

Appendix P:

Eastland Port Te Toka a Taiau Location Spatial Analysis Report

Te Toka-a-Taiau location spatial analysis

17th December 2019

This analysis comprises of a series of historical maps, photos and surveys, overlaid with Eastland Port's current asset map, to attempt to establish the original location of Te Toka-a-Taiau.

No single piece of information found provides unequivocal evidence of the exact location of Te Toka-a-Taiau, but each piece does contribute to the analysis which does roughly correlate to the notes and journals of the H.M.S Endeavor crew and interpretations since.

When interpreting each piece of information, especially the earlier pieces, it is important to consider the purpose of each was created for. The creators would have focused on the details important to their documents particular purpose. Some of the details outside this scope will not be accurate, as they would have only been rough reference points. The creators of most of these documents did not have the luxury of survey marks or GPS data like we do today to benchmark against.

This requires looking past some of the additional details, which may be prominent features, to understand what information the author/creator was trying to be portray and take into consideration the level of survey technology that was available at that time.

From this analysis it has been found that Te Toka-a-Taiau was most likely located in a position opposite what is now called Wharf 6 adjacent to the River training wall, and in between the original Back lead navigation light on the River training wall, and the relocated position of it in the harbour.



Figure 1. EPL has found Te Toka-a-Taiau (red coloured rocks in Turanganui River) was most likely located opposite Wharf 6 just off the River training wall, and in between the original back lead navigation light on the River training wall, and its relocated position to the south west within the harbour.

Description of Te Toka-a-Taiau

The most comprehensive written description of Te Toka-a-Taiau was found in the document *The Turanganui River – A brief history* written by Michael Spedding published in 2006 by the Department of Conservation¹. The document provides some history of Te Toka-a-Taiau, and attempts to provide the location of Te Toka-a-Taiau. Extracts from this document relating to the history of Te Toka-a-Taiau are provided in figures 2, 3, 4 and 5.

- Figures 2 and 3 provide some views of the origins of Te Toka-a-Taiau, outlines its use as a tribal boundary and mooring post, and its removal in 1877 by the Harbour Board.
- Figure 4 is a drawing by William Leonard Williams, showing a location map of the events that transpired when the H.M.S Endeavor arrived in Turanganui-a-kiwa. Williams places Te Toka-a-Taiau in the centre of the Turanganui River, just to the east of the confluence of the Waikanae Stream.
- Figure 5 provides some confidence as to the accuracy of William Williams sketch and introduces the map *Marine department Contract for Removal of rocks 1876*.

