

**ARCHAEOLOGICAL INVESTIGATIONS OF W15/204,
77 NUKU ROAD, TANEATUA
(HNZPTA AUTHORITY 2014/1044)**



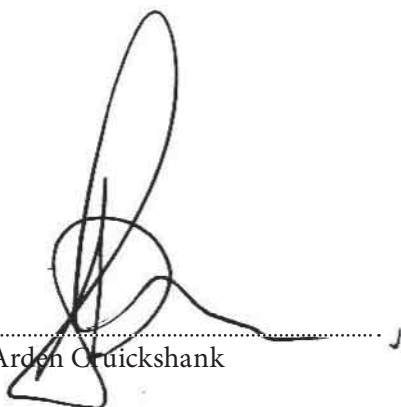
**REPORT TO
HERITAGE NEW ZEALAND POUHERE TAONGA
AND
NATHAN JONES**

ARDEN CRUICKSHANK

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Prepared by:

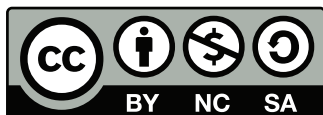

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Arden Cruickshank

Reviewed by:


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Matthew Campbell

Date: 1 December 2014

Reference: 13-0525



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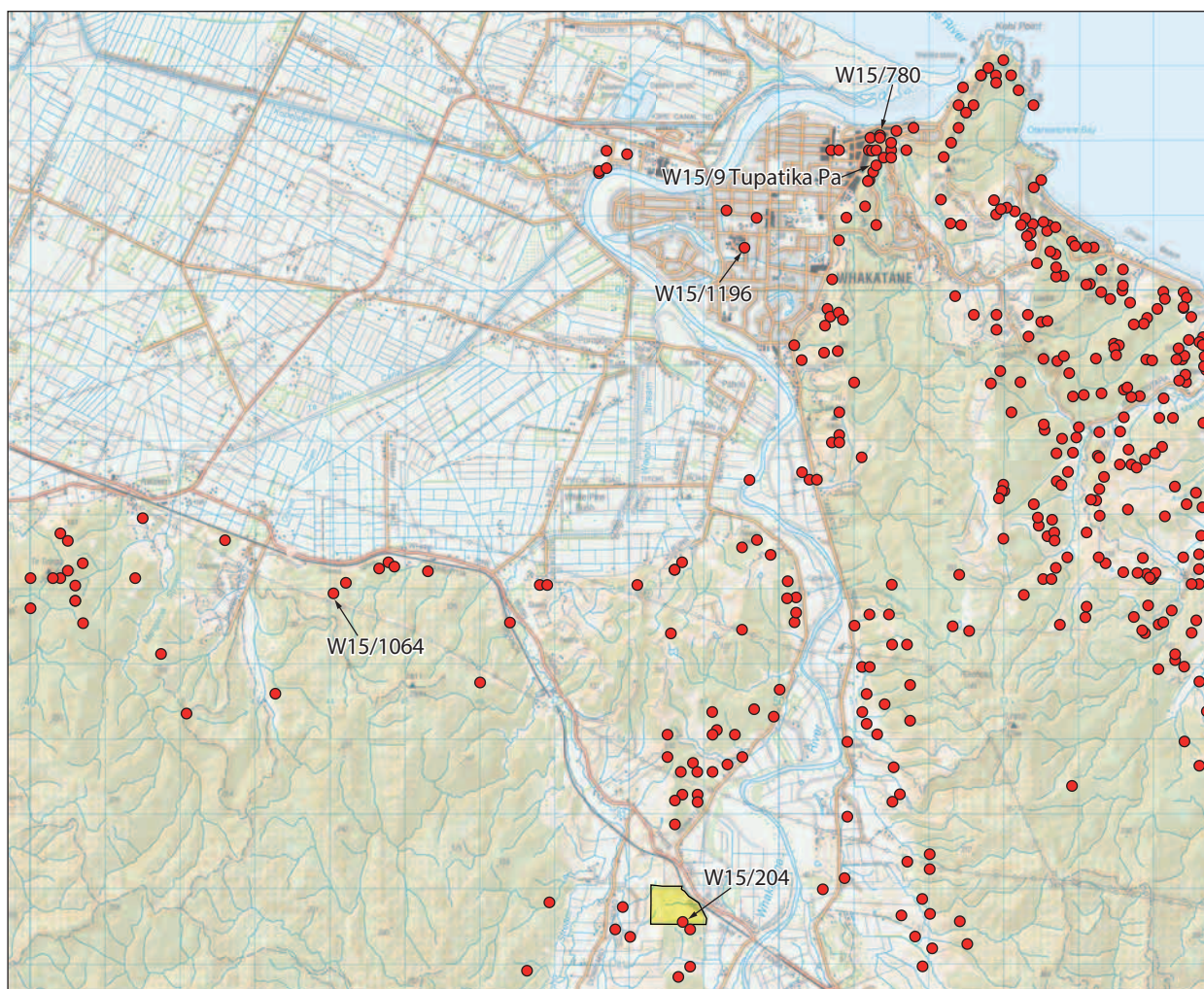
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ARCHAEOLOGICAL INVESTIGATIONS OF W15/204, 77 NUKU ROAD, TANEATUA (HNZPTA AUTHORITY 2014/1044)

