

**129 KOUTUNUI ROAD, ATHENREE:
ARCHAEOLOGICAL MONITORING AND
INVESTIGATION**



**REPORT TO
THE NEW ZEALAND HISTORIC PLACES TRUST
AND
IVAN AND GLENDA SISSON**

HPA AUTHORITY 2012/906

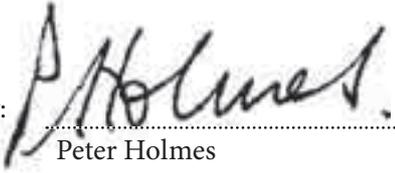
PETER HOLMES

CFG
HERITAGE

CFG Heritage Ltd.
P.O. Box 10 015
Dominion Road
Auckland 1024
ph. (09) 309 2426
cfg@cfgheritage.com

129 KOUTUNUI ROAD, ATHENREE: ARCHAEOLOGICAL MONITORING AND INVESTIGATION

REPORT TO
THE NEW ZEALAND HISTORIC PLACES TRUST
AND
IVAN AND GLENDA SISSON

Prepared by: 
Peter Holmes

Reviewed by: 
Matthew Campbell

Date: 27 May 2013
Reference: 2012/14



This report is made available by CFG Heritage Ltd under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>.

This report is provided electronically
Please consider the environment before printing

Hard copy distribution

New Zealand Historic Places Trust, Tauranga
Ivan and Glenda Sisson
CFG Heritage Ltd (file copy)
New Zealand Archaeological Association central file
Ngaiterangi

129 KOUTUNUI ROAD, ATHENREE: ARCHAEOLOGICAL MONITORING AND INVESTIGATION

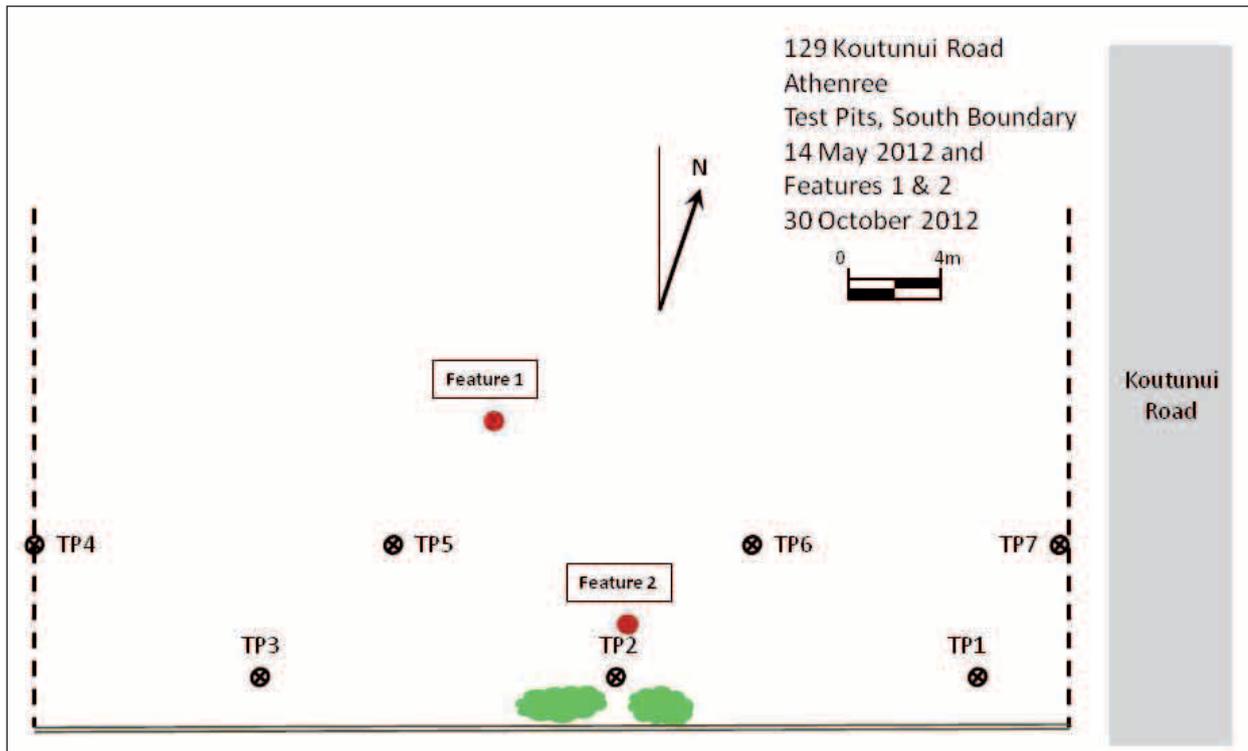
PETER HOLMES

Ivan and Glenda Sisson are constructing a new house at 129 Koutunui Road, Athenree (Lot 3 DP 70795). An archaeological assessment of the property was carried out by Peter Holmes in May 2012. A small surface scatter of shell was recorded toward the eastern end of the southern boundary, which was recorded as part of site U13/1313, primarily located in the neighbouring property to the south (Figure 1).