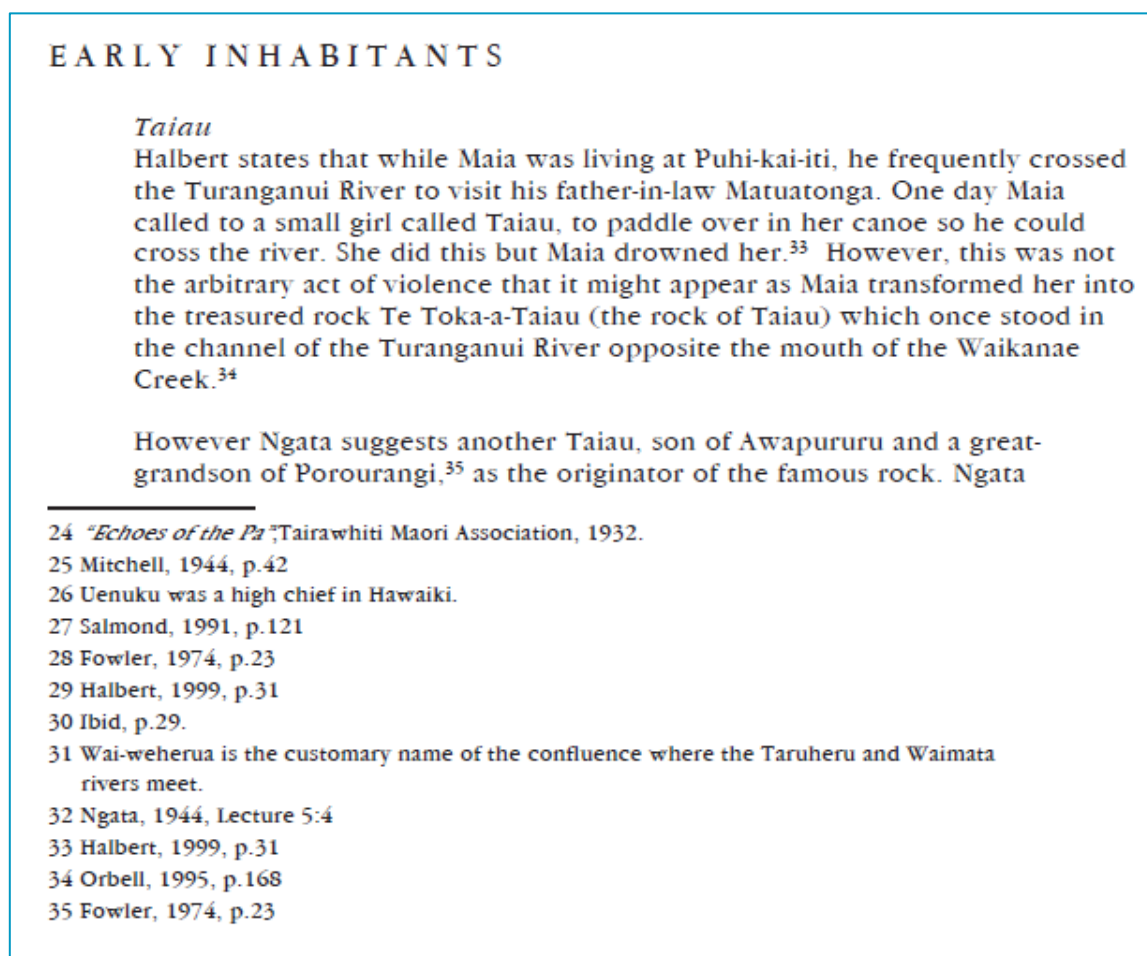


Figure 2. Extract from page 15 of *The Turanganui River – A brief history* by Michael Spedding

¹ <https://www.doc.govt.nz/Documents/conservation/historic/by-region/echb/turanganui-river-history.pdf>



continues,

By his chief wife Rerepuhitai Taiau had Tamahinengaro, a son, and by the lesser wife Te Ariaterangi another son, Tahitokurumaranga. We have no record that either of the sons lived anywhere than in the Turanga district. Their home was on the east side of the Turanganui River, where on the Titirangi hill and on the foreshore towards Papawhariki, Tuamotu and round to Wainui there are signs of extensive occupation in the early days. This was the meeting ground of Paikea, Horouta and Takitimu ancestors. Here they intermarried with the earlier settlers, who were probably of the Toi tribes.³⁶

Taiau's son, Tamahinengaro, is largely remembered for taking a leading role in the avenging of the death of Uekahikatea, a chief from the Opotiki area. For this deed, Tamahinengaro, was presented with numerous gifts including a ceremonial adze called Waikanae, of which some believe the name was then given to the current Waikanae area in memory of the undertaking to avenge the death of Uekahikatea.³⁷

The rock, Te Toka-a-Taiau, was reputedly a mooring place for waka, a valued fishing spot, and was also claimed to be a revered tribal boundary marker. An ancient tribal saying articulates, from Toka-a-Taiau point to the East to Porourangi, from Toka-a-Taiau point to the South to Kahungunu.³⁸ In 1769, Toka-a-Taiau was the site where Captain James Cook and an unknown Maori greeted each other with the pressing of noses. "A powerful place for the first formal greeting between a Maori and a European".³⁹

In 1877 the Marine Department as part of the harbour development blasted Te Toka-a-Taiau and other rocks in the river⁴⁰. Although the rock itself can not be seen, local iwi believe that the rock still exists below housing the kaitiaki (guardians) of the Turanganui River.

Figure 3. Extract from page 16 of *The Turanganui River – A brief history* by Michael Spedding