ARDEN CRUICKSHANK

Nathan Jones proposes the construction of a house at 77 Nuku Road, Taneatua (Lot 1 DPS 53931). Several archaeological sites are recorded in the New Zealand Archaeological Association (NZAA) Site Recording Scheme (SRS) (www.arch-site.org.nz) in the vicinity of the property, including W15/204 which sits on the boundary within 200 m of the proposed house site. An archaeological assessment of effects was carried out by CFG Heritage Ltd (Harris 2013) on behalf of Nathan Jones in support of an application to Heritage New Zealand Pouhere Taonga (Heritage NZ) for an archaeological authority under section 44 of the Heritage New Zealand Pouhere Taonga Act 2014. Authority 2014/1044 was granted on 21

1. The location of W15/204 and other sites recorded in the area. Sites mentioned in the text are labelled.





2. Map showing the extent of ash fall from the 1886 Tarawera eruption (Auckland Libraries NZ Map 3639).

May 2014 and an archaeological investigation was carried out on 21 and 22 July 2014 by CFG Heritage Ltd.

Environment

The property comprises moderately steep hill country straddling a narrow section of the watershed separating the Waioho Stream from the Whakatane River catchments. It encompasses a small east facing slope on the lower western side of the Whakatane River valley and west facing slopes overlooking the Waioho Stream valley (Phillips, 2004: 1). The property sits on allophanic orthic pumice soils of



3. Rabbit burrow which has been dug out by a dog.

the Orang family (Whakatane hill soils). When moist, it displays a topsoil that is usually very dark brown or black and a subsoil that is usually yellow-brown (see Appendix A). Intermixed into this soil is ash-fall from the 1886 Tarawera eruption. The property falls within a zone which received between two and three inches (50–75 mm) of ash following the eruption, which was observed as a “...dark cloud [which] appeared to travel down the Whakatane valley” (Smith 1886: 30). It is not known what impact this had on the vegetation at the time of the eruption, but a study carried out 70 years later stated that the impact would have been minor, and probably only affected the smaller plants, which would have been suffocated (Nicholls 1959). The study was focussed on forestry and did not specifically mention food crops, but it can be assumed that kumara and other food crops were severely hindered by the ashfall.

Site damage

There are numerous rabbit burrows evident on the land, some of which have been dug out by dogs in search of the rabbits. These holes are large, and are likely to have damaged archaeological features. The land owner has dealt with the problem of the offending dogs, but the rabbits are likely to be an ongoing issue.

Previous earthworks have been carried out at the site, with a house platform and access tracks bulldozed in (Harris 2013). It is not known when these works were carried out, but it was prior to the current owners purchasing the property, and can be seen on satellite imagery captured on 21 September 2002, provided by Google Earth. These areas were not investigated as they have been heavily modified and the spoil has been removed to an unknown location.

Previous archaeological work

Few archaeological investigations have been undertaken in this part of the Bay of Plenty.

