Report back on monitoring Married Persons Quarters sub-floor and curtilage excavations (I44/316), Quarantine Island/Kamau Taurua Recreation Reserve



Shar Briden 19th April 2016 Revised 26th May 2016

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1 INTRODUCTION

New piles and bearers were required as part of the upgrade of the Married Persons Quarters building (NZAA I44/316) on Quarantine Island/Kamau Taurua Recreation Reserve, Otago Harbour, New Zealand. A Heritage NZ Authority was applied for (2009/254) as the building's construction pre-dates 1900. Guy Williams and Associates applied for an extended Heritage NZ Authority (30th October 2012) to undertake lowering of the earthen sub-floor due to decaying and collapsing bearers. The bearers were built directly onto the pre-levelled site which now requires lowering to achieve ca. 15cm clearance between the ground and the bottom of the bearers. Heritage NZ consented to this work 1st November 2012 (email from Matthew Schmidt).

The Heritage NZ Authority was replaced 4 June 2014 (2014/1092) as the previous consent was to expire 24 June 2014. A condition of the Authority was for the earthworks to be monitored by an experienced archaeologist. Shar Briden (Technical Advisor Historic and Cultural) was the named archaeologist on the Authority as the site lies within the Quarantine Island/Kamau Taurua Recreation Reserve (Conservation Unit No. I44230). This report completes the archaeological monitoring of Stage 4 and Stage 5 of the restoration project;

- re-piling the perimeter walls of the building and installation of storm-water drainage around the perimeter of the building (Stage 4). Stage 5 in the restoration will be raising the building's interior timber floor to enable re-piling, lowering the ground level under the floorboards, and the re-installation and restoration of that floor.

2 LAND STATUS AND LOCATION

The Married Persons Quarters building (I44/316) is located on Quarantine Island/Kamau Taurua Recreation Reserve (Conservation Unit No. I44230). The legal description is Section 31 Block VI Portobello SD (NZ Gazette 1986, p.3726), Otago Harbour, New Zealand (Figure 1).

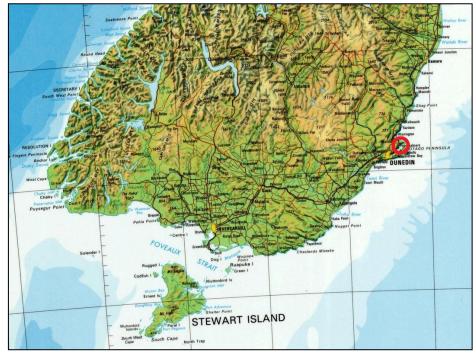


Figure 1. Location of Quarantine Island/Kamau Taurua, Otago Harbour, Dunedin, South Island, NZ.

Quarantine Island/Kamau Taurua is listed as a Historic Area with Heritage NZ (List No. 7503 dated 7th December 2001). The Quarantine Island/Kamau Taurua Community manage the buildings on Quarantine Island/Kamau Taurua. GPS 104 (Figure 2) locates the Married Persons Quarters located within the Quarantine Island/Kamau Taurua Recreation Reserve. GPS waypoints are shown in Table 1 (Appendix 1).

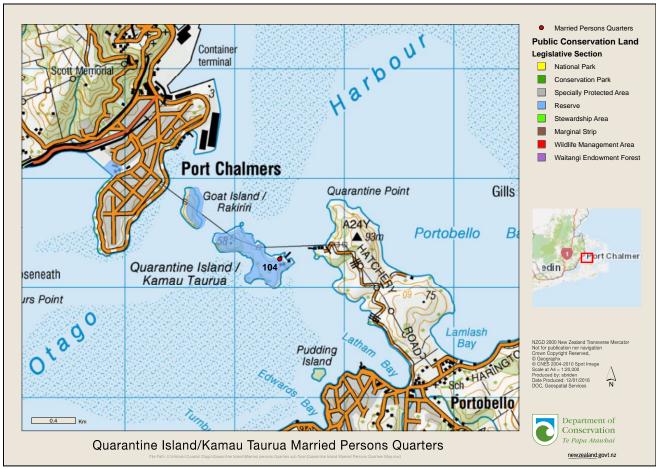


Figure 2. GPS waypoint locates the Married Persons Quarters (I44/316) on Quarantine Island/Kamau Taurua Recreation Reserve.

3 NZAA ARCHAEOLOGICAL SITES

There are 8 recorded archaeological sites located on Quarantine Island/Kamau Taurua. Table 2 provides a description of the recorded sites and Figure 3 the approximate location.

 Table 2.

 Recorded archaeological sites (archSite) located on Quarantine Island/Kamau Taurua;

NZAA site record No.	Description
144/310	Shipwrecks - Oreti and Waikana
144/311	Wharf and causeway
144/312	Flagpole
144/313	Foundations of hospital
144/314	Foundations of hospital
144/315	Cemetery
144/316	Quarantine Station
144/317	Midden exposures

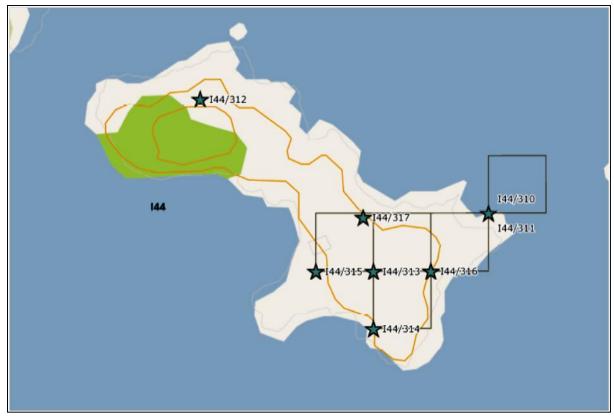


Figure 3. Approximate location of NZAA (New Zealand Archaeological Association) site records.

The Married Persons Quarters (NZAA I44/316: Appendix 2) is the only remaining extant part of the complex of quarantine accommodation buildings constructed in 1872. The building comprised three wings arranged in a T shape, the Single Women's Quarters, the Married Quarters (both two-storeyed) and a dining annex (single-storeyed). These were linked by a central shed that covered the kitchen and scullery. Only the shell of the Married Persons Quarters (north wing) is extant today (Guy Williams pers comm.).

4 METHODS

Earthworks requiring archaeological monitoring were undertaken in two phases, Stage 4 (15th May 2015) and Stage 5 (22nd May and 12th June 2015);

- Stage 4 Sub-floor excavations clay base below floorboards required lowering ca. 30cm for new drainage, bearers and piles. Drainage trenches to be dug further 0.4m depth to place pipes below floor and centre to be cut down to allow for crawl space for later access to sub-floor area,
- Stage 5 Curtilage earthworks drainage ditches around the building and lowering (and spreading) of previously dumped spoil along the front face of the building (see Appendix 3 for the Drainage Plan: Stevenson Brown Ltd 2014).