Consequently the Sissons applied to the New Zealand Historic Places Trust (NZHPT) for an archaeological authority to modify site U13/1313 during house and garage construction and driveway and services installation. Authority 2012/906 was granted by NZHPT under section 14 of the Historic Places Act 1993. The Site Instruction prepared under Condition 4 of the authority recommended that all earthworks be monitored by an archaeologist, and any archaeological material be mapped, sampled and analysed as appropriate.

1. Location of the Lot 3 DP 70795 and site U13/1313, showing archaeological sites recorded in and around Athenree.





2. Plan of Features 1 and 2, and original test pit locations

Monitoring

Top soil stripping took place on the 30 and 31 October 2012 and was monitored by Peter Holmes of CFG Heritage Ltd. Two areas of midden were identified both of similar size and composition (Figure 2).

Feature 1

This deposit was exposed 23 m from the front of the property and 13 m from the south boundary and just within the footprint at the rear of the house at approximately 250 – 300mm below surface. There was a thin charcoal stain approximately 1000 mm in diameter with some midden exposed in the north half suggesting some prior damage during site development of the subdivision. The deposit was 60 mm thick but thinned toward the edge. A 13.5 litre sample of shell was taken.

Feature 2

This was a midden deposit located in a utilities trench excavated alongside the proposed driveway close to the southern boundary in subsoil approximately 480 mm below surface, approximately 180 mm below the level of top soil removed. The cable trench was 300 mm wide and effectively bisected the deposit. Cleaning back the area exposed a roughly circular midden deposit approximately 1200 mm in diameter and the central portion exposed was 60 mm thick, similar to Feature 1. Testing with a probe detected midden approximately 100 mm to the south beyond the trench. A 7 litre sample was taken and a small obsidian core was also recovered from the north east quadrant of the midden at approximately 320mm below surface.



3. Feature 1, exposed surface of midden deposit.



4. Feature 1 excavated in half section, profile, looking north.



5. Feature 2 excavated in the utilities trench, looking south.

Midden analysis

The two midden samples were wet sieved through a 6 mm screen, then air dried before being sorted. The diagnostic portions of each shell type present were separated out and counted to give a MNI (Minimum Number of Individuals) for each species. For bivalves this was achieved by counting the number of hinges and whole valves and dividing the total by two. For gastropods the greater number of shells and columellas, or operculums was taken as the MNI. All diagnostic shell for each species and the remaining shell residue made up of non-diagnostic fragments was weighed. Charcoal, stone and any faunal bone was separated out and weighed but not counted.

Three basic statistics can be calculated from the resulting measures: dry weight/volume (g/l), dry sieved weight/volume (g/l) and weight loss through sieving (as a percentage). These statistics are intended to quantify the density of the midden, that is, how much material there is in the sample and how much of it is shell. Weight and the MNI for shell species can also be used to calculate the MNI per gram (MNI/g) to express the degree of fragmentation of different shell species within the sample. In general it would be expected that shell from an oven scoop would be more fragmented than shell from a clean midden deposit.

Results

As can be seen from Table 2 the density of the two midden samples is very similar with approximately half the weight of each sample being made up of soil or very small shell fragments which passed through the 6 mm screen. The composition of species however, is quite different, with Feature 1 dominated by mud snail, followed by tuatua and green-lipped mussel, with a minor component of white rock shells. Mud snails are also prominent in the sample from Feature 2, but with tuatua and cockle (which were not present in Feature 1), making up a more substantial proportion of the total MNI. At Athenree both sheltered tidal estuarine environments, where mud snail and cockle are more common and open sandy beach environments, where tuatua would have been available, are readily accessible. The not insignificant number of green-lipped mussels and a small number of gastropod species also suggests that rocky shore environments such as around the nearby headland at Bowtown were also actively exploited for their shellfish resources.

Sample	Dry weight (g)	Sieved weight (g)	Dry wt/vol (g/l)	Sieved wt/vol (g/l)	% loss (weight)	stone (g)
Feature 1	12670	5376	939	398	57.62	89
Feature 2	7550	3751	1078	536	50.28	18

Table 1. Comparison of dry weight and sieved weight.