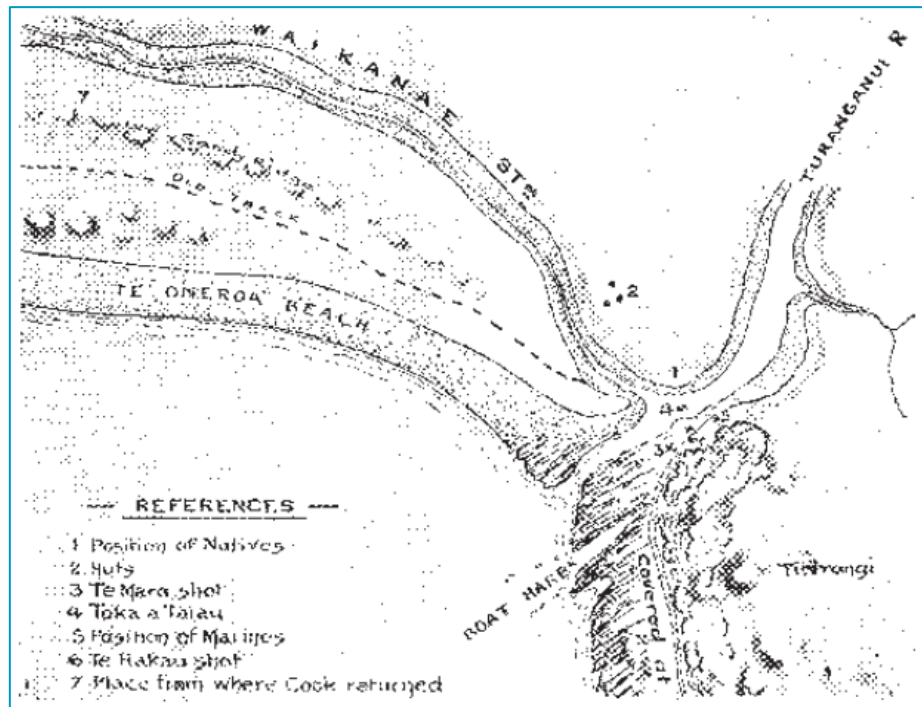


Figure 4. Drawing by William Leonard Williams depicting events after the arrival of the Endeavour. Extracted from page 20 of *The Turanganui River – A brief history* by Michael Spedding. Williams places Te Toka-a-Taiau in the centre of the Turanganui River, just to the east of the confluence of the Waikanae Stream.

LOCATION OF TE TOKA A TAI AU

Te Toka a Taiau has great significance for the people of this area. Because of this there has been much interest in establishing its location.

Until recently those efforts have been in vain. What is known of the rock has been transmitted orally, with a few written accounts referred to in this report. This evidence clearly positions Te Toka a Taiau as a place of special significance. We also have the references and drawing of William Williams who describes the location of the rock. His evidence, too, must be taken seriously as he lived nearby at Waikahua cottage for 15 years. Unfortunately, however, there is no known photographic record of the rock and its location.

Recently some records were located at National Archives relating to the letting of tenders to blast rocks in the Turanganui River in the 1870s. It was a large file, and at the back of it a surveyed chart, dated 1876, with those rocks to be blasted marked in red. By comparing this surveyed chart with the drawings of William Williams it was possible to deduce the location of Te Toka a Taiau¹⁰⁹

The challenge then was to work out its current location given that the configuration today of the rivermouth is unrecognisable from the 1870s. By overlaying a contemporary photograph over the surveyed chart it has been possible to establish an approximate location of the site of Te Toka a Taiau

Figure 5. Extract from page 16 of *The Turanganui River – A brief history* by Michael Spedding



Contract for Removal of Rocks 1876

The best geographic location reference Spedding found was the *Marine department contract for removal of rocks 1876* (figure 6). An electronic copy of this was obtained from the National Library of NZ for analysis.



Figure 6. Marine department contract for removal of rocks Gisborne 8th February 1876. There are several rocks coloured red to be removed from the Turanganui River clumped in two distinct clumps.