The Moana House work crew under the supervision of Paul Clements were employed to undertake the earthmoving (Stage 4 and Stage 5) and removal of the floorboards. The floorboards were de-nailed and reset back into the building upon completion of the sub-floor timbers.

The buildings long axis lies slightly west of north and for ease in writing this report the north-west wall will be referred to as north and the north east wall as east and so on.

4.1 Stage 4 Sub-floor excavations

The floorboards and joists within the Married Persons Quarters (MPQ) were lifted early May 2015. Bearers and piles required replacing and the ground surface was lowered by digging down ca. 30cm for new bearers, new post holes and piles, and crawl space for later access. The PVC drainage pipes also required lowering (Plates 1-2).



Plate 1. Sub-floor space 15th May 2015 after floorboards and joists lifted. View north.



Plate 2. Sub-floor lowered for new bearers, joists and crawl space (12 June 2015).

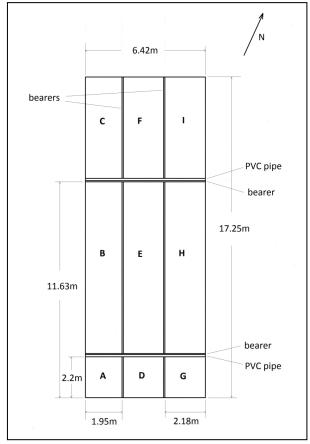


Figure 4. Internal sub-floor area (Married Persons Quarters) divided into 9 spaces A - I.

The buildings internal sub-floor area measured 17.25 x 6.42m (Figure 4). The space was divided into 9 sections (divided by two bearers north to south, and two bearers west to east with a pvc pipe attached to the south side of the bearers). Figure 4 shows the named sections (A - I). Location of artefact finds and piles were measured north from the south wall (as datum). The under floor area was photographed in sections (A - I) following the floorboard removal 15th May 2015. A tape measure was laid the length of the building and artefacts numbered and recorded to location as they were lifted and bagged.

Sub-floor material was packed right up to the underside of the floorboards (Plates 1 and 3). The work men worked on scaffolding planks placed across the bearers so the sub-floor material was not walked on and crushed prior to recording and lifting. The material from each section was then racked up and taken by wheelbarrow and spread across the lower slope of the front lawn following recording (below the area where the dumped material from the drain trenches required spreading). The floorboards had nails removed and were cleaned and replaced following lowering of the ground surface and construction of replacement bearers and joists.



Plate 3. Material under bearers visible once floorboards and bearers lifted out. View west.



Plate 4. Bearer join and post hole at 7.8m north.



Plate 5. Post hole 5.4m north (west bearer) visible once bearer lifted.



Plate 6. Two post holes at 7.8m north. View north.

The bearers lifted measured 25 x 7.5cm. Hand wrought and cut nails were removed from the bearers as they were lifted. The west longitudinal bearer combined 2 lengths joined at 7.8m

north (Plate 4). Five post holes were recorded below the longitudinal bearers with four of those holes containing remnant wood piles;

- one at 5.4m north (item 26 Section B, Plate 5),
- two at 7.8m north (items 20 21, Section E, 0.79m spacing between bearers, Plate 6),
- fourth pile at 7.4m north (item 20, Plate 7),
- fifth pile at 14.75 north and 1.97m west from the front of the building at a depth of 20cmbs (Section I, uncovered while digging new post holes 12th June).

The wood piles measured 20cm square. Not all post holes were recorded only those evident while the archaeologist was on the island monitoring works. Plate 8 shows the new post holes dug for installation of new piles.



Plate 7. Remnant pile and cut nail beneath bearer 7.4m north Section E (item 20).



Plate 8. New post holes dug for new piles.



Plate 9. Flooded sub-floor space (MPQ) between 22nd May and 12th June 2015 (photo by Ana Terry).



Plate 10. Large metal items, a gully trap (top right), and a lean-to timber pile (front right) were left on site.

The sub-floor area was completely flooded on and around 4th June 2015 (Plate 9). Don Hunter (caretaker of Quarantine Island) supplies the following information on the drains dug

to alleviate flooding issues. The drains dug are part of the sub-floor plan as per the Dunedin City Council (DCC) consent process. The excavation of an access trench/drain inside the building was completed before the outside drainage was completed. It was done in this order so we could establish correct fall from the highest point being the MPQ. A moat was left in place to keep water out of the MPQ until outside work was complete. The drainage work inside the MPQ was completed 29th of May.

The moat was breached during heavy rain hence the flooding of the MPQ sub-floor area. As an interim measure Don Hunter dug a temporary drain from the harbour side door of the MPQ down slope east towards the Chapel. The temporary drain has since been back filled. This drain digging was not monitored although Don and the work team collected all items and laid them aside for later recording. Plate 10 shows these items recovered during the work. The permanent drain runs from the south-west corner of the MPQ towards the North at a depth of around 0.8m - 1m.

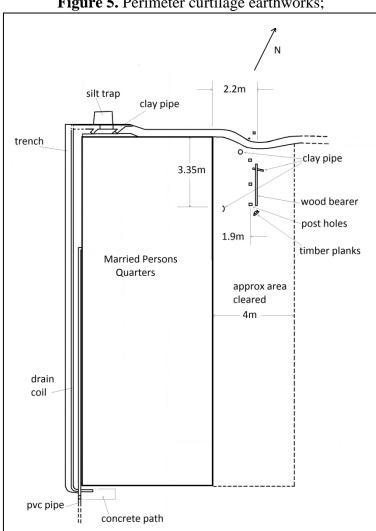


Figure 5. Perimeter curtilage earthworks;

Stratigraphy sub-floor space (MPQ)

Internal sub-floor stratigraphy beneath the floorboards was recorded within one of the post holes (item 26 Section B);

DOC-2731431 8 Layer 1 hard compacted fine grained tan/yellow clay

Layer 2 finer grained grey clay 2cm thick

Layer 3 clay base

The 2cm thick layer of a more fine grained grey coloured clay was evident below the fine grained tan/yellow clay running along through the centre of the building. This layer may have resulted from previous flooding and settling of sediment within the sub-floor space of the building.

4.2 Stage 5 Curtilage earthworks (perimeter of MPQ building)

A trench was re-dug around the back and north side of the building to lay in new drain coil (Figure 5). The top of the previous drain coil lay at 25cmbs at the south-west corner of the building and 54cmbs at the north-west corner. The coil runs 56cm out from the rear wall along the walls length. A PVC water pipe runs along part of the rear wall and over the coil at the south-west corner leading to the water tank (Plate 11). The two lengths of PVC pipe that run under the buildings floorboards join with this pipe along the rear wall.

