideline (AGS12 2023) is submitted to the Heritage New Zealand Pouhere Taonga Senior Archaeologist for inclusion in the Heritage New Zealand Pouhere Taonga Archaeological Reports Digital Library; and
- Site record forms are updated or submitted to the NZAA Site Recording Scheme.

Condition 8

If extensive remains requiring detailed analysis are found, within 12 months of the completion of the on-site archaeological work, the approval holder shall ensure that a final report, completed following the Archaeological Report Guideline (AGS12 2023), is submitted to the Heritage New Zealand Pouhere Taonga Senior Archaeologist for inclusion in the Heritage New Zealand Pouhere Taonga Archaeological Reports Digital Library.

- One hard copy and one digital copy of the final report are to be sent to the Heritage New Zealand Pouhere Taonga Senior Archaeologist; and
- Digital copies of the final report must also be sent to the NZAA Central File keeper and the nominated kaumātua representatives.

APPENDIX A: Summary of the tenor of the views expressed on the Archaeological Authority Application

A copy of TIL's draft Archaeological Application and associated Cultural Values report, Archaeological Assessment Report (**Report**) and Archaeological Management Plan (**AMP**) (**Application**) was provided to Aaruka Marae, Te Kooraha Marae, Maketu Marae, Te Ruunanga and Waikato-Tainui.

Te Ruunanga and Te Kooraha Marae provided feedback on 24 October 2025. A summary of the tenor of that feedback and comments in response to that feedback, including an explanation of updates made to the various application documents is set out below.

Summary of feedback provided	Commentary on feedback provided
<i>Archaeological Application</i>	
<p>Te Ruunanga and Te Kooraha Marae seek that the following resource consent conditions (relating to a previous resource consenting process for the site) be replicated (or a mutually agreed set of conditions be developed).</p> <p>The relevant resource consent conditions that are supported by Te Ruunanga and Te Kooraha are:</p> <p>(a) prohibition of mining operations within mapped urupaa and waahi tapu sites known to the consent holder.</p> <p>(b) immediate cessation of works and securing of the discovery area, contact with local kaumātua appointed by Aaruka and/or Te Kooraha Marae within 12 hours, and notification of Heritage New Zealand within 48 hours.</p> <p>(c) a requirement for Te Ruunanga Ngaati Mahuta ki te Hauaauru, Aaruka, and Te Kooraha Marae to be involved in the preparation of an Environmental Management Plan (EMP) which incorporates cultural health indicators and maatauranga Maaori.</p> <p>(d) a requirement for cessation of works where archaeological material is found in the coastal marine area and require local kaumātua appointed by Aaruka and/or Te Kooraha Marae to be informed within 12 hours of discovery and enable provision for karakia or cultural activity.</p>	<p>Items (a) and (b) are addressed below. Items (c) and (d) are relevant to the resource consent application (and not this Application):</p> <p>In respect of item (a): There are demarcated cultural/archaeological reserve areas within the site which are set aside to protect known urupaa, waahi tapu and culturally significant areas. The Archaeological Authority anticipates that these areas will be maintained and will not be disturbed by mining activities. In response to the feedback provided by Te Ruunanga and Te Kooraha Marae, a map of these areas which are known to TIL has been added to the AMP for clarification purposes. TIL has advised that the resource consent condition referred to by Te Ruunanga and Te Kooraha Marae has been proposed as part of the substantive application.</p> <p>In respect of item (b): TIL has advised that the process for ceasing works when archaeological material is discovered is a long-standing and well-known process that was established by the Mine's original operator when the Mine was first established in the 1970s. It was revisited and updated in 2012 with the support of local kaumātua. It provides for the involvement of local kaumātua following discovery of material relating to Māori occupation, human bones or taonga, and was developed with the Māori landowners. This process has been integrated into the proposed conditions and AMP.</p> <p>Specifically, the conditions and AMP require:</p> <ul style="list-style-type: none"> • That kaumātua representatives will be informed 48 hours before the start of any works which require archaeological monitoring. • If archaeological material relating to Māori occupation is identified, appropriate kaumātua representatives will be informed by the Project Archaeologist (if present) or the Mine Manager 48 hours prior to investigation. • If koiwi or taonga / items of cultural significance are found all work will cease immediately, the area will be secured, and the appropriate kaumātua representatives, Heritage NZ, and the Police will be notified. <p>TIL has a long-established history of working with five kaumātua nominated by Taharoa C to a panel of kaumātua and it wishes to continue this practice – to respect the wishes and the kaitiaki role of Taharoa C, the Māori landowner. The names of the nominated kaumātua are now recorded in the Authority application.</p> <p>In TIL's view it remains appropriate for these kaumātua to be responsible for the management of archaeological material on the site, from a cultural perspective, because they have provided cultural guidance through extensive historic mining of the site, they understand the boundaries of the waahi tapu reserve areas and are recognised kaumātua.</p>

	<p>To avoid potential confusion the conditions and AMP have been updated to clarify that the relevant iwi representatives who will be contacted in respect of archaeological management are kaumātua representatives nominated by the Māori landowner (Taharoa C).</p> <p>In relation to items (c) and (d), these are not relevant to the archaeological authority application. The EMP relates to the resource consent application, not the archaeological authority application. TIL has also advised that an accidental discovery protocol condition has been proposed in TIL's coastal permits, consistent with the approach set out above.</p>
<p>Te Ruunanga and Te Kooraha Marae seek additional conditions requiring:</p> <ul style="list-style-type: none"> (a) Tikanga to be determined by representatives of Aaruka and/or Te Kooraha and for works to be carried out under agreed tikanga; (b) References to iwi involvement to clearly specify representatives appointed by Aaruka and/or Te Kooraha Marae; (c) For these representatives to be notified prior to any work that may impact the known archaeological sites and receive the archaeologists interim and final reports; and (d) The final AMP to be provided for review and written endorsement by Aaruka and/or Te Kooraha Marae. 	<p>In accordance with the proposed conditions and AMP, a Project Archaeologist will appropriately monitor works that may impact known archaeological sites. Local kaumātua nominated Taharoa C will be informed 48 hours before the start of monitored works. As noted above, the kaumātua will also be contacted in the event that archaeological material relating to Māori occupation, koiwi or taonga / items of cultural significance are exposed. If koiwi are encountered, work must cease until future actions are agreed by Heritage NZ, the Police, the kaumātua and TIL.</p> <p>The conditions and AMP provide for appropriate tikanga to be observed in respect of any possible koiwi or taonga / items of cultural significance. Relevant tikanga principles can be agreed between the kaumātua representatives who are contacted in respect of any discovery.</p> <p>For the reasons explained above, TIL considers it appropriate for kaumātua representatives to be appointed by the Māori landowner, and to be the same three kaumātua representatives who have been supporting archaeological activities on the site for decades.</p> <p>As noted above, the initial draft of the AMP was provided to Te Kooraha and Te Ruunanga for their review and comment. It has now been finalised, having considered that feedback.</p>
<p>Te Ruunanga and Te Kooraha Marae seek to be involved in or provided with the following information:</p> <ul style="list-style-type: none"> (a) Provision of all archaeological reports, monitoring data, and authority updates to Te Ruunanga, Aaruka Marae and Te Kooraha Marae; (b) research and investigation strategies (including any excavation or investigation plan) must be provided to mana whenua for review and endorsement before approval; (c) All data, artefact records, and monitoring results to remain the intellectual property of mana whenua and shared through agreed data-governance protocols; and (d) A standing invitation for representatives to attend site inspections, excavations, or authority and AMP reviews as well as hui to review archaeological management, compliance and monitoring, AMP variations. 	<p>As noted above, the proposed conditions require kaumātua to be informed in advance of works that may impact known archaeological sites, where monitoring is required, and to be provided with copies of any reports completed as a result of any archaeological works required. They can also access the site to undertake tikanga, where archaeological material is exposed. For the reasons explained above, TIL does not consider it appropriate or necessary for additional parties to be involved in these processes.</p> <p>As kaumātua are involved in management processes under the AMP, there is no need for an excavation or investigation plan. This might generally be appropriate when investigating a large greenfield area, however, it is not considered workable in this scenario given the site has a long history of disturbance meaning that any remaining archaeological material is likely to be highly fragmented or redeposited rather than in intact, interpretable contexts. In such cases, prescriptive excavation strategies are not practical or meaningful. Instead, the AMP already provides an appropriate framework for managing any finds or features that may arise. This includes the direct involvement of kaumātua in decision-making and response processes.</p> <p>It is also not standard practice for the intellectual property in all data, artefact records or any monitoring results to be transferred to mana whenua – this information is collected and prepared by the Project Archaeologist. However, all archaeological information generated through the project, including updated site records, will be lodged with the New Zealand Archaeological Association (NZAA) Site Recording Scheme and/or Heritage New Zealand Pouhere Taonga as part of the standard reporting process. Once lodged, these records become part of the public record and are accessible to mana whenua, researchers, and the wider public through those channels. A standing invitation to access the site to undertake tikanga, where archaeological material is exposed, is already provided for kaumātua in the proposed conditions.</p>

	<p>TIL has advised that the proposed resource consent conditions forming part of the substantive application include an annual stakeholder meeting (which includes Te Kooraha Marae and Te Ruunanga representatives) where resource management matters can be discussed, and that archaeological matters can be discussed at that meeting.</p>
<p><i>Cultural Values report</i></p>	
<p>Te Kooraha and Te Ruunanga raised that the Cultural Values report comes from the perspective of the landowner rather than the representative voice of mana whenua. In their view, it does not set out the spiritual connectedness of Ngati Mahuta have with the whenua and sites. They consider that mana whenua interests and values have not been adequately recognised and understood, particularly given the fast track application documents have not been circulated in full to enable completion of a cultural values assessment.</p> <p>Te Ruunanga and Te Kooraha Marae seek resourcing for their involvement in monitoring and decision making.</p>	<p>The cultural values report relates to the cultural value of the archaeological sites, as required by the Heritage New Zealand Pouhere Taonga Act 2014, and applies to the Application. It does not apply to the the wider Fast-track application.</p> <p>It was prepared by Taharoa C – the Māori landowners and then circulated to relevant iwi groups, including Te Kooraha and Te Ruunanga, to allow them to provide feedback (along with the entire Archaeological Application).</p> <p>Te Ruunanga and Te Kooraha Marae have not provided specific feedback on the cultural value of the archaeological sites and therefore no changes have been made to the archaeological assessment.</p> <p>TIL has advised that the cultural values of the site are described in the Substantive Application Report, and the cultural effects of the resource consent application are also set out in the Substantive Application Report. These assessments were prepared by Tonkin & Taylor, drawing on the cultural impact assessment that was prepared by Taituwha King (Chair, Te Kooraha Marae Trustees) in 2024 in relation to a previous resource consent application relation to the site.</p>
<p><i>Archaeological Report</i></p>	
<p>Te Ruunanga and Te Kooraha Marae have provided feedback that the Report should include greater historical and cultural context in relation to the identified archaeological sites. They suggest that the sites offer greater information potential and that koorero tuku iho could inform a deeper understanding had consultation on the Report been undertaken with the representative voice of mana whenua.</p> <p>In their view the cultural and historical importance of the remaining dune sites has not been sufficiently recognised and that their value has increased because they are now rare as many have been lost to mining and forestry.</p> <p>Te Ruunanga and Te Kooraha Marae have suggested that an investigation/excavation/research strategy which promotes avoidance must be submitted for mana whenua review and endorsement and that consideration should be given to an exploratory authority to further understand the value of the sites.</p> <p>Overall, they suggest that conclusions on assessments and values should only occur following on-site assessment involving kaumātua and representatives appointed by Aaruka and/or Te Kooraha Marae and following confirmation from those representatives. They have also indicated that the assessment and application should:</p> <ul style="list-style-type: none"> • be considered alongside the Ngaati Mahuta ki to Hauaauru Environmental Management Plan, Huri Taiaawhio ko Ngaati Mahuta E (2025); and 	<p>The Central and Southern Blocks of Taharoa C Blocks have been extensively mined since the mining operation was first established in the 1970s. Even at that time it was acknowledged that most of the sites had been significantly modified through erosion.</p> <p>Archaeological/cultural sites of high value were identified when the mine was established and have been set aside in reserve areas and avoided, a practice which will continue.</p> <p>The Authority is limited to partially intact or unknown sites and there are only three sites which will certainly be encountered (if they remain). Any archaeological material that may now be identified as a result of mining activities is likely to be fragmentary and of limited integrity and value due to prior disturbance. This is explained in the Report. As noted above, intact sites which are likely to have higher value, are retained within the identified reserve areas.</p> <p>It is acknowledged that the area as a whole has a long history of Māori occupation and use, and the broader cultural landscape continues to hold significance for mana whenua. While the archaeological values of the sites are limited due to prior disturbance, the Report provides some historical context. These dune sites are increasingly rare due to past mining and forestry activities, which heightens their cultural and historical significance; however, the lack of in-situ deposits reduces their overall archaeological value. Further cultural interpretation and contextual information can appropriately be provided by mana whenua through engagement with kaumātua should archaeological material be encountered. This approach ensures that the remaining sites are managed with recognition of both their archaeological potential and cultural significance.</p> <p>An exploratory authority is appropriate where there is a lack of historic information in relation to an area where there is known or potential archaeological material. It is not considered appropriate in this case because the site has been heavily modified, particularly in the 1970s-2000s. There may be value in</p>

<ul style="list-style-type: none"> enable full mana whenua participation, and resourcing for ongoing monitoring and reporting. 	<p>exploring areas that remain unmodified; however, this would be limited to the southern-most end of the Southern Block where mining is not anticipated.</p> <p>The practice of engaging with local kaumātua is also not new. The AMP encloses TIL's existing protocol for discovering koiwi (with some minor updates). These practices were agreed with the landowner and other relevant iwi groups at the time and have been followed since.</p> <p>The Report has been prepared following standard archaeological procedures and is considered to be appropriate in the circumstances. A full assessment of the Ngaati Mahuta ki to Hauaaaru Environmental Management Plan is provided with the Substantive Application Report.</p>
<p><i>Archaeological Management Plan</i></p>	
<p>Te Ruunanga and Te Kooraha Marae seek the following amendments to the Management Plan:</p> <ol style="list-style-type: none"> References to "Ngaati Mahuta", "local kaumātua " or "iwi representatives" must be amended to specify representatives appointed by Aaruka and/or Te Kooraha Marae. Reference to cultural procedures taking precedence over physical or scientific work until kaumātua have conducted necessary tikanga, including karakia, direction, and guidance on treatment of koiwi or taonga. Reference to a urupaa/waahi tapu map with a defined process for review and updates agreed with Aaruka and Te Kooraha Marae. Reference to local kaumātua being appointed by Aaruka and/or Te Kooraha Marae. Reference to cultural disputes being resolved through tikanga-based processes. Inclusion of a clause establishing a Mana Whenua Archaeological Lead, appointed by Aaruka and/or Te Kooraha Marae, to co-lead archaeological activities alongside the Project Archaeologist. 	<p>Items (a) – (d) have been responded to above.</p> <p>In response to request (e), Te Ruunanga and Te Kooraha Marae have proposed a dispute resolution approach that anticipates mana whenua reaching consensus in relation to any cultural disputes. The AMP appropriately includes a dispute resolution process which provides for disputes relating to cultural issues to be resolved via a meeting between TIL, kaumātua, and the Project Archaeologist(s). If the dispute cannot be resolved a further meeting of all parties with representatives of Heritage NZ will be arranged to resolve the dispute. Heritage NZ has ultimate responsibility for resolving issues relating to the conditions of the authority.</p> <p>In response to request (f), the Application seeks approval of an authorised person to supervise the archaeological works who has the requisite competencies for recognising and respecting Māori values and has access to appropriate cultural support. The approved person and kaumātua should have sufficient expertise to enable the archaeological activities to be carried out in accordance with the Authority, with archaeological expertise and tikanga.</p>
<p><i>Conclusion</i></p>	
<p>Overall, Te Ruunanga and Te Kooraha Marae have requested that the resource consent conditions currently under appeal are replicated on the Authority. Its overall view is that Aaruka Marae, Te Kooraha Marae, and Te Ruunanga o Ngaati Mahuta ki to Hauaaaru should be involved in every stage and be resourced to support ongoing participation of kaumātua, cultural monitors, and mana whenua representatives.</p> <p>They also requested written confirmation addressing the matters it raised before the Application is lodged.</p>	<p>As notes above, the site has been extensively mined, to the extent that the purpose of the Archaeological Assessment was to assess whether any archaeological material remained at all. The Authority only seeks to modify or destroy 3 known sites within the excavation area, 11 which are on the periphery and may be affected, and any unknown sites.</p> <p>The Application (including the AMP and conditions) have been updated to respond to the feedback that has been received, where appropriate but otherwise the Application remains consistent with historic and existing archaeological processes on the site which respect the desires of, and include the input of, the Māori landowner.</p>

Archaeological Assessment

TAHAROA IRONSANDS CENTRAL AND SOUTHERN BLOCKS: ARCHAEOLOGICAL ASSESSMENT

Prepared for Taharoa Ironsands Limited

October 2025



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BASIS OF THE REPORT

This report has been prepared for Taharoa Ironsands Limited in respect of its application for all approvals under the Fast-track Approvals Act 2024 for the Central and Southern Blocks of the Taharoa Ironsand Mine. The Panel appointed to consider the Central and Southern Blocks application may rely on this report for the purpose of making its decision under the Fast-track Approvals Act 2024.

This report has been prepared in accordance with the Environment Court's Code of Conduct for expert witnesses, contained in the Environment Court's Practice Note 2023. The authors of this report agree to comply with the Code of Conduct, and confirm that unless otherwise stated, the issues addressed in this report are within the area of expertise of the authors. No material facts have been omitted that might alter or detract from the opinions expressed in this report.

INTRODUCTION

Project Background

The Taharoa Ironsands Mine is on the west coast of the North Island, south of Kawhia (Figure 1–Figure 3). The Mine involves removal of the sand deposits for iron extraction in the property known as Taharoa C Block. Taharoa Ironsands Limited is proposing to undertake mining in new and previously mined areas in the Central and Southern Blocks of the Taharoa C Block (Figure 4 and Figure 5). This is known as the Central and Southern Block Mining Project, and is a listed project under the Fast-track Approvals Act 2024.

The proposal would see ironsand mining undertaken at higher RLs using dry mining units and at lower RLs using dredges (which can intersect with the groundwater table).

The Mitiwai Stream defines the northern extent of the current active and proposed mining areas on the Central/Southern Block. The mining area extends south past the Wainui Stream down to the Waiohipa Stream in the Southern Block. Together these blocks are approximately 911 ha. The legal description of the land where the proposed works are situated is Taharoa C Block and covers an area of some 1317 ha.

An archaeological assessment was commissioned by Taharoa Ironsands Limited to establish the potential effects of the proposed work on archaeological values. This report has been prepared as part of the required assessment of effects for a resource consent application and archaeological authority application (and associated application for approval of person to carry out an activity under an archaeological authority) for the Central and Southern Block Mining Project under the Fast Track Approvals Act. Recommendations are made in accordance with statutory requirements.

Methodology

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

A visual inspection of the property was conducted on 1-3 April 2025 by Doug Gaylard, Tom Clough-Macready, Kirstin Roth and Hannah Cohen-Smith. The ground surface was examined for evidence of former occupation (in the form of shell midden, depressions, terracing or other unusual formations within the landscape relating to Māori settlement, or indications of 19th century European settlement remains). Exposed and disturbed soils where encountered were examined for evidence of earlier modification, and an understanding of the local stratigraphy. Subsurface testing with a probe and spade was carried out at the recorded location of archaeological sites to determine whether buried archaeological deposits could be identified, establish the nature of possible archaeological features or examine the subsurface stratigraphy. Particular attention was paid to the spur and ridge lines/creek banks/coastal edge (topographical features where archaeological sites are often found to be located). Sites were photographed and GPS readings taken. Photographs were taken to record the area and its immediate surrounds.

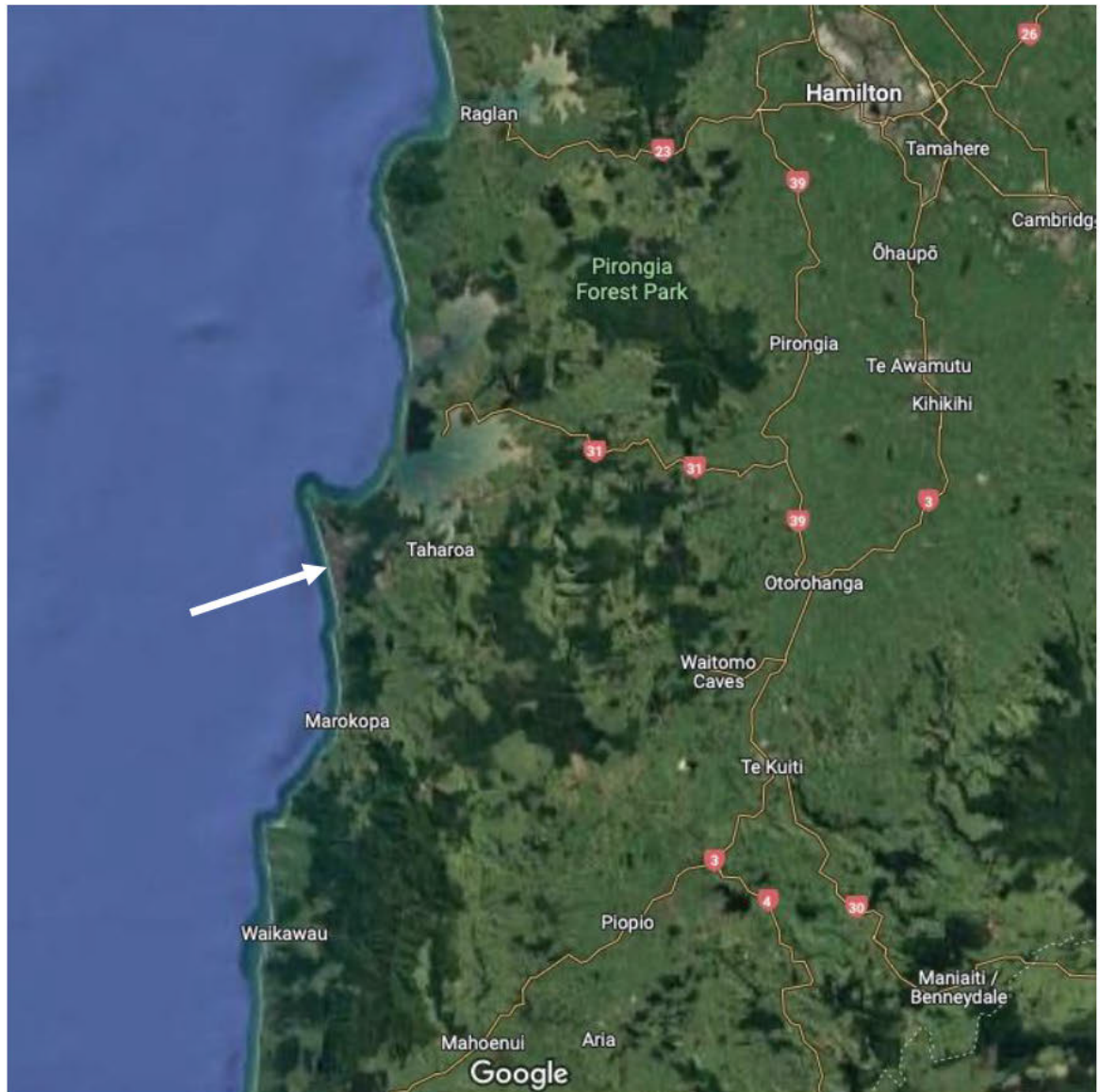


Figure 1. General location of Taharoa Ironsands (indicated by the white arrow). Source: Google Maps 2025



Figure 2. Detailed location of Taharoa Ironsands Central and Southern Blocks (indicated by the yellow outline). Source: Google Satellite

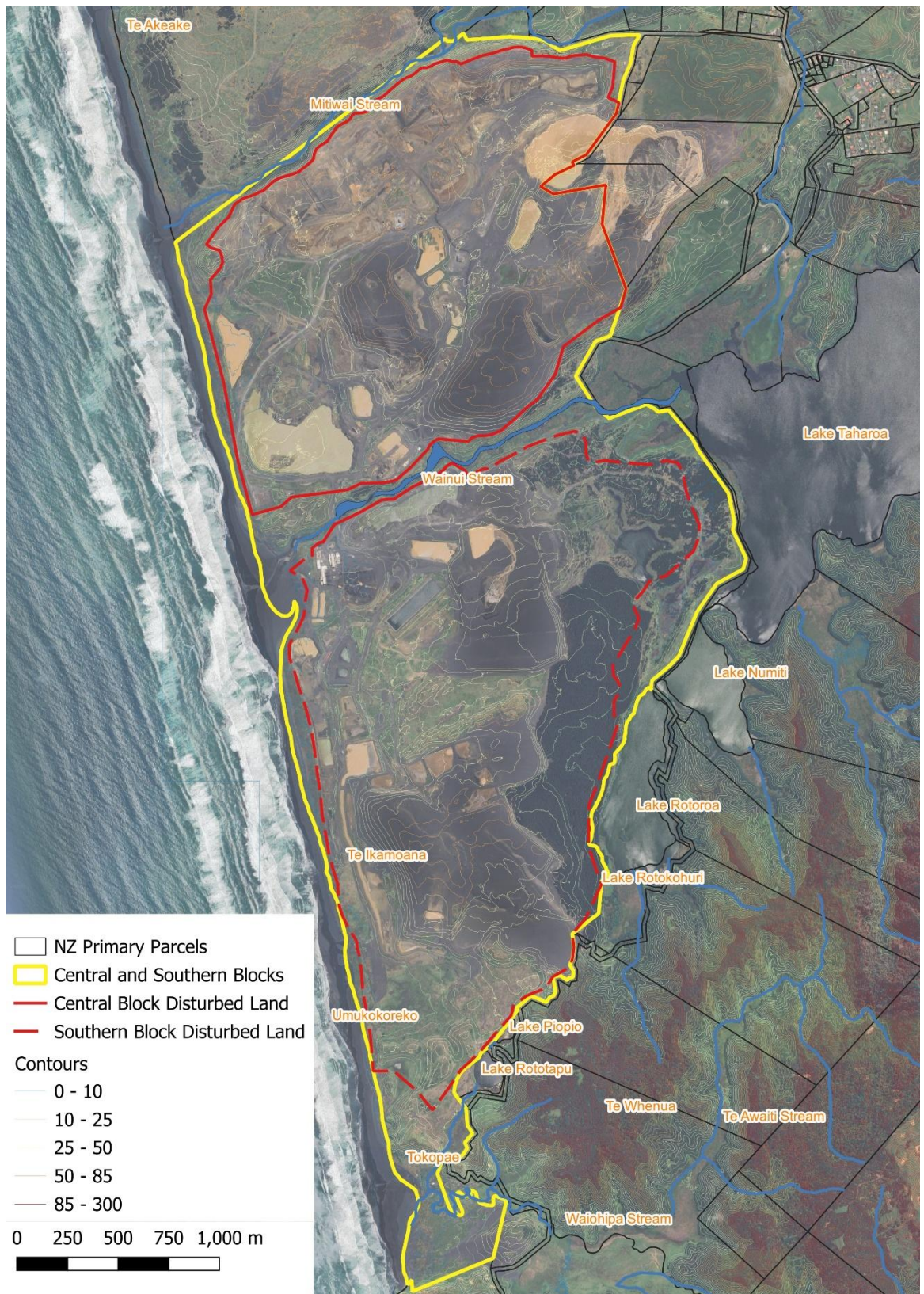


Figure 3. Plan showing the Central and Southern Areas, with geographical features identified and some place names recorded from historic plan ML 6206

Pits in Central Area – Pit 4

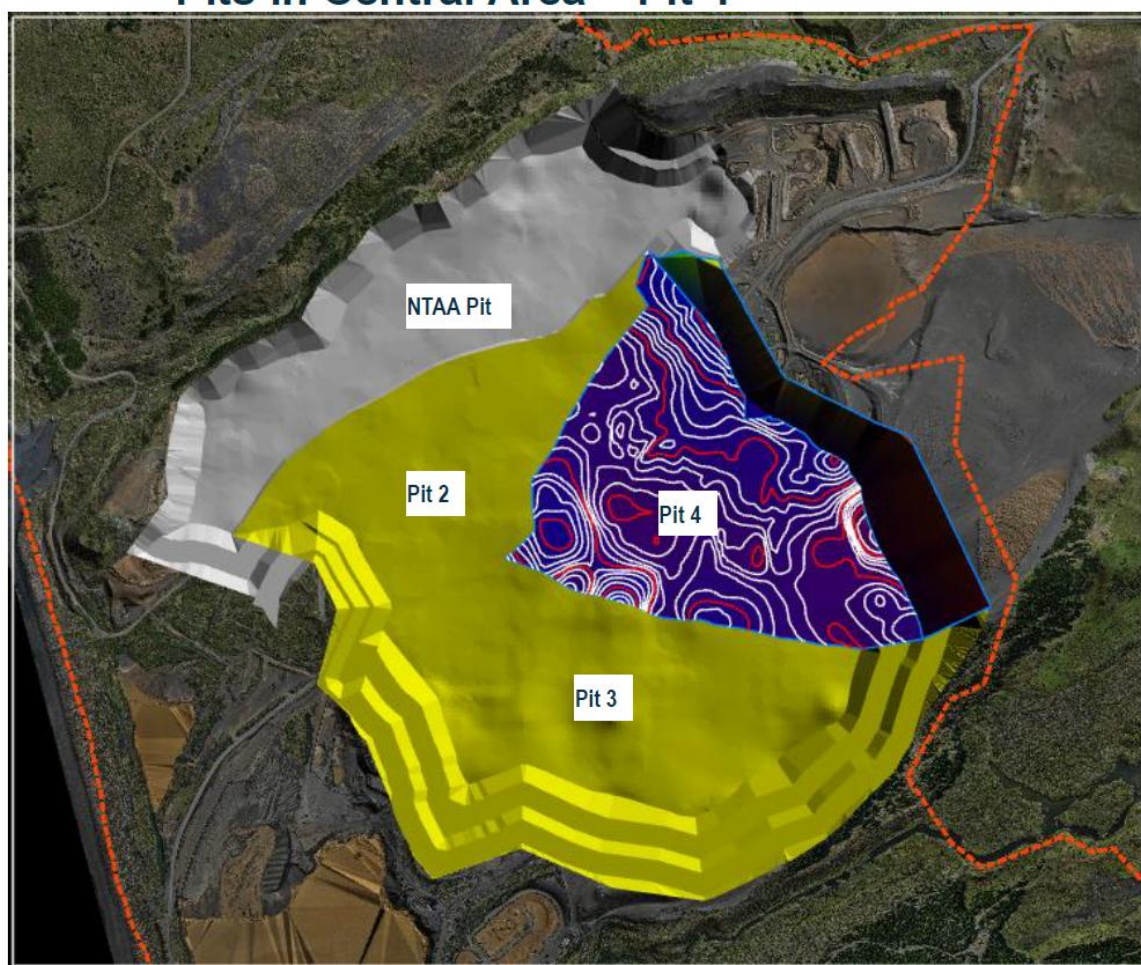


Figure 4. Indicative planned development of mining pits in the Central Area

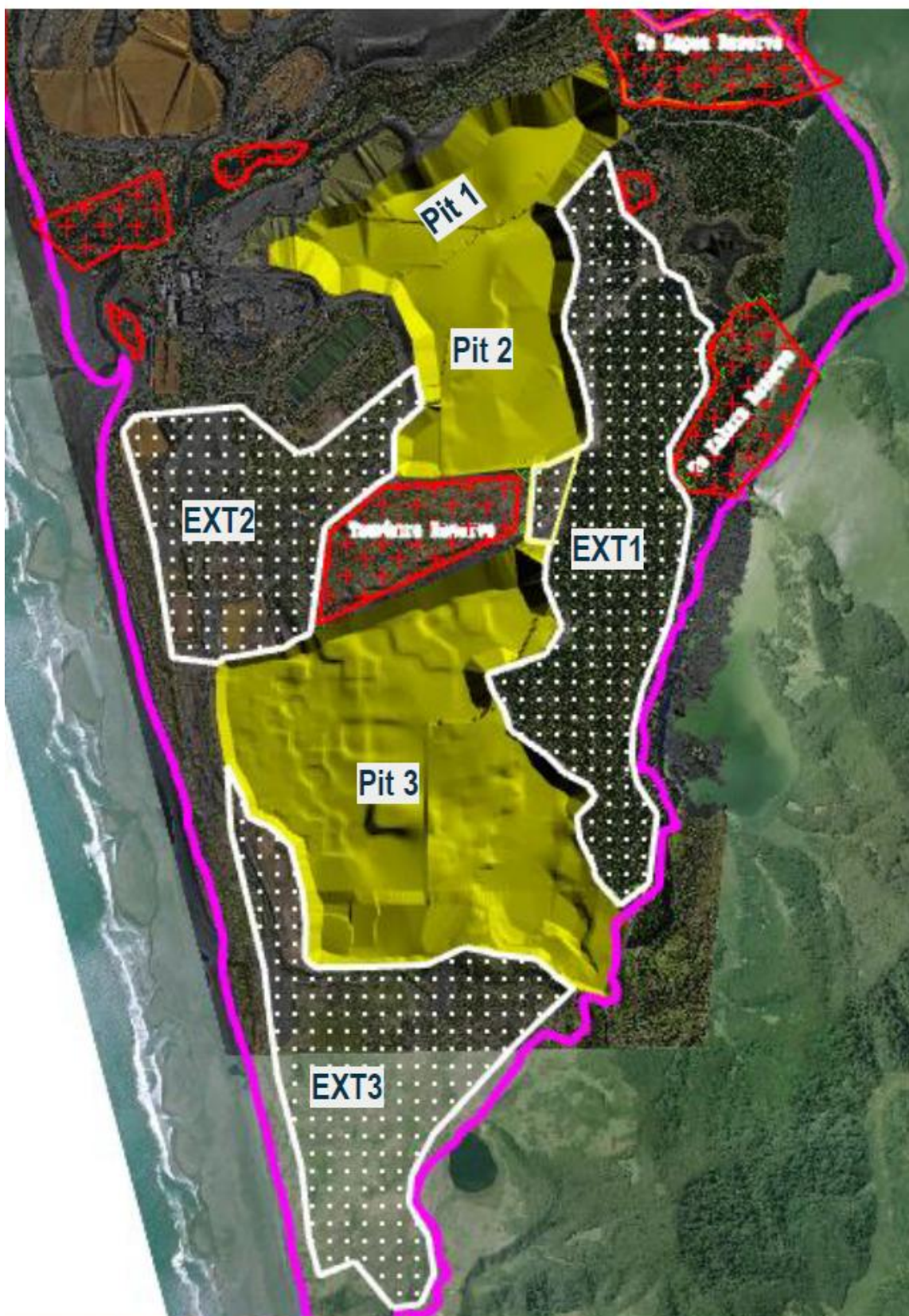


Figure 5. Indicative planned development of mining pits and extensions in the Southern Area

HISTORICAL BACKGROUND

Kawhia Harbour was historically one of the main landing places for the Tainui Canoe after it journeyed from Hawaiki, commanded by Hoturoa, after exploring both coasts of the central North Island. Consequently, Māori settlement in the area has a long history. Kawhia Harbour is the only sheltered bay along the coastline of King Country, with Marokopa, Waikawau and Awakino the only other places where large canoes could be launched or landed in all but the wildest weather (Wilkes 1994).