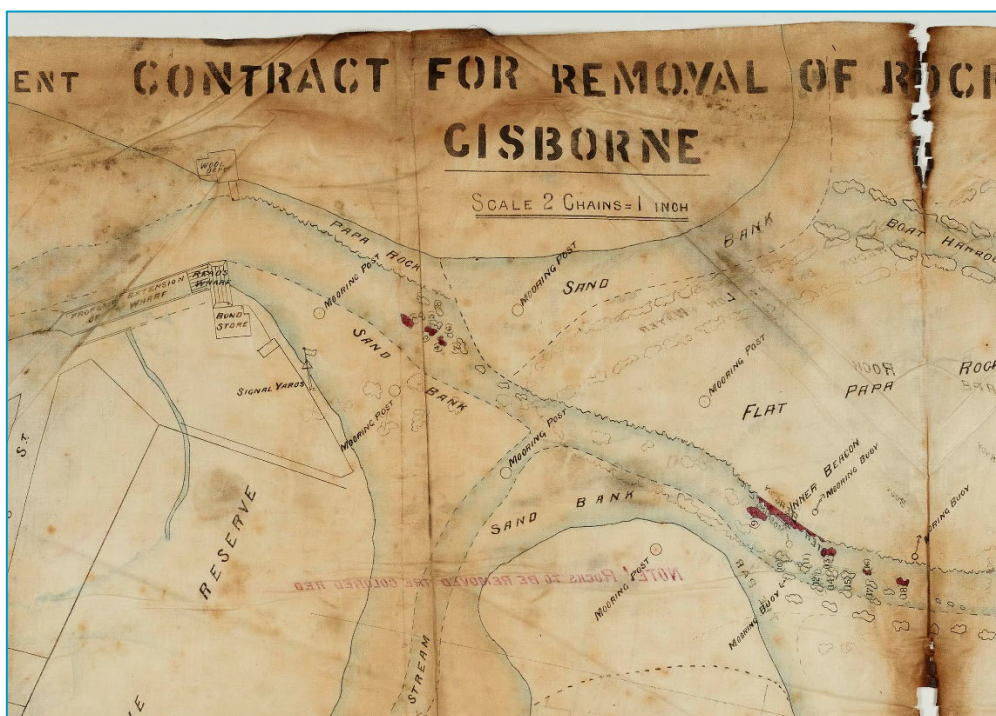


Figure 7. Extract of Marine department Contract for removal of rocks Gisborne 8th February 1876. The clump of red rocks to the east of the confluence of the Waikanae Stream is consistent with William Williams sketch and understanding of Te Toka-a-Taiau, rather than the clump to the west closer to the mouth of the Turanganui River.



The Contract for Removal has been overlaid over the Eastland Port asset map in figure 8. It shows the rocks removed to be opposite Wharf 6 and approximately in between the recently relocated back lead navigation mark and the original back lead navigation mark which was on the river training wall. The orientation and positioning of the combined Contract and EPL asset map is a result of the spatial analysis under taken.