The west extent of the concrete path at the south-west corner of the building has been broken sometime during installation of the black drainage coil and PVC pipe (probably in 2010, Plate 12). The path was noted during monitoring of the drainage works in 2010 (Briden) 'A small section of the concrete path at the south-east corner (incorrect location in previous report as it is south-west) of the Married Person's Quarters will be removed and replaced following the laying of the roof water drain'.



Plate 11. Drain coil in base of re-dug trench rear wall. View south.



Plate 12. Drain coil and PVC pipe south-west corner with broken concrete path. View west.

A larger hole was dug 0.8m wide and 0.78m deep on the north-east side of the building 12th June 2015 for a silt trap to be installed (Appendix 3). Clay drainage pipes were uncovered 0.68m out from the building wall that appeared to run the width of the building (although the full width was not uncovered). A smaller section of pipe (ca.12cm diameter) leads from beneath the building and joins with the larger pipe (ca.18cm diameter) 0.6m west of the buildings north doorway. The pipes lay at a base of 0.78mbs. Clay pipe fragments (previously broken) were lifted from this area. The pipe is glazed inside only. The smaller

size pipe angling under the floorboards was probably the outlet for a possible toilet located in the rear lean-to.



Plate 13. Area dug for silt trap north side of building. Clay pipe became visible running alongside the buildings north wall. View west.



Plate 14. Clay pipes north side of building. View east.

The area out front of the building was partially lowered by the Moana House team prior to the archaeologist being on site. The thoughts were that the spoil was pre-disturbed having been dumped in that area along the front of the building while drainage trenches were dug and it would be fine to scrape the dumped material away. This work has partially disturbed the 'in situ' fabric of the terrace. Stratigraphy and artefacts visible in the bank 0.7m east of the south-east corner of the building to a depth of 33cmbs are explained below in paragraph 5.22.



Plate 15. Quarantine Island Station buildings (Hocken snapshop).

Further spreading of the spoil was monitored (May-June). Sub-surface remains of a lean-to were located at the front of the MPQ. The lean-to is visible attached to the front of the building (north-east corner – far right) in a photograph held with the Hocken Collections,

University of Otago (Plate 15: Hocken snapshop). The lean-to was in a dilapidated state in 2000 and there was no roof. By 2005, the lean-to was in very bad repair and was demolished during the re-build of the MPQ weatherboards in 2010. The timbers were stacked to the north-east of the MPQ with a view to repairing/re-erecting it, when the front wall weatherboards were replaced however they were in very poor (unusable) condition.

The remains of three wood piles supporting the lean-to were uncovered (centres measured 1.9m east from the building, Plate 16). The piles are 15cm square with pile holes dug to a depth of 17cmbs. The northern pile lay 1.07m south from the north-east corner of the building, the second 2.28m and the third 3.35m. The base timber plate lay north to south beside the wood piles 18cmbs and 2.2m east of the building. The timber extends 2m north to 3.35m from the north end of the building. The northern timber pile can be seen once it was removed (to right in Plate 10, pile left on site).

Half a large clay pipe (A) 20cm in diameter was recorded standing upright 0.5m east from the building and 3.58m south of the north-east corner of the building (Plate 16). The pipe is glazed inside only. A piece of timber lay 30cmbs located between the clay pipe and the building. A fragment of black plastic was also recorded. A broken drainage pipe lay 2m east out from the building and 1.6m from the corner (top at 35cmbs). This pipe angles downward and was not uncovered any further to ascertain its alignment down the slope.



Plate 16. Post holes of lean-to. Ranging pole (2m long) indicates location of remnant bearer. Half upright clay pipe beside spade to left. View north.



Plate 17. Upright lead pipe and clay pipe of lean-to. View south.

A clay drain pipe (B) 13cm diameter (external) stands upright 0.6m south of the MPQ north extent and 1.3m out from the building (Plate 17). The pipe is glazed outside only. This pipe probably relates to the toilet outlet. Lead piping sticks up out of the ground 1.8m east from the buildings north-east corner (in line with north wall). The lead pipe appears to have been a water pipe installed on the outside of the north-east corner of the lean-to that may be the water supply for the toilet.

Wood fragments from a fourth post hole pile lay 2.15m east of the north-east corner of the building and 18cm north of the north wall. Two thin timber lengths, one with 3 nails present, lay 3.8m from the north end of the building at a depth of 19cmbs. A window sash weight and

window glass fragments were noted at 18cmbs. The remains included various nails lying in the soil.

The lean-to appears to have held a toilet (Guy Williams pers comm.). The occupants accessed the toilet through the MPQ building as a doorway is evident on the east facing wall (Plate 5). The single womens quarters also had a lean-to attached to the front of the building (Plate 15).

4.21 Stratigraphy out front of the building (south-east corner);

Layer 1 mixed yellow/brown medium grained clay to 10cmbs containing coke fragments and plate window glass fragments. A metal bar was lying on the ground surface,

Layer 2 nutty brown sediment to 17cmbs with a base of irregular gravel chips at the base,

Layer 3 mixed yellow/brown clay to 19cmbs containing ceramic fragments and crushed shell,

Layer 4 base clay down to 33cmbs.

The north-east corner of the terrace (grassed surface directly beside the stratigraphy noted above at corner of MPQ) was dug out showing a broken window glass layer at 11cmbs and a scattered gravel layer below at 18 - 26cmbs. A metal warratah stands upright ca.0.3m from the MPQ at a level with the bearer.



Plate 18. Spoil cleared from north-east corner of the terrace showing stratigraphy. South-east corner of the MPQ to right.

Plate 18 shows the sub-surface layers beneath the south-east corner of the MPQ (to right in photo). This location was a gap left between the dining room, the kitchen covered area, and the MPQ building (Otago Daily Times 16 June 1874).

5 ANALYSIS OF RECOVERED ITEMS (Stage 4 and Stage 5)

A total of 164 items were recovered during archaeological monitoring of the earthworks beneath the sub-floor (Stage 4) and earthmoving undertaken around the curtilage (Stage 5) of the Married Persons Quarters on Quarantine Island (Table 3). The majority of artefacts relate to metal items (41.5%) followed by faunal remains (18.9%) and ceramic items (12.2%).

Table 3. Artefacts recovered during earthworks to MPQ (Stage 4 -5);

		Number of items (NISP)		
	Sub- floor	Perimeter of MPQ	NISP Totals	%
Glass	13	2	15	9.1
Metal	30	38	68	41.5
Ceramics	3	17	20	12.2
Faunal	12	19	31	18.9
Shell	4	7	11	6.7
Wood	5	1	6	3.7
Misc	8	5	13	7.9
Totals	75	89	164	

Table 4 shows the minimum number of items (MNI) represented by the assemblage (97 artefacts). Metal items (55.7%) were the predominant class of artefacts with equal quantities found within and around the building curtilage (54 items in total). Miscellaneous items totalled 11.3% (11 items) and glass items 9.3%.