In the early 1820s, pressure from stronger northern tribes – particularly Ngāti Maniapoto – forced Ngāti Toa to migrate south. The Battle of Te Kakara near Lake Taharoa marked a turning point. Vastly outnumbered, Ngāti Toa suffered a major defeat and lost the famed warrior Raparapa of Ngāti Tama. This was followed by the siege of Te Arawi pā, during which Ngāti Toa, under increasing pressure, began their retreat from Kawhia (Smith 1909).

Jones and Biggs (1995) provide a comprehensive history of Tainui and their establishment in the area. A more personal history of the Māori families prior to the mine opening at Taharoa is provided by Te Uira (1958).

Elders of Ngāti Mahuta, George Wetene and Trevor Armstrong, were consulted by Bulmer in the 1970s with regard to traditional knowledge of the area. According to local tradition Te Rauparaha's wife was buried under a canoe in the Wainui Stream. Beyond that, there was no traditional knowledge of any settlements which could be correlated with the recorded archaeological sites within the project area (Clough 2001).

The land of the Taharoa Ironsands Mine and the adjacent Keepa and Wetini blocks are owned by local families. Te Kooraha Marae is located to the north of the Mitiwai Stream on land adjacent to the northern part of the Taharoa C Block, and Ngāti Mahuta hold mana whenua for the area.

A large-scale survey of West Coast ironsands in 1949 identified that ironsands within the Taharoa area were of much higher quality than those closer to Taranaki. This, in combination with newer smelting technologies developed in Norway, earmarked Taharoa as an area prime for mining. However, Taharoa's relative isolation created problems as significant investment in infrastructure would be required. It was not until the mid-20th century that the necessary connections to Taharoa were created (NZ Steel 1974, 2015).

Mining commenced in 1972 by the New Zealand Government at the time, and the Mine currently covers an area of several hundred hectares. An early history of the development of the Taharoa Ironsands Mine can be found in Ingram et al. (1974). This briefly outlines the challenges associated with iron extraction from sand in New Zealand and the establishment of the Taharoa Mine by NZ Steel Ltd.

HISTORICAL SURVEY

Information from Early Maps and Plans

Early plans (and aerials, see below) show the changes to the Taharoa sand dunes. Several plans were examined for evidence relating to the previously recorded archaeological sites, historical sites and information regarding wāhi tapu (Figure 6) recorded in the area.

Land plans from the turn of the 19th century show a number of burial grounds (urupā) to the south of the Wainui Stream (and current mining areas). Three burial grounds are shown – the Rangitoto (named as the Tauwhare burial grounds in Figure 8), Kakara (Figure 8) and Tauwhare (Figure 9) urupā. These are all situated within demarcated reserves within the project area.

Plan ML 9601 (Figure 10), surveyed for the Native Land Court in 1916, shows a number of houses, gardens and an orchard around the back of the Central Block near Mitiwai Stream, to the north of the project area.

Three reserves relating in part to the urupā noted above have been identified in one of the early NZ Steel Ltd consent application plans from the late 1960s (Figure 11). These are all within the project area.



Figure 6. Wahi Tapu areas around the Mine site marked in red (Goh 2014: Figure 3.1), with approximate mining lease area indicated in blue

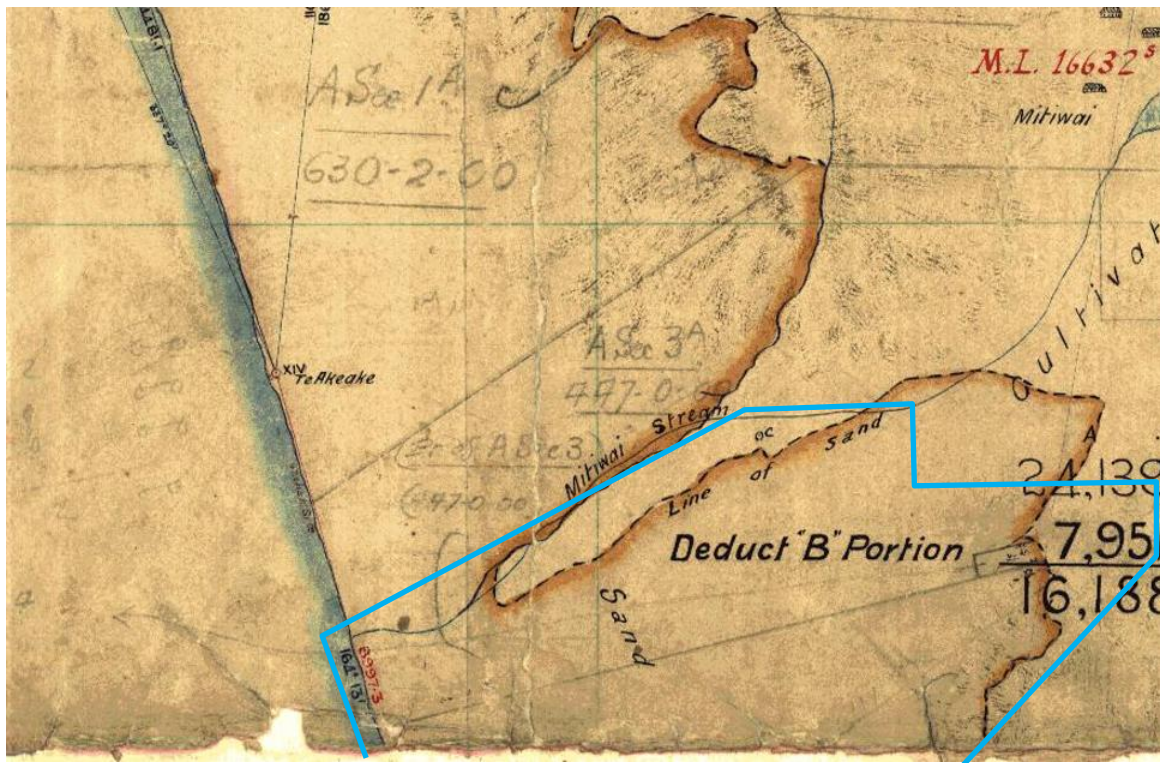


Figure 7. ML 6206 Sheet 1, dated 1894-1970, with approximate extent of mining lease highlighted in blue

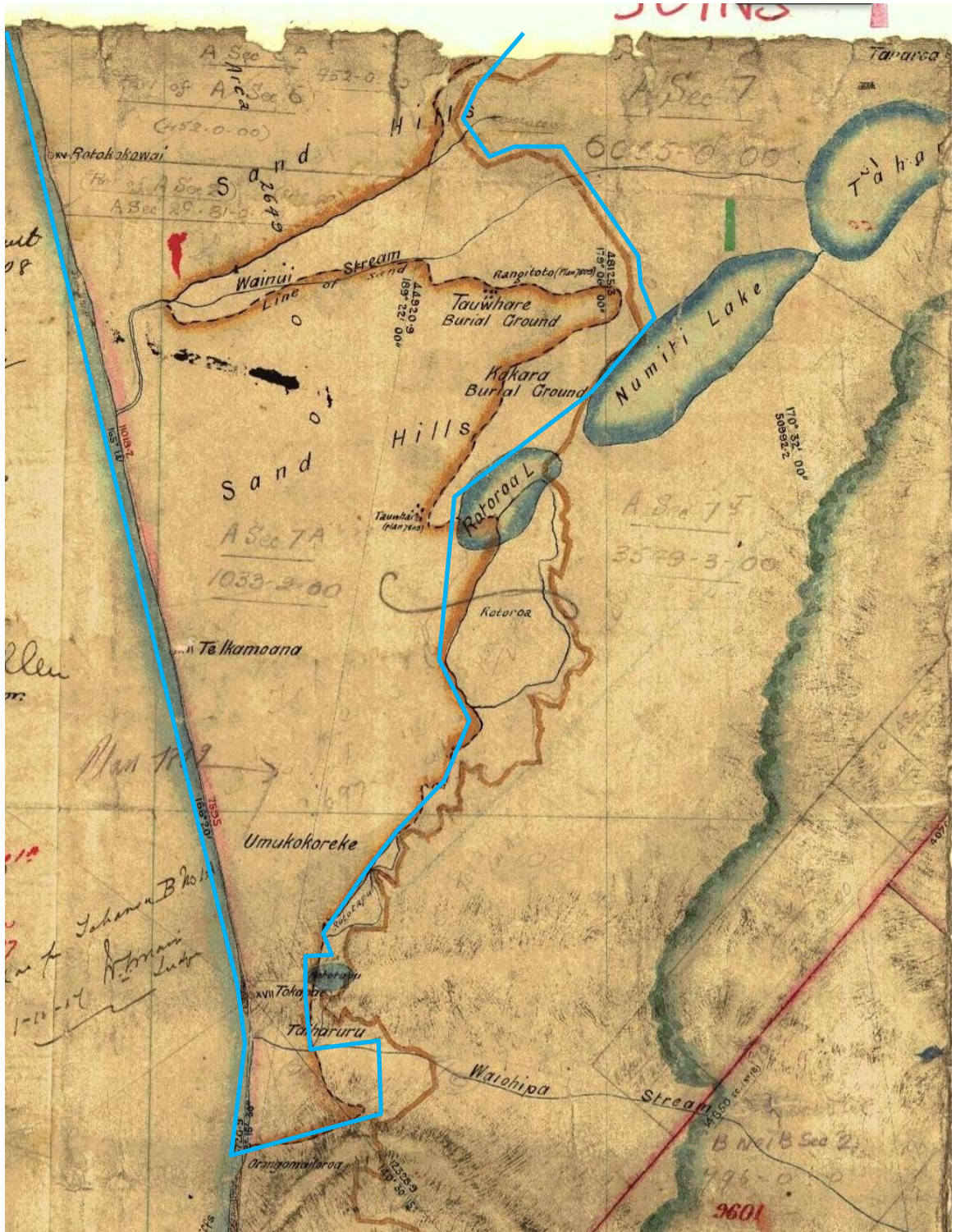


Figure 8. ML 6206, sheet 2, dated 1894-1910, showing Tauwhare and Kakara urupā, with approximate extent of mining lease highlighted in blue

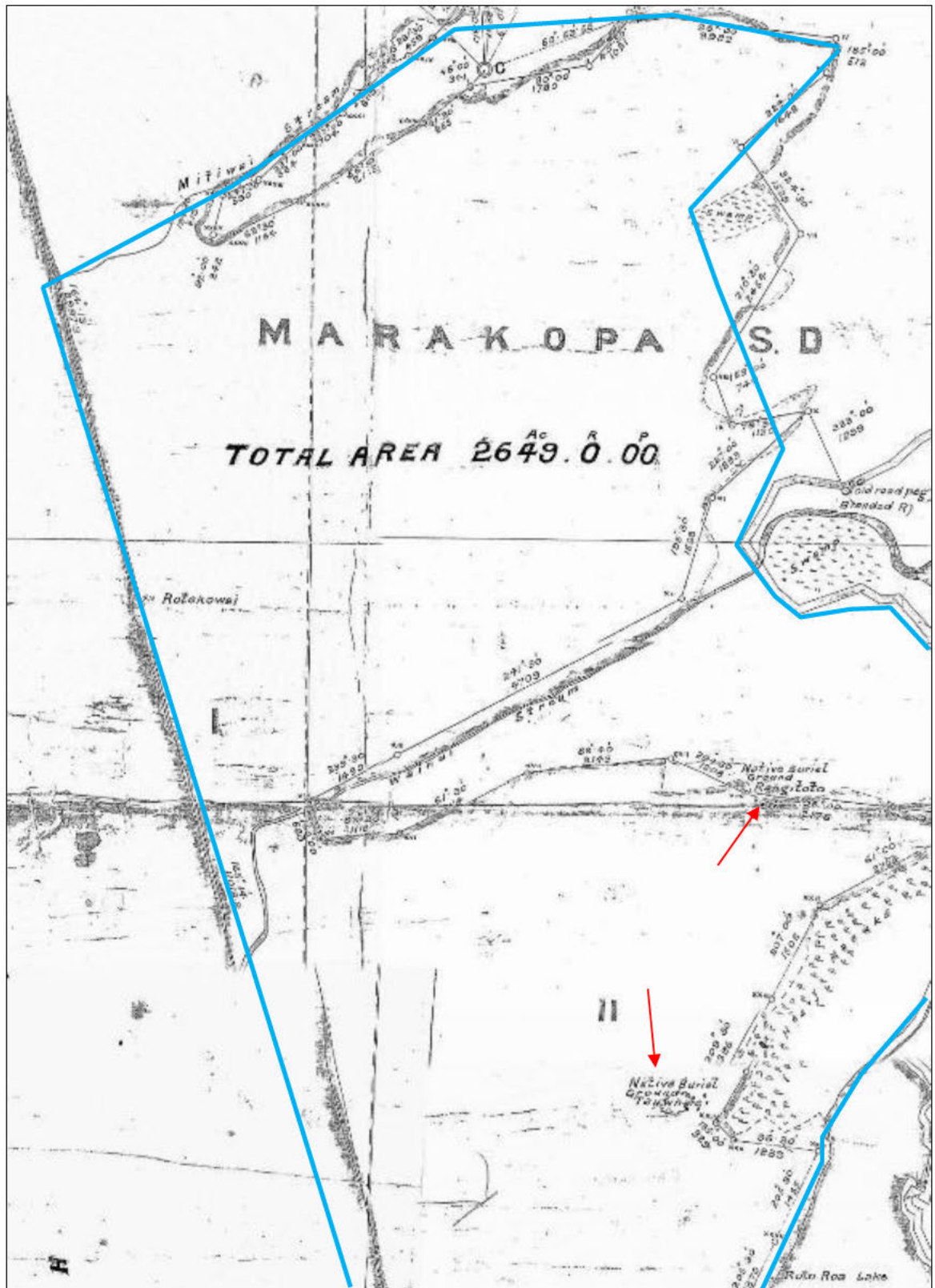


Figure 9. Close-up of project area on DP 7809 dated 1910 (LINZ), showing Rangitoto and Tauwhare urupā (red arrows), with approximate extent of mining boundaries in blue

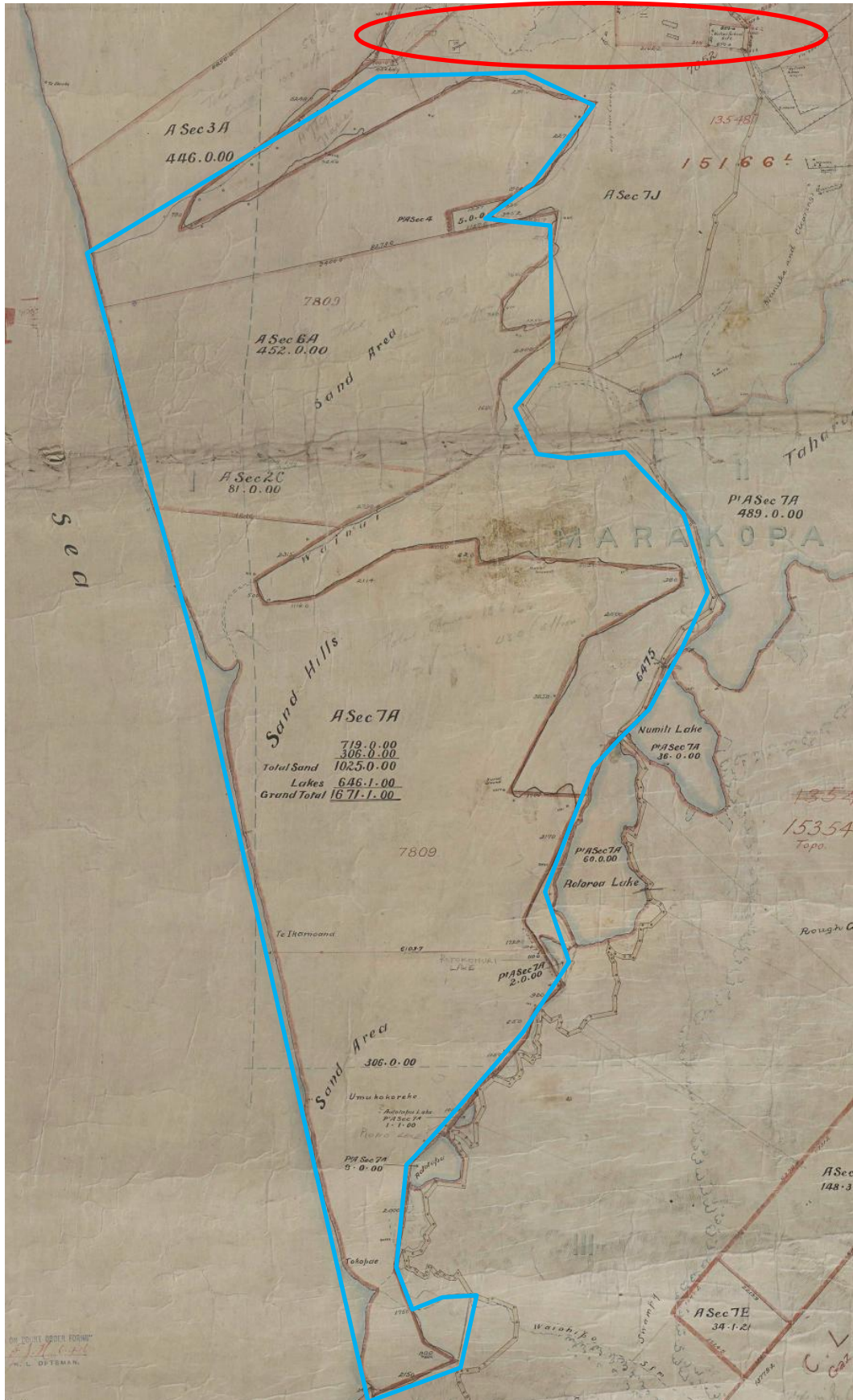


Figure 10. ML 9601 dated 1916, with area of houses, gardens and orchard near Mitiwai Stream circled in red (LINZ), approximate extent of the Central and Southern Block in blue

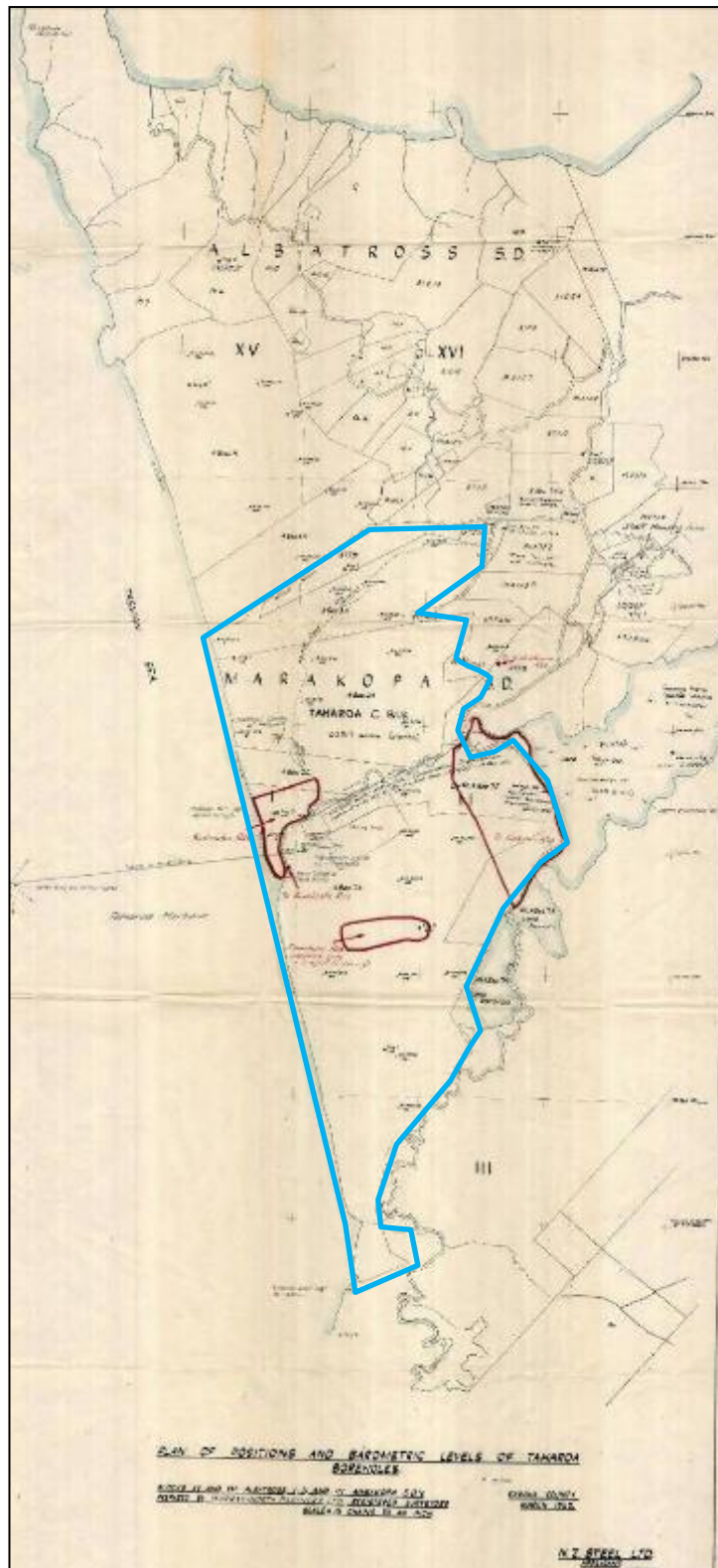


Figure 11. Reserve designation (red outlines) on NZ Steel Plan (dated 1969), showing the positions and barometric levels from boreholes, supplied by C. van Oosterom, with project area indicated in blue

Information from Aerial Photographs

Aerial photographs of the area show the natural and human-induced modifications that have occurred from the 1940s onwards, and are shown below with the recorded locations of archaeological sites overlaid.

In 1944 (Figure 12 and Figure 13) there is very little human modification of the dune environment, with no buildings or permanent vehicle tracks visible. Away from the dune environment there are cultivations, homes and community buildings present around the settlement of Taharoa. The dune environment is a combination of open active dunes and scrubby bush, with areas of bush most intact near the Mitiwai and Wainui Streams, and around the edges of the lakes.

In 1961 (Figure 14 and Figure 15) there were still no permanent markers of human modification across the dunes, although the vegetation cover had reduced fairly substantially, particularly along the coastline.

By 1974 the first impacts of the iron sand mining process are visible. A main access road with other connecting roads have been formed through the Central Area, with a small heliport facility (Figure 16). The Wainui Stream has been modified, through partial damming, as the stream alignment has changed and there are larger bodies of water along its length. In the Southern Area (Figure 17) the main mine facility has been constructed, with the dredge forming deep pits as it works to the east. The overall level of vegetation cover appears to have reduced even further.

There are few major differences between the 1974 and the 1976 aerials, apart from showing the speed at which the dredge moved through the landscape. The inland side of the active pit in 1976 is nearly 500m further inland from the face in 1974 (Figure 18 and Figure 19). Some additional structures have been erected at the heliport and around the main facility. Extended coverage further to the south also reveals the presence of a landing strip, with a plane parked nearby.

By 1983 the mining facility had been expanded, with some additional access roads to structures in the Southern Block (Figure 20). The mining dredge has extended its area of activity far to the east. The Central Block appears to be largely unmodified, but the aerial photograph is from a high altitude and the resolution is not great, however it is possible that forestry planting had been undertaken (Figure 21).

The plantation forest is clearly visible by 1997, with the growth of the vegetation the only visible change across the Central Area (Figure 22). The Southern Area, however, has seen substantial change (Figure 23). Plantation forestry has grown in some areas, particularly in the northern portion, along with the formation of a lake. This lake is still present today, and is likely that it is the remains of a dredging pit. The main dredging focus has shifted further to the south where a substantial area has been modified, with multiple access roads created to service this area.

By 2001 it appears harvesting of the forestry has begun, along with a small area of mining in the Central Area (Figure 24). In the Southern Block dredging and dry mining have extended across a large portion of the southern half of the Southern Area (Figure 25). The former landing strip appears to have been converted into an access road, with some other structures erected in the vicinity of the active mining area. Some additional areas of forestry have been planted within the Southern Block.

By 2013 the greater portion of the forestry within the northern area of the Central Block had been harvested, with mining having extended through the middle of the block (Figure

26). Associated structures and infrastructure had also been developed. In the Southern Block large areas of forestry were maturing across the formerly mined areas, with little active mining occurring across the block at that time (Figure 27).

By 2023 the plantation forestry in the Central Block had been harvested and mining operations were continuing, with dry mining, dredging pits and tailings piles all present (Figure 28). The Southern Block has also seen the development of further mining and tailings area, with the plantation forestry maturing along the eastern side (Figure 29).

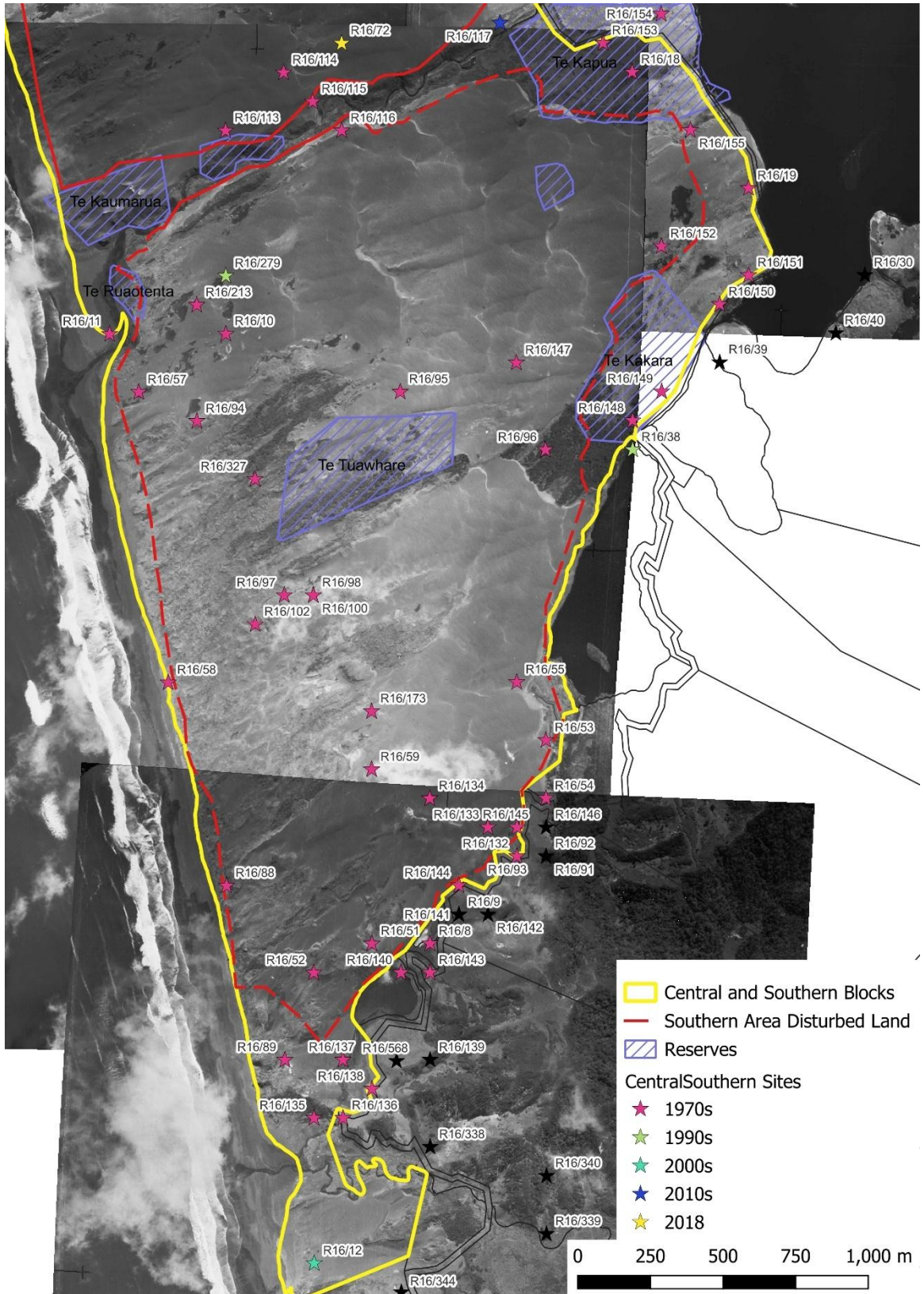


Figure 13. Georeferenced 1944 aerials in relation to the Southern Area (source: Retrolens: SN266 847 2, 4, 848 2, 849 2), with recorded sites marked by decade last visited

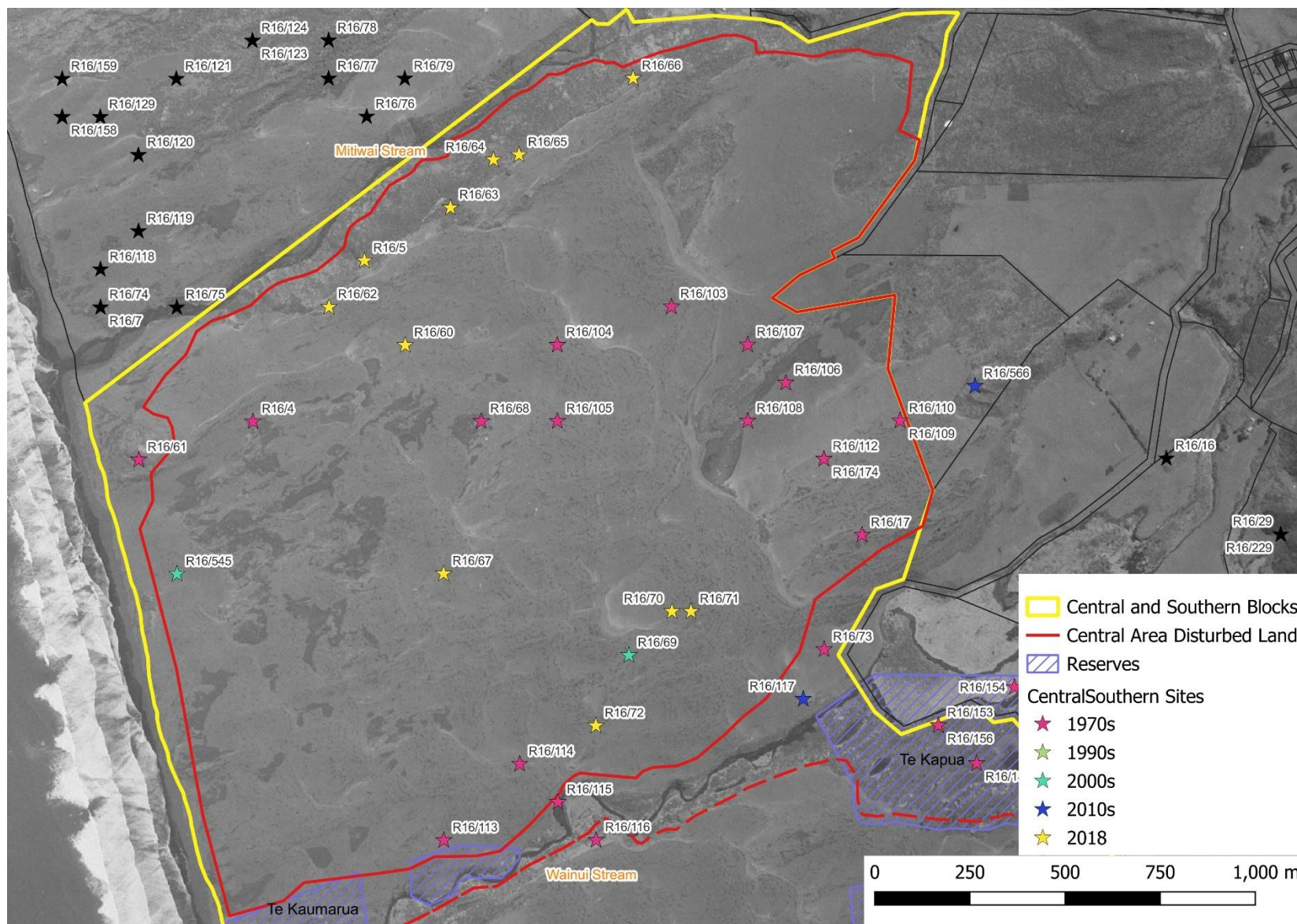


Figure 14. Georeferenced 1961 aerials in relation to the Central Area (source: Retrolens: SN1039 2624-1, 2625-2), with recorded sites marked by decade last visited