W15/9 Tupatika is a defended pa in the hills overlooking Whakatane, which has been heavily modified through residential development before the archaeo-

logical investigation was carried out. Three bell-shaped rua were exposed in section, one of which contained a human burial, three dog burials and a large block of obsidian. Midden containing fish and shellfish was also recovered and analysed. Two radiocarbon dates obtained from the site showed occupation occurring in the late 16th and early 17th centuries (McGovern-Wilson 1995: 20).

W15/1064, was an undefended terraced hilltop with rectangular storage pits (one over 7 m in length with bell-shaped bin pits in the sides), bell-shaped pits, house floors, fire scoops and postholes. Four dates were obtained indicating that the site was first occupied at the turn of the 16th century, and that most of the pit construction took place within a short time frame, most likely within a single generation (Hoffmann 2011: 20).

W15/780 was excavated on the corner of George Street and The Strand in Whakatane by Clough and Associates in 2006 on the banks of the Whakatane River. To date only an interim report is available for this excavation (Phillips n.d.). It is described as “part of a larger pre European Maori village.” Artefacts included bone and stone chisels, obsidian flakes and one and two-piece bone fishhooks, as well as wooden artefacts including the bases of posts and adzed chips preserved in swamp peats. The site has not yet been dated but the excavators suggest it may be in excess of 500 years old.

W15/1196 was excavated during refurbishment of Whakatane Hospital (Harris 2014). The excavated area was part of a larger, heavily damaged site, and contained numerous intercutting storage pits, borrow pits, fire scoops and postholes as well as koiwi tangata (human remains) (Hudson 2014). Numerous obsidian flakes and a flake from an argillite adze were recovered. The site dated from the mid-15th to the mid-16th century.

W15/240

Although W15/204 was originally identified by Walton through aerial photography in 1979, the site was examined for the first time in 2010 (Phillips 2010) when the land was subject to a proposed subdivision.

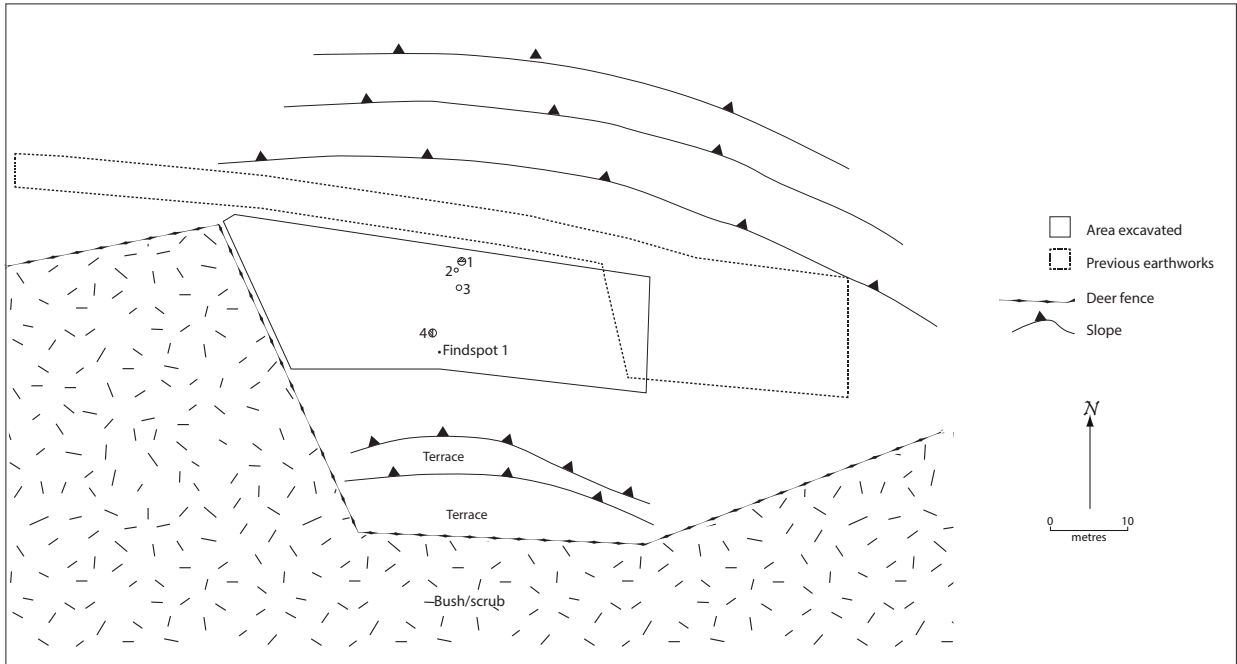
The site was observed as being a well defended pa enclosing a number of crop storage pits. At the time of the site visit it was noted that the site is in very good condition under regenerating bush (Phillips 2010: 6). Additional archaeological features including terraces, pits and modified soils were observed above and below the defended area of the pa.