Table 4. Minimum number of items (MNI) calculated from the assemblage (Stage 4-5);

		MNI		
	Sub- floor	Out front of MPQ	MNI Totals	%
Glass	9		9	9.3
Metal	27	27	54	55.7
Ceramics	1	1	2	2.1
Faunal	2	6	8	8.2
Shell	1	6	7	7.2
Wood	5	1	6	6.2
Misc	6	5	11	11.3
Totals	51	46	97	

MNI calculations of the faunal class show the presence of 8 individual species;

Appendix 4 provides a full list of artefacts recovered from the sub-floor space (Stage 4) and those recorded from scraping of the terrace and the dug trenches (Stage 5: Tables 5 - 11). Items collected from each section were bagged together and numbered as to location. Glass bottles and ceramic items with less than half remaining do not count in MNI totals (presence only). Bivalve shellfish (oyster, cockles and tuatua) totals are halved to provide accurate MNI counts or siding valves to left or right was used whichever generated the higher MNI.

5.1 Stage 4 artefact analysis (sub-floor)

5.11 Glass (Table 5 Appendix 4)

A total of 13 glass artefacts were recovered from the sub-floor and 2 items from scraping of the terrace. This class of artefacts yielded a minimum number of 9 items (9.4% of the total MNI assemblage). There were 6 complete bottles;

- two piece mould clear glass milk bottle embossed around the shoulder 'PINT' 'MILK TREATMENT STATION' and 'I' on the rim of the body base, and 'J59' on base (item 10 Section C, Plate 19). This bottle was manufactured in the 20th century,

- hand applied collar and skirt tops of two olive green oval shaped bottles (two piece mould with flat indentations on their bases) pre-date 1900 manufacture (items 17-18: 5.8 and 6.3m north Section H, Plate 19). A third bottle (of similar type) was recovered directly beside the fourth post hole (9.8m north Section E),
- complete clear bottle with partial cork still intact (item 24 Section I, Plates 19-20) is a two piece mould with one panel semi-rounded (oval hub) and a bevelled back panel. The top of the back flat panel is embossed "3 viii" (with a small z attached to the top of the 3). The base is flat indented with embossed intertwined letters referred to as an 'AGM' monogram (Australian Glass Manufacturers; Plate 20). The bottles contents were manufactured 1916 to 1923 by Melbourne Glassworks & Australian Glass Manufacturers and is relatively rare (The Bottle Depot),
- complete clear glass bottle with an oval salamander body and a screw top is 20th century manufacture (item 29).



Plate 19. Complete bottles recovered from the sub-floor of the MPQ.



Plate 20. 'AGM' monogram on complete clear bottle with partial cork still intact (item 24 Section I).

There were no labels attached to any of the bottles limiting identification of the bottles contents. Other glass items included two marbles (items 1 and 26a Section B) and plate window glass.

5.12 Metal (Table 6 Appendix 4)

A total of 30 metal artefacts were recovered from the sub-floor space yielding MNI of 27 items (10 nails or spikes). The majority of the nails found on site are very rusty making identification to a head/shank type and accurate dating of manufacture difficult. Those identified provide approximate dates from the mid-19th century to the modern day. Other items included a bed spring, metal washers, and the face part of a car speaker. A hand wrought nail was associated with one of the timber piles (item 21, Section E) and a cut nail with a second pile (item 20, Section E). Nails were pulled from the bearers as they were lifted out by the work crew and retained for identification (Plate 22).

Three partial fire grates (item 2 Section B, Plate 21) were recorded lying beside the west (back) wall and others were removed during trench digging after the flooding or during

floorboards removal (Plate 10). The partial fire grates were probably disposed of following breakage.

A description of the MPQ construction (and location of fireplaces) is provided by an unnamed visitor 16 June 1874 (Otago Daily Times). The MPQ was two-storied with 24 rooms for families (12 per floor) with a central passage (presumably running the length of the building south to north from the primary access door from the kitchen, south end).

A double bricked fireplace was located in the centre of the eating (dining) room and a double cooking range in the kitchen area. A 1940's photograph in Lyndel Hancock's 2008 book 'Quarantine Island/Kamau Taurua (St Martin Island): A Short History' shows both the dining room chimney and the kitchen range chimney. This photo and Plate 15 show the single story dining room at right angles to the two storied MPQ and single women's building (Otago Daily Times 16 June 1874). A brick platform remains on site of the large dining room fireplace after the structure of the building was still standing in the late 1950's (Jane Findlayson diaries 1876: cited in Hancock 2008: 51).



Plate 21. 3 x partial fire grates (Section B, item 2) beside west (back) wall, 3m north of south wall.



Plate 22. Nails pulled from the rotten bearers before disposal of the bearers (items 30).

5.13 Ceramics (Table 7 Appendix 4)



Plate 23. Ceramic saucer with makers mark 'T.F. & S. L^{TD}', 'A' 'MADE IN ENGLAND' within a circle.



Plate 24. Cup fragment with full colour rabbit with a blue band round the rim (item 25).

Three ceramic items were recorded from beneath the floorboards yielding one MNI (complete earthenware saucer). The saucer displays an ink printed black makers mark 'T.F. & S. L^{TD}, 'A' 'MADE IN ENGLAND' within a circle (Plate 23). The saucer has 3 gold gilt lines and a fourth wider gold line around the rim. The 'A' is central within the circle. The saucer was manufactured by Thomas Forester & Sons (Ltd), Longton, Stoke-on-Trent, between 1942 - 1947 (The Potteries.org).

Other ceramic items included; one fragment of a white telephone insulator (item 30), ceramic fragment of a light fitting (item 27 Section A), and a cup fragment with a full colour rabbit with a blue band round the rim (item 25, Plate 24).

5.14 Faunal (Table 8 Appendix 4)

Faunal remains (bone) totalled 12 elements: 10 sheep (items 19 and 26), 1 pig (item 26) and 1 possible sheep rib (item 30), from beneath the floorboards yielding an MNI of 2 animals (sheep and pig). The pig femur is unfused (from a very young animal). Some of the sheep elements exhibit rat gnawing. A partial rib (sheep?) displays 2 oblique cuts (items 30).

Table 6. Faunai Temanis,					
	Sub- floor	Out front of MPQ	NISP	MNI	%
Sheep	10	9	19	3	7.9
Pig	1	1	2	1	2.6
Cow		1	1	1	2.6
Goat		2	2	1	12.5
Chicken		2	2	2	25.0
No ID	1	4	5		
Totals	12	19	31	8	

Table 8. Faunal remains;

5.15 Shell (Table 9 Appendix 4)

A total of 11 shell valves were present (oyster, cockle, tuatua and half an egg shell). The two oyster valves represent one individual oyster under the floorboards.