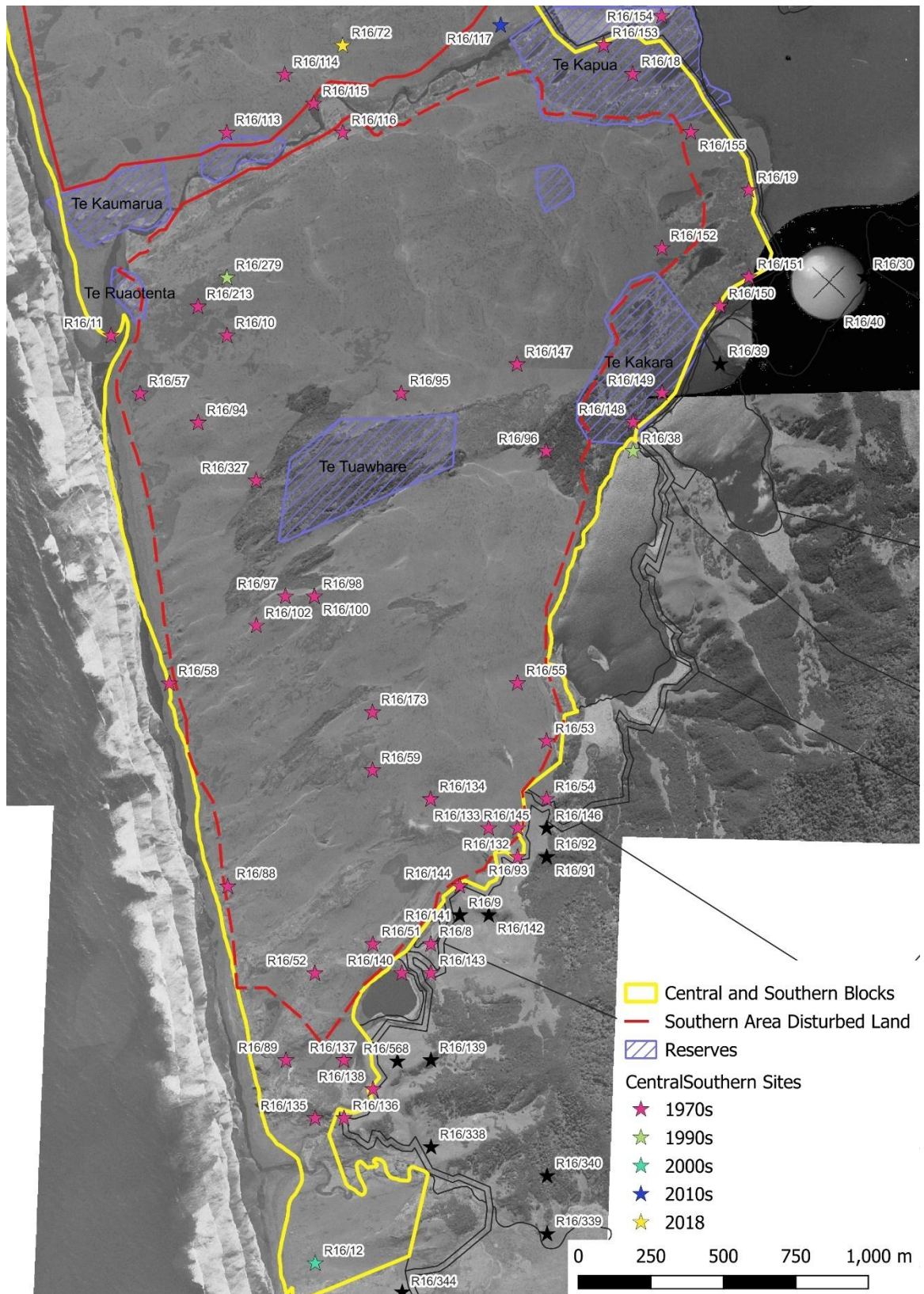


Figure 15. Georeferenced 1961 aerials in relation to the Southern Area (source: Retrolens: SN1039 2624-1, 2625-2), with recorded sites marked by decade last visited

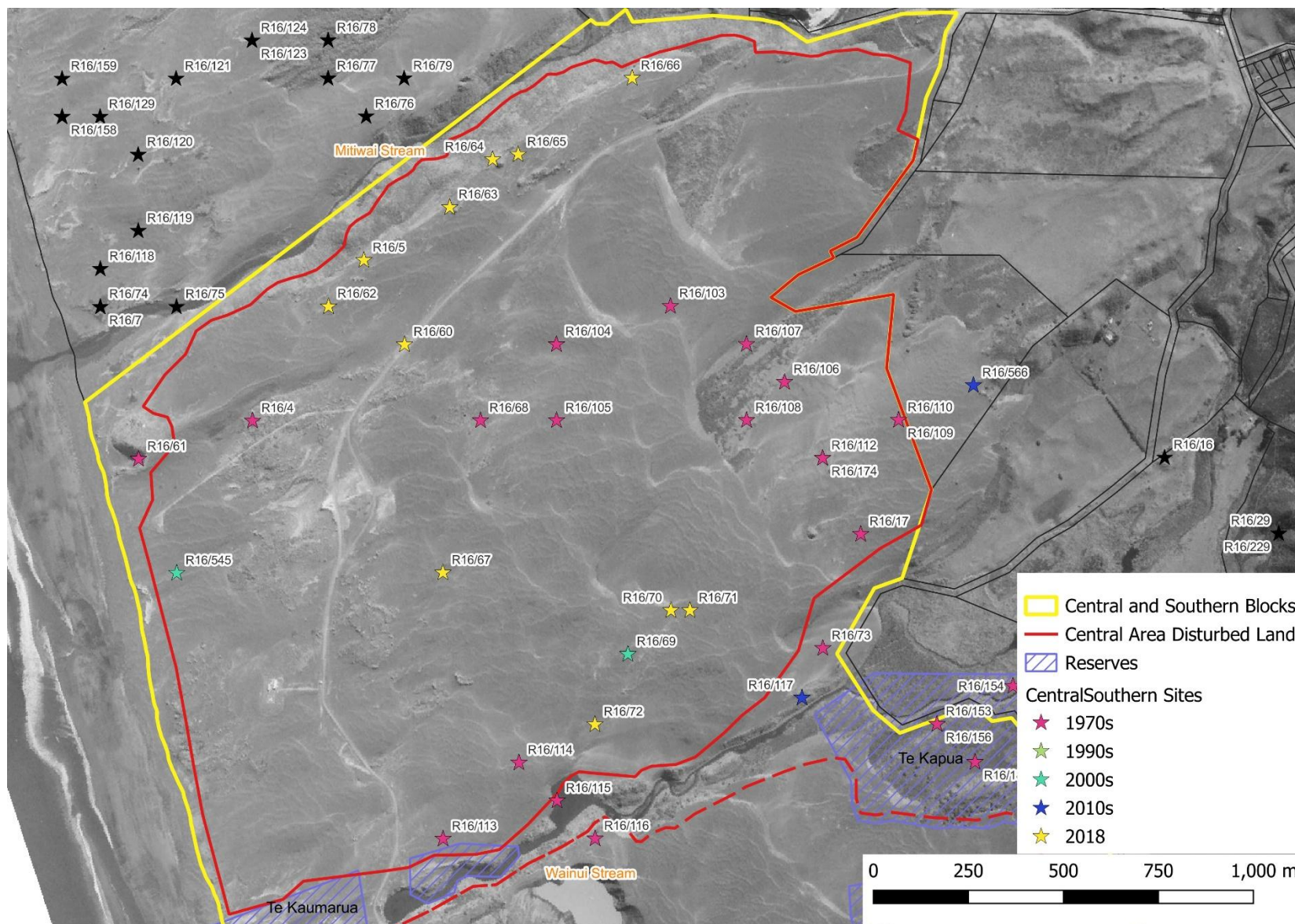


Figure 16. Georeferenced 1974 aerial in relation to the Central Area, with recorded sites marked by decade last visited

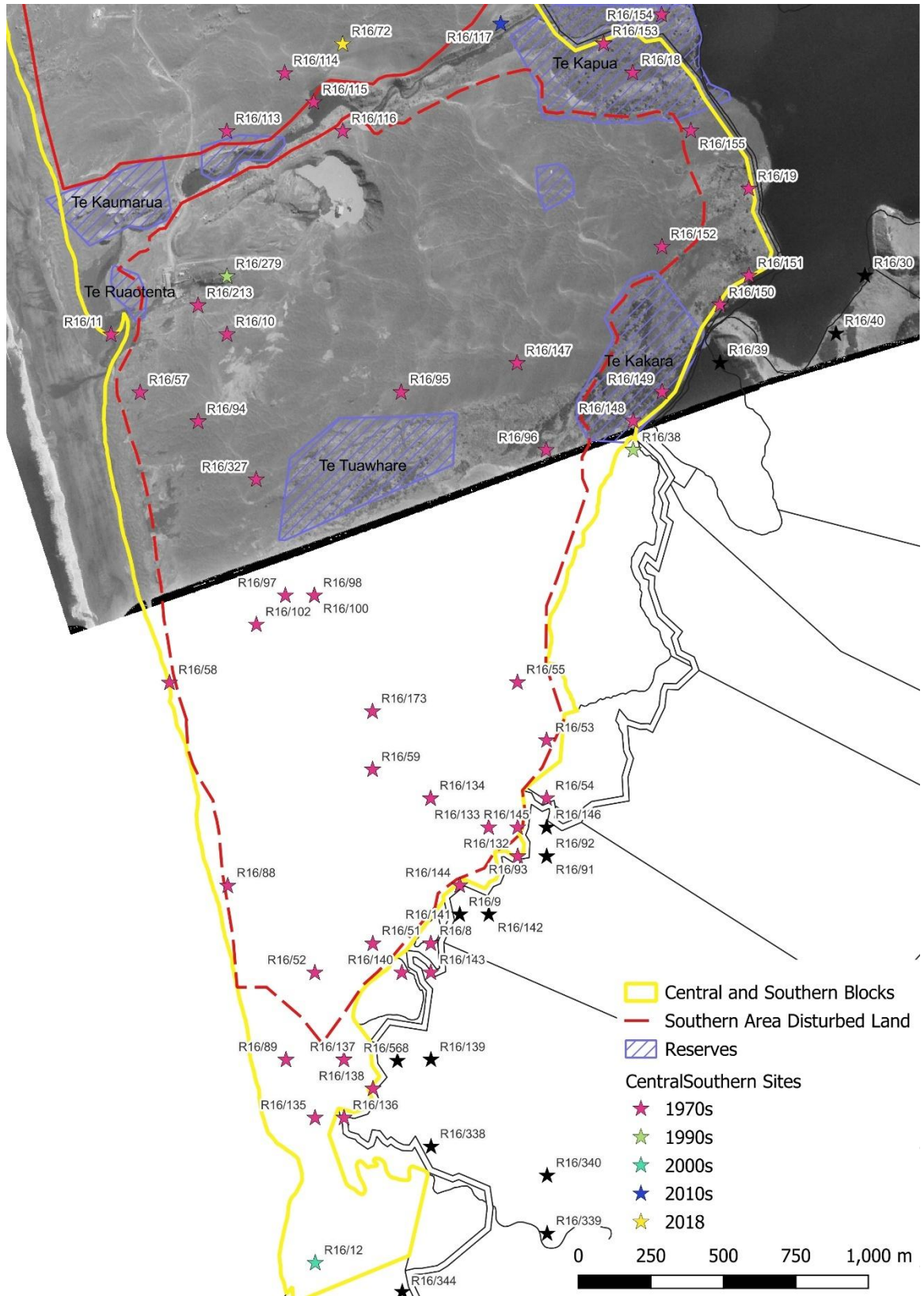


Figure 17. Georeferenced 1974 aerial in relation to the Southern Area (source: Retrolens: SN3730 E-1), with recorded sites marked by decade last visited

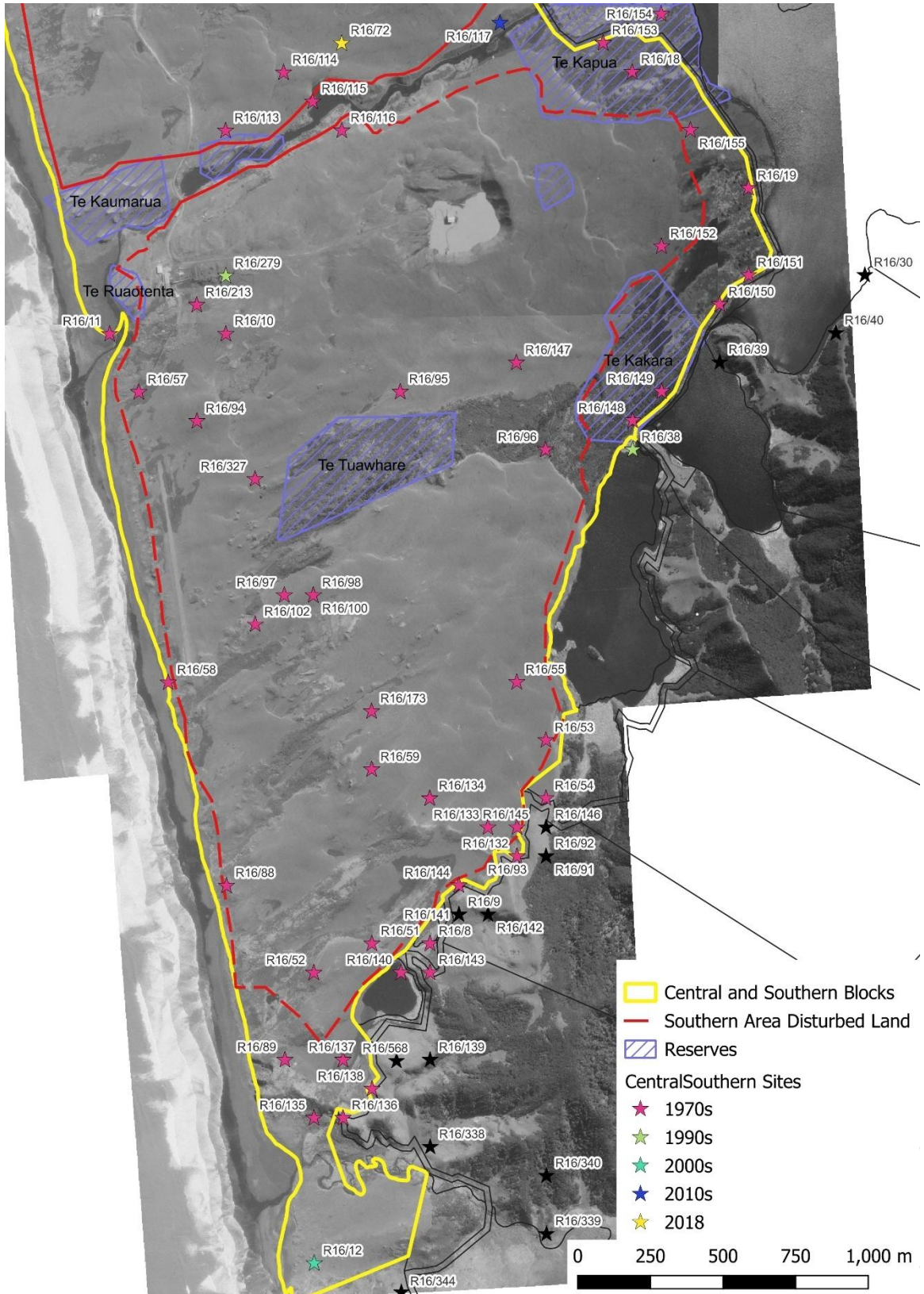


Figure 19. Georeferenced 1976 aerials in relation to the Southern Area (source: Retrolens: SN2974 A-2, B-1), with recorded sites marked by decade last visited

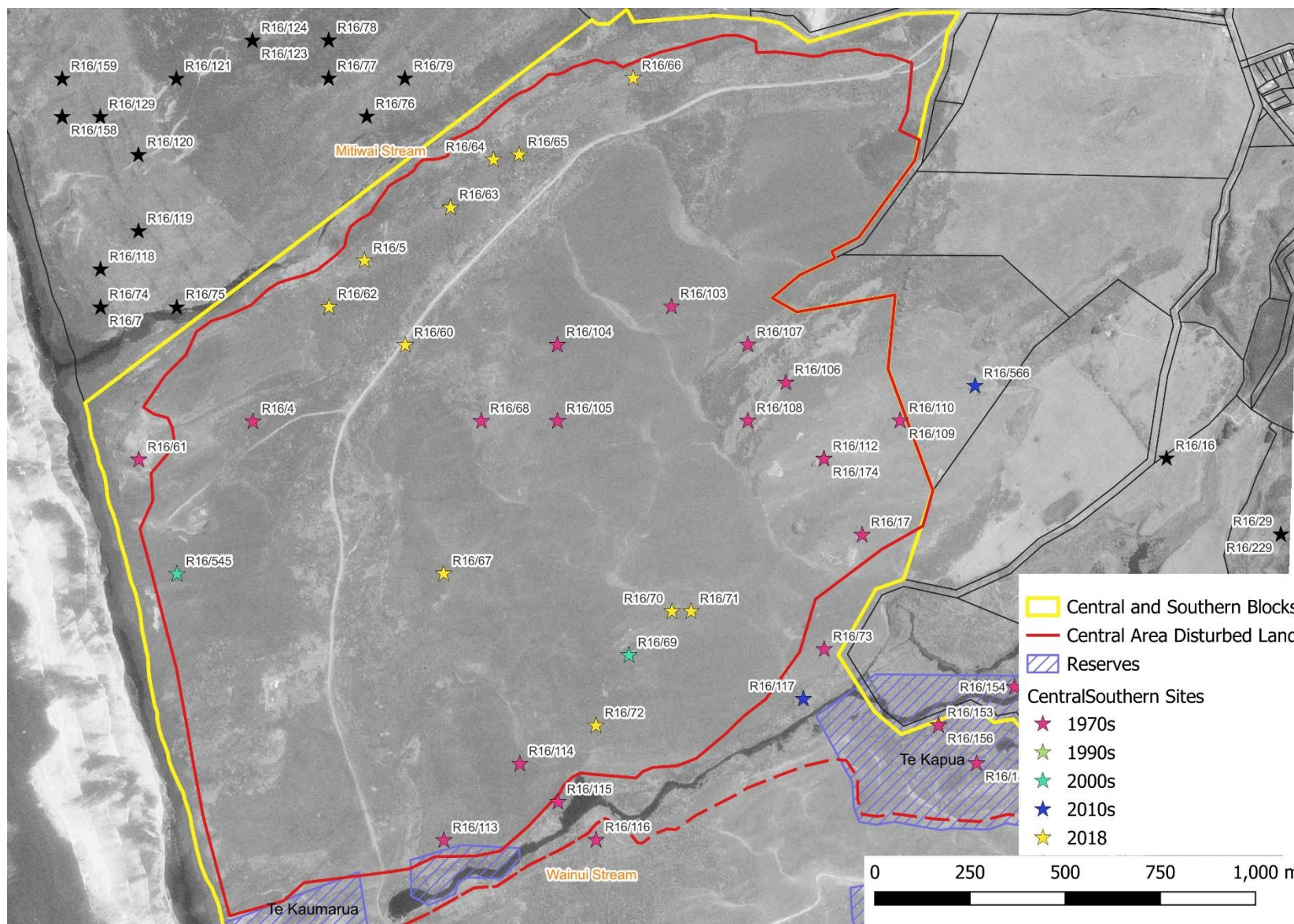


Figure 20. Georeferenced 1983 aerial in relation to the Central Area (source: Retrolens: SN8166 A-3), with recorded sites marked by decade last visited

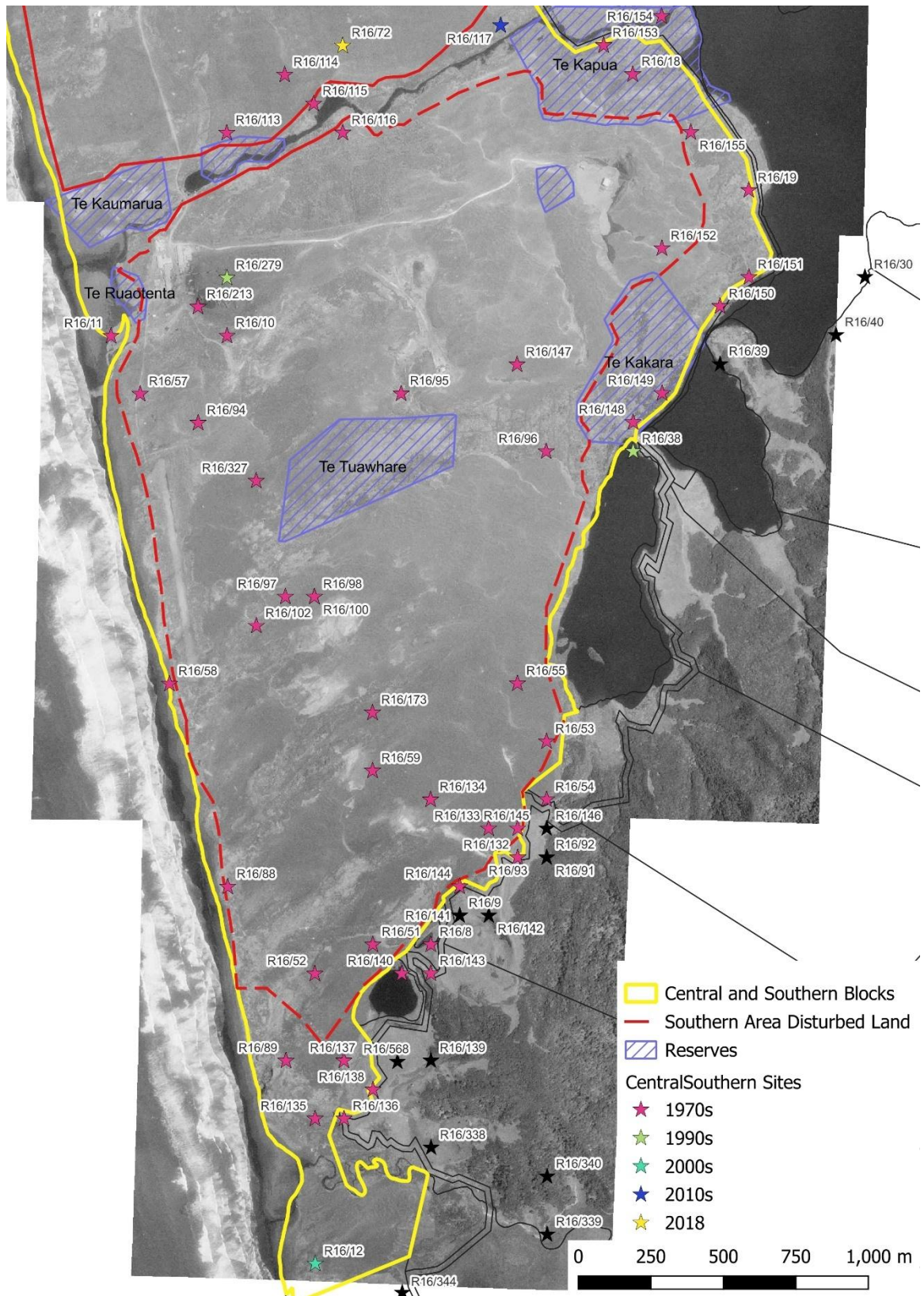


Figure 21. Georeferenced 1983 aerial in relation to the Central Area (source: Retrolens: SN8166 A-3), with recorded sites marked by decade last visited

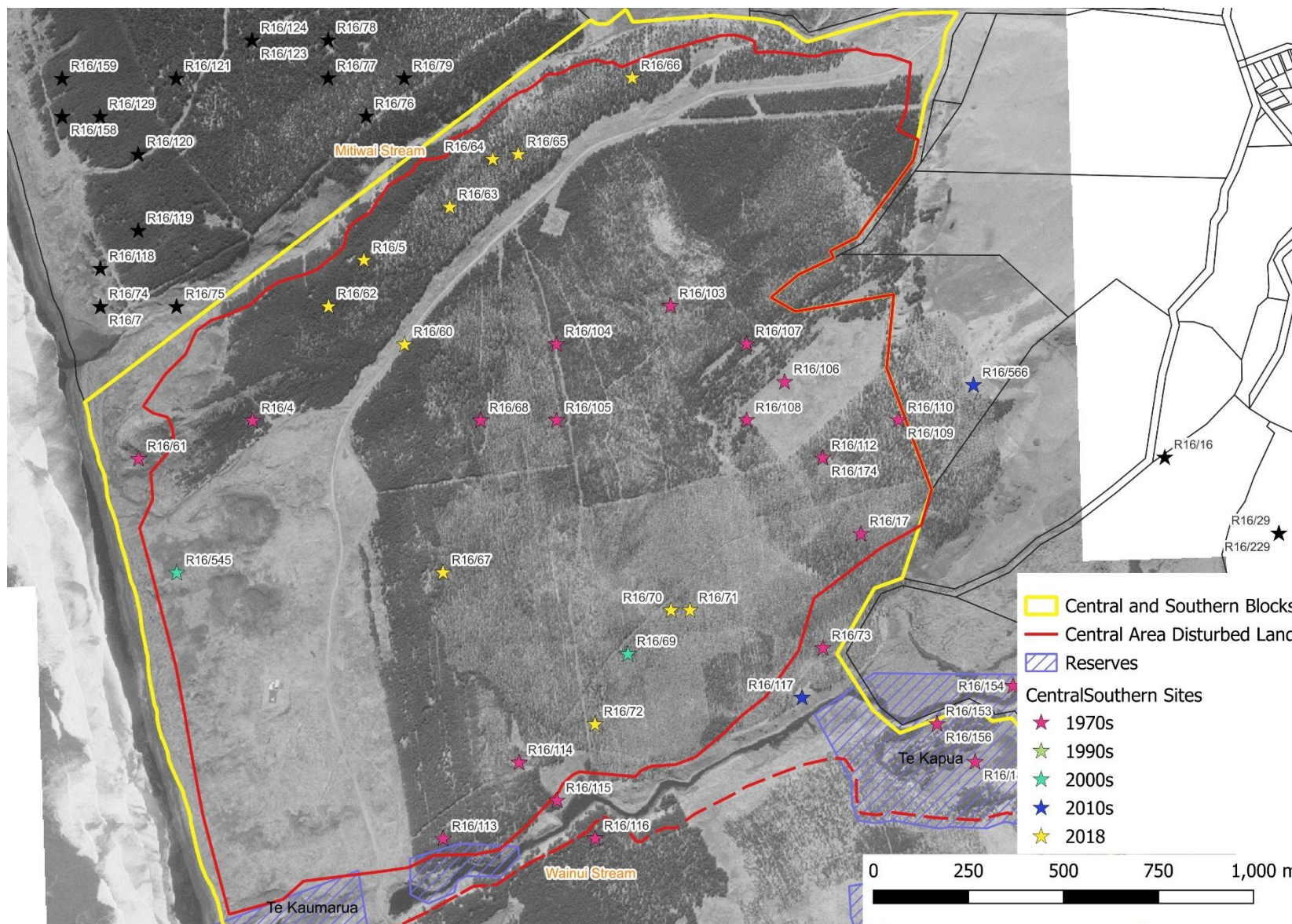


Figure 22. Georeferenced 1997 aerial in relation to the Central Area (source: Retrolens: SN9615 M-3), with recorded sites marked by decade last visited

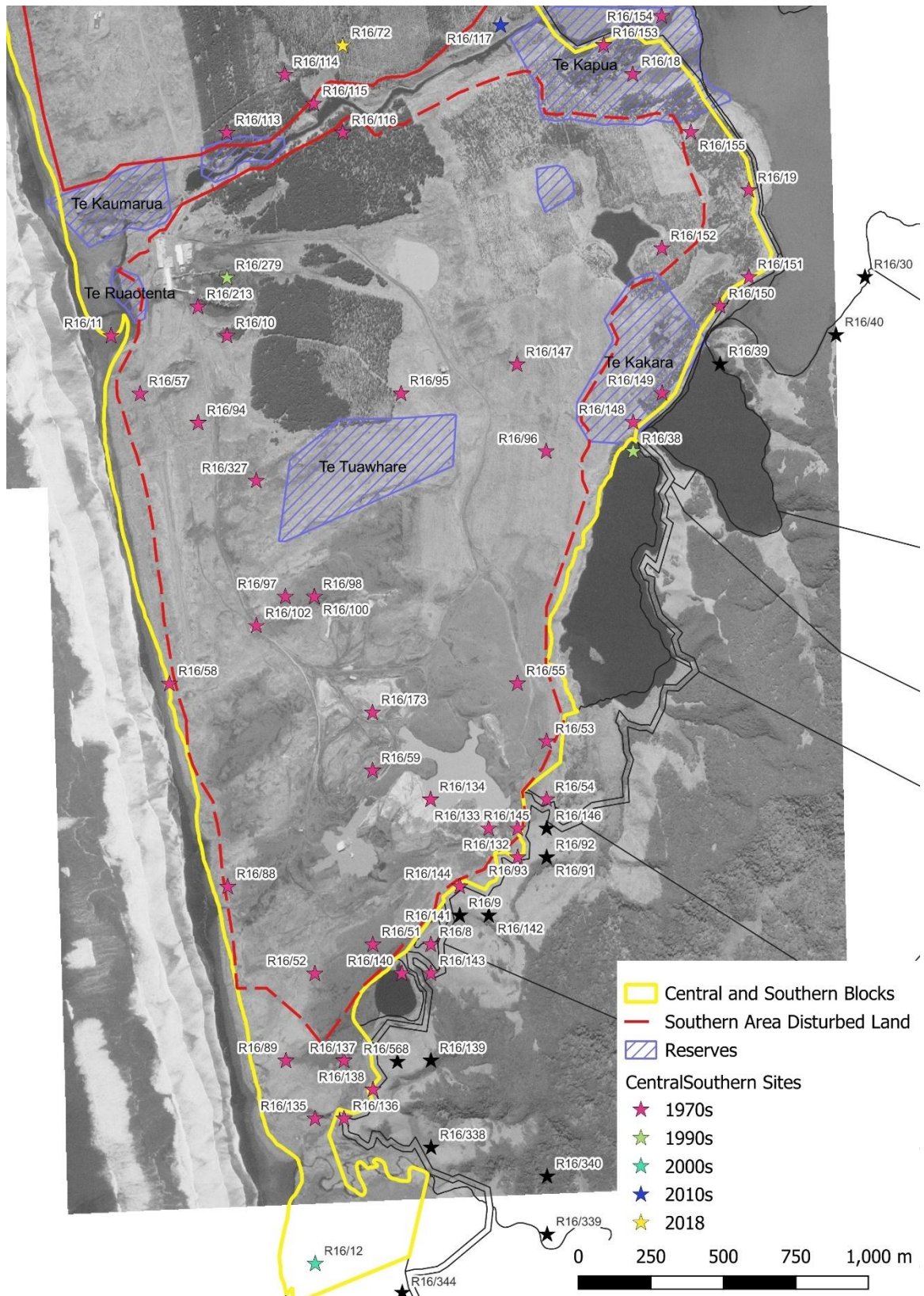


Figure 23. Georeferenced 1997 aerial in relation to the Southern Area (source: Retrolens: SN9615 M-3), with recorded sites marked by decade last visited

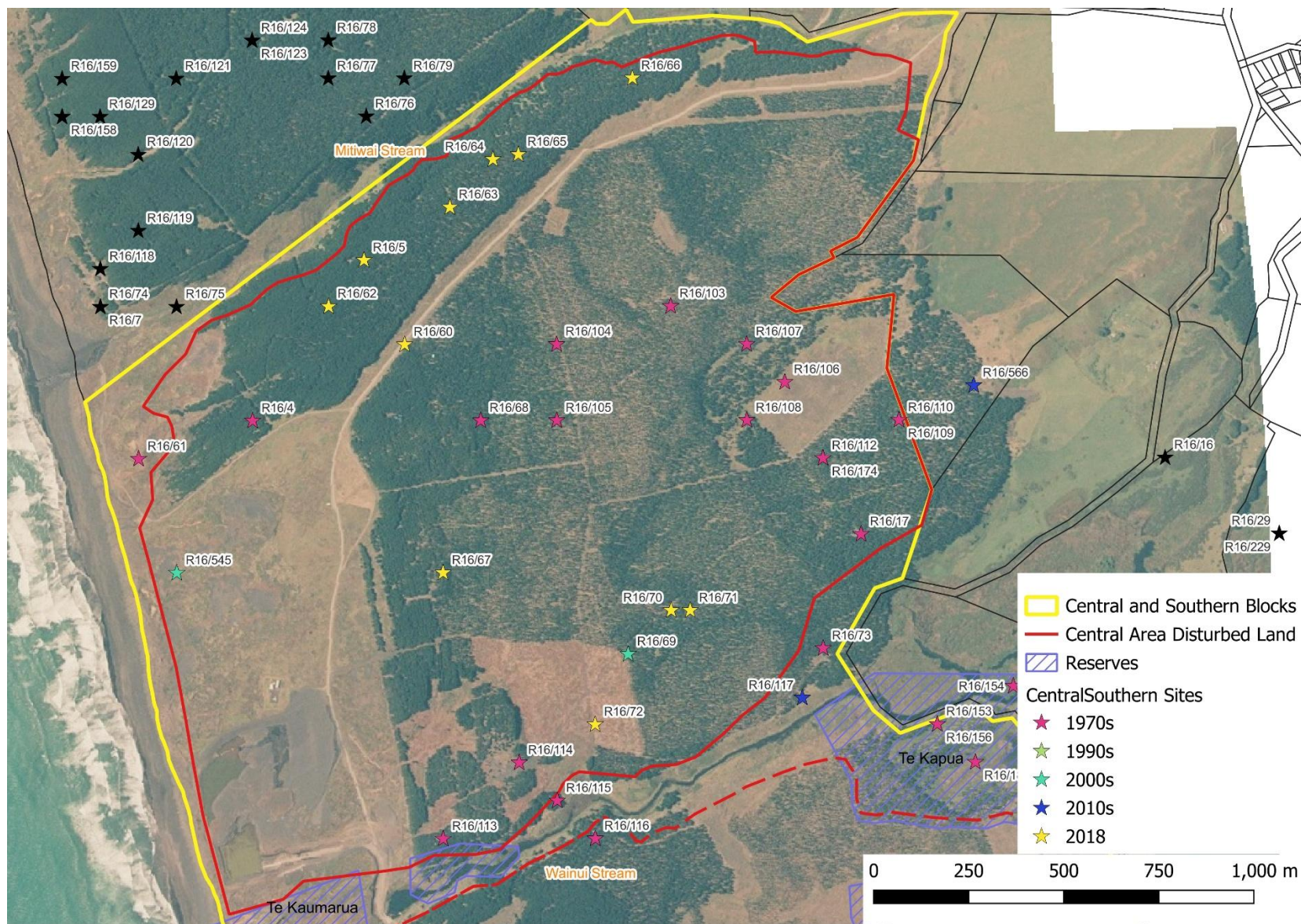


Figure 24. Georeferenced 2001 aerial in relation to the Central Area (source: Retrolens: SN5043 B-1), with recorded sites marked by decade last visited