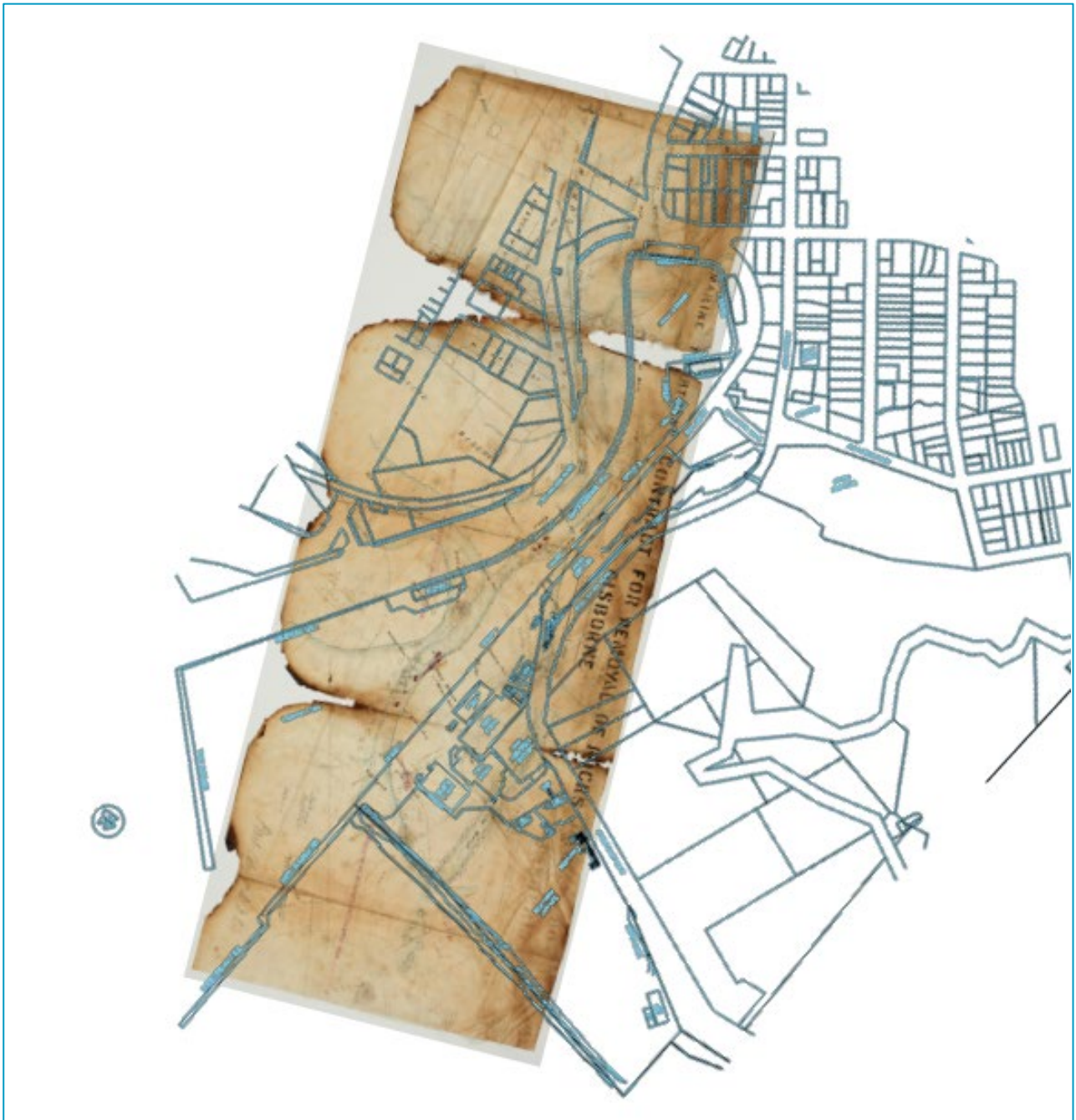


Figure 8. Marine department Contract for removal of rocks Gisborne 8th February 1876 with EPL asset map overlaid.



Spatial Analysis

These are the pieces of information found and analysis which have led to the understanding of where it is thought Te Toka-a-Taiau was located in chronological order.

1876 Marine department Contract for removal of rocks Gisborne

- The most critical part of information as it is the only map with some level of survey data and therefore scale which illustrates the rocks of Te Toka-a-Taiau as a feature.
- Charted for the removal of this rock and others close to the mouth of the Turanganui River it has good annotations of the reefs, sand banks and water courses as they were at that time.
- There is an issue though in that while the surveyed street map is to scale and fits to the streets of Gisborne at that time, and the natural features of the reefs, sand banks and water courses fit with how they would have been at that time, but the two data features do not fit with each other.
- The natural features are the most important piece of data presented and are considered to take precedent over the surveyed street map.
- The Contract does not accurately match the survey street map but why should it? Whoever drew this wouldn't have been concerned with the street map so it shouldn't be considered accurate in this aspect.

1892 Gisborne Harbour Plan

- The Turanganui river mouth was charted with depths for the use to develop future plans of the harbour.
- The closest piece of information to the Contract for removal of rocks in both time and mapping of the physical natural harbour features that would have existed at that time. The reefs, sand bars, boat harbour in both pieces of information follow very similar lines.
- Importantly this was a chart to map these natural marine features and fortunately it ties in with the surveyed street map accurately validating the accuracy of the scale of the natural features in the Contract for removal of rocks

1915 Gisborne town plans

- This map does not provide any helpful evidence towards the identifying the location of Te Toka-a-Taiau but it does provide the first found accurate survey of the town for this purpose, and is consistent with 1892 map in its titles markings.
- Some of the natural features are not consistent with the previous pieces of information i.e. the boat harbour which illustrates these features have not been drawn with great accuracy.

1982 aerial photo

- This map does not provide any helpful evidence towards the identifying the location of Te Toka-a-Taiau but it does provide how the course of the Turanganui river and Waikanae stream's changed post the harbour creation/river diversion of the 1920's.

2015 geophysical survey interpreted bedrock levels

- This survey was undertaken by EPL using ground penetrating radar (GPR) in 2015. The purpose of this was to find the levels of underlying bedrock under the port to help determine how projects could be undertaken as a part of the wider port developments.



- The survey doesn't present any noticeable remnants or remaining outcrops of Te Toka-a-Taiau where it is thought to have been located.

2018 geophysical survey interpreted bedrock levels

- This survey was undertaken by EPL using GPR in 2018. This was undertaken in addition to the first GPR survey more specifically looking at how potential reclamation on the southern side of the breakwater could be undertaken.
- As marine structures have been introduced over time, sand banks and following reclamations have masked what the shape of the original natural land form would have been. This GPR survey illustrates the under lying bedrock to be consistent with the natural rock forms shown the 1892 harbour plan validating the accuracy of this plan.



Historic Places Tairāwhiti analysis

In 2006 James Blackburne from Historic Places Tairāwhiti undertook a similar exercise to try and establish the most likely location of Te Toka-a-Taiau. Blackburne found the most likely location of Te Toka-a-Taiau to be within the same general vicinity as EPL but believed the location to be approximately 20 metres westward underneath what is now the River training wall (figure 9).