5.16 Wood (Table 10 Appendix 4)

Geoff Rogers (pers comm.: Honorary Research Associate - Ecosystems Development, Science and Capability) has provided timber identification for the wood items found beneath the floorboards. The wood piles recovered beneath the longitudinal bearers are more than likely Totara or Red Beech and the bearers appear to be Silver Beech.



Plate 25. Carved wood camel head (English ash) possibly part of a rocking horse.

A carved wooden camel head (Plate 25) that may be part of a rocking horse was collected from Section C ca. 13.7m north (measuring 9 x 5.4 x 21cm). The timber is identified as English Ash sourced from England (Geoff Rogers: pers comm.). It would appear that the carved camels head was a mass produced product imported to New Zealand rather than an item carved by an occupant on Quarantine Island.

5.16 Miscellaneous (Table 11 Appendix 4)

Various items were collected; an oilstone and a length of hemp rope (item 14 Section E), two nut shells (one walnut and one acorn: items 26a) showing evidence of rat gnawing, red plastic flux bottle, red door stop with inset metal washer.

5.2 Stage 5 artefact analysis (Curtilage earthworks perimeter of MPQ building)

5.21 Glass (Table 5 Appendix 4)

Only two glass items were recorded; a fragment of a green glass bowl with an embossed pattern and a base fragment of a drinking glass with an engraved pattern (items 35, Plate 26), recovered from out the front of the north-east corner of the building 0.7m north from the corner between 17 - 19cmbs.



Plate 26. Glass and ceramics items (items 35).

5.22 Metal (Table 6 Appendix 4)



Plate 27. Various nails and part of a coach bolt recovered from the spoil from the front of the MPQ building.



Plate 28. Screw and nails associated with thin timber remains at south extent of leanto.

A total of 38 metal artefacts were recovered (22nd May 2015) while digging out spoil ca. 4m from the front of the building to 33cmbs (that was dumped there while digging drainage ditches around the building 2009/2010). This area is a pre-disturbed context. Items included galvanised guttering clips, fragments of lead flashings, plate window glass fragments, dog tie (railway spike), lengths of old pipe, nails and bolts (items 31), plate window glass, brick fragments, and oyster shells.

The metal artefacts include 33 nails or spikes and one bolt with a screw thread (Plate 27). A screw and two nails were associated with 2 x thin timber fragments at the south extent of the lean-to bearer, 3.8m south from north wall and 2.2m east from the east wall (Plate 28).



Plate 29. Heavy round metal drain cover 18cm diameter.

A heavy round metal drain cover (18cm diameter, Plate 29) was recovered directly lying on a layer of gravels along the back of the building (0.87m south from the building wall). The object was not complete and its exact location was not recorded.



Plate 30. Door lock.



Plate 31. Coal range cover or ash tray handle.

Square scaffolding base supports were recovered from where they were left on site from the building upgrade in 2010. A door lock was noted at 40cmbs in the rear trench (Plate 30). A 6cm diameter rheem screw thread cap was uncovered on the terrace and was left on site as were large metal items (Plate 10) recovered by the work crew during the works (fire grates, sash window weights, roof guttering, parts from a coal range, door hinge etc). These items were not included in the spreadsheet or in MNI calculations. One of the fire grates measured 33.5cm across and 20cm wide and a second broken grate measured 48cm long.

5.23 Ceramics (Table 7 Appendix 4)

A total of 17 ceramic items were recovered from the terrace most of which are fragmentary. MNI was calculated as 2 items, a complete saucer (item 12) and two fragments of a white glazed insulator (item 33). Fragments of ceramics were lifted from the front of the north-east corner of the building (0.7m north from the corner between 17 - 19cmbs, Plates 26 and 32); 2 x fragments bone china teacup, 1 x fragment base of earthenware side plate, 1 x small fragment blue patterned ceramic (teacup?), and a partial stem of a clay smoking pipe (items 35). Stratigraphy of the terrace is explained in Section 4.21.

The insulator fragments (item 33) do not match the fragment of insulator (item 30) found inside the MPQ.



Plate 32. North-east corner out front of the MPQ building 0.7m north from the corner between 17-19cmbs (items 35).



Plate 33. Three different ceramic types on site, top left drainage pipe yellow glazed both sides, clay drainage pipe glazed inside only (right), gray slab glazed both sides (bottom).

Two items relate to 2 different clay drainage/sewage pipes, water supply and one a stoneware slab (that is very slightly curved and glazed both sides) that may be part of a gully trap collecting water from the roof guttering (Plate 33). A semi-circular stoneware gully trap (glazed both sides) was recovered by the work crew but the location was not noted. The gully trap is not complete as some pieces are missing. This item was left on site (Plate 10).

The water supply was stored in 24 iron tanks overhead and a large 4,000 gallon cistern attached to the kitchen. It is assumed the water was fed by roof guttering from the barracks three buildings as there is a very limited supply of natural water on the island. Both hot and cold water was available (Otago Daily Times 16 June 1874).

5.24 Faunal (Table 8 Appendix 4)

A total of 19 elements were recovered from the terrace yielding an MNI of 6 individual species: 2 sheep (item 34), 2 chickens (items 37-38), a cow (item 34), and a goat (item 36).

A sheep right tibia (proximal portion) exhibits a spiral break and rat gnawing as does a left sheep metatarsal (items 34). The pig humerus is unfused (pig counted in sub-floor MNI) as are 3 of the sheep elements. The unfused sheep radius exhibiting an oblique cut mark (item 35) shows young sheep were on the menu. The goat element and unfused pig elements may not have been food items for the occupants but may relate to rats dragging in bones from

natural deaths. The two left chicken femurs could be either food for human consumption or natural deaths.

5.26 Shell (Table 9 Appendix 4)

Seven shell valves were recovered; oyster, cellana species, tuatua, and cockle. MNI calculations showed individual species as 2 oysters, 1 cellana species, 2 cockles and 2 Tuatua.

5.27 Wood (Table 10 Appendix 4)

Only one wood item was recovered from the terrace, a semi-round wood fragment that may be part of a wooden seat (item 33). The fifth wood pile from beneath the lean-to was not identified to species as it was left on site and is not included in NISP or MNI totals.

5.28 Miscellaneous (Table 11 Appendix 4)

A dump of bricks was noted ca. 5m out from the building and 5m from the north-east corner of the building (at GPS 104). The bricks measured 11 x 7 x 24cm.

6 DISCUSSION AND CONCLUSION

No cultural material of significance to iwi was evident during the works. All items removed from the site for recording and analysis will be returned to the site and may be displayed in the Married Persons Quarters by the St Martin Island Community Trust.

As noted by Guy Williams and Associates (2012: 2), the majority of the items (artefacts) recovered from the sub-floor area of the building relate to its construction and later material having been wind-blown or moved under the building by animals. The rat gnawed bone elements and nut shells show that rats are one of the agents responsible for the accumulated material.