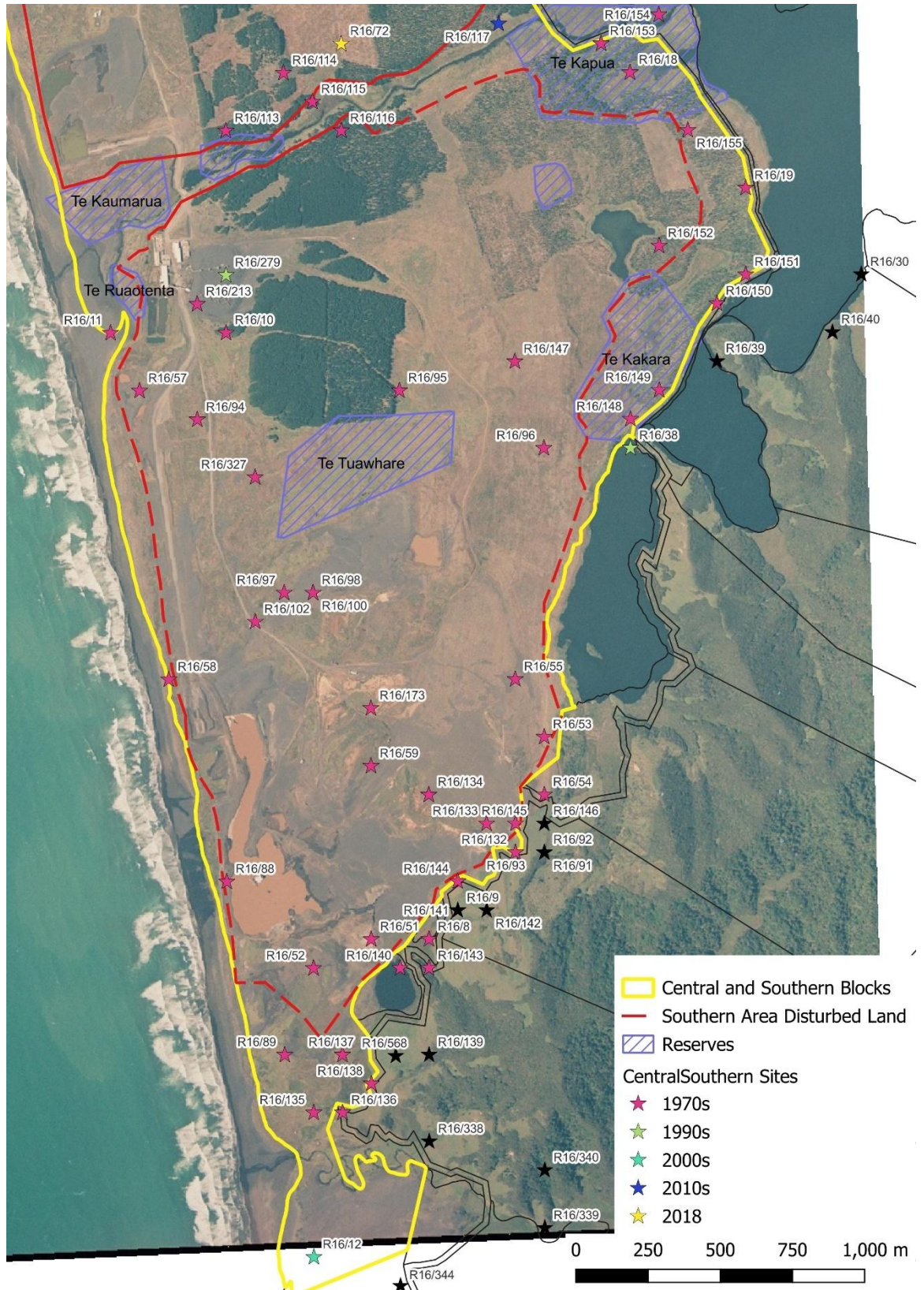


Figure 25. Georeferenced 2001 aerial in relation to the Southern Area (source: Retrolens: SN5043 B-1), with recorded sites marked by decade last visited

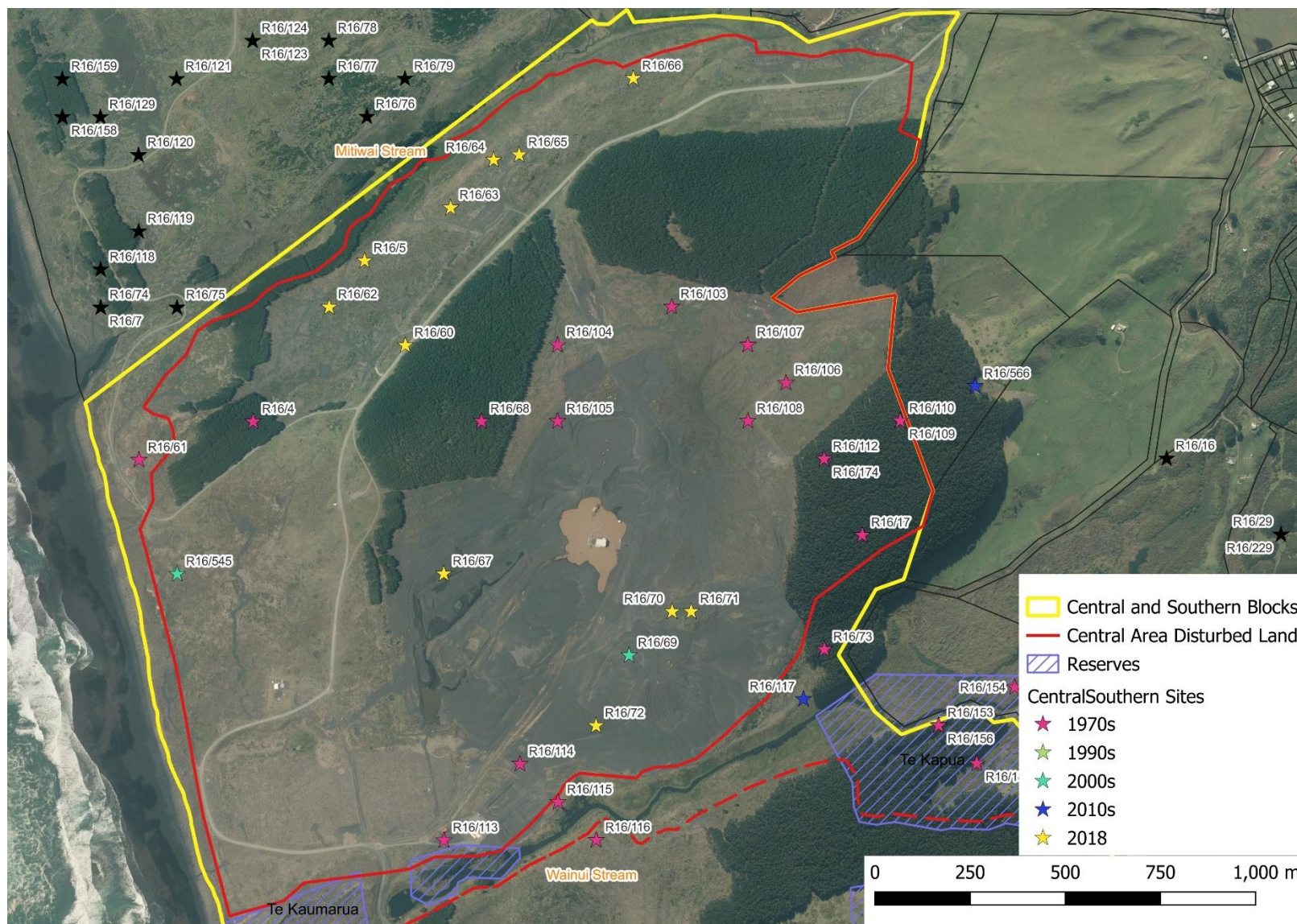


Figure 26. Georeferenced 2013 aerial in relation to the Central Area (source: LINZ: Waikato 0.5m Rural Aerial Photos), with recorded sites marked by decade last visited

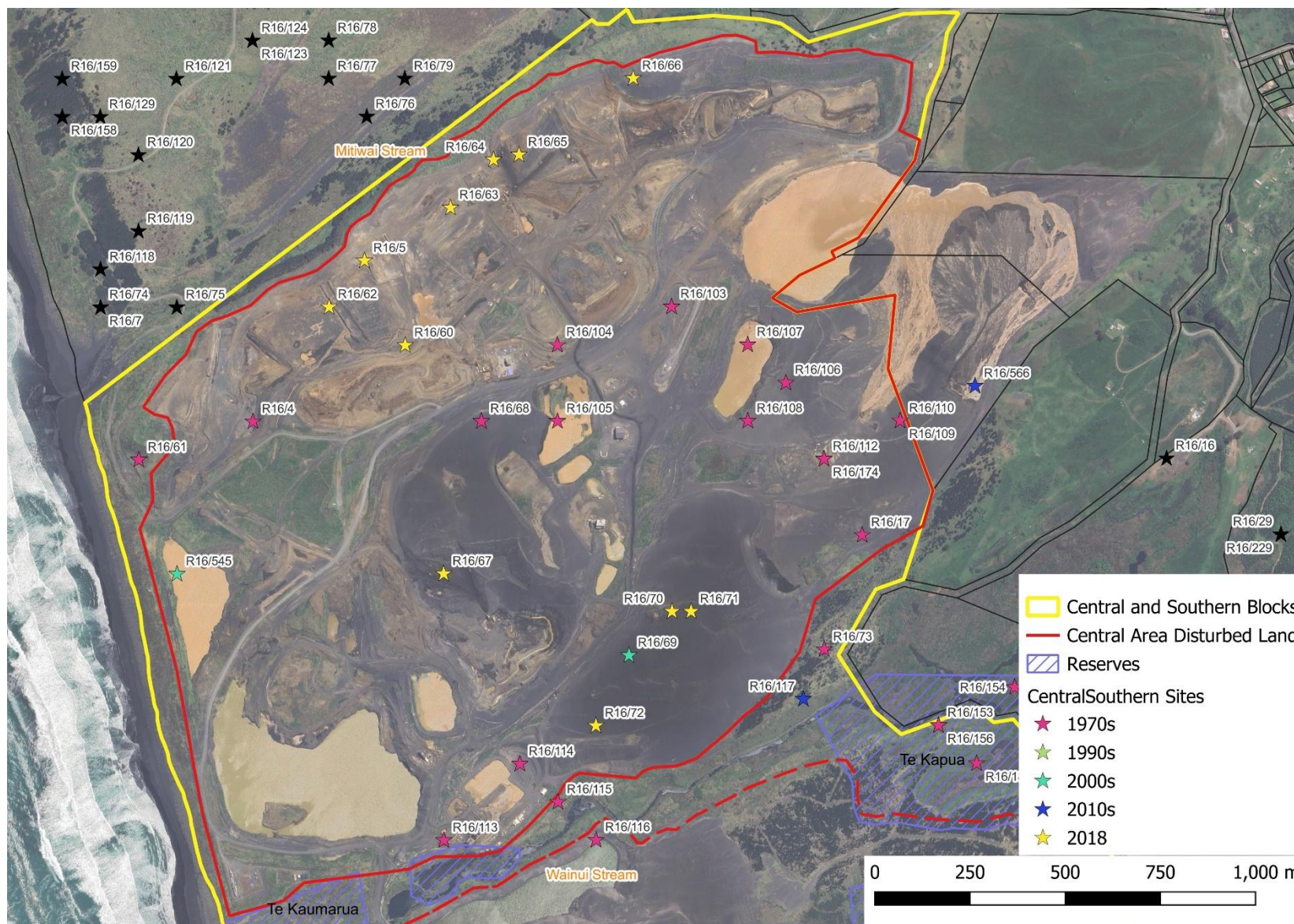


Figure 28. Georeferenced 2023 aerial in relation to the Central Area (source: Google Earth), with recorded sites marked by decade last visited

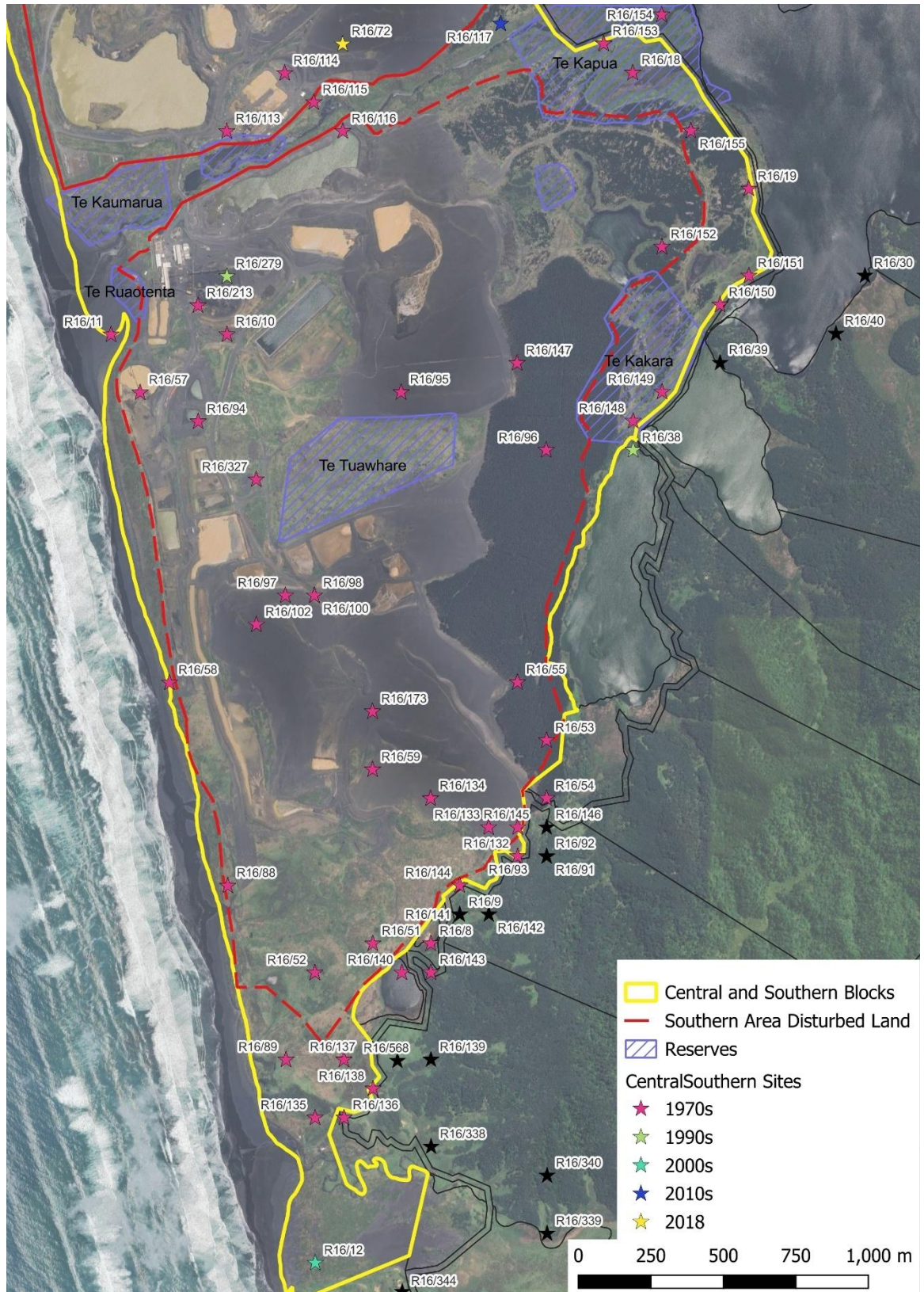


Figure 29. Georeferenced 2023 aerial in relation to the Southern Area (source: Google Earth), with recorded sites marked by decade last visited

ARCHAEOLOGICAL BACKGROUND

Previous Archaeological Work

Early archaeological investigations within the Taharoa area were undertaken by Jim McKinlay around the mouth of the Wainui Stream in 1970-72. McKinlay's work largely focussed on the excavation of a number of pits and associated habitation locations (R16/10 and R16/279). However, as Wilkes (1994) notes, McKinlay's notes were neither fully written up nor published. Wilkes does reference an unpublished and unfinished typescript prepared by McKinlay which he appears to have read, however it is unclear what happened to that document. The site record forms indicate that R16/10 consisted of a number of shallow pits along a ridge, with a large shell midden. Artefacts such as chert, obsidian and an argillite adze were also present. R16/279 was a midden and lithic working floor, with obsidian, chert and greywacke flakes present. Several radiocarbon determinations were produced from this excavation.

Subsequent excavations were undertaken by Harry Allen in 1976, prompted largely by the discovery of human remains and habitation material (Bulmer 1978). This work also appears to have never been published, although site record forms R16/94 and R16/327 reference a 1977 report by Allen on these works, this has not been able to be sourced (Allen, H. May 1977. Archaeological Sites in Taharoa Ironsands Deposit: Report and Recommendations.). Clues from the site records indicate that he examined at least four areas, two of which were part of R16/94, and another at R16/327. The location of the last is unclear. Allen's work identified Taharoa to be of considerable archaeological interest, and the future impact of iron sand mining upon these sites resulted in a more in-depth archaeological survey by Susan Bulmer in 1978.

It was Bulmer's project that saw much of the archaeology of the area recorded during a survey of the Taharoa C Block, carried out by the University of Auckland in 1978 (Bulmer 1978). The drivers of the survey were the recognition of the numbers of sites, their size and apparent antiquity coupled with the knowledge that all of the sites were to be completely destroyed. In all, 129 sites relating to Māori occupation were recorded, ranging from discrete midden sites to the remains of pā and larger settlements. There were indications that some of the sites might relate to the 'archaic' or early period of settlement in New Zealand. The density of sites is a reflection of the resources of the area, in particular the extensive lakes, wetlands, streams and ocean that would have supported a considerable population. Bulmer points out that all of the sites are continually subjected to the unstable environment of the dune system; the lighter organic elements such as charcoal and probably fishbone being blown away, while the heavier constituents of stone and shell gradually form deflated concentrations. It was also suggested that the extent and antiquity of the deposits could provide important archaeological information regarding the settlement of the area (Bulmer 1978).

A later survey by Owen Wilkes (1994) reviewed the Taharoa sites and noted that many had been destroyed during the mining process. His survey identified a continuous pattern of settlement, with most sites being located within 1km of the coast. Wilkes notes a major difficulty in using the old records, with large discrepancies between the old one mile to the inch map grid and then 1:50,000 map grid he was using. The discrepancies were generally in the order of 200m out, but in some cases differences of 800m were noted. Subsequent surveys for the mining activity have continued to document the disappearance of archaeological sites at Taharoa. These include surveys around the Mine site (Clough 2000,

2001, 2003; Baquié et. al. 2008; Baquié and Clough 2011; Bickler et al. 2015) and in the wider area (Clough 2005).

In the Taharoa sandhills (segments 109-116) about 117 sites were discovered by Bulmer and others in about 13 square kilometres of sand-dune country. The average site density here was therefore about 8.5 sites per square kilometre, or about three times the overall average of 2.5 sites per square kilometre in the rest of the study area. Assuming for the moment that this country was no more attractive for Māori settlement than other areas of the coast, then the higher site density here is presumably due to a higher than usual proportion of sites being rendered visible, thanks to wind erosion. Supporting this conclusion is the fact that normally visible site types, in particular fortified sites and storage sites, were not found in greater numbers in and near the sandhills than on the rest of the coastline. It is only the usually less visible site types – undefended habitations, middens, etc – which were recorded at much higher densities in the Taharoa area. However, it is of course possible that the original site density here was higher than is usual along the King Country coastline, being made more attractive by the several lakes and wetlands along the inland edge of the sand dunes.

Even after clearance of the pine trees in 2001 and 2003 none of the recorded sites in the Taharoa C Block could be identified, although a few shells were noted exposed in the dunes. Baquié et al. (2008) did find remnants of one site (R16/69), which had once been a large site but consisted then only of deflated debris. A resurvey carried out in 2013 for mine expansion (Bickler et al. 2015) indicated that very few of the recorded sites remained intact due to dune deflation, forestry activity and mining, and only three previously identified sites were relocated (R16/63, R16/64 and R16/117). A new site, consisting of possible pit features (R16/566) was also recorded just outside the mine site area to the east.

The original site descriptions suggested that more permanent settlement had been around the lakes, while sites closer to the coast and within the mining lease area were predominantly midden and probably more short-term in nature (Bickler et al. 2015). Previous assessments argued that sensitive areas could be defined as those close to the Mitiwai and Wainui Streams, which would have been the obvious routes from the coast to the lakeside settlements farther inland.

A recent archaeological investigation was carried out prior to mining occurring in the north of the Central Block in the area known as the Te Ake Ake area adjacent to (but setback a minimum of 30m from) the Mitiwai Stream (Larsen and Clough 2022), which exhibited evidence of a heavily disturbed landscape. Seven archaeological sites were originally recorded in the mining area; however, only two were rediscovered during the investigation prior to TIL mining of that area (R16/5 and R16/64). Much of the previously recorded archaeology on the high dune had been lost to erosion. The two sites investigated indicate that the high dune and the wider dune plain was where resources, in particular shellfish, were processed. They reflected temporary stops towards more permanent occupation sites in the hills and to the south around the lakes. Radiocarbon estimates indicate that the two sites are likely to date to the 17th century, slightly later than the other dated site on the Taharoa dune plain.

Recorded Sites

A total of 88 archaeological sites have been previously recorded within the Central and Southern Areas of the Taharoa Ironsands project area (Table 1). The bulk of these recorded sites are represented by marine shell midden and oven sites. These sites are typically

clustered around areas that, prior to mine operations, would have been easily accessible dune systems, waterways, or lakes.

Earthworked archaeological features (i.e. pā, pits, terraces, ditches and platforms) are generally clustered in areas where landforms are higher, or outside of the sand dune environment. The southern extent of the Site, which displays the least modification, contains the highest distribution of these sites, particularly around the boundary. This is likely attributable to this area containing a number of relatively steep ridgelines, locations where these archaeological features are typically found, that are not favourable for other activities, including mining.

Of the 88 sites, a total of 70 (79.5%) of the site records have not been updated since the 1970s, with two sites updated in the 1990s, three in the 2000s, and the remaining 13 updated since 2010.

The historic records for these 88 sites indicate that they consisted primarily of midden/oven deposits (N=69, 78.4%), with the next most common sites being pit/terrace sites (N=11). There were also three working areas, two pā sites, one horticultural site, one burial site, and finally one unknown site (the record states that the original form was lost prior to being entered into to the record in the 1970s).

The sites were in very poor condition even when originally recorded in the 1970s, when most of the dune environment was active and devoid of vegetation cover. Most of the site record forms note the deflated nature of the deposits, and Bulmer observed rapid deterioration of the sites once exposed on the surface of the dunes, with wind whipped sand abrading materials such as bone and lifting all but the heaviest of objects. With such a low baseline condition, a number of other later activities have also impacted upon preservation. The main activities are the development and subsequent harvest of plantation forestry and mining. Forestry activities are generally focussed above ground, however the surface vegetation cover is very thin and once that is damaged the movement of heavy machinery, logs, slash, or stumps can all have a significant impact. The mining works impact on the surface is on the scale of meters to tens of meters deep and effectively removes evidence of previous occupation. Notes on the condition of the sites based on an assessment of these impacts are also added to Table 1.

The description of these sites is presented below in the Field Assessment section. The original description of the sites is presented, organised by Area, with the site record forms (SRFs) provided in Appendix A.

Table 1. Recorded archaeological sites and their present condition within the survey area based on the field survey results (next section). Sites highlighted in blue are situated within demarcated reserves, while those highlighted green are either clearly or most likely situated outside of the project area, the site highlighted in orange is a missing record. Unhighlighted sites are remaining sites within the project area, without otherwise modifying conditions. See aerial overlays in Figure 12–Figure 29 for the recorded locations of the sites

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/4	Midden/Oven	1749306	5775094	1978	Destroyed. Likely destroyed by forestry works post 2013.
R16/5	Midden/Oven	1749599	5775516	2018	Destroyed. Excavated under Authority 2017/334 in 2018. Heavily damaged by forestry works undertaken between 2001 and 2013.
R16/8	Pit/Terrace	1750511	5771195	1970	Unknown. Outside of project extent. No mining or forestry noted.
R16/10	Pit/Terrace	1749808	5773294	1970	Destroyed. Excavated by McKinlay in the early 1970s. Mined prior to 1978. In forestry until sometime between 2013-2018.
R16/11	Working area	1749408	5773294	1970	Unknown/Within Reserve. No mining or forestry noted.
R16/12	Midden/Oven	1750112	5770095	2000	Unknown/Intact. No mining or forestry noted.
R16/17	Midden/Oven	1750906	5774796	1970	Destroyed. Forestry harvest between 2013-18, site not able to be relocated during Authority works in 2018, area was subsequently mined.
R16/18	Pā	1751207	5774196	1970	Intact/Within Reserve. No mining, forestry harvest in 2018.
R16/19	Midden/Oven	1751608	5773796	1978	Destroyed. Forestry planting and subsequent harvest in 2018, forestry regrowing.
R16/38	Pā	1751209	5772896	1978	Intact. Outside of project extent. No forestry noted.
R16/51	Midden/Oven	1750311	5771195	1978	Destroyed. Mining activities in 2001.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/52	Midden/Oven	1750111	5771095	1978	Unknown. Mining activities in the vicinity but recorded location appears unaffected.
R16/53	Midden/Oven	1750910	5771896	1978	Destroyed. Mining activities in 1997 – 2001.
R16/54	Pit/Terrace	1750910	5771696	1978	Destroyed. Possible mining activities in 1997 – 2001.
R16/55	Midden/Oven	1750810	5772095	1978	Destroyed. Mining activities in 1997 – 2001. Forestry since then.
R16/56	Midden/Oven	1750510	5771695	1978	Destroyed. Mining activities in 1997-2001.
R16/57	Midden/Oven	1749509	5773094	1978	Destroyed. Mining activities in 2001.
R16/58	Midden/Oven	1749610	5772094	1978	Partially Intact. Possibly modified by mining in 1997-2001.
R16/59	Midden/Oven	1750310	5771795	1978	Destroyed. Mining activities in 1997-2001.
R16/60	Midden/Oven	1749706	5775294	2018	Destroyed. Forestry harvesting prior to 2013, mining activities by 2018. Recorded as destroyed in 2018 following monitoring under Authority 2017/334.
R16/61	Midden/Oven	1749006	5774993	1978	Unknown. No forestry or mining activities.
R16/62	Midden/Oven	1749506	5775394	2018	Destroyed. Forestry harvesting prior to 2013. Recorded destroyed in 2018 following monitoring under Authority 2017/334.
R16/63	Midden/Oven	1749825	5775655	2018	Destroyed. Forestry harvesting prior to 2013. Recorded as destroyed in 2018 following monitoring under Authority 2017/334.
R16/64	Midden/Oven	1749938	5775781	2018	Destroyed. Forestry harvesting prior to 2013. Recorded as destroyed in 2018 following monitoring under Authority 2017/334.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/65	Midden/Oven	1750005	5775794	2018	Destroyed. Forestry harvesting prior to 2013. Recorded as destroyed in 2018 following monitoring under Authority 2017/334.
R16/66	Midden/Oven	1750305	5775995	2018	Destroyed. Forestry harvesting prior to 2013. Recorded as destroyed in 2018 following monitoring under Authority 2017/334.
R16/67	Midden/Oven	1749807	5774694	2013	Destroyed. Forestry harvesting and mining prior to 2013. Recorded as destroyed in 2013.
R16/68	Midden/Oven	1749906	5775094	1978	Destroyed. Forestry harvest between 2013 and 2018, with mining activity continuing after.
R16/69	Midden/Oven	1750294	5774480	2007	Destroyed. Mining activity prior to 2013.
R16/70	Midden/Oven	1750407	5774595	2013	Destroyed. Mining activity prior to 2013.
R16/71	Midden/Oven	1750457	5774595	2013	Destroyed. Mining activity prior to 2013.
R16/72	Midden/Oven	1750207	5774295	2013	Destroyed. Mining activity prior to 2013.
R16/73	Midden/Oven	1750807	5774495	1978	Destroyed. Forestry harvest between 2013 and 2018, with substantial heavy machinery tracks. No mining.
R16/88	Midden/Oven	1749811	5771394	1978	Partially Intact. Adjacent mining activities 1997 – 2001. Coastal erosion.
R16/89	Midden/Oven	1750012	5770794	1978	Unknown. No mining or forestry activities.
R16/93	Pit/Terrace	1750811	5771495	1978	Intact. No mining. Regenerating scrub.
R16/94	Midden/Oven	1749709	5772994	1978	Destroyed. Archaeological investigation in 1976 suggests it was destroyed. Mining in the 1980s. In forestry by 2013. Mining activities since 2018.
R16/95	Midden/Oven	1750409	5773095	1978	Destroyed. Mined prior to 1983.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/96	Midden/Oven	1750909	5772896	1978	Destroyed. Mined prior to 1997.
R16/97	Midden/Oven	1750010	5772394	1978	Destroyed. Mining activities 1997 – 2001.
R16/98	Midden/Oven	1750110	5772395	1978	Destroyed. Mining activities 1997 – 2001.
R16/99	Midden/Oven	1750110	5772395	1978	Destroyed. Mining activities 1997 – 2001.
R16/100	Midden/Oven	1750110	5772395	1978	Destroyed. Mining activities 1997 – 2001.
R16/101	Midden/Oven	1750110	5772395	1978	Destroyed. Mining activities 1997 – 2001.
R16/102	Midden/Oven	1749910	5772294	1978	Destroyed. Mining activities 1997 – 2001.
R16/103	Midden/Oven	1750406	5775395	1978	Destroyed. Probably by forestry harvest prior to 2013, mining activities thereafter.
R16/104	Midden/Oven	1750106	5775295	1978	Destroyed. Probably by forestry harvest prior to 2013, mining activities thereafter.
R16/105	Midden/Oven	1750106	5775095	1978	Destroyed. Mining activities prior to 2013.
R16/106	Midden/Oven	1750706	5775195	1978	Destroyed. Probably by forestry harvest prior to 2013, mining activities thereafter.
R16/107	Midden/Oven	1750606	5775295	1978	Destroyed. Probably by forestry harvest prior to 2013, mining activities thereafter.
R16/108	Midden/Oven	1750606	5775095	1978	Destroyed. Probably by forestry harvest prior to 2013, mining activities thereafter.
R16/109	Pit/Terrace	1751006	5775096	1978	Destroyed. Forestry harvest and mining between 2013 and 2018.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/110	Midden/Oven	1751006	5775096	1978	Destroyed. Forestry harvest and mining between 2013 and 2018.
R16/111	Midden/Oven	1750806	5774995	1978	Destroyed. Forestry harvest and mining between 2013 and 2018.
R16/112	Midden/Oven	1750806	5774995	1978	Destroyed. Forestry harvest and mining between 2013 and 2018.
R16/113	Midden/Oven	1749807	5773994	1978	Unknown/Within Reserve. In forestry until 2024-25.
R16/114	Midden/Oven	1750007	5774194	1978	Destroyed. Mining activities prior to 2013.
R16/115	Midden/Oven	1750107	5774095	1978	Unknown/Stream Edge. Forestry harvest prior to 2013.
R16/116	Midden/Oven	1750207	5773995	1978	Unknown/Stream Edge. Forestry harvest prior to 2013.
R16/117	Midden/Oven	1750752	5774365	2013	Scatter of shell partially Intact. Adjacent to Wainui Stream but subject to forestry harvest prior to 2013.
R16/132	Midden/Oven	1750811	5771495	1978	Destroyed. Mining activity by 1997.
R16/133	Midden/Oven	1750711	5771595	1978	Destroyed. Mining activity by 1997.
R16/134	Midden/Oven	1750510	5771695	1978	Destroyed. Mining activity by 1997.
R16/135	Pit/Terrace	1750112	5770595	1978	Intact. Outside of project extent. No mining or forestry.
R16/136	Pit/Terrace	1750212	5770595	1978	Likely Intact. Outside of project extent. No mining or forestry.
R16/137	Midden/Oven	1750212	5770795	1978	Likely Intact. Outside of project extent. No mining or forestry.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/138	Māori horticulture	1750312	5770695	1978	Intact. Outside of project extent. No mining or forestry.
R16/140	Pit/Terrace	1750411	5771095	1978	Likely Intact. Outside of project extent. No mining or forestry, under gorse.
R16/143	Pit/Terrace	1750511	5771095	1978	Likely Intact. Outside of project extent. No mining or forestry, under gorse.
R16/144	Midden/Oven	1750611	5771395	1978	Destroyed. Likely by mining activity prior to 1997.
R16/145	Pit/Terrace	1750811	5771595	1978	Destroyed. Mining activity 1997 – 2001.
R16/147	Midden/Oven	1750809	5773195	1978	Destroyed. Mined in the 1970s.
R16/148	Midden/Oven	1751209	5772996	1978	Intact/Within Reserve. Forestry harvest between 2013 and 2018.
R16/149	Midden/Oven	1751309	5773096	1978	Intact/Within Reserve. Forestry harvest between 2013 and 2018.
R16/150	Midden/Oven	1751508	5773396	1978	Intact. On site boundary but subject to forestry harvest between 2013 and 2018.
R16/151	Midden/Oven	1751608	5773496	1978	Intact. On site boundary but subject to forestry harvest between 2013 and 2018.
R16/152	Midden/Oven	1751308	5773596	1978	Destroyed. Mining activity in 1980s.
R16/153	Midden/Oven	1751107	5774296	1978	Unknown. Forestry harvest between 2013 and 2018. Possibly mining on periphery in the 1970s.
R16/154	Midden/Oven	1751307	5774396	1978	Unknown. Modified by a bulldozer in the 1970s. Forestry harvest between 2013 and 2018. No mining.