The subdivision was not completed and it does not appear that any further archaeological work occurred. Similar surveys and some archaeological investigations have also been carried out by Phillips on other properties in the general area (Phillips 1998a, 1998b).

Within 1 km of the current proposed house site there are seven recorded archaeological sites (Figure 1). The record is skewed towards pa sites which generally have highly visible earthworks and occupy prominent locations within any given landscape. With the exception of find-spot W15/296, evidence of undefended occupation sites, pit sites and gardens are missing from the present record and it appears that the area has never been systematically surveyed by an archaeologist. When Phillips surveyed the property in 2010 he found that occupation evidence in the form of pits and terraces extended well outside the defended area of W15/204, demonstrating that similar sites may exist elsewhere in the region.

Methodology

Topsoil stripping was carried out by a 12 tonne hydraulic excavator under archaeological supervision. Because the topsoil was up to 1 m deep in places and the proposed house platform is located on a narrow spur, it was decided that the stripping would be carried out in sections. This was achieved by clearing topsoil from areas



4. Plan of the excavated area, showing numbered features.

of approximately 20–30m³, cleaning them down, and investigating archaeological features following standard archaeological procedure. Once the area was mapped in, topsoil from the next section would be stripped and placed on this cleared area. Pits were excavated in half section with the hydraulic excavator, other features were excavated by hand.

Lithic and midden samples were taken analysis. All features were recorded, and photographed. Excavated features were mapped, with the house platform marker-



5. Feature 1 excavated in half section, with the layer containing shell midden to the right.



6. Feature 4 excavated in half section, showing the homogenous fill.

pegs and fence strainers recorded on the map using a Garmin hand held GPS with an accuracy of ± 5 m.

Results

During topsoil stripping, it was observed that pieces of fire-cracked rock and shell fragments were scattered throughout the matrix. This correlated with the assessment Phillips carried out on the property (2010: 7), when it was noted that there was fire-cracked rock and charcoal rich soil eroding out of the northern edge of W15/204. The material presumably originates from features on the terraces above the proposed house platform, which have eroded and mixed in with the topsoil over time. An inspection of these terraces was undertaken, but no surface features were observed. Erosion would account for the thick deposits of this mixed topsoil observed in the western portion of the house site, where depths of close to 1 m were observed. A single obsidian flake was found within this mixed topsoil, which was retained and marked onto the map (Findspot 1).

There were four features uncovered during the investigation, two bell-shaped pits, a fire scoop and a post hole. These were all measured and photographed, and excavated.

The first pit (Feature 1) appeared as a dark charcoal stained smudge on the sterile surface, which was half-sectioned to determine its size and shape. There appeared to be multiple collapse events and a deposit of shell within the pit. A 10 litre bulk sample was retained from the level containing the shell deposit (Figure 4).

The second pit (Feature 4) was also half sectioned. This pit had a homogenous fill that matched the topsoil. There was no sign of collapse in the pit, and it is likely that it was deliberately filled once it was no longer needed.

The post hole (Feature 2) contained a mottled fill, with fire affected rocks and a single obsidian flake. there was no visible post mould and the obsidian flake was found in the centre of the hole, so the post was likely removed and filled in at some point.

The fire scoop (Feature 3) was identified as a dense collection of shell, charcoal and fire affected rock in a depression. The feature was half-sectioned, and it demonstrated an irregular shape with no evidence of fire staining to the underlying soil. A sample of the fill was retained for analysis.

Analysis

Obsidian

Two obsidian artefacts were recovered from the site, one in the topsoil, and one from the fill of Feature 2. Both were examined using Moore's macroscopic obsidian sourcing technique (1988). They were both dark olive green in reflected light and displayed a green hue in transmitted light. They displayed good translucency and a vitreous lustre. Due to these attributes, it is likely that the artefacts come from Tuhua Mayor Island, which is the closest source of green obsidian to the site.