The identified pharmaceutical bottle (AGM: item 24) appears to have been imported from Melbourne, Australia sometime after its manufacture 1916 to 1923. It is not clarified if this ties in with the arrival of sailing ships to Port Chalmers.

There does not appear to be any correlation to location of items under the floorboards and activity areas above. The oval bottles found alongside one of the sub-floor bearers probably held whiskey and may have been deliberately hidden beneath the floorboards by one of the MPQ occupants.

This report completes the conditions of the Heritage NZ Authority (2009/254).

REFERENCES

AGM – Australian Glass Manufacturers.

http://hiddencanberra.webs.com/Dumps/APPENDIX.pdf

archSite. New Zealand Archaeological Association site recording scheme. http://www.archsite.org.nz/

Briden S. 2010. Monitoring of drainage earthworks at the Quarantine Island (Kamau/Taurua) Married Person's Quarters (I44/316), Otago Harbour.

Guy Williams and Associates. 2012. Letter to Heritage NZ 30th October applying for extension to Authority.

Hancock, L. 2008. Quarantine Island/Kamau Taurua (St Martin Island): A Short History. Dunedin: St Martin Island Community.

Hocken snapshop. Quarantine Island Station. Asset ID 25635 Filename 2362_01_002A Provenance/source cp from photo lent Y. Sutherland Portobello Aug 1983. Dunedin, University of Otago. http://hockensnapshop.ac.nz/nodes/view/21098

Rogers, G. Personal communication. Honorary Research Associate - Ecosystems Development, Science and Capability.

Schmidt M. 2012. Email 1st November consenting to lowering of sub-floor and replacement of bearers.

Stevenson Brown Ltd. 2014. Married Persons Quarters Structural Specifications - Drainage Plan (Sheet 4).

The Bottle Depot. http://www.thebottledepot.com/web15.htm

The Potteries.org. http://www.thepotteries.org/mark/f/forester.html

Williams G. Personal communication.

APPENDIX 1

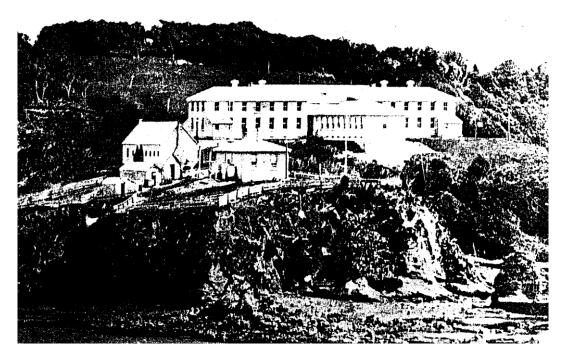
GPS waypoints locating the Married Persons Quarters on Quarantine Island/Kamau Taurua Recreation Reserve

GPS point	UTC Timestamp	NZTM East	NZTM North
104	2015-05-21T23:31:30Z	1416412.5	4922265.457

APPENDIX 2

NZAA site record I44/316 Quarantine Station

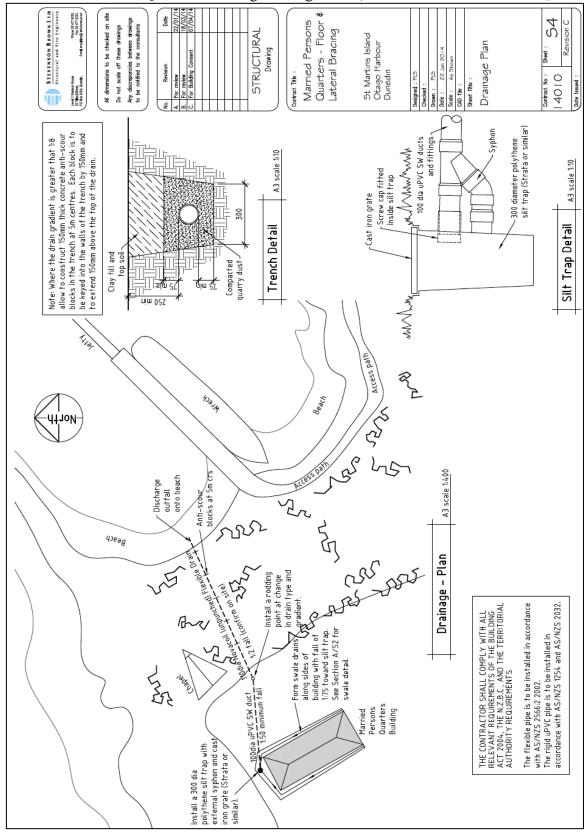
NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION SITE RECORD FORM (METRIC) Metric map number I44 Metric map name Dunedin Metric map edition 1st	NZAA METRIC SITE NUMBER 144/316 DATE VISITED 4/5/01 SITE TYPE Quarantine station SITE NAME: MAORI OTHER SILOT
Grid Reference Easting 2 1 3 2 6 2 01	0. Northing _ 5 _ 4 _ 8 _ 3 _ 8 _ 0 _ 0 _
1. Aids to relocation of site (attach a sketch map) The main buildings of the quarantine station are on a p	promontory at the north east end of the Island
State of site and possible future damage Most of the nineteenth century buildings have been der Married Couples' quarters. The foundation sites of the	molished except for the keeper's house and the other buildings are marked by flattened areas.
3. Description of site (Supply full details, history, local environme include a summary here) The station covers a long narrow flat, about 120 metres of a spur. To the west there is terrace at right angles to on it and a terrace for the first 1863 quarantine building by rising ground, but the keeper's house is well out on The long narrow flat was occupied by at least four buil north. From the east these are thought to be: (1) the 18 (2) a modified cottage once used as the officers' quarte second shed used as a woolshed, destroyed by fire and the first world war. The ground to the north of the line of cottages is uneve and drains. These would have been left after the demorant quarantine building, comprising the Single Women.	to long and mostly about 5 metres wide on the end the main flat with the Married Couples quarters. The station is partially protected from the south the spur and protected by old macrocarpas. dings, best seen in a 1919 photograph from the 163 keeper's house and cabin passengers quarters, rs, (3) a hut incorporated into the cottage, (4) a rebuilt as a woolshed. The latter three date from the with the remains of foundations, chimney bases olition of the southern and eastern wings of the
the back of the terrace created for this major complex, to fan fireplace built into the bank. The brickwork of the like the remains of a boiler rather than a bread oven. A quarantine building on an area now 7 metres wide and	ne latter, 1.65 m deep by 1.4m wide looks more terrace above this complex carried the 1863 about 16 metres long.
Two tracks run up from the wharf to the buildings and two hospitals and the cemetery.	two tracks run away from the station towards the
	nant/Manager Idress
5. Nature of information (hearsay, brief or extended visit, etc)	Brief visit
Photographs (reference numbers and where they are held)	
Aerial photographs (reference numbers and clarity of site)	
6. Reported by Jill Hamel, Address 42 Ann Street, Dunedin.	Filekeeper by llumed.
7. New Zealand Historic Places Trust (for office use) By Type of Site Local environment today Land classification	Present condition and future danger of destruction Local body





APPENDIX 3

Married Persons Quarters Building Drainage Plan (Stevenson Brown LTD 2014).