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Date last visited	Condition Notes
R16/155	Midden/Oven	1751407	5773996	1978	Unknown. Forestry harvest between 2013 and 2018.
R16/156	Midden/Oven	1751107	5774296	1978	Destroyed. Recorded as bulldozed in 1978. Forestry harvest between 2013 and 2018. No mining.
R16/173	Unknown	1750310	5771995	1978	Missing Record/Destroyed. Mining activity 1997 – 2001.
R16/174	Midden/Oven	1750806	5774995	1978	Destroyed. Forestry harvest and mining between 2013 and 2018.
R16/213	Working area	1749708	5773394	1970	Destroyed. Mining activities 1976 – 1983.
R16/279	Working area	1749808	5773494	1993	Destroyed. Excavated by McKinlay in the early 1970s. Mining activities by 1974.
R16/327	Burial/cemetery	1749909	5772794	1976	Unknown/Within Reserve. Bones removed for burial in 1976. Vegetation removal by 2001, forestry planted following this, and harvested between 2013 and 2018. Some mining activities outside of the reserve.
R16/545	Midden/Oven	1749107	5774693	2000	Destroyed. Mining activity prior to 2018.
R16/566	Pit/Terrace	1751203	5775187	2013	Destroyed. Outside of project area.

FIELD ASSESSMENT

Physical Environment

The Taharoa Ironsands Mine is situated south of Kawhia Harbour in a coastal dune environment. The western edge of the mine area meets the coast and beach, and heading inland it is buffered to the east, north and south by lakes, wetlands and streams. The geology of the area is dominated by the large ironsand dunes resulting from the coastal erosion of volcanic deposits, which are now the focus of mine activities. The sparsely vegetated ironsand dunes are visible along the coastal plain, being bisected by the Mitiwai and Wainui Streams, with the Waiophipa Stream at the southern end.

The project area has had at least one rotation of pine planting, possibly two in areas. The landscape has generally been heavily disturbed by planting, harvesting, dry mining and dredging, along with the construction of various haul roads.

Field Survey Results

A field survey was carried out over 1-3 April 2025 by a team of four. Survey conditions were generally clear and visibility was good. The survey team visited the recorded locations of archaeological sites within the Taharoa Ironsands Mine footprint (Figure 28–Figure 30). Subsurface probing was undertaken in areas where the likelihood of surviving *in situ* archaeological remains was unable to be definitively established. Areas currently subject to covenants were not assessed.

For the purposes of this assessment the survey area has been into three geographically distinct zones, labelled Northern, Central and Southern. These areas are detailed below and within Figure 31:

The Central Block:

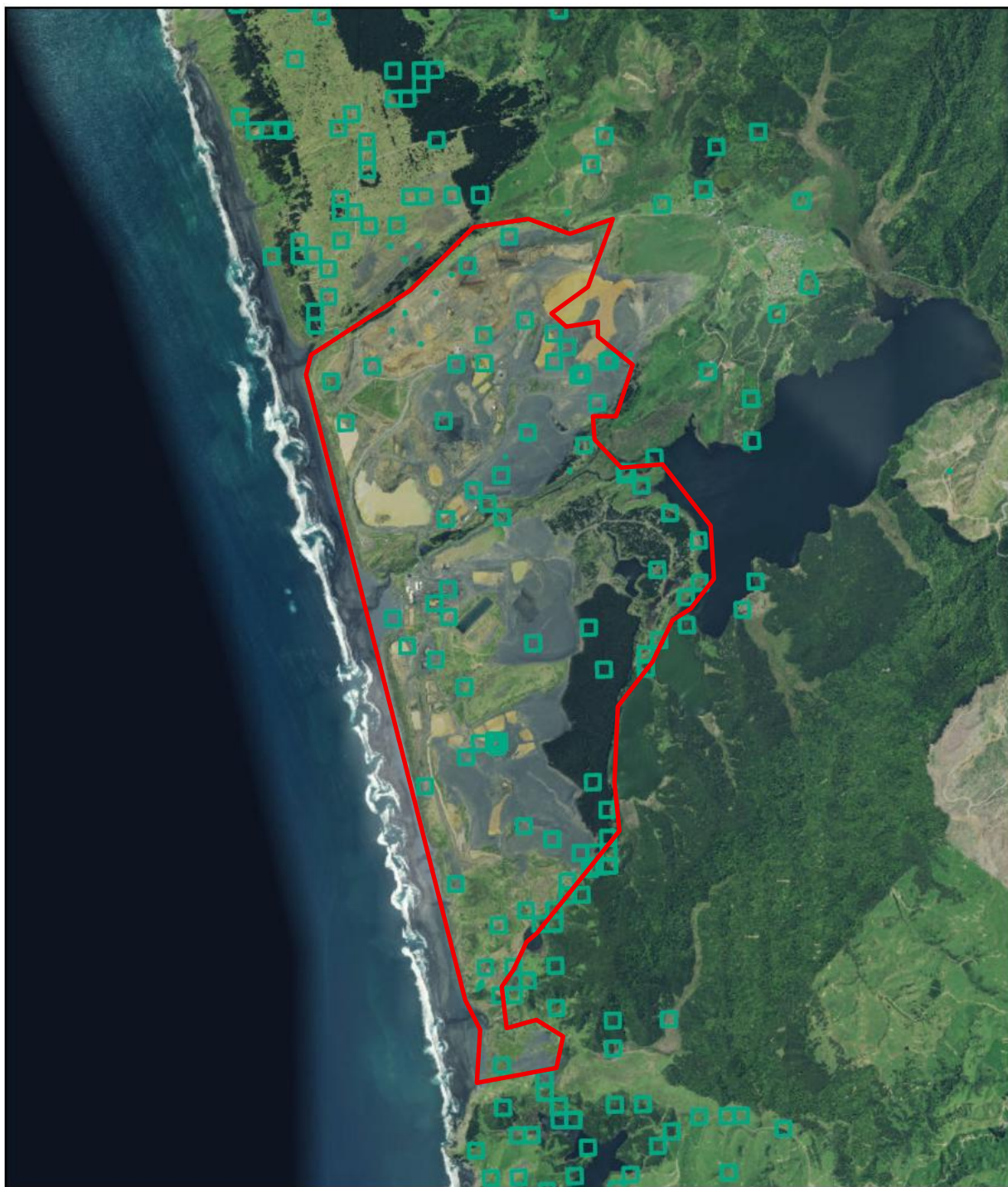
Encompassing the area from southern edge of Mitiwai Stream to the northern edge of Wainui Stream.

The Southern Block (Northern Zone):

Encompassing the area from the southern edge of Wainui Stream to the extent of the current mining activity in the south of the mine footprint.

The Southern Block (Southern Zone):

Encompassing the area from the extent of current mining activity across the largely unmodified farmland, ridgelines, and dune system to the extreme south.

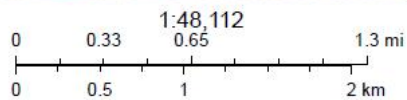


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Sites

Approved

New Zealand Imagery



Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

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Figure 30. Distribution of recorded archaeological sites in relation to the survey area (indicated by the red outline)

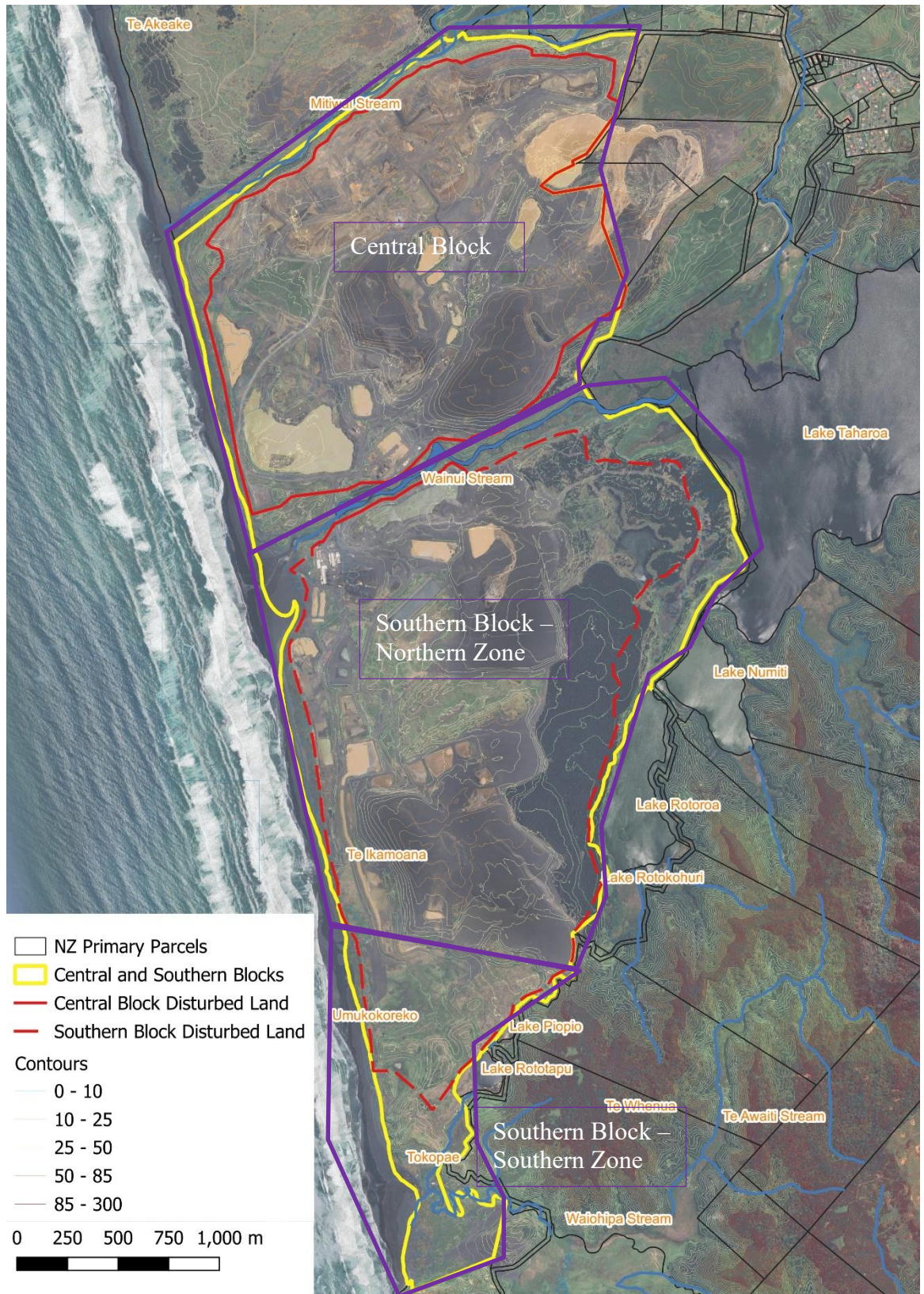


Figure 31. Detail of survey areas

The Central Block

There are a total of 35 recorded archaeological sites in the Central Block. This area is the locus of much of the current mining activity and previous modifications, as well as modification in progress. Areas immediately adjacent to Mitiwai Stream show considerable modification, as do areas within the southeast of this area. A number of large tailings ponds occupy prominent positions within this area. Additionally, a large contoured mine tailing pile occupies a position in the southeast of this area. Some areas of the large tailing pile have been covered in coconut matting and recent planting as part of rehabilitation efforts. The northern edge of Wainui Stream has also been subject to rehabilitation efforts with recent – although relatively established – native planting readily observable.

R16/4

Identified in 1970 by McKinlay as a midden deposit some 200-300 yards (c.183-274m) from the coast, the record was updated in 1978 to be about 600m from the beach. The midden was described as extensively eroded with scree midden down the sides; however, there was a remnant midden on top of the hillock including a considerable block measuring 4-5m², containing a high proportion of shell and a large number of hāngi stones and obsidian flakes. The hillock was described as being covered in lupin within an ironsand area. The site had not been revisited since. This midden has now been destroyed as the result of forestry and mining activity (Figure 34).

R16/5

Identified in 1970, this site was located on top of a large dune to the south of the Mitiwai Stream, close to the edge of the stream valley. The midden comprised a large heap with eroded scatter on the sand. A large amount of obsidian, hāngi stones and fish bone were observed. A number of artifacts including a 1A adze, two greenstone chisels, an adze fragment and a sandstone grinder fragment were collected and held by the NZ Historic Places Trust (now Heritage NZ Pouhere Taonga). In 2018 during the expansion of the mine the site was relocated (further to the north) on the southern face of a small dune crest, the deposit had been disturbed by a 4x4 track associated with the forestry works. The shell, primarily cockle with some tuatua and occasional mud snail, was c.100mm deep over an area 8m x 3m. The deposit was subsequently archaeologically investigated. Radiocarbon dates suggest the site was occupied between 1530 and 1790 AD (Larsen and Clough 2022). The site has now been destroyed (Figure 35, Figure 36).

R16/17

Identified in 1970 by Swadling, the site is described as an extensive area of scattered hāngi stones, located about ¼ mile north of the Wainui stream. A type 2B adze was recovered during that survey. The site had not been revisited since initial recording. A forestry harvest took place between 2013-18, with the site unable to be relocated during Authority works. The recorded location of this site is now beneath a considerable amount of mine tailings and is assumed to be destroyed as a result (Figure 37).

R16/60

Originally recorded in 1978, this site was described as an extensive area of scattered hāngi stones, c.130m along a gully and c.160m across the gully. There were areas of fragmented midden with frequent chert and obsidian on the slope, with a major midden at the top of the slope on the western side. The site was identified as subject to considerable erosion. The SRF was updated in 2023 following a site visit in 2018 (Clough and Larsen 2022),

noting the site could not be relocated, and had likely been destroyed by a combination of bike and 4x4 vehicle tracks, forestry works and ongoing deflation. The area has been subject to mining and this site is now assumed to have been destroyed (Figure 35, Figure 36, Figure 38).

R16/61

Recorded in 1978, this site was located on the end of a headland immediately to the south of the Mitiwai Stream. The headland was sand dune subject to ongoing erosion. A large number of fire cracked rocks, obsidian and some chert fragments were found on an exposed soil layer. Some shell scatter was observed on the southern slope. On the northern side of the bluff facing the stream, approximately half-way down the slope a large number of hāngi stones were observed on an exposed soil layer. The site had not been revisited (Figure 39). No deposits were identified during the current field survey.

R16/62

Recorded during the 1978 survey, this site was located on the crest of a dune south of the Mitiwai Stream about 900m from the mouth of the stream and 300m northwest of site R16/60. The midden on top of the slope contained cockle, mudsnails, and rocky shore species, along with hāngi stones and fish bone. On the slope on the southern side a large number of obsidian flakes and chert were identified. The SRF was updated in 2023 following a site visit in 2018, noting the site was not relocated, and had likely been destroyed by a combination of bike and 4x4 vehicle tracks, forestry works and ongoing deflation. The most recent site visit has confirmed the findings of the previous survey and this site has now been destroyed (Figure 35, Figure 36, Figure 38).

R16/63

Identified during the 1978 survey, this site was described as a totally deflated scatter of hāngi stones and very broken midden, with some obsidian and chert observed. The site was located 200m east of R16/62, along a dune ridge south of the Mitiwai Stream. In 2013 the site was revisited with the site described as being visible across an area of around 10m x 10m but mostly concentrated in a small mound; a small area to the north was also identified but much of the upper surface of that area had been modified and the degree of intact material was unknown. In 2018 the site was considered destroyed by 4x4 vehicle tracks, forestry works and ongoing erosion with only scattered shell observed over an area measuring 10m x 8m. The deposit has now been destroyed, with the area substantially modified by mining (Figure 35, Figure 36, Figure 38).

R16/64

Recorded in 1978, the site was located approximately 150m east of R16/63 along a sand dune ridge south of the Mitiwai Stream. The site was described as a midden lens running through a sand mound and eroding around the perimeter with some chert and obsidian, and a single argillite adze flake noted. The site was revisited in 2013 where shell was visible in the western slopes with fragments visible around the dune; however, probing did not suggest much intact material remained. The site was subsequently investigated prior to the expansion of the sand mine (Larsen and Clough 2022). The investigation recorded that an intact deposit of R16/64 was found on a remnant dune hill 6m high. The midden was near the top and measured 6 x 4m and was up to 170mm thick. Samples indicated the deposit was composed of tuatua and cockle with rare small gastropods. Occasional oven stones were observed in the immediate area. Radiocarbon dating of tuatua indicated the site dated between 1540 and 1820 cal AD at 95% probability (Larsen and Clough 2022). The deposit

was excavated in 2018, under Authority 2017/334 and mine expansion and associated activity has destroyed this site (Figure 35, Figure 36, Figure 38).

R16/65

Initially recorded in 1978, the site was located on top of a sand dune on the south side of the Mitiwai Stream, about 75m east of R16/64. The site was described as a scatter of oven stones with some obsidian. The site was not relocated during the 2018 survey prior to the expansion of the Taharoa Ironsand Mine. It was potentially destroyed by a combination of bike or 4x4 tracks and deflation under Authority 2017/334. The current survey has confirmed destruction of this site, with the area completely modified by mining (Figure 35, Figure 36, Figure 38).

R16/66

Recorded in 1978 on a dune ridge south of Mitiwai Stream approximately 100m east of R16/65. The site was totally deflated and existed as a surface scatter of hāngi stones with a large number of obsidian flakes. The scatter spread c.25m across the ridge top and stretched over c.250m as areas of hāngi stones with sand drifts in between. Basalt flakes, an adze fragment, hoanga and sandstone pieces were identified. The site was not relocated during the 2018 survey prior to the expansion of the Taharoa Ironsand Mine. It was recorded as destroyed in 2018 following monitoring under Authority 2017/334. It was potentially destroyed by a combination of bike or 4x4 tracks and deflation. Later surveys were not able to relocate this deposit and the current survey has confirmed that this deposit, with the area completely modified by mining (Figure 35, Figure 36, Figure 38).

R16/67

Identified in 1978 downslope and east of the visitors parking lot across the road from a monument, about 250m east of the road and 900m from the beach. The site was described as a scatter of hāngi stones and midden, measuring 30m x 37m but the extent remained uncertain due to active dune system. The shell (pipi) was in two main patches with some scatter. No obsidian or chert was noted. A 2013 survey of the area showed the site had already been destroyed by mining operations and subsequent stockpiling of tailings.

R16/68

Recorded in 1978, the location was noted as about 100m south of the road to the mine and 1.1km from the beach. The site was described as a very large hāngi, working floor and midden, extending over 200m E-W and 80-100m N-S. The midden was concentrated to the east end, and the scatter contained abundant obsidian. A working floor and hāngi area was on the west end. There were three main shell clusters with cockle being the predominant species observed. Samples recovered included rat bones, argillite, obsidian and chert flakes. The site had not been revisited. Based on the review of aerial photographs it is concluded that this site was destroyed as the result of the forestry harvest and mining activities which took place between 2013 and 2018 (Figure 40).

R16/69

Initially recorded in 1978 as being in the hollow of dunes located about halfway between the road and Lake Taharoa and about 500m north of Wainui Stream. The SRF reported that cultural deposits were observed over the whole surface for 100m x 50m including intact fireplaces, abundant obsidian, and several midden deposits with fishbone. An argillite adze fragment, obsidian and a net weight were collected. Human remains were observed but reburied during a sandstorm. The site was not relocated in 2003, however a 2007 survey following the removal of a pine plantation relocated a small surface deposit of shell and

cracked hāngi stones over an area measuring 6m x 4m. The shell was primarily cockle with some pipi present. This site is now below a considerable deposit of mine tailings and is assumed to have been destroyed by mining activities prior to 2013 (Figure 41).

R16/70

Recorded in 1978 on the north side of a dune hollow from R16/69, about halfway between the road and Lake Taharoa, and 500m north of Wainui Stream. The site was described as a small area of large hāngi stones. No midden was observed in the area. The 2013 survey noted the site was in an area which had been mined for sand some time previously and as a result R16/70 was considered destroyed (Figure 41).

R16/71

Recorded in 1978 as a mound in the middle of the sand dunes, about halfway between the road and Lake Taharoa, and 500m north of Wainui Stream, lying c.50m east of R16/70. The mound of shell was described as predominantly cockle with abundant hāngi stones. The 2013 survey indicated the site has been destroyed. The area is now beneath a considerable deposit of mine tailings and assumed to be destroyed as a result of this and mining excavations (Figure 41).

R16/72

The site was recorded in 1978 as a series of midden patches, hāngi stones, and obsidian flakes over an area of 100 x 50m. A 2013 survey identified the archaeological deposits in this area as having been destroyed by mining activity (Figure 41).

R16/73

Identified during the 1978 survey, the site was located south of R16/68-R16/71, about 250m north of Wainui Stream and about halfway between the road and Lake Taharoa. The site stretched 100m x 50m and contained clumps of scattered midden on old soil. Each patch had hāngi stones with some obsidian. The largest intact midden was almost entirely cockle shell, but other midden patches also included hard shore species. During the 2013 survey the site was found to have been destroyed by sand mining, although the site record form was not updated with this information. The location of this site was visited during the 2025 survey, and the area appears heavily hummocked with evidence of pine planting and harvesting. The site was unable to be relocated and consistent with the 2013 survey conclusion, this site is therefore assumed to have been destroyed by the earlier mining activity (Figure 42).

R16/103

Identified during the 1978 survey, the site was located c.50m south of the road to the “mill” from Taharoa village, east of R16/104, about 1.6km to the east of the beach and 700m south of the Mitiwai Stream. The site was described as dense shell midden c.10m N-S x c.6.5m E-W, consisting mainly of cockle and pipi, with some oven stone fragments. The site was noted to be disturbed and deflated. The site had not been revisited since. The area was modified by the forest harvest prior to 2013, and subsequent mine activity. This site was destroyed by these activities prior to 2018.

R16/104

Located west of R16/103, about 1.3km east of the beach and 700m south of the Mitiwai Stream. The site was described as a large midden area just under the edge of large dune (to the west), including oven stone fragments and a few bits of obsidian. A shell midden mound was present at the south end of the midden area. The site had not been revisited.

The 1978 Bulmer survey identified this site as a large area of midden beneath sand dunes. This deposit also included oven stone fragments and obsidian flakes. The area was modified by the forest harvest prior to 2013, and subsequent mine activity. This site destroyed by mining activity prior to 2018 (Figure 43).

R16/105

Identified during the 1978 survey, this site was located south of the road from Taharoa to the mine, and about 1.3km east of the beach and to the southwest of Lake Taharoa. The site was described as an area of scattered midden measuring 12m N-S by 19m E-W lying on a clay substratum. A small amount of shell was observed, and obsidian and argillite flakes and oven stones were recorded. Obsidian scrapers were collected by the surveyors. The site had not been revisited since its initial recording. A review of aerial photographs indicates the area was modified by the forestry harvesting between 2001 and 2013, which may have destroyed the site. Mining also occurred across this area prior to 2013, and the location now lies adjacent to a large sluicing pond created as a result of mine operations. It is concluded that the site was destroyed prior to 2013 (Figure 44, Figure 45).

R16/106

Identified in 1978 this midden was located south of the road from Taharoa to the mine, southeast of R16/105, on relatively flat ground. The scatter of midden measured c.9m (N-S) by 8m (E-W), lying on a clay substratum. Surveyors noted charcoal, oven stones, a small amount of obsidian and shell fragments to be present. The site had not been revisited since the initial recording. A review of aerial photographs indicates the area was modified by the forestry harvesting between 2001 and 2013, which may have destroyed the site. Mining took place after 2013 and was well underway by 2018. It is concluded that the site was destroyed prior to 2018 (Figure 46).

R16/107

In 1978 this site was located on the slope of a ridge facing northwest, 1.3km southwest of Taharoa Village. The entire ridge side, c.140m in length, was covered in scattered midden. There were many concentrations of midden with scatters in between. Shell, obsidian and oven stones were noted. At the crest of the hill to the southwest, a shell mound measuring 6m by 8m was recorded. A further concentration of midden was located on the hilltop above the slope. The site had not been revisited since initial recording. The recorded location of this site is within an area that was modified by forestry harvesting prior to 2013, with mine activity in the area underway prior to 2018. This site is now adjacent to a large sluicing pond. It is concluded that the site was destroyed by the forestry operations and mining prior to 2018 (Figure 47).

R16/108

Recorded in 1978, this midden was located on a flat ridge top, south of R16/107. The shell mound measured c.12m (N-S) and 17m (E-W), lying on a dark soil horizon. The site had not been revisited since initial recording. The recorded location of this site is within an area that was modified by forestry harvesting prior to 2013, with mine activity in the area underway prior to 2018. It is concluded that the site was destroyed by the forestry operations and mining prior to 2018 (Figure 46).

R16/109

Recorded in 1978, this site was located on a flat ridge top about 100m east of R16/108. The shell mound was described as measuring c.18m (N-S) x 40m (E-W) with oven stones and obsidian. Some obsidian flakes were collected at the time. The substratum had been eroded but showed the remains of four rectangular pits and it was thought other pits may originally have been present but lost to erosion. No measurements of the pits were provided. The recorded location of this site is within an area that was modified by forestry harvesting prior to 2013, with mine activity in the area underway prior to 2018. It is concluded that the site was destroyed by the forestry operations and mining prior to 2018

R16/110

This midden site was recorded in 1978, and was located on a small hillock at the eastern end of a flat top ridge c50m northeast of R16/109. The site description is brief, noting the midden layers on the hillock contained shells, obsidian and oven stones. The site has not been revisited since initial recording. A review of aerial photographs shows that forestry harvesting and subsequent mining took place between 2013 and 2018. This site is now assumed to have been destroyed, as its recorded location is within an area displaying heavy modification from mining (Figure 48).

R16/111

This midden mound was recorded in 1978 and was located west of R16/108-110 on a flat-topped ridge. The shell mound was described as being c.16m in diameter with oven stones, shell fragments and some obsidian. Shell species identified included cockle, pipi and mudsnail. The day after the initial survey a dog mandible was collected. The site had not been revisited. The 2025 archaeological survey has identified this area as having been destroyed by mining activity, with the forestry harvest and mining taking place between 2013 and 2018 (Figure 49).

R16/112

Recorded in 1978 and located c.50m south of R16/111 and 30m southwest of R16/174, at the western end of a flat ridge top southwest of Taharoa Village. The site was described as a large area of oven stone concentrations with a hillock in the middle. The shell midden mound was slightly to the southwest, downhill from the hillock. The shell observed was mixed species, with a large proportion of pipi and some muddy shore harbour species. The site had not been revisited. As with many sites in this area of the mine, intensive modification is apparent having been modified by the forestry harvest and mining activities between 2013 and 2018. It is therefore assumed this site has been destroyed.

R16/113

Recorded in 1978 the site was located east of the road from Taharoa to the mine, 50m along the north bank of the Wainui Stream. The site consisted of three concentrations of midden: one 25m in diameter, one measuring 1.5m across, and one further concentration lying 50m to the east. No measurements were provided for this last concentration. The site had not been revisited since initial recording. This site was not able to be located during the 2025 survey and its condition is unknown (Figure 50, Figure 51). The record suggests it may be located within a reserve situated along the Wainui Stream, however the upper bank exhibits modification from bunding and the pine cover had recently been cut down.

R16/114

Recorded in 1978, this site was located north of a large pond in the Wainui stream, c.150m east of the road. The site comprised a thin scatter of oven stones and pebbles over an area measuring c.28m x 50m with very rare shell fragments. The site had not been revisited since initial recording. The recorded location of this site is within an area of intensive mining activity which began prior to 2013, and it is assumed to have been destroyed (Figure 52).

R16/115

This site, recorded in 1978, was located to the north of the pond in the Wainui Stream, southeast of R16/114, c.160m east of the road. The site was described as a large habitation area c.112m in length (N-S). There was very little obsidian or chert observed. A shell midden mound measuring c.2m in diameter was located at the north end, with chert, fishbone and shell observed. Shellfish species were primarily cockle with pipi. There was a dense concentration of oven stones at the southern end measuring c.55m x 42m. At the time of survey in 1978 one obsidian drill point and one chert drill point were collected. The site had not been revisited. This site was unable to be relocated and is assumed to have been heavily modified (Figure 53). It is possible some of the site extended down the bank towards the Wainui Stream, however an extensive examination of the area failed to find any archaeological remains.

R16/116

Located southeast of R16/115 and next to the north bank of the Wainui Stream. This site identified in 1978 was described as a large occupation site c.210m long (E-W) and 30m wide (N-S). There was a dense concentration of oven stones at the northern end of the site, with a second heap of oven stones to the northeast of the general midden scatter. Surveyors noted abundant obsidian and charcoal. Four obsidian flakes and one adze flake were collected. The site had not been revisited. Subsurface probing and visual inspection were unable to relocate this site and its present condition is unknown (Figure 54). The site is likely situated within the vegetated area on the northern side of the stream, and outside of the mining extent.

R16/117

Identified in 1978 on a flat area on the north bank of the Wainui Stream, at the southern base of the flat topped ridge on which R16/109 is located, overlooking the swampy area next to the lakes. At the time of observation the habitation ran 75m from the bank of the stream and c.150 along the stream, and running under dunes to the northwest. Some obsidian, shell fragments and oven stone scatters were common where dune sand was not present. Small round pebbles possibly used for cooking were recorded. One piece of obsidian and an adze were collected by the surveyors. During a survey in 2013 by Bickler and Baquié the site was described as being at the end of the forested area on a small rise in the southeast corner of the current mine site. An update to the site record at that times that the features of this site were not obvious, and states in separate places that midden was both visible and not visible. The 2025 survey was also unable to identify surface archaeological features, although a minor scatter of shell was noted (Figure 55, Figure 56). The site is considered to be partially intact.

R16/174

Located 50m southeast of R16/111 on a flat ridge top southwest of Taharoa Village. The 1978 SRF briefly describes the site as a midden mound comprising shell, oven stones, chert and obsidian flakes. No measurements were provided. The site had not been revisited. The recorded location of this site shows substantial modification, with both a forestry harvest

and mining activities occurring between 2013 and 2018. The site is therefore assumed to be destroyed.

R16/545

Recorded in December 2000 the large pebble scatter was located approximately 450-500m from the BHP helipad. The pebble scatter is described as revealed within recesses between small sand hills, spread thinly. The area was in maram grass at the time of the 2000 survey. The site had not been revisited. This area was substantially modified by mining activities prior to 2018 and the site is considered to be destroyed.

R16/566

Originally recorded in 2013, this site was located at the edge of the forested area at the eastern end of the Taharoa Sand Mine, approximately 20m east of a vehicle track. The site is located outside of the Central Block and therefore outside of the project extent. The site was described as situated on a small dune mound and consisted of two pits. Other possible flattened areas were noted as suggestive of a small occupation site. Probing did not detect any shell remains. The site was considered to be in poor condition. This site is believed to have been destroyed by mining activity (Figure 57).

The Southern Block (Northern Zone)

The Southern Block (Northern Zone) represents the administrative heart of Taharoa Ironsands, with a large collection of administration and service buildings clustered within the northwest of this area. The remainder of the Southern Area (Northern Zone) represents a variety of activities. Much of the zone contains dune systems that have previously been mined, and these have now been contoured and access roads have been created. Many areas have begun to naturally revegetate with grasses, while others are represented by large piles of mine tailings. A large tract of planted pine forest exists within the extreme east of this zone, with the northeast of this area planted in a mix of established and establishing pine forest. A total of 40 sites are recorded in the zone.

R16/10

Recorded in 1970 by McKinlay the site was located over 200-300 yards (c.183-274m) on a low ridge or outcrop of brown sandy/iron sand material running roughly parallel to the beach about ½ mile inland from the mouth of the Wainui Stream. There was no vegetation on the ridge and it was severely windswept with erosion difficult to assess. On the flat area of the ridge there were several clusters of shallow pits, each cluster having between 3 and 7 pits with some additional minor features. Surveyors indicated the pits were 10-15cm deep and likely affected by wind erosion. A large shell midden was located at the northern end of the line of pits. The entire site was covered with hāngi stones, chert, and obsidian. A piece of an argillite adze was recovered. The site had not been revisited. This site has been heavily modified, with mining of the area underway by 1978, and is considered destroyed (Figure 58).