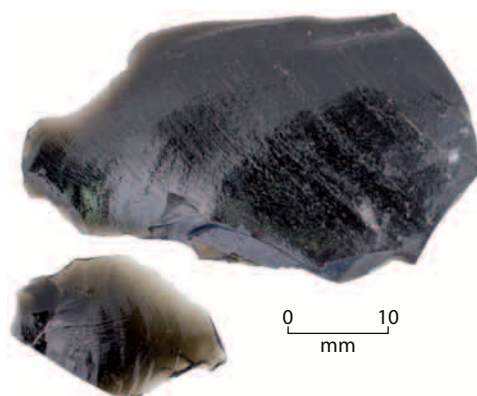
Tuhua is considered the earliest and most exploited obsidian source in New Zealand, as well as the highest quality (Green 1964; Sheppard 2004; Seelenfreund and Bollong 1989), and obsidian from this source has been found in archaeological sites as far away as the Kermadec and Chatham Islands (Leach 1986).

Both obsidian artefacts have inconclusive marks on them which may indicate mild use-wear. Both exhibit a good blade edge on them, and if they have been used for cutting, then it is likely that they were used for soft work, cutting flesh or soft plant fibre, prior to being discarded.

Shell

Shell midden was observed in Features 1 and 3. Shellfish was one of the most important and exploited foods in New Zealand prior to the arrival of Europeans. Its abundance and ease of collection means that it is present in almost every coastal site, with its presence waning the further inland the site is. The shell present at this site was most likely sourced from near present day Whakatane, brought up the Whakatane River fresh and cooked onsite.

One 10 litre sample of fill from Feature 1 and a small, 0.5 litre sample of shell from Feature 3 were retained for further analysis. These samples were sieved and



7. The two obsidian flakes from the excavation.

Feature	Tuangi cockle	Cat's eye
1	38	1
3	147	
Total	185	1

Table 1. Minimum numbers of shell from Features 1 and 3.

Feature	Type	Volume (litres)	Dry Weight	Sieved weight	Shell	Charcoal	Fire-cracked rock	Residue
1	Pit	10	9400	1537	41	66	1200	230
3	Fire scoop	0.5	810	414	357	1	0	56

Table 2: Weights, in grams, of midden samples from Features 1 and 3.

analysed using following standard analytical procedures to identify species of shellfish and any other material.

The dominant shellfish species for both samples was tuangi cockle (*Austrovenus stutchburyi*) with a single cat's eye (*Turbo smaragdus*) operculum from Feature 1. There was no other faunal material noted in the samples. Although the sample from Feature 3 was considerably smaller it was also considerably denser in shell (Table 2).

Chronology

A sample of tuangi cockle shell from Feature 3 was submitted to the Waikato Radiocarbon Laboratory for standard radiometric dating. This returned a date of cal AD 1500–1620 at 68.2% probability, indicating that occupation occurred between the beginning of the 16th century and the beginning of the 17th century (Appendix A). It should be noted that as this is only a single sample from a single feature. It is not representative of the entire length of occupation of site W15/204, only this single part of the site.

Although there are few dates from the Whakatane area with which to compare the W15/204 dates, available dates from W15/9 Tupatika Pa, W15/1064 and W15/1064 all indicate occupation in these hill sites between the mid-15th and mid-17th centuries. W15/780 remains undated, but is most likely to be an earlier site, perhaps from the 14th century.

Conclusion

While only features were found during the investigation, those that were present indicate food storage and cooking were activities carried out in this part of the site. Bell-shaped pits are common throughout the Bay of Plenty, as the types of soil present in the region are ideal for constructing this type of storage pit. They were usually used for storing kumara, which indicates that there would have been gardening in the area. Much of the evidence of this gardening would have been destroyed through farming practices in the past 150 years but some may remain.

Fire scoops are a common feature, not just for heat, but for cooking. It is common to find shell associated with them, and this shell is able to be used to date the site. Although it has provided a large margin of error, the date provided by the fire scoop within the site (Feature 3), has shown occupation occurred during the 16th century.