APPENDIX 4: Artefact analysis Table 5. Glass artefacts;

Artefact No	Description	Location	Section	Comments	NISP	MNI
1	marble		В		1	1
3	water rolled 19th century bottle base (black)	5.2m north of south wall, handmade nail loose in B	В	< 1/2 base	1	
4	clear circular bottle base fragment, quantity of plate window glass N/W corner	15m north of south wall and 20cm east of back wall	С	clear bottle base <1/2	2	
10	milk bottle	right beside bearer 14.7m north and 1.95m east from back wall	С	two piece mould, embossed around shoulder "PINT MILK TREATMENT STATION" and "I" on rim of body base, and "J59" on base, 7.5cm diameter x 21cm high, very slight indented base	1	1
13	marble		D		1	1
17	19th century olive green bottle (complete)	5.8m north beside bearer	Н	lying on surface. Larger size bottle 8 x 4.9 x 21.2cm oval shape with hand applied collar and skirt top, two piece mould, flat indentation on base with embossed mark "209 L"	1	1
18	19th century olive green bottle (complete)	6.3m north beside bearer	Н	lying on surface. Smaller size bottle 9.9 x 6 x 26.2cm oval shape with hand applied collar and skirt top, two piece mould, flat indentation on base with embossed mark "222"	1	1
22	19th century olive green bottle (complete)	right beside post hole 9.8m north	E	lying on surface. Larger size bottle 9.2 x 6.3 x 25.7cm oval shape with hand applied collar and skirt top,two piece mould, flat indentation on base with embossed mark "16 and three dots below in a line"	1	1
24	clear pharmaceutical bottle with partial cork (complete)	bottle up againgst bearer 13.8m north, paint tin 14m north, crown top 15m north, window latch 16m north	I	lying on surface. Clear rectangular pharmaceutical bottle, two piece mould with one panel semi-rounded (oval hub), bevelled back panel only with top of flat panel embossed "3 viii" (with a small z attached to the top of the 3), flat indented base with makers mark 'AGM'	2	1

26a	marble	by bearer and post hole (26) 5.4m north	В		1	1
29	clear bottle (complete)	found loose but no area defined		oval salamandar shape body, screw top, embossed on base "4", 5.9 x 4 x 12.8cm	1	1
				Totals sub-floor	13	9
	Quarantine Island 12th June 2015	scraping spoil out front of building and trench digging				
35	green glass bowl fragment (embossed pattern), small base fragment of a glass with engraved pattern	front north-east corner of building (outside) 0.7m north from corner 17-19cmbs			2	
	•		•	Totals out front	2	9
				Totals	15	9

Table 6. Metal artefacts;

Artefact No	Description	Location	Section	Comments	NISP
2	3 fireplace grate fragments, door latch	3m north of south wall, 20cm east from back wall	В		4
5	bed spring	14.5m north by long bearer	С		1
6	early cut nail	8.3cm long	В		1
9	speaker face	15.3m north	С	left on site	1
15	metal mug and round tin with lid		G	handle is not present on metal mug (9.6cm diameter x 9cm high), round tin very rusty (7cm diameter x 2.8cm high, too rusty to identify), in predisturbed area by front door	2
16	gin trap with unidentified animal skeleton attached, red bull can, 1 metal washer	right beside bearer 4.4m north	Н	lying on surface	3
20	large nail spike in bearer	7.4m north and pile wood remains	Е	cut nail 13cm long shaft 7mm square	1
21	wood pile with associated nail	9.8m north	Е	hand wrought nail 10.3cm long	1

23	fire grate, dog tie (railway spike), round brass door handle, chrome? hexagonal drawer handle		A	loose on surface, dog spike 14cm long, door handle 5cm diameter, washer 2.2cm inside and 4.2cm outside diameter x 5mm thick, drawer handle 2.2cm wide	4
24	metal Dulux paint tin, crown top beer bottle, brass window latch, blue door handle surround	paint tin 14m north, window latch 16m north	I	lying on surface	3
26a	carpart (thermostat)	by bearer and post hole (26) 5.4m north	В		1
28	partial coal range door		Е	embossed N° 12, 16.4 x 10.8 x 6cm	1
30	6 nails, 1 metal washer	found loose but no area defined, nails removed from bearers being replaced		4 x hand wrought nails (3 x 9.5cm and 1 x 9cm long), 2 x cut nails 9 (1 x 6.2 cm and 1 broken x 4.1cm long), 1 x washer 0.5cm inside and 3.2cm outside diameter, 1 x washer 0.5cm inside and 1.6cm outside diameter	7
				Totals	30

	Quarantine Island 22nd May 2015	scraping spoil out front of building		
31	1 bolt, 1 spike nail, 1 spike nail unidenifiable, 1 hand wrought nail, 3 cut nails, 4 nails (either rosehead or proto jolthead), 1 nail 9.8cm long, 10 unidentifiable nails, 1 modern jolt head nail, 1 belltop leadhead roofing nail		bolt 1.1cm diameter shaft 10.9cm long with screw thread, spike 1.1cm square shaft 11cm long, spike nail 15.3cm long, hand wrought nail 8.8cm long, cut nails (1 x 9cm, 1 x 8.1cm, 1 x 6.3cm long), 4 x rose or jolt 13.2cm long, modern jolt 7.4cm long, belltop leadhead 7.1cm long	24
32	1 screw, 2 cut nails	nails associated with thin timber of lean to, 3.8m south of building n/e corner and 2.2m east of building	screw 7.4cm long, cut nail 6.8cm long, cut nail ca. 10.1cm long	3
			Totals	27

Quarantine Island 12th June scraping spoil out front of building and trench digging

36	2 fragments of a round heavy metal lid 18cm diameter, 2 unidenitified nails, 1 metal wire length	back wall drain @ 37cmbs 0.87m south from back wall		round metal lid has engraved mark almost indistinguisable '?008?4' and lugs	5
37	one metal spike (no head)				1
				Totals	6
	Quarantine Island 15th June 2015	scraping spoil out front of building and trench digging			
38	dog tie (railway spike), 2 hand wrought nails, 2 unidentifiable nails	nails by door north side	d	dog tie 14cm long, wrought nails 1 x 13.3cm long and 1 x 10.3cm long	5
				Totals	5
				Totals out front	38
				Totals sub-floor	30
				Totals metal items	68

Table 7. Ceramics artefacts;