R16/11

Recorded in 1970 by McKinlay, this site was located slightly south of a small hut on the bank of the Wainui Stream and just north of the dry watercourse into the Wainui where it straightens for its run across the sand to the sea. The site was described as a large area of heaped midden and hāngi stones, with abundant chert (including drill points), obsidian and adze flakes. Some moa bone was also identified. Surveyors noted the spread of the site

from the mouth of the stream inland to the sand dunes. The site had not been revisited. The description places the site in the dunes on the south side of the stream, which may indicate it is inside one of the reserves in this area. The current survey identified an area of deflated stones, but did not identify any shell or charcoal in the vicinity. Therefore, the current condition of the site is unknown, but it may still exist in part (Figure 59, Figure 60).

R16/18

Recorded by Swadling in 1970, this site is described as a potential swamp pā covered by dense vegetation. The site appears to have been recorded from some distance away and was based on the level of vegetation. The site was never inspected to check if this was a natural feature or a real site, and it remains unclear. Pine forestry was harvested from this area in the 2000s, which appears to have resulted in tracks being cut through this location. This site was unable to be accessed during the 2025 survey, and as a result the status of this site remains unclear. This site is situated within the Te Kapua reserve, and will therefore be protected.

R16/19

Recorded during the 1970 survey, the site comprised three shell heaps, each 5-6m in diameter, 1.5m in height, and spaced approximately 15m apart, composed predominantly of cockle, with some pipi, tuatua, mudsnail and mussel. Between each midden heap scattered oven stones, shells and a small number of grey obsidian flakes were noted. The site is located on a dune approximately 75m west of the edge of Lake Taharoa and 100m east of a swamp. The SRF also notes a scattered midden over 4-50m containing hāngi stones to the west of the westernmost mound, measuring approximately 10m across and bordering the swamp. The site was revisited during the 1978 Bulmer survey. The recorded location of this site is now within a tract of pine forest, having had a previous round harvested in 2018. A visual inspection and subsurface probing was unable to relocate the site. This site is assumed to have been modified or destroyed either through pine forest planting or harvesting (Figure 61).

R16/38

Identified in 1978, this pā site is located on a peninsula between Numiti and Rotoroa Lakes, and situated outside of the Taharoa C Block, and therefore outside of the project area. Raupo was growing around the western shoreline of the peninsula. Several features were noted. Four ditches were recorded: the southernmost measuring 17m across the peninsula x 2m (A); two ditches on either side of a terrace (C) measuring 17m and 19.4m long (B and D); and one ditch near the end of the peninsula measuring 13m across the headland (M). Six terraces were recorded along the length of the peninsula, with each terrace from the south to the north measuring: 15m x 8m (C); 17m x 7m with 5m scarp to south and 10m scarp to east (E); a terrace running along the northeast side of the pā c.2m above the lake level measuring 6m at widest part (F); 7.5m x 3.7m with a 0.5m scarp located immediately north of E (G); 9.5m x 9m with a 1m scarp to north (I); and 12m x 2m located to the east 6m below I (J). Three banks were identified. One bank (H) located between terraces G and I was 2.5m high to the south and 0.5m high to the north, and measured 4m long x 0.5m wide. The second bank (L) was located south of ditch (M) and north of a raised rim pit (K) and measured 4.3m wide with a 4m drop into the ditch to the north (M). The remaining bank (N) near the end of the peninsula was 0.7m high on the south, 0.5m high on the west, having a width of 1m. The raised rim pit (K) measured 4.6m x 4m with the rims measuring 1m wide, and 0.3m high on the west and east sides. The pā site had not been revisited. The site was not accessible during the survey, however the site is visible on both aerials and LiDAR and is intact.

R16/53

This midden site was located on a remnant clay ridge running north-south in dunes between Lakes Rototapu and Taharoa. Further location information describes the ridge being between a grassy hill and site R15/54. The midden consisted of a few scattered hāngi stones and a thin layer of shell, likely periodically covered and uncovered with sand. The site had not been revisited since it was first surveyed in 1978. This area was mined in the 1990s and is now within a large tract of pine forest. Subsurface probing was unable to relocate this site and it is assumed to have been destroyed either through sand mining or planting of the pine forest (Figure 62).

R16/54

This pit and midden site was located on a remnant ridge in the dunes to the north of R16/53, however the current grid coordinates places these sites the other way around. At the time of survey in 1978 an NZ Survey peg marked BM LVIII was within the site. A small cabbage tree was noted on site. The site contained a row of seven rectangular pits (A-H on the SRF). No individual pit measurements were recorded. Pit G is located at the northern end while pit A is the southernmost. Pit H is located to the east of pit E and was the most indistinct. Pits D – H were located within a general midden scatter with abundant hāngi stones and a few shells. Underneath the major hāngi area was a grey burned area with shells and bones incorporated. Occasional pieces of obsidian and chert were noted. The site had not been revisited. A visit to the recorded site location during the 2025 survey found it covered in pine forest and adjacent to a large pile of mine tailings. Mining activities took place in the area between 1997 and 2001. Subsurface probing and visual inspection were unable to relocate the site and it is assumed to be either modified or destroyed (Figure 63).

R16/55

Located c.200m north of site R16/54 and 150m west of the south end of Lake Rotoroa, the midden was approximately 30m in diameter with a prominent cone of midden. The cone was c.1m high and the top had a 2m x 2m area of intact midden, mainly freshwater mussel, rocky shore species and cockle. The southern side of the midden contained abundant chert with three points noted, along with obsidian and some argillite. The survey indicated the midden possibly continued south under sand. The site had not been revisited since 1978. The area appears to have had mining activities in the 1997 and 2001 aerial photographs. The location of this site is now within pine forest and neither the shell midden, nor its prominent cone, were able to be observed. It is likely this site has been destroyed (Figure 64).

R16/56

Recorded in 1978, this midden site was located c.500m west of the southern end of Lake Rotoroa and about 250m west of site R16/54, and about 100m north of site R16/133. The midden was described as totally deflated, measuring less than 4m² in total, being spread over two areas 5m apart. Shell species included mainly freshwater mussels. There were numerous hāngi stones and some obsidian fragments. One obsidian adze flake was identified which showed evidence of reuse. The site had not been revisited. The area was mined in the 1990s, and therefore this site has been destroyed (Figure 65).

R16/57

Recorded in 1978, these small clusters of hāngi stones were scattered in an ironsand area on a sand dune eroded by wind. The site location at that time was described as to the north of the NZS landing strip. The location appears to be within or adjacent to sluice pond with

mining activities present from 2001. The site is assumed to have been destroyed during these activities (Figure 66).

R16/58

Recorded in 1978, this site was located immediately to the south of the NZS landing strip. The site was described as a totally deflated old beach surface in an ironsand area to be quarried. The site measured 200-300m (N-S) and was covered with water rolled pebbles with scattered hāngi stones and occasional patches of clustered hāngi stones. The midden observed was mostly *Amphidesma* (likely tuatua) but was considered recent. The site had not been revisited. The current survey identified some deflated and scattered deposits of shell at this location, but no deposits matching those described on the 1978 site recorded form. This site is assumed to have been heavily modified through deflation and possibly mining operations which were present in the wider area in 1997 and 2001 (Figure 67).

R16/59

Located in 1978 on the southern side of a long sandy drift about 600m from the beach, west of the south end of Lake Rotoroa. The site was deflated and in an ironsand area to be quarried. The site was described as a diffuse scatter of hāngi stones with occasional shell and obsidian flakes. The site was associated with two old soil layers which disappeared into the dune in the south. The site had not been revisited. The recorded site location was dredged in the 1990s and is now covered by a large deposit of mine tailings, and the site is assumed to be destroyed as a result (Figure 65).

R16/93

Recorded in 1978, this site was located on the ridge running out into the sand dunes from the hills to the southeast of the ironsands on which site R16/90 is situated. The site is just below the foot of the hill where the ridge changes to horizontal. The site was described as a series of six pits on a clay ridge about 30m below and north of the terraces of R16/90, all aligned in a row in a NE-SW orientation. Midden was thinly scattered downhill from the ridge to the southwest, and some midden just below the ridge top appeared to be undisturbed. The pits were filled with a black sand matrix, with the midden including oven stones and a few shells and some rubbly clay. The midden scatter measured approximately 50m east to west. The site had not been revisited. The current survey was unable to relocate this site (Figure 69). However, the 2021 LiDAR coverage shows a group of pits on a ridge situated just outside of the mining lease extent, which are considered likely to be the recorded features. The area is now covered with regenerating scrub and gorse.

R16/94

Visited by Harry Allen in 1976, this site was located about 250m ENE of the north end of the airstrip, in a hollow on the summit of a sand dune. Allen described the site as a probable archaic/moa hunter habitation area with burials. The main site was labelled Sub Area 4, a site on an exposed clay surface. The surface had a number of fireplaces, scattered fish and possible moa bones, flaked pieces of obsidian, and fragments of firestones and broken adzes. Allen noted one of the adze pieces showed the remnants of a shoulder, and another was possibly argillite. Allen suggested the site could potentially be hundreds of years old. Sub Area 3 consisted of three burials which had been removed prior to Allen's site visit and taken for reburial elsewhere. The bones were reported to be well preserved. Originally the three had been buried together in a crouched position and a piece of worked wood was placed over them. Staining on the sand suggested the bones had been covered with ochre. An update to the SRF by Bulmer in 1978 indicates that the site had been entirely destroyed by mining by 1976. This site is well within the footprint of past mining activity, and the

surrounding landscape bears no resemblance to that described within the site record form. Consistent with Bulmer's conclusion, this site is therefore assumed to be destroyed (Figure 70, Figure 71, Figure 72).

R16/95

Located on a narrow clay ridge north of the eastern section of the burial reserve, southeast of the mine and south of the wet dredge pond (as at 1978), 750m from the beach and 750m from Lake Numiti. The site was in a deflated and disturbed ironsand area to be quarried. The site was described as a large number of scatters of broken oven stones, with very little shell. No bone or flakes were observed. The site had not been revisited. This area was mined in the 1980s and the location is now under a large deposit of mine tailings (Figure 73). The site is concluded to have been destroyed.

R16/96

Four middens are recorded in this location, approximately 200m west of Lake Rotoroa and 1.5km from the beach, at the eastern end of a burial reserve (likely the reserve now identified as Te Tauwhare) at the edge of dunes. The four midden scatters from east to west are described as; midden 1 12.8m x 20m (E-W) with much obsidian including small waste flakes and large utilised flakes, midden 2 2m x 3m (E-W) with some shell, midden 3 4m x 4m (E-W) with some shell and midden 4 being a thin scatter. The site had not been revisited since 1978. The recorded location of this site was visited, however subsurface probing and visual inspection were unable to relocate the midden scatters. The area was dredged in the 1990s and is now within pine forest (Figure 74). It is considered most likely that the site has been destroyed.

R16/97

This site, recorded in 1978, is part of a large habitation complex, 130m west of R16/98, to the south of the burial reserve and to east of a short southern section of vegetation. Lake Rotoroa is located c.1km to the east. The site was deflated and wind disturbed in an ironsand area to be quarried. The site was described as an area of scattered charcoal, stone flakes, oven stone fragments, pebbles, with a thin scatter of windblown shells to the east. The site had not been revisited. This site was unable to be relocated as the area has been completely modified by mining operations, with dredging taking place in 1997-2001. Therefore, the site is considered to be destroyed (Figure 75).

R16/98

Located 130m east of R16/97, south of the burial reserve. The site is within a deflated and disturbed ironsand area to be quarried. The site was described as oven stone fragments in a thin scatter. The site had not been revisited since recording in 1978. This site was unable to be relocated as the area has been completely modified by mining operations which were underway in 1997, and therefore the site is considered to be destroyed.

R16/99

Located in a gully immediately to the east of R16/97 and c.50m to the east/southeast of R16/98, south of the burial reserve. The site was within a deflated and disturbed area of ironsand to be quarried. The site consisted of a scatter of oven stones and some obsidian flakes. The site had not been revisited since the survey in 1978. This site was unable to be relocated as the area has been completely modified by mining operations which were underway in 1997, and therefore the site is considered to be destroyed (Figure 76).

R16/100

This site was located immediately to the north and upslope of R16/99, although a handwritten notation indicates it lay 30m to the east of R16/99. The site was described as a thin scatter of oven stones on a slope, in a deflated and disturbed area of ironsand to be quarried. The site had not been revisited since the survey in 1978. This site was unable to be relocated as the area has been completely modified by mining operations which were underway in 1997, and therefore the site is considered to be destroyed.

R16/101

Located to the east of R16/99 and c.100m to the east of R16/98. The site was described as a thin scatter of oven stone fragments, shell and obsidian in a deflated and disturbed area of ironsand to be quarried. The site had not been revisited since the survey in 1978. This site was unable to be relocated as the area has been completely modified by mining operations which were underway in 1997, and therefore the site is considered to be destroyed (Figure 76).

R16/102

Located in between southern and main section of reserve vegetation, about 400m from the beach and 1km west of Lake Rotoroa. The site was described as a thin scatter of oven stone fragments in deflated and disturbed ironsand to be quarried. The site had not been revisited since recording in 1978. The location of this site was subject to mining by 1997 and it is now below a large deposit of mine tailings and is assumed to be destroyed (Figure 75).

R16/132

Located 44m north of R16/93, along the same ridge that runs northwest from the edge of the hills into the ironsand. The site was described a knoll with shell midden spilling down from the top of the knoll towards the southwest. A thin scatter of shell was observed on dunes to the east, possibly the result of being windblown. Shells and hāngi stone fragments were the primary contributors to the site, although some chert and obsidian flakes were present. The site had not been revisited since recording in 1978. The 1978 site record form indicates this area was to be mined, and it seems likely that this site was situated within the area of mining undertaken in the 1990s. The current survey was unable to relocate this site. It is assumed to now be destroyed.

R16/133

Located on a knoll to the north of R16/132 on a ridge running northwest from the edge of the hills into the southern side of the ironsands. The site was described as more disturbed than R16/132 and within an ironsand area to be quarried. The site was described as having oven stone fragments with little shell and no chert or obsidian. The SRF indicated another knoll on the same ridge section to the north had a midden scatter toward the northwest, down the slope of the ridge, the scatter being c.40m in diameter. The site had not been revisited since 1978. This area was mined in the 1990s and is now a large pile of mine tailings. The midden area extends into an area outside of the mining, however this has been modified by access tracks and forestry harvesting. The site is assumed to be destroyed.

R16/134

Located on a knoll north of R16/133, on a ridge running northwest from hills at the southeastern edge of the ironsands. The site was described as a scatter of oven stone fragments on the northern side of the knoll in an ironsand area to be quarried. The site had not been revisited since the survey in 1978. The area was mined in the 1990s, and the site location is now beneath a large pile of mine tailings; therefore this site is assumed to be destroyed.

R16/145

Situated on a small narrow ridge leading out into the ironsands, 200m south of Lake Rotoroa. The narrow ridge is between two larger ridges and there was a raised rim pit about 15m up from the sand on a small terrace area. The northwest side of the pit had eroded away and the rims were present on the northeast and southwestern sides, 0.5m in height and 0.7m wide. A second small terrace measuring 4.5m x 0.3m was located 20m above the pit to the east and on the northern side of the ridge. A second pit was located within the swale between the ridge and a larger ridge to the north, and 9m north of Pit 1. The second pit measured 3m x 4m and was an open pit with a depth of 0.5m. The site had not been revisited since recording in 1978. The site description places it in an area outside of the mining activity. However, some mining activity took place in 1997-2001 and it is therefore assumed to be destroyed. Later a bulldozed access track did loop around this area following the forestry harvesting around 2021. This track is visible on the 2021 LiDAR, however, it has now been buried beneath mine tailings (Figure 69). It is possible the site still exists, if the track missed it, but is buried beneath tailings.

R16/147

Identified during the 1978 survey as located 100m north of the dredge pond, observed in the face of the dredge excavation. The site was described as a scatter of broken oven stones below a layer of charcoal. A very small amount of broken shell, pieces of green and grey obsidian. The layer was 1-2m below the surface at that time, and continued around the whole dredge pond. The site is likely to have been destroyed by dredging shortly after recording, and had not been revisited. The area was mined into the 1980s, and site is now within planted pine forest and was unable to be located. It is considered likely that this site was destroyed (Figure 79).

R16/148

This site is located on a bank west of pā site R16/38, 25m north of the pā and 10m above the shore of the lake. The area was in grass at the time of the survey in 1978 and had been exposed by animal disturbance. The midden measured 1m x 1m, consisting of loose broken shell, possibly pipi or tuatua. The 1978 Bulmer survey identified this site as being at risk of being destroyed by mining operations, although it was still intact during the 1993 revisit. It seems likely that this area is just outside the edge of the mining, and although the area has had its forestry coverage harvested. It is now within a reserve (Te Karaka). During the current survey a 25cm thick deposit of fairly sparse midden was identified some 35-40cm below the surface (Figure 80).

R16/149

This midden site is located 20m up the west bank of Lake Numiti, northeast of R16/148 and pā site R16/38. The midden was exposed in a sheep track in a grassed area with occasional manuka trees. The midden was c.10cm deep, consisting of whole and broken shell, and fairly compact. Pipi and mussel shell were observed. The length of the midden was unknown and could potentially be greater in length, concealed by grass. The site had not been revisited since 1978. The 1978 survey identified this site as being at risk of destruction, however this area is outside the mining extent. During the 2025 survey the deposit was identified over an area of approximately 3m by 2.3m, and was up to 15cm thick (Figure 81). Some forestry disturbance in the area will have damaged the site.

R16/150

This shell midden was identified in 1978 on the bank opposite the western tip of pā site R16/39 between Lakes Taharoa and Numiti, 50m north of the end of the pā and 25m in a

direct line from the lake shore. The midden was eroding out of the bank, 10cm below the grassed surface, measuring 10cm long by 2cm deep, consisting of broken mussel and pipi shell. The site had not been revisited. The current survey identified minor surface evidence of shell midden, covering some 2m by 0.4m, but probing of the area was inconclusive. It is possible in situ remains of this deposit are intact subsurface (Figure 82, Figure 83).

R16/151

Located 200m north of pā R16/173, on a north facing bank with a south facing bank 30m to the north. The midden was located in a grassed area exposed over an area measuring 5m x 2m. The midden consisted of loose broken shell with pipi being the primary species. A swamp encroached 20m to the northwest and also lined the shore of Lake Taharoa, with raupo reported. The midden had not been revisited since the survey in 1978. The current survey identified intact remains of this deposit within the scarps on either side of a vehicle access track, measuring some 2m by 1.3m, and up to 150mm deep (Figure 84).

R16/152

Recorded in 1978, the location at that time was described as being 40m southwest of the southwest corner of a fence surrounding planted marram grass, at the base of a high dune. Additional location information reports the site being 300m from Lake Taharoa to the east, 150m from the swamp to the southeast and c.2km inland from the sea to the west. The extensive midden measured 50m x 20m containing abundant broken hāngi stones, many worked pieces of obsidian and other flakes, a single green adze (possibly argillite), a chert flake, and pieces of cut bone. There were a few areas of scattered pipi, tuatua and cockle along with charcoal. Most of the material including the adze, bone, chert and charcoal was noted to be at the northwestern end of the site. Modern European rubbish in the form of vehicle parts was also noted in this area. The site had not been revisited. The location of this site was mined in the 1980s and is now within planted pine forest. Subsurface probing and visual inspection were unable to identify site, and it is considered likely to be destroyed (Figure 85).

R16/153

Located 100m south of the Wainui Stream and 200m west of Lake Taharoa, an area of approximately 150,000m² of broken hāngi stones with a small amount of obsidian and argillite. Four distinct deposits of shell midden were also noted at this site. The middens were described as: Midden A, 2m x 2m mainly oven stone and cockle with some tuatua; Middens B and C were both 1.5m x 1.5m containing mostly cockle with some tuatua, pipi and oven stones; Midden D measured 4m x 10m, primarily tuatua with some cockle, dosinia, bone and hāngi stones. The site had not been revisited since the survey in 1978. The original site record indicates this site was at risk of destruction from dredging. The 2025 survey team were not able to safely access the recorded location of this site, thus its current condition is unknown; however, this area does not appear to have been dredged, although it is possible that it was located further to the west, but the area has been subject to forestry modifications. It is considered quite possible that the site is at least partially intact within the Te Kapua reserve. Any elements outside of that are likely to have been mined.

R16/154

Located c.150m from the mouth of the Wainui Stream on the southern bank. The midden was exposed in the southern bank cut through by a bulldozer approximately 3m from the edge of the stream. The midden is described as mostly mussel fragments, hāngi stones and charcoal. All along the southern bank there were scatters of shell, primarily cockle, in the

loose earth and occasionally a shell layer in the bank, generally c.30cm long and 3cm deep. The site had not been revisited since the survey in 1978. The 2025 survey team were not able to safely access the location of this site, and so its current condition is unknown. The site is situated within the Te Kapua reserve.

R16/155

Recorded in 1978, this midden was located in a bulldozer track profile at the edge of the scrub where it meets the sand and the edge of Lake Taharoa. The midden consisted of hāngi stone and charcoal, but mainly pipi and mussel shell. The observed shell was mostly highly fragmented and not very densely packed. The midden layer within a dark grey sand matrix was 20cm thick, overlying slipped earth and beneath 15cm of grey sand. The site had not been revisited. The recorded location of this site is now within planted pine forest which shows signs of modification in the form of pronounced hummocking (Figure 86). The lake edge was also examined but no traces were observed. Visual inspection and subsurface probing were unable to locate this site and its current condition is unknown.

R16/156

Recorded in 1978, this midden was identified on the south side of Wainui Stream, where there is a Y-shaped intersection of the stream near the western edge of the swamp. The midden was at that time considered destroyed by a bulldozer making a track; the spoil spread by the bulldozer, with shell consisting mainly of tuatua and some cockle. The site had not been revisited. The 2025 survey team were not able to safely access the location of this site. The site is situated within the Te Kapua reserve, however based on the original description of the site it is considered destroyed.

R16/173

Information regarding this site was entered from an aerial photograph only, as the original site record has been lost. The site, of unknown description, is recorded as being situated halfway between the beach and Lake Rotoroa, about 1.8km south of the Wainui Stream. The site is described as being within an ironsand area to be quarried. The site had not been revisited since the survey in 1978. The area was mined in the 1990s and is now a considerable deposit of mine tailings and therefore the site is assumed to be destroyed (Figure 65).

R16/213

Recorded in 1970, this site was located about 250 yards (229m) inland from the mouth of the Wainui Stream, about at the headwater area of the watercourse which flowed into the elbow of the stream where it crossed the sand. The working floor site was described as a large area of dune with abundant hāngi stone and with a large quantity of greywacke flakes from adze manufacture. Obsidian, chert, sandstone grinders and files, several adze pieces, a small argillite adze and several chert drill points were also noted. On the side nearer to the Wainui Stream was a surface rectangular arrangement of large stone blocks. This site was a short distance from R16/10. The site had not been revisited. The recorded location of this site is within an area of the mine that shows considerable modification in addition to mine infrastructure, with initial mining activity underway in 1976. This site has been destroyed (Figure 87, Figure 88).

R16/279

Recorded by Wilkes in 1993 from information within an excavation report for R16/10 (c.1970), the site was located c.150m north of site R16/10 and 250m inland from the mouth

of the Wainui Stream. An unpublished map dated 1978, however, shows the site to be located to the west of R16/10. The SRF includes the description from the excavation report: 'Midden working floor...it is an area of dune littered with hāngi stones and flakes of greywacke, obsidian and chert, and fragments of stone artefacts.' The SRF further notes that the site has likely been destroyed by dredging. The 1993 site record from notes that this site has been destroyed (Figure 89).

R16/327

This site was recorded in 1994 from information in a 1977 report by Harry Allen. The location of the site was described as about 320m slightly southeast of the northern end of the Taharoa airstrip, south of the Taharoa ironsand plant. The site at the time of visitation by Allen in 1976 was wind eroded with material possibly covered and uncovered and shifted over the years; it was denoted as Sub Area 1. The remains were described as 'a confused scatter of human and other bones uncovered by movement of a north-westward facing dune. Bone was scattered over a radius of about 20 metres. There were two or three concentrations within this area. In the centre there was a broken human femur, scattered fragments of pelvis and the lower section of a vertebrae column. These were still partly in articulation and partly in situ. Eroded pieces of bone lay scattered around without any visible pattern. There were the remains of at least four individuals including one very small child. These may have been different burials but it is impossible to say... The bones were collected by elders for reburial elsewhere.' The site was revisited in 1978 by Sue Bulmer; however, the burial site was not relocated. This site was unable to be relocated during the 2025 survey, due to a combination of excavation and mining operations (Figure 90, Figure 91). However, it is thought that the grid coordinates are not accurate and that a more accurate placement would have this site situated slightly further to the east, just within the Te Tauwhare reserve. It appears that the purpose of the formation of this reserve was to protect this site, and the burial ground marked on historic plans.

The Southern Block (Southern Zone)

Of the three zones surveyed, the Southern Block (Southern Zone) displays the least amount of modification. Currently the northern extent of the Southern Area (Southern Zone) is a mix of scrub covered ridgelines and dune systems covered in grazing pasture. Low swampland occupies an eastern position within this zone, at the base of high ridges to the east. The area is bisected centrally by a steep ridge running in an east/west orientation. To the south of this bisecting ridge is a small stream, and two small dwellings occupy an area near the stream outlet to the Tasman Sea. The extreme south of this area is represented by a largely unmodified dune system, where the only visible signs of modification are narrow vehicle tracks used to access the coastline. A total of 14 sites are recorded in the zone.

R16/8

Recorded in 1970, this site is situated on a grassy ridge at the northern end and just to the east of Lake Piopio. A wind eroded edge facing the sand dunes showed a layer of compact midden. The terrace behind the edge showed continuation of the midden and some possible shallow pits. The site had not been revisited. This site was unable to be accessed during the 2025 survey due to thick vegetation, therefore its current condition is unknown (Figure 92). The original description places the site on the northeastern side of Lake Piopio, and therefore the site will be outside of the mining lease extent.

R16/12

Identified in 1970, this site is located to the south of the mouth of the Waiohipa Stream flowing into Orongomaitoroa Bay. The site was extensive, covering some 300m x100m. The 1970 site visit recorded large quantities of obsidian and chert flakes, cores and points. The surveyors noted a shell dump high up on the dunes but did not inspect it. A brief site visit in 1992 described the site as eroded badly and probably being fossicked. The report noted in situ hāngi near the seaward margin and shell midden near the inland margin, with a kuri jawbone identified. The site was again revisited in 1993, when dozens of in situ ovens were noted, generally c.60cm in diameter. There were larger lumps of stone scattered across the site with some clustering at various locations, with one cluster having abundant obsidian in the vicinity. The update notes that oven stones were densest in the upper part of the site and were generally associated with iron pan outcrops. Of note in this record is a notation that an aerial photograph used in a 1978 survey has a 'burial ground' marked on the steep lee slope of the sandhill. The SRF has no associated notes from 1978. The site was again revisited in 2000, when large amounts of material were observed. The last site visit was undertaken in 2002, when the crest and beachward slope were covered by a thin and fairly continuous layer of waterworn pebbles. Several intact ovens were noted and middens were small and thinly spread, containing tuatua, white rock shell, mussel, paua, and crab. Obsidian was fairly common around the slopes and ovens with both green and grey obsidian present. Dark argillite flakes were also noted. Chert was observed but not in numbers seen in the original site record, suggesting fossicking may be ongoing. Since those visits much of the dune has been stabilised with vegetation, which reduces visibility. This site was unable to be relocated during the current survey and its present condition is unknown, but it is considered likely to be intact (Figure 93 and Figure 94).

R16/51

Recorded in 1978, this site is located to the north of a large dune, northwest of Lake Rototapu, about 500m from the beach. The site was described as a small scatter of small and broken burned stones. No shell or bones were observed. The site may be the remains of a hāngi on the bottom of a deflated surface. The site was within a blowout channel in the dunes and was likely to be covered and uncovered periodically. The site had not been revisited. The site was unable to be relocated during the current survey, and therefore its current condition is unknown (Figure 95, Figure 96). While this area is outside of the extent of dredge mining it appears that the area was heavily tracked over by mining machinery during the late 1990s and early 2000s, and is considered to be destroyed.

R16/52

This site is located along the crest of a large dune c.100m northwest of Lake Rototapu, and about 400m from the beach. The crest of the dune is a flattened area c50m wide with patches of hāngi stones, some up to 20m x 20m. Some area contains a number of obsidian pieces and there were shells on the seaward slope. The record notes at least one adze has been collected by the public in the past. The record also notes that this site may be the same as site R16/89, as the dune is advancing northwards and site R16/89 may represent the complete deflation of matrix. The site had not been revisited since the survey in 1978. At the time of recording the area was an active dune; however, it is now covered with vegetation. Visual inspection and subsurface probing were unable to relocate this site and its current condition is unknown. While mining activities did take place in the vicinity around 2001, the record locations appears to have not been impacted.

R16/88

Recorded in 1978, this site is located in a washout area from the dunes down to the beach. The site was immediately behind the driftwood scatter where there were areas of burned and broken stones, very much scattered. The site was completely deflated in sand. There had been no visit to the site since. The 2025 survey identified isolated but sparse instances of shell, which may possibly be remains of the original site, but no oven stones were observed.

R16/89

Recorded in 1978, this site is located on a flat area behind the beach ridge, next to a hill named Tokapae, between swampy ground to the south and high dunes to the north. The site is on the seaward side of the lakes, about 200m from the beach and 300m south of Lake Rototapu. The site was deflated and disturbed, with an extensive scatter of broken oven stones, some bone and shell. There were six groups of oven stones with thin scatters between each group. This site was potentially associated with R16/52. No site visits had been made since original recording. The area is now covered by dense gorse and vegetation. Visual inspection and subsurface probing of the recorded site location was unable to relocate this scatter and its current condition is unknown. The area has not been modified by either forestry or mining.

R16/135

Recorded in 1978, this site is located on the north side of Waiohipa Stream, and to the east of the waterfall gut, about 50m up a ridge. The site is described as two pits on a ridge with a terrace running around the south side 1.7m at its widest point. Pit 1 was measured at 2.3m x 3.6m and 0.5m deep on the northeast side. Pit 2 measured 3.9m x 2.6m and 0.4m deep on the east side. The accompanying diagram suggests a third pit may be present southeast of Pit 2. It also depicts a ditch which is noted as part of R16/138. This site was relocated during the current survey and is in reasonable condition (Figure 102, Figure 103). The site is situated outside of the mining lease extent.

R16/136

Sited east of R16/135 about 500m east of Tokapae Hill along a ridge. The site is on a knoll where the ridge changes direction to the north. The site comprises three rectangular terraces, each measuring 2m x 2m, all on the west side. The site had not been revisited since the survey in 1978. The ridgeline where this site is located appears to be unmodified and while the site was not able to be relocated, it is assumed that remains of the pits are intact subsurface (Figure 103). The site is situated outside the mining lease extent.

R16/137

Recorded in 1978, this site is located on the northwest slope of a knoll at the south end of Lake Rototapu. The site consisted of five terraces, three of which had pits. The uppermost terrace (T1) had no identified features. T2 had three pits recorded from West-East identified as Pits B, A and C. Pit A measured 5m x 4m x 0.25m deep, whilst pits B and C measured 5m x 4m x 0.2m deep. T3 contained three pits from West-East labelled D, E and F. All three pits measured 5m x 4m x 0.25m deep. T4 contained no visible features. T5 contained a single pit identified as G. Pit G measured 5m x 4m x 0.25m deep. A single midden measuring 40cm in length with a depth of 3cm lay to the southeast of Pit D on T3. This midden was exposed in section by sheep activity. It was covered by 30cm of redeposited soil, possibly originating from Pit D. A shallow ditch ran along the east side of the site, associated with R16/138. Shell species identified included cockle, tuatua and mussel. The

site had not been revisited. The description appears to match quite closely with site R16/568, and these sites may be the same, or it is possible that R16/137 refers to features slightly further down the slope. The current survey examined the features relating to R16/568. The pits and terraces are in fair condition and in addition surface shell midden was also identified during the survey (Figure 99, Figure 100, Figure 101). The site is situated outside of the mining lease.

R16/138

This ditch site is located at the south end of Lake Rototapu. The ditch was recorded as between 10 and 20cm deep and 5cm wide. No length is reported but it appeared to pass across or alongside sites R16/135 and R16/137. The 1978 SRF records that the ditch ran straight up the knoll at its west end, along the east side of the ridge, and then straight down the slope to the southern end of Lake Rototapu. The site had not been revisited. The location of this site was visited during the 2025 survey. Sections of this feature were observed, with large sections clearly visible on aerials and LiDAR. The site is intact and is situated outside of the mining lease (Figure 104, Figure 105)

R16/140

Identified during the 1978 survey, this terrace site is located on top of a spur at the northern end of Lake Rototapu. The terrace is described as being small, measuring 5m x 3m on top of the tip of the spur. The site had not been revisited. A site visit was undertaken as part of the current survey, however the area is covered with gorse which restricted access and visibility. The area has had little modification and it is therefore suggested that this feature remains intact (Figure 106). The site is situated outside of the extent of the mining lease.

R16/143

This pit and terrace site is located on a spur leading upward to the southeast from Lake Piopio. Five terraces (B – F) and one pit (A) were identified on a fairly steep slope above Lake Piopio and at the edge of the sand dunes. The pit measured 4m x 2m x 0.7m deep and was towards the south near terrace E, which measured 12m x 5m. To the north a group of four terraces were recorded with terraces B and C being higher up the slope of the group with terrace D to the northwest of terrace C, and terrace F to the west of terrace D. Terrace B measured 6m x 3m, terrace C measured 8m x 3m, terrace D measured 5m x 3m and terrace F measured 10m x 3m. At the bottom of the slope is Lake Piopio and on each side of the lake is swampland. The site had not been revisited since the survey in 1978. This site was not able to be accessed during the 2025 survey due to thick vegetation. It is likely this site remains intact and is situated outside of the extent of the mining lease (Figure 92).