Sample	Tuatua (<i>Paphies subtriangulata</i>)	Cockle (<i>Austrovenus stutchburyi</i>)	Mud snail (<i>Amphibola crenata</i>)	Green-lipped mussel (<i>Perna canaliculus</i>)	Rock oyster (<i>Saccostrea cucullata</i>)	White rock shell <i>Dicathais orbita</i>	Miscellaneous gastropods	Total
Feature 1	52		1000	5	*	8		115
Feature 2	213	148	18	4	1		2	386

* present

Table 2. Counts of shell by species (MNI).

Sample	MNI	Total weight (g)	Mean weight (g)	MNI/g
Feature 1	1115	5283	4.74	0.211
Feature 2	606	3728	6.15	0.162

Table 3. Comparison of weight and count of shell.

Obsidian analysis

An obsidian core artefact was also collected from Feature 2. The core has maximum dimensions of 38 x 31 mm x 22 mm thick. The obsidian has a banded appearance and is grey in transmitted light with only minor spherulite inclusions (Figure 6). Its source has not been determined but is likely to be from Waihi or the Coromandel Peninsula.



6. Obsidian core from Feature 2.

Chronology

A sample of tuatua shell from Feature 2 was submitted to the University of Waikato Radiocarbon Dating Laboratory for analysis. This returned a Conventional Radiocarbon date of 879 ± 31 BP, which calibrates to Cal AD 1336–1532 at a 95% confidence interval, indicating a 15th century occupation.

Reference

Holmes, P. 2012. 129 Kotunui Road: archaeological assessment. Unpublished CFG Heritage Ltd report to Ivan and Glenda Sisson.

The University of Waikato
Radiocarbon Dating Laboratory



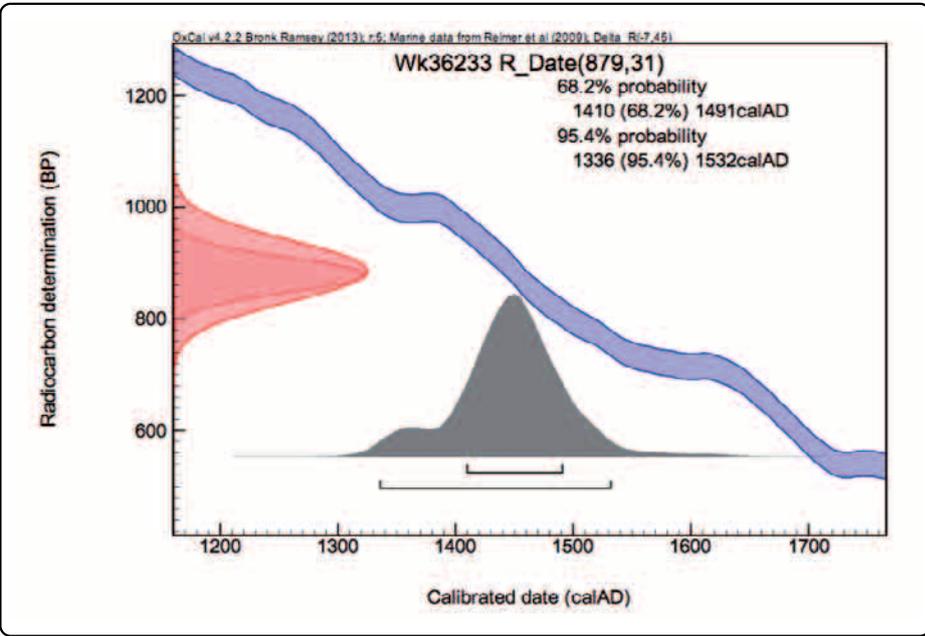
Private Bag 3105
Hamilton,
New Zealand.
Fax +64 7 838 4192
Ph +64 7 838 4278
email c14@waikato.ac.nz
Head: Dr Alan Hogg

Report on Radiocarbon Age Determination for Wk- 36233

Submitter	M Campbell
Submitter's Code	Athenree_001
Site & Location	Athenree, Bay of Plenty, New Zealand
Sample Material	Tutua shell from midden feature
Physical Pretreatment	Surfaces cleaned. Washed in an ultrasonic bath. Tested for recrystallization: aragonite.
Chemical Pretreatment	Sample acid washed using 2 M dil. HCl for 120 seconds, rinsed and dried.

$\delta^{13}\text{C}$	$0.9 \pm 0.2 \text{ ‰}$
D ¹⁴ C	$-103.6 \pm 3.5 \text{ ‰}$
F ¹⁴ C%	$89.6 \pm 0.3 \%$
Result	879 ± 31 BP

Comments



21/03/13

- Result is *Conventional Age or Percent Modern Carbon (pMC)* following Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier.
- The isotopic fractionation, $\delta^{13}\text{C}$, is expressed as ‰ wrt PDB.
- F¹⁴C% is also known as *Percent Modern Carbon (pMC)*