Artefact No	Description	Location	Section	Comments	NISP	MNI
12	saucer	beside bearer 12.5m north	Е	Saucer is complete with 3 gold gilt lines and a fourth wider gold line on rim. Printed black circular makers mark on base "T.F. & S. LTD A MADE IN ENGLAND". The 'A' lies centrally in the circle. Oilstone measures 5 x 2.5 x 20.2cm	1	1
25	ceramic cup fragment with full colour rabbit and blue band round rim	16.3m north			1	
27	ceramic fragment of light fitting		Α	left on site	1	
			•	Totals	3	1

	Quarantine Island 22nd May 2015	scraping spoil out front of building			
33	2 x fragments white insulator, 4 frags clay drainage pipe, 1 china teacup fragment, 1 white teacup fragment, 1 fragment ceramic mixing bowl		clay drainage pipe glazed yellow both sides, china teacup rim with 3 gold gilt lines, teacup gold gilt line around rim, mixing bowl one blue band and one blue gilt line on rim and blue pattern internally	9	1
			Totals	9	1
	Quarantine Island 12th June 2015	scraping spoil out front of building and trench digging			
35	2 x fragments china teacup, 1 x fragment base of ceramic side plate, 1 x small fragment blue patterned ceramic, partial stem of clay smoking pipe	front north-east corner of building (outside) 0.7m north from corner 17-19cmbs	unfused right radius (no epi's) proximal head displays oblique cut mark, possible left sheep scapula head only	5	
37	9 x fragments clay drainage pipe, 1 gray slab fragment		6 x clay drainage pipe glazed yellow both sides ca. 14cm diameter 7-10mm thick, 3 x red/orange clay drainage pipe glazed inside only 19mm thick, 1 x gray clay slab fragment glazed both sides 23mm thick. One spike 17.2cm long 1.2cm square at top. Left chicken femur, one unidentified bone shaft.	3	
			Totals	8	
			Totals out front	17	1
			Totals sub-floor	3	1
			Totals of all items	20	2

Table 8. Faunal material:

Bag No	Section	Date	Species ID	Element	Siding	NISP	MNI	Comments
19	Е	15/05/2015	Sheep	mandible	L	1		
19	Е	15/05/2015	Sheep	tibia	R	1	1	
19	Е	15/05/2015	Sheep	radius	R	1		
19	Е	15/05/2015	Sheep	ulna	R	1		
19	Е	15/05/2015	Sheep	astragalus		1		
26	В	15/05/2015	Pig	femur	L	1	1	unfused very young
26	В	15/05/2015	Sheep	humerus	L	1		,, -
26	В	15/05/2015	Sheep	metatarsal	R	1		
26	В	15/05/2015	Sheep	phalange		1		
26	В	15/05/2015	Sheep	vertebrae		1		
26	В	15/05/2015	Sheep	zygomatic arch	R	1		
30		15/05/2015	Sheep?	rib	?	1		
			-			12	2	sub-floor
34		22/05/2015	?	?		1		unidentified
37		12/06/2015	?	poss humerus	?	1		unidentified shaft
37		12/06/2015	Chicken	femur	L	1	1	
38		15/06/2015	Chicken	femur	L	1	1	> 1/2 shaft
34		22/05/2015	Cow	rib		1	1	
36		12/06/2015	Goat	ribs		2	1	
34		22/05/2015	Pig	humerus	L	1		unfused very young
						8	4	
34		22/05/2015	poss sheep	poss tibia		1		
35		12/06/2015	poss sheep	scapula	L	1		
						2		
34		22/05/2015	Sheep	Tibia	L	1		> 1/2 shaft
34		22/05/2015	Sheep	Tibia	R	1	1	> 1/2 shaft
34		22/05/2015	Sheep	Tibia	R	1	1	unfused
34		22/05/2015	Sheep	metatarsal	L	1		

34	22/05/2015	Sheep	1st phalange	L	1		
34	22/05/2015	Sheep	metacarpal	L	1		
34	22/05/2015	Sheep	metacarpal		1		unfused
34	22/05/2015	Sheep	scapula	L	1		
35	12/06/2015	Sheep	radius	R	1		unfused
				•	9	2	
					19	6	Totals outside
					12	2	Totals sub-floor
				Totals	31	8	

Table 9. Shell;

_	15th May 2015	inside MPQ			
Artefact No	Description	Location	Section	NISP	MNI
3	1 x oyster valve	5.2m north of south wall	В	1	
12	1 tuatua valve loose	beside bearer 12.5m north	Е	1	
26	one half of an egg shell	5.4m north		1	
26a	by bearer and post hole (26) 5.4m north		В	1	1
		Totals sub-floor		4	1

	Quarantine Island 22nd May 2015	out front		
30	2 oyster valves, 2 left cockle valves, 1 cellana shell	found loose but no area defined	5	4
33	2 x left tuatua valves		2	2

Totals out front	7	2
Totals	11	7

Table 10. Wood artefacts;

	Quarantine Island 15th May 2015	inside MPQ				
Artefact No	Description	Location	Section	Comments	Wood NISP	MNI
8	wooden carved camel head made from English ash	ca. 13.7m north	С	9 x 5.4 x 21cm	1	1
19a	pile and post hole		Е		1	1
20	bearer wood fragments, Silver beech	7.4m north	Е		1	1
21	wood bearer fragments, Silver beech	9.8m north	Е		1	1
26	wood pile (Totara or Red beech) and post hole	20cm square 5.4m north	В		1	1
				Totals	5	5

	Quarantine Island 22nd May 2015	front of building			
33	wood fragment of a seat			1	1
			Totals	1	1
			Totals out front	1	1
			Totals sub-floor	5	5
			Totals of all	6	6

6

items

6

DOC-2731431 32

Table 11. Miscellaneous items;

	Quarantine Island 15th May 2015	inside MPQ	,			
Artefact No	Description	Location	Section	Comments	Misc	MNI
7	small round ball (not a tennis ball)		F		1	1
12	oilstone	beside bearer 12.5m north	E		1	1
16	red plastic flux bottle, red door stop with inset metal washer	right beside bearer 4.4m north	Н	lying on surface	2	2
24	gib board and tarpaulin		I	lying on surface	2	
26a	acorn shell, walnut shell	by bearer and post hole (26) 5.4m north	В	Two nut shells are rat gnawed	2	2
				Totals	8	6
	Quarantine Island 22nd May 2015	scraping spoil out front of building				
33	small paint brush (partial)				1	1
				Totals	1	1
	Quarantine Island 15th June 2015	scraping spoil out front of building and trench digging				
38	4 x tile fragments	red tiles came from the back wall drain (pre- disturbed for drain coil)		tile fragments white and glazed one side and red other side	4	4
				Totals	4	4
			-	Totals out front	5	5
			<u>-</u>	Totals sub-floor	8	6
				Totals of all items	13	11