R16/144

This midden site is located c.40m out into the sands at the base of the spur which is immediately to the north of Lake Piopio. The midden was eroding out of the sand and measured at 1m in diameter, with much of the midden being loose. Shell was described as generally whole and mainly tuatua. The site had not been revisited since the survey in 1978. The site description would place the site further west than the grid coordinates, which would situate the site within an area of dredge mining in the 1990s. The current survey was unable to relocate this site and its condition is unknown, but it is considered likely to be destroyed (Figure 77, Figure 78)

R16/572

This was a new site identified during the current survey. It comprises 4-5 terraces clustered around the northwestern side of the peak of a prominent hill (Figure 107). The area encompasses some 50m x 50m, with the terraces eroding away.

Summary

Eight-eight sites have previously been recorded in the survey area, and one new site was identified during the field survey and recorded as R16/572. The new site consisted of 4-5 terraces clustered around the peak of a prominent hill in the Southern Block (Southern Zone).

Based on the results of the field survey, 58 of the 89 recorded sites are considered to be destroyed, one has a missing record but has likely been destroyed, 18 are considered to be at least partially intact, and the status of the remaining 12 sites is not known. The sites whose status is not known are primarily recorded as being in places that would not be affected by mining, such as on the edges of streams, and were not able to be identified during the survey.

In all, 30 sites are either intact/partially intact, or their status is unknown and they may still be present. These are listed in Table 2 and Figure 32 and Figure 33 show the locations of the sites.

Table 2. Sites still present or potentially present within the survey area. Sites highlighted in blue are located within reserves and sites highlighted in green are likely to be outside the project area, unhighlighted sites are those sites whose status is considered to be either unknown or intact/partially intact

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Condition
R16/8	Pit/Terrace	1750511	5771195	Unknown
R16/11	Working area	1749408	5773294	Unknown/Within Reserve
R16/12	Midden/Oven	1750112	5770095	Unknown/Intact
R16/18	Pa	1751207	5774196	Intact/Within Reserve
R16/38	Pa	1751209	5772896	Intact
R16/52	Midden/Oven	1750111	5771095	Unknown
R16/58	Midden/Oven	1749610	5772094	Partially Intact
R16/61	Midden/Oven	1749006	5774993	Unknown
R16/88	Midden/Oven	1749811	5771394	Partially Intact
R16/89	Midden/Oven	1750012	5770794	Unknown
R16/93	Pit/Terrace	1750811	5771495	Intact

NZAA Site Number	Site Type	NZTM Easting	NZTM Northing	Condition
R16/113	Midden/Oven	1749807	5773994	Unknown/Within Reserve
R16/115	Midden/Oven	1750107	5774095	Unknown/Stream Edge
R16/116	Midden/Oven	1750207	5773995	Unknown/Stream Edge
R16/117	Midden/Oven	1750752	5774365	Partially Intact
R16/135	Pit/Terrace	1750112	5770595	Intact
R16/136	Pit/Terrace	1750212	5770595	Likely Intact
R16/137	Midden/Oven	1750212	5770795	Likely Intact
R16/138	Māori horticulture	1750312	5770695	Intact
R16/140	Pit/Terrace	1750411	5771095	Likely Intact
R16/143	Pit/Terrace	1750511	5771095	Likely Intact
R16/148	Midden/Oven	1751209	5772996	Intact/Within Reserve
R16/149	Midden/Oven	1751309	5773096	Intact/Within Reserve
R16/150	Midden/Oven	1751508	5773396	Intact
R16/151	Midden/Oven	1751608	5773496	Intact
R16/153	Midden/Oven	1751107	5774296	Unknown/Within Reserve
R16/154	Midden/Oven	1751307	5774396	Unknown/Within Reserve
R16/155	Midden/Oven	1751407	5773996	Unknown
R16/327	Burial/ cemetery	1749909	5772794	Unknown/Within Reserve
R16/572	Pit/Terrace	1750025	5770725	Intact

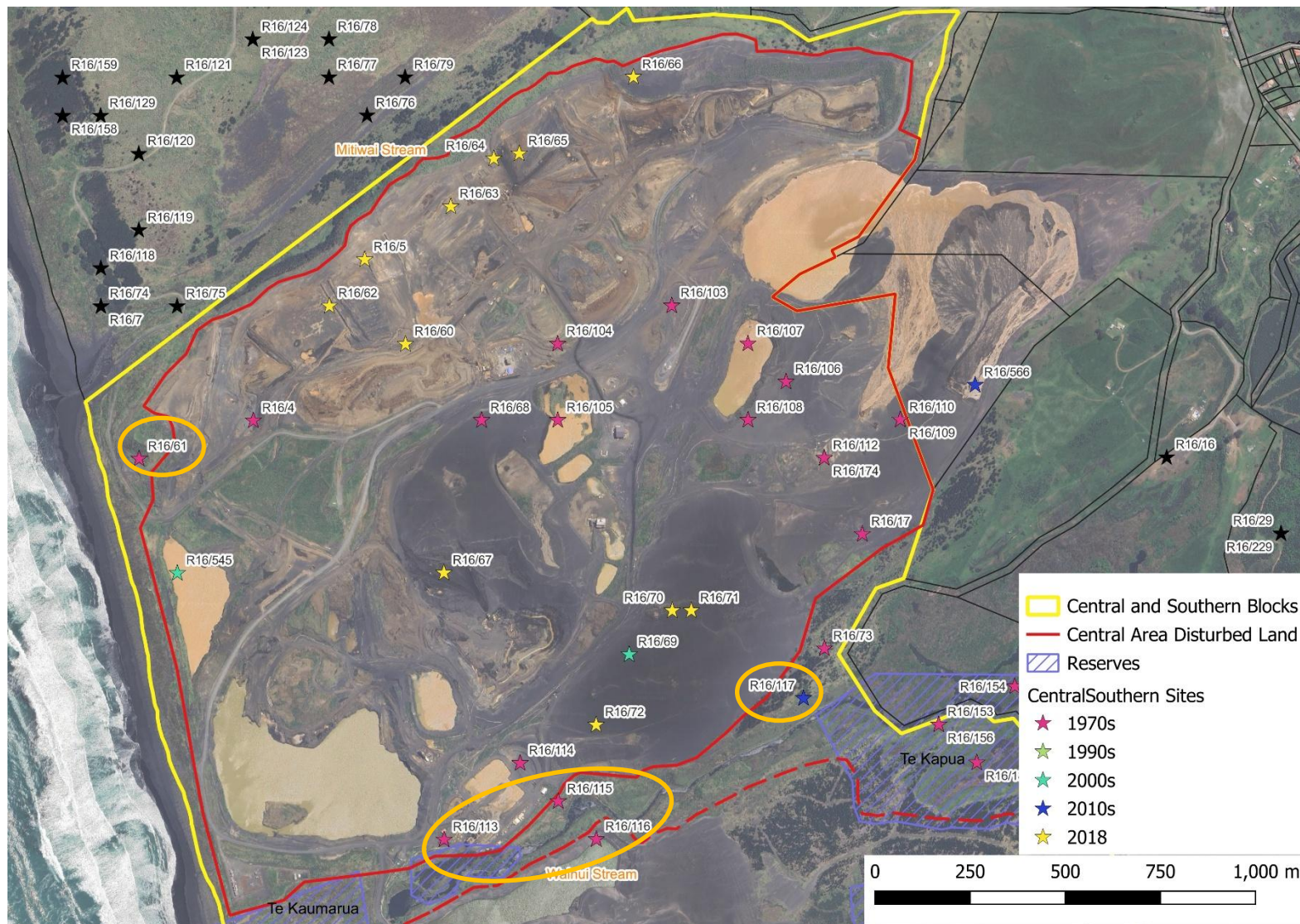


Figure 32. Georeferenced 2023 aerial in relation to the Central Area, with recorded sites marked by decade last visited (source: Google Earth). Those sites that are intact, partially intact or may be intact but their condition is unknown are circled

DISCUSSION AND CONCLUSIONS

Summary of Results

The background research and field survey carried out for this assessment have established that within the Central and Southern Blocks of the Taharoa Ironsands Mine there are a total of 89 recorded archaeological sites. This includes one site identified during the course of the survey and recorded as R16/572. Site recording dates back to the 1970s - two sites were revisited in the 1990s, three in the 2000s, and 13 were updated since 2010. The remaining 70 sites had not been revisited or reconsidered since the 1970s. Given the extensive modifications of the dune environment by wind erosion, mining, and forestry operations since the 1970s there was a clear need to reassess the sites and update their conditions.

The overall results show that of the 89 sites a total of 58 are considered to be destroyed, with 18 considered to be at least partially intact. One site has a missing record but has likely been destroyed and the status of the remaining 12 sites is unknown. These sites are primarily situated in places outside of mining impact, such as on the edges of streams, but were not able to be identified during the survey.

The level of past impacts on sites within the Central and Southern Blocks has varied. The Central Block has seen the greatest level of impact – it contains 35 recorded sites, of which 30 are considered to have been destroyed. The status of four sites is unknown, and there is only one site that appears to be partially intact. The partially intact site and the unknown sites are all situated either within reserves or adjacent to the coast or Wainui Stream.

The Southern Block (Northern Zone) has a total of 40 recorded sites, with 26 of these considered destroyed. Eight are at least partially intact, the status of a further five is unknown, with a single missing site record (though the site is likely to have been destroyed based on its location). This follows a similar pattern to the Central Block, with the intact sites situated on the lake edges, reserves, or even outside of the mining lease.

The small Southern Block (Southern Zone), which has a number of clay ridges and less sand, has seen no mining and very little forestry activity and exhibits the greatest level of preservation. We understand that no mining is proposed in this area. Of the 14 recorded sites just two sites are considered to be destroyed (being situated right on the edge of the mining extent and subject to heavy vehicle movements). This contrasts with the preservation of 8 of sites, with the status of 4 remaining unknown.

Māori Cultural Values

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

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

A Māori cultural values report, prepared by the Māori landowner, the Proprietors of Taharoa C Block, is provided with this Assessment. It notes that:

In line with our values, the accidental discovery protocols and the ability to exercise our own tikanga within these protocols have now been formalised into a draft

Archaeological Management Plan. The continuation of these protocols and regular mining plan updates maintains integrity of the relationship between TIL and the Proprietors of Taharoa C Incorporation. This will ensure that the significant cultural values associated with the Taharoa C Block are recognised and provided for and the adverse effects of ongoing mining excavation activity on those values are mitigated and appropriately managed.

Survey Limitations

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

Effects of the Proposal

Taharoa Ironsands Limited proposes to re-excavate and dredge mining areas in the Central and Southern Areas of the Taharoa C Block (Figure 4 and Figure 5). The proposal would see ironsand mining undertaken at higher RLs using dry mining units and at lower RLs using dredges (which can intersect with the groundwater table).

The proposal to rework the mining pits and dredge in the Central Block will encompass a total of 32¹ of the 35 previously recorded archaeological site locations across the whole of the Central Block. The three avoided sites (R16/113, R16/115, and R16/116) are situated either within a reserve or are within 30m of the Wainui Stream. Thirty of the sites are considered to be destroyed. Of the remaining two sites (R16/61, and R16/117), the former has an unknown status, while the latter is at least partially intact. These two sites may therefore be impacted by mining works.

The proposal to mine in the Southern Block will include:

- (a) the development of three pits in areas that have previously been dredged, in the Northern Zone of the Southern Block. This area includes a total of 13 recorded archaeological sites². Twelve of these are considered to be destroyed, with the remaining site being the missing record, though based on its recorded location it is also likely to have been destroyed.
- (b) three further pits in locations that have not been mined.
 - a. The first of these is on the eastern side of the Northern Zone, being primarily within forestry. A total of four sites are recorded within this area, R16/53, R16/55, R16/96 and R16/147. All are considered likely to be destroyed.
 - b. The second is situated to the west of Te Tauwhare Reserve, in the Northern Zone. This area encompasses three recorded sites. Two of these are considered to be destroyed (R16/57 and R16/94), with the third R16/327, having an unknown status. It is thought that the grid coordinates are not accurate, and that a more accurate placement would have this site situated

¹ R16/4, R16/5, R16/17, R16/60, R16/61, R16/62, R16/63, R16/64, R16/65, R16/67, R16/68, R16/69, R16/70, R16/71, R16/72, R16/73, R16/103, R16/104, R16/105, R16/106, R16/107, R16/108, R16/109, R16/110, R16/111, R16/112, R16/114, R17/117, R16/174, and R16/545.

² R16/56, R16/59, R16/95, R16/97, R16/98, R16/99, R16/100, R16/101, R16/102, R16/133, R16/134, R16/145, and R16/173.

just within the Te Tauwhare Reserve. R16/327 is a burial site, recorded from work by Harry Allen in 1976, and at that time the bones were collected for reburial elsewhere. It is understood that kōiwi are the reason for the formation of the Te Tauwhare Reserve.

- c. The third extension includes a portion of the Southern Block to the very south of the Site (Southern Zone). A total of four recorded sites are within the proposed extent. One of these sites is considered to be destroyed (R16/51), with another two having an unknown status. The two sites of unknown status, R16/52 and R16/89, have the potential to be affected. A sparse scattering of shell was observed in the vicinity of R16/52, but R16/89 was not observed during the field survey. The fourth site, R16/137 is considered to be intact. The existing record places the site within the project area, however its location is actually some 90m to the east, within a neighbouring property.

- (c) ancillary mining related activities in locations outside of the excavation areas (but within the site boundary). This encompasses a further 18 sites, of which eleven are considered to be destroyed³. The other seven sites (R16/12, R16/58, R16/88, R16/150, R16/151, R16/155, and R16/572) are either partially intact or have an unknown condition. All except R16/12, which is situated near the far southern boundary, may be impacted by ancillary operations and works.

The proposed activity therefore has the potential to affect 11 sites of either intact or unknown status (R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572). If any intact remains of these sites have survived they could be destroyed by future works. The value of these sites is further explained below.

In any area where archaeological sites have been recorded in the general vicinity it is possible that additional unrecorded subsurface remains may be exposed during development. While this is quite possible in dune environments, where sites may be both exposed and covered over time, for most of the local context the history of mining and forestry activities has substantially modified the landscape.

Archaeological features and remains can take the form of burnt and fire cracked stones, charcoal, shell midden, pits, artefacts of Māori and or human burials. Midden remains are the most likely to be exposed by the works.

Most of the sites were recorded as consisting of areas of shell midden and oven stones, often with artefacts. R16/572 is a pit/terrace site with a cluster of 4-5 terraces, while R16/327 consisted of the bones of a minimum of four individuals. No other features or elements were noted.

Archaeological Value and Significance

The sites recorded on the high dune and the wider dune plain are remnants of locations where resources, in particular shellfish, were processed and which often contained evidence of artefact manufacture and use. Generally, these reflect short-term occupations, although many such occupations may have occurred at each site. The small number of pit and terrace sites indicates that there was some longer-term occupation; however, these do not reflect the primary use of the plain. The sites should be seen in the context of a wider

³ R16/10, R16/19, R16/53, R16/55, R16/96, R16/132, R16/147, R16/152, R16/213, and R16/279.

landscape system where people moved through the resource-rich landscape of the coast and coastal plain towards the inland, more permanent occupation sites.

Eleven sites may remain within the proposed future mining pits or extensions (R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572). As noted above, sparse scatters of shell were observed in the vicinity of sites R16/52, R16/58, R16/88, R16/117, R16/150, and R16/151, and R16/572 was identified as a cluster of terraces, but no remains were identified at any of the recorded locations of the other sites. These were potentially obscured by vegetation, although in the case of R16/327 the site may actually be situated further to the east, within a reserve.

The Waikato Regional Policy Statement (RPS) identifies several criteria for evaluating the significance of historic heritage places. In addition, Heritage NZ has provided guidelines setting out criteria that are specific to archaeological sites (condition, rarity, contextual value, information potential, amenity value and cultural associations) (Heritage NZ 2019: 9-10). Both sets of criteria have been used to assess the value and significance of the archaeological sites/potential sites within the project area (see Table 3 and Table 4), based on the information in the site record forms, as only limited intact remains of the sites were identified during the current field survey. A Māori cultural values assessment has been prepared.

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

Overall, sites R16/52 (midden/oven), R16/58 (midden/oven), R16/61 (midden/oven), R16/88 (midden/oven) R16/89 (midden/oven), R16/117 (midden/oven), R16/150 (midden/oven), R16/151 (midden/oven), R16/155 (midden/oven) are considered to have limited archaeological and historic heritage value. Radiocarbon dating of shell material can be used to provide information on how Māori settlement patterns developed over time in the area and in the broader Taharoa area. However, midden are a very common site type, and these sites have little amenity value. R16/572 is a terrace site on geology that is less modified by the erosion and movement of sand and therefore has a greater potential of intact archaeological deposits to be present. The archaeological value of the site is considered to be limited to moderate. Site R16/327 is a burial site where kōiwi were removed and reinterred elsewhere. However, if any burial remains are still present their primary values would be cultural, though archaeological information may be recovered from kōiwi, if tangata whenua request it. As noted above, it is understood that this site is likely just within the Te Tauwhare Reserve.

Table 3. Assessment of the historic heritage significance of sites R16/52 (midden/oven), R16/58 (midden/oven), R16/61 (midden/oven), R16/88 (midden/oven) R16/89 (midden/oven), R16/117 (midden/oven), R16/150 (midden/oven), R16/151 (midden/oven), R16/155 (midden/oven), R16/572 (pit/terrace) and R16/327 (burial) based on the Waikato Regional Policy Statement (Section 10A Table 10.1). Note that this assessment is based on the original site records, as the current status of the sites has not been confirmed

Archaeological Qualities	
Information	<p>Sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, and R16/155 consisted of deflated shell with scatters of oven stones. A number of artefacts were also present when the sites were originally recorded, all of which have limited potential to provide some information about occupation and trading connections, while dating information could add to the understanding of Māori settlement in the area over time.</p> <p>R16/572 is a cluster of terraces, the excavation of which may provide information about the occupation of the lands peripheral to the dune environment, including radiocarbon dating.</p> <p>R16/327 was identified as a deflated scatter of human bone, which was collected for reburial by local kaumatua. If additional burial remains are present, analysis of such material could potentially inform on the lifestyle and health of those buried, should such permission be given.</p>
Research	Few investigations have been carried out in the Taharoa area and the settlement and occupation patterns are not well understood. The sites have limited potential to add to knowledge of the local area and how it fits within the broader settlement patterns in the Taharoa region.
Recognition or Protection	The sites are included in the NZAA Site Recording Scheme and as pre-1900 archaeological sites they are protected under the provisions of HNZPT Act 2014.
Cultural Qualities	
Sentiment	The sites are not currently important as a focus of spiritual, political, national or other cultural sentiment. The Māori cultural value of the sites should be determined by tangata whenua. Site R11/327 would have high cultural value to Māori if human remains are still present. A cultural values assessment has been prepared.
Identity	The sites are not currently a context for community identity or sense of place and does not provide evidence of cultural or historical continuity.
Amenity or Education	Limited, as the sites are below the ground surface or covered by vegetation.
Historic Qualities	
Associative Value	The sites do not have any known direct association with, or relationship to, a person, group, institution, event or activity that is of historical significance to Waikato or the nation.
Historical Pattern	If appropriate midden material is present for dating purposes, it could be used to provide information on temporal patterns of Māori settlement in the Taharoa area.
Scientific Qualities	

Information	The sites do not have any particular potential to contribute information about an historic figure, event, phase or activity aside from broadly informing on past Māori subsistence.
Potential Scientific Research	The research potential of the sites is of an archaeological nature and is addressed under Archaeological Qualities (above)
Technological Qualities	
Technical Achievement	The sites do not exhibit any particular technical achievement

Table 4. Assessment of the archaeological values of sites R16/52 (midden/oven), R16/58 (midden/oven), R16/61 (midden/oven), R16/88 (midden/oven) R16/89 (midden/oven), R16/117 (midden/oven), R16/150 (midden/oven), R16/151 (midden/oven), R16/155 (midden/oven), R16/572 (pit/terrace) and R16/327 (burial) based on Heritage NZ criteria (Heritage NZ 2019: 9-10). Note that this assessment is based on the original site records, as the current status of the sites has not been confirmed

Value	Assessment
Condition	<p>The landscape has undergone considerable modification through natural erosion, substantial mining works, and approximately 30 years of forestry operations. Natural erosion had already substantially affected the sites when recorded in the 1970s and this would have continued through to the present. It is possible that all of the kōiwi associated with R16/327 were lifted for reburial in the 1970s. The sites were not relocated during the survey and a definitive assessment of their current condition cannot be made.</p> <p>R16/572 is a terrace site that is situated on the periphery of the sand dune environment. The reduced impacts from natural processes such as wind erosion suggest that site has a greater chance of preservation.</p>
Rarity	Middens are very common site type in the area, with burial sites less common.
Contextual value	The sites are an aspect of a broad archaeological landscape associated with Māori occupation that stretches from the Ocean to the settlements in the foothills east of the dune plain.
Information potential	The midden sites have potential to provide information on Māori subsistence, lithic production and use. Few investigations have been carried out in the Taharoa area and the settlement and occupation patterns are not well understood. R16/52 (midden/oven), R16/58 (midden/oven), R16/61 (midden/oven), R16/88 (midden/oven) R16/89 (midden/oven), R16/117 (midden/oven), R16/150 (midden/oven), R16/151 (midden/oven), R16/155 (midden/oven), R16/572 (pit/terrace) and R16/327 (burial) have the potential for radiocarbon dating if suitable material is present, which could add to the understanding of these processes. If any kōiwi are still present at R16/327, any analysis would depend on the wishes of tangata whenua.
Amenity value	The sites are situated on private land and the sites are subsurface or covered with vegetation and hence are not visible.
Cultural associations	The sites have Māori cultural association. The cultural significance of the sites is for tangata whenua to determine. A cultural values assessment has been prepared.
Other	No other values have been identified.

Resource Consent Requirements

In considering a resource consent application under the Fast-track Approvals Act 2024, the panel must take into account the purpose of the FTAA, the provisions of parts 2, 3, 6, and 8 -10 of the RMA to the extent that they direct decision making on an application for resource consent (but excluding section 104D) and relevant decisions of any other legislation that directs decision making under the RMA. The purpose of the FTAA is to be given the greatest weight.

Section 6 of the RMA (which sits in Part 2) and section 104 (which sits in Part 6) are relevant in relation to this report.

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

All persons exercising functions and powers under the RMA are required under Section 6 to recognise and provide for these matters of national importance when *‘managing the use, development and protection of natural and physical resources’*.

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

Section 104(1)(b) of the RMA requires the decision-maker to have regard to relevant planning provisions. Regional, district and local plans contain sections that help to identify, protect and manage archaeological and other heritage sites. The Operative Waitomo District Plan 2009, the Proposed Waitomo District Plan, and Waikato Regional Coastal Plan 2005 are relevant to the proposed activity.

The Operative Waitomo District Plan (Chapter 21, Schedule 3) holds a record of archaeological sites within the district. This is derived from the ArchSite database, and records no additional sites of interest. The Proposed Waitomo District Plan records sites of heritage significance in Schedules 1 – 5. Schedule 3, *Sites and areas of significance to Māori*, identifies two sites as being within the Central and Southern Blocks of the Taharoa C Block. The site SSM074-A is identified as a wāhi tupuna or ancestral location within the Central Block. Site SSM113-A is identified as a takotoranga, or area associated with burial practices. The location of this corresponds to the Kaumarua Reserve at the mouth of the Wainui Stream. While both of these sites are situated within the project area, both are outside of the proposed future mining areas.

This assessment has established that the proposed activity has the potential to affect sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155 and R16/327, and R16/572. These sites are not scheduled in the District Plan. It also has the potential to affect unidentified subsurface archaeological remains that may be exposed during development.

Section 104(1)(a) of the RMA requires the decision-maker to have regard to any actual and potential effects on the environment of allowing the activity. Any adverse effects on archaeological deposits or features are considered to be minor and can be appropriately mitigated through archaeological investigation and recording to recover information relating to the history of Taharoa, or in the case of any surviving burial remains at R16/327, through appropriate action as directed by tangata whenua.

TIL is seeking an authority under the FTAA alongside its resource consent application for the Central and Southern Blocks.

TIL's existing Accidental Discovery Protocol was reviewed and found to be generally robust and appropriate. However, several refinements were recommended to ensure compliance with Heritage New Zealand guidelines. Following consultation with iwi, the Protocol was amended. The amendments ensure that iwi are notified at an early stage in the event of the discovery of kōiwi and are included in the distribution of archaeological reports.

Heritage New Zealand Pouhere Taonga Act 2014 Requirements

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

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

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

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

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

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

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

Authorities to modify archaeological sites can be applied for under the HNZPTA or under the FTAA for listed or referred projects either in respect to archaeological sites within a specified area of land (as described in section 44(a) of the HNZPTA) or to modify a specific archaeological site where the effects will be no more than minor (as described in section 44(b) of the HNZPTA). An application for an archaeological authority for the purpose of conducting a scientific investigation or to carry out an exploratory investigation of any site or locality to confirm the presence, extent and nature of a site or suspected site may only be made under the HNZPTA.

As the proposed ironsand mining development has the potential to affect sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, R16/572, and possibly additional unrecorded subsurface archaeological remains, an archaeological authority (under section 44(b) of the HNZPTA) is required from Heritage NZ before any work can be carried out that may affect the specific sites. TIL is seeking an authority under the FTAA alongside its resource consent application for the Central and Southern Blocks, primitively to address damage or destruction to sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572

and any other unidentified sites discovered as part of the project works. This assessment is provided in support of that application.

Conclusions

A total of 88 sites have previously been recorded within the area, with a new site found during the field survey.

Based on the results of the 2025 field survey, of the 89 recorded sites, a total of 58 are considered to be destroyed (65.2%), with 18 (20.2%) considered to be at least partially intact. One site has a missing record, but its recorded location indicates that it has probably been destroyed, and the status of the remaining 12 (13.5%) sites is unknown.

The proposed reworking of mining pits and dredging across the Central and Southern Blocks will potentially affect eleven recorded archaeological sites, though the status of all of these could not be confirmed. Two are located in the Central Block, both of which have middens. Nine sites are located in the Southern Block. One of these (R16/327) is in the northern zone of the Southern Block and is a Māori burial site where kōiwi tangata (human remains) were recorded in the 1970s and removed for reburial by local kaumatua. It is assumed that all known kōiwi were re-interred in the nearby reserve at that time. The other sites consist of middens (R16/52, R16/58, R16/88, R16/89, R16/150, R16/151, and R16/155) and a terrace site (R16/572). The remaining sites which are still present or potentially present within the study area are located outside the areas affected by the proposed works.

The potentially affected midden sites are considered to have limited archaeological value, with the terrace site considered to have limited to moderate value, and any effects can be appropriately mitigated through archaeological investigation and recording to recover information relating to the settlement history of the area, under the provisions of the HNZPTA. If any kōiwi tangata associated with R16/327 are still present, their primary values would be cultural, and they should be appropriately managed as directed by tangata whenua and Heritage NZ.

Overall, the potential adverse effects on archaeological values are considered to be minor, due to the limited/moderate archaeological values of the recorded sites.

RECOMMENDATIONS

- An Authority to modify archaeological sites within the proposed development area is to be applied for under 43(3)(i) of the Fast-track Approvals Act 2024 prior to any works in the vicinity (within 100m) of the recorded locations of sites R16/52, R16/54, R16/58, R16/61, R16/73, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155 and R16/327.
- Because it is possible that additional unrecorded sites may be exposed during earthworks, the Authority application should include any additional sites that may be discovered when works are under way.
- As the potentially affected sites relate to Māori settlement, tangata whenua have been consulted, in accordance with requirements for substantive applications under the FTAA, including those that require an application for an archaeological authority. Continued engagement with iwi is recommended throughout the application process.

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APPENDIX A: SITE RECORD FORMS

Presented in a Separate Document

APPENDIX B: FIELD SURVEY PHOTOGRAPHS

Central Block – Survey Photographs



Figure 34. View northwest over recorded location of R16/4



Figure 35. View north over the recorded locations of R16/5, R16/60, R16/62, R16/63, R16/64, R16/65 and R16/66



Figure 36. View northwest over the recorded locations of R16/5, R16/60, R16/62, R16/63, R16/64, R16/65 and R16/66



Figure 37. View southwest over recorded location of R16/17



Figure 38. View northwest over the recorded locations of R16/60, R16/62, R16/5, R16/63, R16/64, R16/65 and R16/66



Figure 39. View east over recorded location of R16/61 (within covenanted area)



Figure 40. View southeast over recorded location of R16/68



Figure 41. View east over recorded locations of R16/69, R16/70, R16/71 and R16/72



Figure 42. View north over recorded location of R16/73



Figure 43. View east over the recorded location of R16/104



Figure 44. View southwest over recorded location of R16/105



Figure 45. View northwest over recorded location of R16/105



Figure 46. View west over recorded locations of R16/106 and R16/108



Figure 47. View north over recorded location of R16/107



Figure 48. View northwest over recorded location of R16/110



Figure 49. View southeast over recorded location of R16/111



Figure 50. View west over recorded location of R16/113



Figure 51. View east over recorded location of R16/113



Figure 52. View north over recorded location of R16/114



Figure 53. View northeast over recorded location of R16/115



Figure 54. View southwest over recorded location of R16/116



Figure 55. View west over recorded location of R16/117



Figure 56. Exposed surface shell at recorded location of R16/117



Figure 57. View east over recorded location of R16/566

Southern Block – Northern Zone – Survey Photographs



Figure 58. View northeast over recorded location of R16/10



Figure 59. View northeast over recorded location of R16/11



Figure 60. View northeast over recorded location of R16/11



Figure 61. View northeast over recorded location of R16/19



Figure 62. View south over recorded location of R16/53



Figure 63. View south over recorded location of R16/54



Figure 64. View southwest over recorded location of R16/55



Figure 65. View northwest over recorded location of R16/56, R16/59 and R16/173



Figure 66. View north over recorded location of R16/57



Figure 67. View south over recorded location of R16/58. Note deposit of shell in centre of image



Figure 68. Marine shell at recorded location of R16/58



Figure 69. View southeast over recorded location of R16/93 and R16/145



Figure 70. View east over recorded location of R16/94



Figure 71. View northeast over recorded location of R16/94



Figure 72. View southwest over recorded location of R16/94



Figure 73. View northeast over recorded location of R16/95



Figure 74. View southwest over recorded location of R16/96



Figure 75. View southwest over recorded location of R16/97 and R16/102



Figure 76. View east over recorded location of R16/99 and R16/101



Figure 77. View southwest over recorded location of R16/144



Figure 78. View southeast over recorded location of R16/144



Figure 79. View southwest over recorded location of R16/147



Figure 80. View showing R16/148 in a test pit



Figure 81. View of R16/149



Figure 82. View of R16/150



Figure 83. Exposed midden deposit R16/150



Figure 84. View west over eroding deposit R16/151



Figure 85. View east over recorded location of R16/152



Figure 86. View south over recorded location of R16/155



Figure 87. View east over recorded location of R16/213



Figure 88. View southeast over recorded location of R16/213



Figure 89. View northeast over recorded location of R16/279



Figure 90. View north over recorded location of R16/327



Figure 91. View southeast over recorded location of R16/327

Southern Block – Southern Zone – Survey Photographs



Figure 92. View west towards recorded locations of R16/8 and R16/143



Figure 93. View southeast over recorded location of R16/12



Figure 94. View facing south across Waiohipa Stream and the area of R16/12



Figure 95. View northwest over recorded location of R16/51



Figure 96. View southeast over recorded location of R16/51



Figure 97. View north over recorded location of R16/89 (centre right of image)



Figure 98. View south over recorded location of R16/52



Figure 99. View northwest over recorded location of R16/137. This is probably also the location of R16/568



Figure 100. View southeast over recorded location of R16/137



Figure 101. Exposure of midden deposit R16/137



Figure 102. View southeast over recorded location of R16/135



Figure 103. View northwest over recorded location of R16/136, with R16/135 arrowed at right



Figure 104. View southeast over recorded location of R16/138



Figure 105. View northeast over recorded location of R16/138



Figure 106. View southeast towards recorded location of R16/140



Figure 107. View southwest over site R16/572

Cultural Values Report

Cultural Values Report– for Archaeological Authority purposes

Introduction

This cultural values report is provided by the Committee of Management of Taharoa C Incorporation in support of the application by Taharoa Ironsands Ltd for an archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014.

The purpose of this Report is to inform the Archaeological Authority Application and Assessment Report and outlines the Maaori cultural values associated with the Taharoa C Block and potential effects of excavation activities on those values.

Taharoa C Block

Taharoa C Block is located on the west coast of the North Island, approximately 8km south of the Kawhia Harbour. It is part of the Taharoa rohe which encompasses the coastal lands south of Kawhia Harbour, including Lake Taharoa and surrounding areas traditionally occupied and cared for by Ngaati Mahuta ki Tai.

The Taharoa rohe has significant meaning to Ngaati Mahuta ki Tai and Ngaati Mahuta as tangata whenua. Maaori tribal connections with Taharoa and the Taharoa C Block are founded on relationships formed out of occupation, settlement and use of the ancestral landscape over many years.

Over approximately two months in 1822 the dunes of Taharoa, including the Taharoa C Block, were a battle ground where the Waikato iwi led by Potatau Te Wherowhero and Ngaati Toa led by Te Rauparaha clashed. The outcome was that although defeated, Te Rauparaha and his people were allowed to escape and travel south along the coast to Taranaki and further south to Wellington, eventually settling into a new area, including Kapiti Island.