With only the *1876 Marine department Contract for removal of rocks Gisborne* as reference material Blackburne used a different technique of analysis. The 1876 drawing was stretched to align key features with known and matching features of 2006 in particular land boundaries. Like EPL, Blackburne found the 1876 drawing did not align perfectly and came to the same conclusion that some of the land features were most likely indicative only².

It was noted by Blackburne that Te Toka-a-Taiau was located in the middle of the map therefore stretching of the 1876 drawing was unlikely to have a major bearing on the location as it would have been distorted the least.

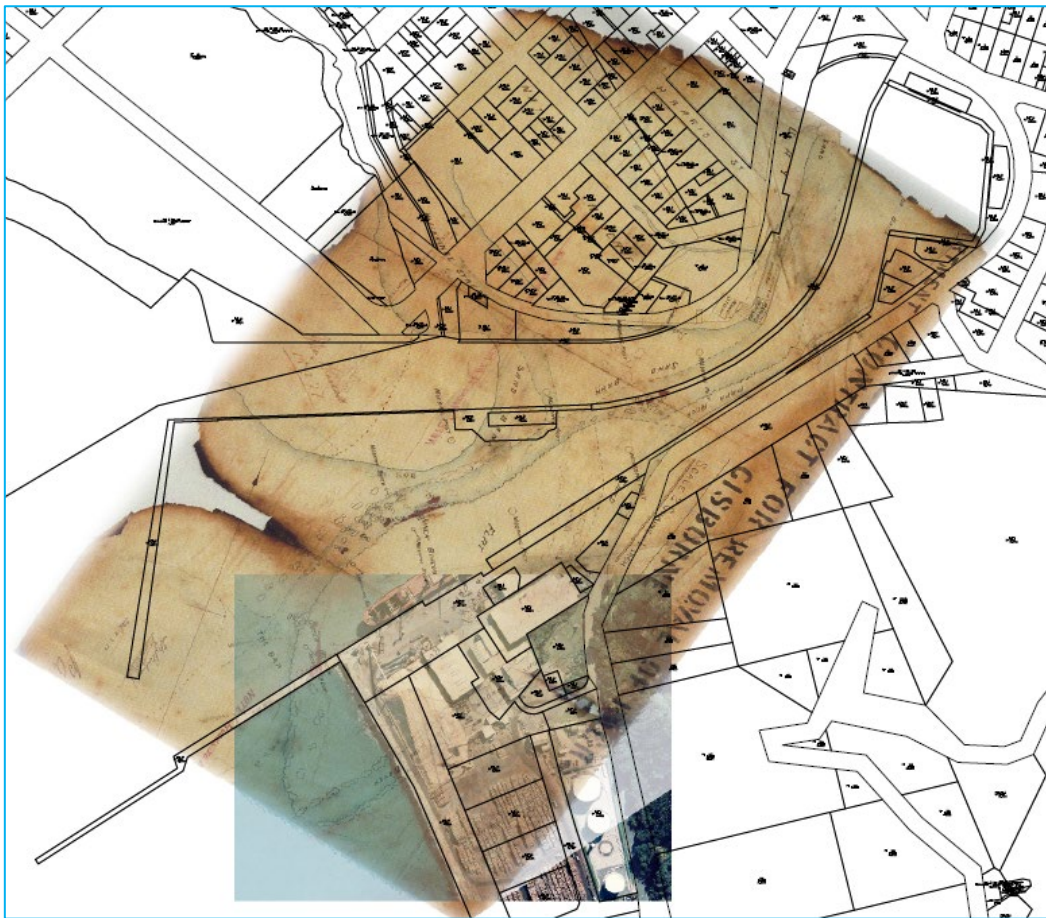


Figure 9. Blackburne 2006 spatial analysis of the *1876 Marine department Contract for Removal of Rocks Gisborne* to locate Te Toka-a-Taiau

Blackburne's work helps validate Eastland Port's spatial analysis. While the exact location will most likely never be known it can be assumed to be within the close vicinity of the locations identified by both Blackburne and EPL.

² Blackburne. J, Email RE: Te Toka a Taiau location 16th Dec 2019



Appendix

- Contract for removal of rocks Gisborne 1876 transposed under present day survey 2018
- Gisborne Harbour Plan 1892 transposed under present day survey 2018
- Gisborne Town Plans 1915 transposed under present day survey 2018
- Aerial photo from 1982 transposed under present day survey 2018
- 2015 geophysical survey interpreted bedrock level under present day survey 2018
- 2018 geophysical survey interpreted bedrock level under present day survey 2018