The single posthole found is not enough to indicate if this belonged to any sort of structure or what that structure might have been.

The few excavated features are part of a much larger site, which remains largely intact, and in which storage and cooking would have been associated with other subsistence and residential activities.

The two flakes of obsidian are an indication of the exchange networks that were present in pre-European New Zealand. They both have been sourced to Tuhua Mayor Island, 95 km north west of Whakatane. Tuhua obsidian is present in almost every lithic assemblage excavated in New Zealand, indicating it was widely transported. Although it is possible that the inhabitants of the area travelled to the source directly, the material would also have been available obtained from people living on the coast (who may have been close kin) and who would have access to the coastal exchange networks.

The age of the site is comparable to other sites around Whakatane have been dated, but the low number of sites and low number of samples from each site should be taken into account when trying to infer a chronology within the area. All four sites provide dates showing occupation between the late 15th century and early 17th century, but initial occupation of the area is likely to have been earlier than that.

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Radiocarbon Dating Laboratory

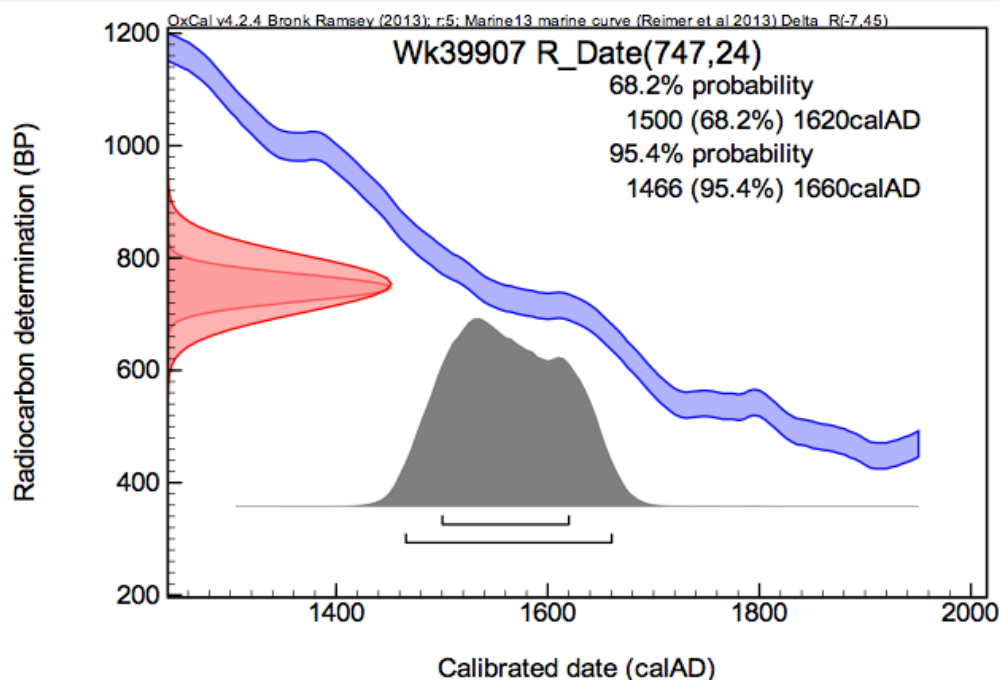
Wednesday, 1 October 2014

Report on Radiocarbon Age Determination for Wk- 39907

Submitter	M Campbell
Submitter's Code	Nuku1
Site & Location	Context #2, Nuku Road, Taneatua, BOP, New Zealand
Sample Material	Austrovenus Stutchburyi
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	$-88.8 \pm 2.7 \text{ ‰}$
$\text{F}^{14}\text{C}\%$	$91.1 \pm 0.3 \%$
Result	747 \pm 24 BP

Comments



- Explanation of the calibrated Oxcal plots can be found at the Oxford Radiocarbon Accelerator Unit's calibration web pages (<http://c14.arch.ox.ac.uk/embed.php?File=explanation.php>)
- 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 and is measured on sample CO_2 .
- $\text{F}^{14}\text{C}\%$ is also known as *Percent Modern Carbon (pMC)*.

Ally Hoag