Following this, Te Wherowhero left commanders-in-chief such as Kiwi Te Roto (Kiwi Te Pihopa) with a branch of Ngaati Mahuta people as sentinels to occupy and protect the lands at Kawhia and Taharoa. This group settled in the valleys and fished in the lakes, streams and inlets away from the Taharoa mine site.

Taharoa C Incorporation

*E kore Te Puna aa Rona e mimiti, anoo hoki taatou ngaa uri o Ngaati Mahuta ki Tai
As everlasting as Te Puna aa Rona, we the descendants of Ngaati Mahuta ki Tai will never diminish*

On 9 March 1970, the Maaori Land Court issued an order of incorporation under s 29 of the Maaori Affairs Amendment Act 1967, creating the Proprietors of Taharoa C Incorporation. The Incorporation was established, with the guidance and strategic direction of kaumaatua of Ngaati Mahuta. Kaumaatua of the day recognised the potential for employment and education opportunities for their people. The shareholders of Taharoa C Incorporation are predominantly of Ngaati Mahuta descent.

Hapuu and Marae

Ngaati Mahuta ki Tai (also known as Ngaati Mahuta ki te hauaauru)¹, is the hapuu with mana whenua within the rohe and maintains kaitiakitanga over the land and its resources.

Ngaati Mahuta is the largest hapuu of Waikato-Tainui, comprising Ngaati Mahuta ki Uta (inland) and Ngaati Mahuta ki Tai (of the coast). The ancestors of Ngaati Mahuta arrived in Aotearoa on the Tainui waka and made first landfall on the east coast before eventually reaching the Kawhia Harbour. The name Ngaati Mahuta originates from the ancestor Mahuta, son of Hekemaru from Te Arawa and Tainui, and Heke-i-te-rangi, also of Tainui descent.

While Ngaati Mahuta is formally recognised as a hapuu of Waikato-Tainui, some hapuu members hold genealogical links to Ngaati Maniapoto who have also had a historic influence in the Taharoa area, as have Ngaati Toa.

There are three marae connected to Ngaati Mahuta ki Tai; Maketuu Marae – the principal marae, which is in Kaawhia, Te Kooraha Marae which is in the farming areas of Taharoa heading towards the coast, and the youngest of the three marae, Aaruka which is situated in Taharoa village.

Maketuu, Te Kooraha, and Aaruka marae are part of a collective of Tainui marae that play a role in the operation of iwi within Tainui, especially regarding the Kiingitanga with the annual Poukai (important Kiingitanga gathering) held at Maketuu Marae on 13 March, as well as the Koroneihana celebration (Maaori Monarch's Coronation) held at Te Kooraha Marae in September every year.

Cultural Values

“Kia tuku mana, tuku whenua, tuku tangata” – Kiingi Taawhiao

Led by this tongikura from Kiingi Taawhiao, our values reflect the commitment he made in Kaawhia and Tahaaroa. It is a commitment which continues today and a reminder of our humble obligation to our people, to our whenua and to each other

The following principles underpin the relationship we have with natural resources and their use and management:

- (a) Whakapapa – genealogy or lineage linking the animate and inanimate.
- (b) Kaitiakitanga – guardianship and stewardship by tangata whenua
- (c) Manawhenua – territorial right from generational occupation of land
- (d) Rangatiratanga – leadership, identity, and self-determination
- (e) Taonga – treasured or valued items (whether tangible or intangible)
- (f) Mauri – essence or life force

¹ The additional designations “ki Tai” and “ki te hauaauru” translate to “of the coastal area” and “of the west” respectively.

- (g) Wairuatanga – embedded emotion or spirit
- (h) Whanaungatanga – kinship/membership and participation
- (i) Manaakitanga – hospitality, respect and security
- (j) Kotahitanga – cohesion and collaboration
- (k) Ahi kaa – long lasting burning fires of occupation, title to land
- (l) Ki uta ki tai – ‘From the mountains to the sea,’ holistic understanding of natural environment.

Archaeological Sites

There are hapuu urupaa within the Taharoa rohe that have direct connection to the original Ngaati Mahuta tuupuna. Urupaa narratives are koorero tuku iho, traditional tribal knowledge handed down through generations of Ngaati Mahuta descendants.

The discovery of koiwi and other artefacts of cultural value at Taharoa has occurred more commonly than might occur in inland areas due to the naturally shifting sands of the area, historical ironsand excavation activities across the Taharoa C Block and other land holdings adjacent to Taharoa C Block, and its history of occupation and battles.

In relation to Taharoa C Block, it is understood that there are three recorded archaeological sites across the Central and Southern Blocks which will primarily be affected by proposed future mining, as they are located within anticipated areas of excavation. These are:

- R16/52 and R16/89 which are patches of midden and hāngi stones in the Southern Block: These sites are located in the south of the Southern Block near Lake Rototapu. Their current condition is unknown but it is understood to consist of potentially related deflated shell with scatters of oven stones. During an archaeological survey in 2025 a sparse scattering of shell was observed in the vicinity of R16/52, but R16/89 was not observed. R16/89 is located in an area now covered by dense gorse and vegetation that has not be modified by forestry or mining; and
- R16/327 is a burial site in the Southern Block: R16/327 was originally identified as a deflated scatter of human bone, which was understood to have been collected for reburial by local kaumaatua in the 1970s. Recorded archaeological field work in 1977 indicates that the bones were collected for reburial. If any kōiwi are still present at R16/327, which is likely located just within the Te Tauwhare Reserve, any analysis would depend on the wishes of tangata whenua identified by following TIL’s protocol and Archaeological Management Plan.

Other recorded sites and accidental discoveries of unrecorded sites within the Central and Southern Blocks could potentially be affected by mining operations.

Protocols

When accidental discoveries occur on the mine site, TIL implements and observes formally documented accidental discovery protocols and tikanga derived from many years of interacting with

discoveries of koiwi and taonga in the Taharoa dune system and advice from kaumaatua. Ancestors are honoured and the mana and mauri of Ngaati Mahuta upheld.

These protocols partly involve re-interment of discovered koiwi at defined urupaa and reserve areas within the Taharoa C Block that are protected from mining activity. One of these defined and protected urupaa is Te Wharangi urupaa located in the north of the Taharoa C Block. Other re-interment areas reserved from mining on the Taharoa C Block are known as Te Tauwhare, Te Kaumarua, Te Kapua, Te Kakara, and Te Ruaoteata and other sites as marked in the Archaeological Assessment (Clough 2025).

In line with our values, the accidental discovery protocols and the ability to exercise our own tikanga within these protocols have now been formalised into a draft Archaeological Management Plan. The continuation of these protocols and regular mining plan updates maintains integrity of the relationship between TIL and the Proprietors of Taharoa C Incorporation.

This will ensure that the significant cultural values associated with the Taharoa C Block are recognised and provided for and the adverse effects of ongoing mining excavation activity on those values are mitigated and appropriately managed.

Archaeological Management Plan

ARCHAEOLOGICAL MANAGEMENT PLAN: TAHAROA IRONSANDS MINE – CENTRAL AND SOUTHERN BLOCKS

Prepared for Taharoa Ironsands Limited

October 2025

By
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INTRODUCTION

Purpose

The Taharoa Ironsands Mine is on the west coast of the North Island, south of Kawhia (Figure 1). The mine involves removal of the sand deposits for iron extraction in the property known as Taharoa C Block. Taharoa Ironsands Limited (TIL) proposes to re-excavate and dredge the Central and Southern Block of the land legally described as Taharoa C Block. The proposal would see ironsand mining undertaken at higher RLs using dry mining units and at lower RLs using dredges (which can intersect with the groundwater table).

The Mitiwai Stream defines the northern extent of the current active and proposed mining areas on the Central/Southern Block. The mining area extends south past the Wainui Stream down to the Waiohipa Stream in the Southern Block. The legal description of the land where the proposed works are situated is Taharoa C Block.

The proposed mining project was assessed in an archaeological assessment:

Gaylard, D., G. Farley, and J. Low. October 2025. Taharoa Ironsands Central and Southern Blocks: Archaeological Assessment. Report prepared for Taharoa Ironsands Ltd.

The assessment established that 89 recorded archaeological are located in the vicinity of the Central and Southern Blocks. 58 are considered to have been destroyed in the past, with most of the preserved sites situated on the periphery of the mine. There are eleven recorded sites of intact or unknown status situated within the proposed area of works (R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572), which may be impacted by the mining project if archaeological material is still present at these locations.

An application for a general Authority under section 43(3)(i) of the Fast-track Approvals Act 2024 (FTAA) is being made as a precaution prior to the start of works. This will ensure that any archaeological material exposed or discovered across the site during the proposed works are recorded and appropriate action can be taken.

This archaeological management plan outlines the procedures to be followed during earthworks in the vicinity of the **known** sites and procedures for archaeological monitoring and the recording of any archaeological evidence before it is modified or destroyed. It also provides protocols for the exposure of **unknown / discovered** archaeological remains including kōiwi tangata (human remains) or taonga (Māori artefacts).

Project Archaeologist

The ‘Project Archaeologist’ referred to in this plan is the archaeologist approved under the Fast-track Approvals Act 2024 to undertake activities under the archaeological authority.

Some of the archaeological work may be undertaken by other qualified archaeologists under the direction of the Project Archaeologist. The general term ‘Archaeologist’ is used to denote either the Project Archaeologist or a qualified archaeologist working under their direction.

Aims of Monitoring, Investigation and Recording

R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, and R16/155 are recorded as midden/oven sites as shown on Figure 1 below. Most other sites in the vicinity were also recorded as deflated shell midden. Information from these sites may shed light on subsistence patterns and, through radiocarbon dating, help determine how Māori settlement patterns developed over time both locally and across the broader Taharoa area. Previous excavation in the area (Larsen and Clough 2022)¹ recovered obsidian artefacts, and the technological analysis and sourcing of any further artefacts would inform on habitation of the area and trading patterns.

R16/327 is recorded as a burial site and presumed to be located in the Southern Block. The site was excavated in the 1970s, and it is understood that all of the kōiwi associated with R16/327 were lifted for reburial at that time. However, if any kōiwi are still present at R16/327, any analysis would depend on the wishes of tangata whenua.

R16/572 is a pit/terrace site. Findings from this site may offer insights into the settlement patterns and locations of occupation in the Taharoa area. It is important that this information is recovered prior to the removal of archaeological deposits and features to offset the loss of these sites.

Māori Cultural Values

Archaeological sites of Māori origin have cultural value to tangata whenua in addition to the archaeological values provided for in this plan.

Contact details for representatives of iwi that have an interest in the sites within the project area are provided in this document, as are protocols that must be adhered to if archaeological materials of Māori origin are exposed. In carrying out the requirements of the Authority the Archaeologists will be guided by kaumātua who have been nominated by the Māori landowners, the Proprietors of Taharoa C Block Incorporated, in matters of tikanga.

TIL or its designated representative should ensure that at least one of the nominated kaumātua are informed at least 48 hours before the start of the works requiring archaeological monitoring.

¹ Larsen, B. and R. Clough 2022. Taharoa Ironsands Mine Expansion: Final Archaeological Monitoring Report. Report prepared for Taharoa Ironsands Mine Limited.

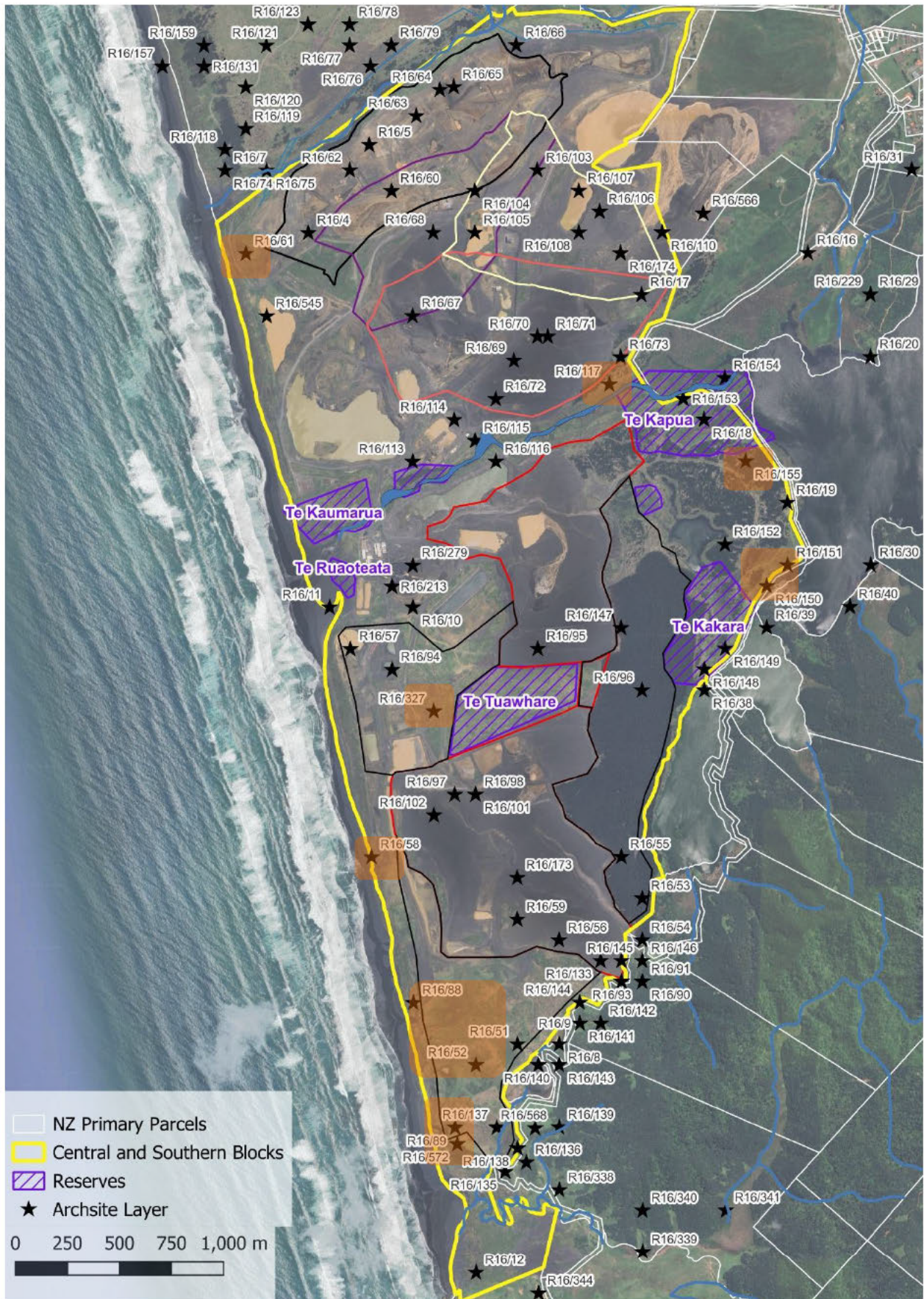


Figure 1. Proposed development site and indicative mining panels, with the areas in which earthworks must be monitored by an archaeologist indicated in orange

SITE MANAGEMENT

General Requirements

1. Prior to the start of bulk mining earthworks in the vicinity of sites R16/52, R16/89, and R16/327, the Project Archaeologist approved under the Fast-Track Approvals Act 2024, will be called to meet the personnel undertaking works on site to brief them on the archaeological requirements.
2. Prior to the start of land disturbance in the vicinity of sites R16/58, R16/61, R16/88, R16/117, R16/150, R16/151, R16/155, and R16/572 the Project Archaeologist will be called to meet the personnel undertaking works on site to brief them on the archaeological requirements.
3. The Project Archaeologist will ensure that the personnel undertaking works have a copy of the Authority and Archaeological Management Plan, and will provide confirmation to Heritage NZ that they have been received and understood, either by providing copies of both documents signed by the relevant parties, or by obtaining email confirmation from them, copied to Heritage NZ.
4. The Project Archaeologist must be given at least 2 weeks' notice by TIL that works in the vicinity of the recorded sites are about to begin.

Procedures for undertaking works in the vicinity of recorded sites when the Archaeologist is present

1. The recorded location of sites R16/52, R16/58, R16/61, R16/88, R16/89, R16/117, R16/150, R16/151, R16/155, R16/327, and R16/572 (Figure 1: orange) should be machine stripped under archaeological supervision prior to bulk mining earthworks, under Authority from Heritage NZ, to establish whether archaeological material is present and if so to investigate and record them.
2. Monitoring will continue under archaeological supervision until the natural deposits have been reached (where excavations are continued to this depth), or until it becomes clear that the area has been modified to the point where no archaeological features would be expected.
3. If in situ archaeological features or deposits are identified during monitoring, the Archaeologist will stop works in the immediate vicinity by notifying TIL.
4. Any in situ archaeological deposits or features exposed during monitoring, that cannot be avoided, will be investigated, recorded and sampled by the Archaeologist consistent with accepted archaeological practice and in accordance with the requirements of the Heritage NZ Authority. Detailed notes of each feature and deposit will be made, photographs will be taken, and all subsurface features located will be detailed on the site plan. Stratigraphic drawings and photographs of features and deposits will be undertaken. Any artefacts will be retained for analysis and their positions marked on the site plan.
5. Additional Archaeologists will be brought to site if required to assist in the monitoring, and for the subsequent archaeological recording and sampling.
6. The mine operator (Operator) will allow reasonable time and opportunity for the recording and sampling of any archaeological features or deposits encountered. The

Archaeologist(s) will record the archaeological feature(s) or deposit(s) as quickly as possible so that earthworks may resume without undue delay.

7. If suspected archaeological deposits or features are identified at times or in areas where the Archaeologist is temporarily not present, the Operator must stop works (within 10m) and follow the procedure set out below.
8. Heritage NZ will be advised by the Project Archaeologist if any significant archaeological features or deposits are exposed that were not anticipated. This will trigger the stand down procedure set out below.
9. If archaeological material relating to Māori occupation are exposed, the Project Archaeologist or Mine Manager will inform at least one of the nominated kaumātua representatives (if not present).
10. If human bone (kōiwi tangata) or taonga (Māori artefacts) are encountered, the protocols outlined in the *Taharoa Mine Site Health and Safety – Environmental Procedure: Discovery of Human Remains and/or Items of Cultural Significance* (TIL, October 2025) will be followed. The updated procedure will supersede the existing version and will take effect from the date the Authority is granted.

Procedures if Archaeological Sites are Exposed when the Archaeologist is not Present

If the Archaeologist is not present and materials are exposed that are potentially archaeological features or deposits (as described to the Operator) at the pre-start meeting), the following procedure should be adopted:

1. The Operator will ensure that earthworks shall cease in the immediate vicinity (within 10m) while the Archaeologist is called in to establish whether the material is part of an archaeological site as defined under the HNZPTA.
2. If the Archaeologist confirms that it is an archaeological site, the area of the site will be defined by the Archaeologist and excluded from earthworks.
3. The archaeological site will be investigated and recorded by the Archaeologist in accordance with accepted archaeological practice and the conditions of the authority.
4. Heritage NZ will be advised by the Archaeologist if any significant archaeological features or deposits that were not anticipated are exposed.
5. If the archaeological site relates to Māori occupation the at least one of the nominated kaumātua representatives will be informed by the Archaeologist (if present) or Mine Manager 48 hours prior to investigation.
6. If human bone (kōiwi tangata) or taonga (Māori artefacts) are encountered, the protocols outlined in the *Taharoa Mine Site Health and Safety – Environmental Procedure: Discovery of Human Remains and/or Items of Cultural Significance* (TIL, October 2025) will be followed. The updated procedure will supersede the existing version and will take effect from the date the Authority is granted.

Protocols Relating to Koiwi Tangata (Human Remains) and Taonga (Māori Artefacts)

Refer to the *Taharoa Mine Site Health and Safety – Environmental Procedure: Discovery of Human Remains and/or Items of Cultural Significance* (TIL, October 2025).

Protocols following all discoveries

1. Any features, deposits or artefacts recovered and samples taken will be analysed and recorded by the appropriate specialists.
2. The Project Archaeologist will provide a report to the Senior Archaeologist at Heritage NZ following the Archaeological Report Guideline (AGS12 2023) within 20 days of the completion of archaeological work. This may be the final report if no or limited archaeological remains are found.
3. If more extensive remains requiring detailed analysis are found, the Project Archaeologist will complete a full monitoring report following the Archaeological Report Guideline (AGS12 2023) within 12 months of the end of the archaeological work, and will provide it to Heritage NZ and other parties identified in the Authority.

ARCHAEOLOGICAL TEAM AND OTHER CONTACTS

Archaeological Team

Glen Farley will have overall direction of the project as the contracted archaeologist and will direct the project as the Clause 7 Schedule 8 FTAA Project Archaeologist. Fieldwork will be carried out by them or under their supervision.

The archaeological team will include some or all of the following:

Name	Role	Responsibility
Glen Farley, MA	Director, Clause 7 Schedule 8 FTAA Project Archaeologist	Overall direction of project
Doug Gaylard, MA	Field Supervisor	Supervise fieldwork, monitoring, recording
Tom Clough-Macready, BA Hons	Archaeologist	Monitoring, recording
Kirstin Roth, MArchP	Archaeologist	Monitoring, recording

Other qualified archaeologists and/or specialists may be brought in to the project if required. These may include specialists in particular categories of artefact or other remains.

Contact Details

Project Archaeologist	Glen Farley: [REDACTED], [REDACTED] Rod Clough: [REDACTED], heritage@clough.co.nz
Heritage NZ Regional Archaeologist	Rachel Darmody: [REDACTED] [REDACTED]
Kaumātua representatives nominated by The Proprietors of Taharoa C Block Incorporated	Morris Tuaupiki Tom Moke Meno Te Uira Peggy Willison Roy Ketu Willison (Details to be provided)

STAND DOWN PERIODS

Depending on what is revealed by the earthworks in the vicinity of the known sites, stand down periods may be required at various stages to allow for archaeological work to be carried out or for consultation with the appropriate parties to be undertaken.

Stand down will require earthworks to cease only in the immediate vicinity of the feature or find, and work may proceed in other areas. The following maximum stand down periods will apply, but earthworks may be resumed earlier if the required work has been completed.

Timeframes need to be flexible enough to ensure that archaeological works are completed as necessary to ensure that the conditions of the authority are met.

Trigger	Stand Down Period	Requirements	Release
Archaeological feature, deposit or artefacts	Up to 1 day within each area where material is found (maximum 3 days), but work may continue in areas where no material is found	Sufficient time must be allowed for the Archaeologist to investigate and record the material.	Work resumes when the Archaeologist advises the Contractor that work is completed
Significant archaeological feature, deposit or artefacts ²	Up to 3 days for a response from Heritage NZ, and up to 3 days for any detailed investigation required	The likely requirement is a mitigation investigation and/or recording by standard archaeological techniques, but this will be advised by Heritage NZ.	Work resumes when the Archaeologist advises the Contractor that work is completed
Human bone found	As agreed between the project manager, Heritage NZ and Kaumatua	Heritage NZ and NZ Police to be satisfied that koiwi identification is correct. Kaumatua representative(s) to organise reinterment or removal of bones from site and appropriate cultural ceremonies.	Work resumes following removal of bones from site and when authorisation from Heritage NZ has been received.
Taonga, or archaeological remains of Māori origin found that were not anticipated	Up to 3 days	Heritage NZ and Kaumatua to be consulted on appropriate action. Archaeological recording as required	Work resumes when the Archaeologist or Heritage NZ advises the Contractor that work is completed

² i.e. with the potential to provide significant information through detailed investigation

APPLICANT'S RESPONSIBILITIES

Authority Holder's Responsibilities

TIL or its designated representative has the following responsibilities:

1. To advise Heritage NZ of the start and finish dates of any required archaeological work.
2. To provide the Project Archaeologist with 2 weeks' notification that project earthworks are about to begin, and to ensure that an Archaeologist is present when earthworks begin in the areas requiring monitoring in the vicinity of the known sites shown in Figure 1.
3. To meet the Project Archaeologist on site prior to the start of works for a briefing on the archaeological requirements.
4. To ensure that a copy of the archaeological Authority is kept on site and its contents are made known to all personnel.
5. To ensure that a copy of this Archaeological Management Plan is kept on site and its contents are made known to all personnel.
6. To ensure that the conditions and protocols outlined in the Authority and this document are observed by personnel.
7. To provide a safe environment for the Archaeologists to carry out their work.
8. To provide sufficient site security to ensure that archaeological material on site is protected from unlawful excavation or removal.
9. To comply with the protocols above if archaeological sites, kōiwi or taonga (pp.5) are exposed.
10. To allow the Archaeologists sufficient time to investigate and record any archaeological remains before resuming works in the immediate vicinity.
11. To provide a report to Heritage New Zealand if extensive remains are found in accordance with the conditions of the Authority.

DISPUTE RESOLUTION

Disputes fall into a number of categories but are usually the result of poor communication between the operator, kaumātua representatives and the project archaeologists. Most can be avoided if sufficient detail of the archaeological issues and responsibilities is outlined in the tender document or work management documentation.

Common examples of a dispute are: that the operator considers that the archaeologists are causing unacceptable delays, or that the archaeologists feel they have insufficient time to fulfil the obligations of the authority. In the event of a dispute relating to the Authority investigation the following procedure for resolution should be followed:

1. If the dispute relates to archaeological issues, a meeting between the Authority holder (or designated representative), TIL and Archaeologists should be convened as soon as possible to attempt to resolve the dispute.
2. If the dispute relates to cultural issues, a meeting between the Authority holder (or designated representative), TIL, the nominated kaumātua representatives, and Archaeologists should be convened as soon as possible to attempt to resolve the dispute.
3. If the dispute cannot be resolved, a further meeting of all parties with representatives of Heritage NZ will be arranged within 1 working day to resolve the dispute. Heritage NZ has ultimate responsibility for resolving issues relating to the conditions of the Authorities it issues.

Taonga tūturu (Māori artefacts) recovered from archaeological investigations are often deposited in local or national museums following archaeological analysis, and with the agreement of iwi. On other occasions iwi may prefer to retain ownership of artefacts and disputes can arise between different iwi with an interest in the area. Any disputes relating to the long term ownership and custody of taonga tūturu should be dealt with through the statutory processes of the Protected Objects Act 1975. The provisions of the Act require that all taonga tūturu are notified to the Ministry for Culture and Heritage within 28 days of the completion of archaeological fieldwork. Under s.11 and s.12 of the Act the Ministry for Culture and Heritage must notify all parties that have an interest in the taonga, and if competing claims for ownership are made and cannot be resolved the matter may be referred to the Māori Land Court for resolution.

**TAHAROA MINE SITE
HEALTH & SAFETY – ENVIRONMENTAL
PROCEDURE**

**DISCOVERY OF HUMAN REMAINS AND/OR
ITEMS OF CULTURAL SIGNIFICANCE**

1. SCOPE

This document serves to describe the procedure to follow in the event of discovering human remains and / or items of cultural significance on any company property or leasehold land.

2. POLICY

2.1 In the Event of Human Remains or Items of Cultural

Significance It should not be touched.

On no account shall the area around the discovery be disturbed. The area immediately surrounding the discovery will be cordoned off with cones and tape.

3. PROCEDURE

- a) Immediately report the findings to the Mine Manager or in his absence, his designate, verbally or by phone.
- b) The Mine Manager or his designate shall inspect the site and locality to determine the nature of the finding. The Mine Manager shall inform Taharoa C Block Incorporated and the NZ Police at Kawhia, in the case of the

discovery of bones. Photographic images of the discovery will be sent to NZ Police in the first instance.

After liaising with their advisors, the NZ Police will notify the Mine Manager whether the remains are human or of cultural significance and will determine whether other offsite personnel shall be notified and/or requested to attend an inspection.

- c) If the bones are deemed to be human, the Mine Manager shall contact and report the findings to a local kaumatua.
- d) The remains shall be inspected by the local Kaumatua and the Police with the Mine Manager or designate present.
- e) The Manager shall ensure that Kaumatua are given the opportunity to undertake karakia and such other religious or cultural ceremonies and activities at the site as may be considered appropriate in accordance with Tikanga Māori.
- f) The remains shall be removed from the finding area under careful supervision.
- g) The local Kaumatua shall be responsible for the remains after Police have completed their inquiries.
- h) In the event of finding an item of cultural significance, the Mine Manager shall arrange for an Archaeologist recording of any items of cultural significance that has been found. A copy of the recording is to be provided to Taharoa C Block Incorporated.
- i) The Mine Manager shall inform the Heritage NZ and Waikato Regional Council of the discovery who is required to issue written approval for works to recommence.

4. RECORDS

The Mine Manager shall retain records for a period of 7 years.

5. REFERENCES

Taharoa Mine Resource Consents

Heritage New Zealand Pouhere Taonga Act 2014.

Preliminary Archaeological Appraisal (Held in Resource Room Taharoa). 5th July 2000. Clough R.

Taharoa Ironsands Central and Southern Blocks: Archaeological Assessment. 2025. Clough & Associates, Glen Farley

Taharoa Ironsands Central and Southern Blocks: Archaeological Management Plan. 2025. Clough & Associates, Glen Farley

**Taharoa C Block Incorporated - Landowner Consent
Letter**

31 October 2025

To whom it may concern

Teena koutou

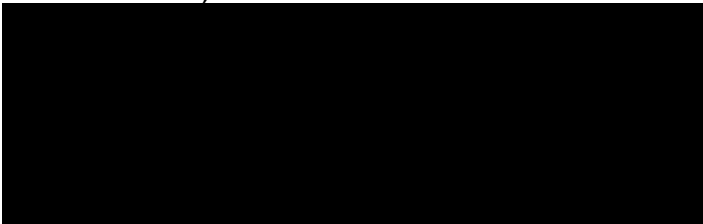
Fast-track Approvals Act – Central and Southern Block Mining Project – Archaeological authority application landowner approval

1. The Proprietors of Taharoa C Block (**Taharoa C**) are the landowners of Taharoa C Block, located at Taharoa Road, Taharoa (Title reference: SA34B/688) (**Land**). This Land is Maaori land and is the location of the Taharoa Ironsand Mine, which is operated by Taharoa Ironsands Limited (**TIL**) under a lease agreement with Taharoa C.
2. The Land is divided into three Blocks – the Central, Southern and Northern Blocks. We are aware that TIL is intending to apply for resource consents, archaeological authorities and Wildlife Act authorities for two listed projects on the Land under the Fast-track Approvals Act 2024 (**FTAA**). The two projects are:
 - (a) The Central and Southern Block Mining Project – a project to enable the on-going operation of these main blocks of the existing Mine; and
 - (b) The Northern Block Mining Project – a project to expand the Mine into the Northern Block.
3. We understand that an application for an archaeological authority must include proof that the landowner has consented to the proposed activity (Schedule 8, clause 2(c) of the FTAA). Accordingly:
 - (a) Taharoa C provides its consent to the proposed activity described in the archaeological application for the Central and Southern Block Mining Project and acknowledges and accepts the application. In Appendix A I have provided confirmation of the specific requirements for landowner consent of this nature, which are derived from the EPA's guidance on substantive applications under the FTAA .
4. Taharoa C is well aware that mining activities in the Central and Southern Block may encounter archaeological material. However, we understand that most previously identified material in the Central & Southern Blocks is protected (in reserves), was relocated some time ago or no longer exists due to historical activities, natural erosion or other activities undertaken on the land. We are familiar with the cultural protocols applied to any discoveries, which were established by kaumaatua – these have been in place since

the mine was established, and they continue to apply in the future. We are involved in implementing these protocols.

5. I have authority to provide this approval on behalf of Taharoa C.
6. Please direct any queries in relation to the agreement given in this letter to the undersigned.

Naaku noa, naa



Hoturoa Barclay-Kerr
Chairman of Taharoa C Block Incorporated]

Appendix A: Archaeological authority application

By ticking the boxes in the table below, I confirm the following:

<input checked="" type="checkbox"/>	<p>On behalf of Taharoa C I can confirm that I have reviewed the Archaeological Assessment, archaeological authority application and Archaeological Management Plan for the Project.</p>
<input checked="" type="checkbox"/>	<p>I have read and understood the description of TIL's proposed activity included in this application and acknowledge and accept any implications the activity may have on the Proprietors of Taharoa C Block and the land located at Taharoa Road, Taharoa (Title reference: SA34B/688).</p>
<input checked="" type="checkbox"/>	<p>I have been consulted regarding the proposed activity and give consent on behalf of the Proprietors of Taharoa C Block to TIL's proposed activity being carried out on Taharoa C.</p>
<input checked="" type="checkbox"/>	<p>I have read and understood the following information on legal responsibilities concerning archaeological material:</p> <p>Archaeological material includes any material removed from an archaeological site. This can mean artefacts, faunal material, botanical material and environmental material.</p> <p>The conditions provided in an archaeological authority may require that analysis be undertaken on any archaeological material found. Once analysis is completed the long-term management and final repository of the material must be considered. When considering ownership, archaeological material can be classed as either:</p> <p>Taonga tūturu</p> <ol style="list-style-type: none"> 7. defined in the Protected Objects Act 1975 as any artefact removed from an archaeological site that relates to Māori culture, history, or society, and was or appears to have been manufactured or modified in New Zealand by Māori, or brought into New Zealand by Māori, or used by Māori, and is more than 50 years old. 8. once found, the Crown assumes ownership <p>The legislation relating to taonga tūturu is managed by the Ministry for Culture and Heritage. For further information please visit the Ministry's website at http://www.mch.govt.nz/nz-identityheritage/protectedobjects</p> <p>Other material (i.e. not taonga tūturu):</p> <ol style="list-style-type: none"> 9. this is property of the land owner at the time the material was recovered; 10. this includes any artefacts that don't fall within the definition of taonga tūturu, as well as faunal material, botanical material and environmental material.