

21617

SF No.	Site	Context	trench	sample	Material	Condition	Colour
4.4.1	Auchtercairn 3	0	4	0	qz	0	white
4.4.2	Auchtercairn 3	0	4	0	qz	0	white
4.4.3	Auchtercairn 3	0	4	0	qz	0	white
4.4.4	Auchtercairn 3	0	4	0	qz	0	white
4.4.5	Auchtercairn 3	0	4	0	qz	0	white
4.4.6	Auchtercairn 3	0	4	0	qz	0	white
4.4.7	Auchtercairn 3	0	4	0	qz	0	white
4.4.8	Auchtercairn 3	0	4	0	qz	0	white
4.4.9	Auchtercairn 3	0	4	0	qz	0	white
4.4.10	Auchtercairn 3	0	4	0	qz	0	white
4.1.1	Auchtercairn 3	0	4	0	qz	0	white
4.1.2	Auchtercairn 3	0	4	0	qz	0	white
4.1.3	Auchtercairn 3	0	4	0	qz	0	white
4.1.4	Auchtercairn 3	0	4	0	qz	0	white
4.1.5	Auchtercairn 3	0	4	0	qz	0	white
4.1.6	Auchtercairn 3	0	4	0	qz	0	white
4.1.7	Auchtercairn 3	0	4	0	qz	0	white
4.1.8	Auchtercairn 3	0	4	0	qz	0	white
4.1.9	Auchtercairn 3	0	4	0	qz	0	grey trans
4.1.10	Auchtercairn 3	0	4	0	qz	0	grey trans
4.1.11	Auchtercairn 3	0	4	0	qz	0	grey trans
4.1.12	Auchtercairn 3	0	4	0	qz	0	white
19	Loch R	2.4	2	0	qz	0	grey trans

Type	Gene Type	Spec	cortication	L (mm)	W	T
shatter	shatter	na		0	0	0
flake	flake	na		18.5	13.5	3.5
flake	flake	na		22.6	13.7	4
flake	flake	na		23	15.5	5.8
flake	flake	na		24.3	15.6	2.5
flake	flake	na		21.2	16.5	8.2
flake	flake	na		26	19	8
flake	flake	na		16	13.2	5.5
flake	flake	na		21	19.6	8.4
core	platform	na		18	16.5	14.2
shatter	shatter	na		0	0	0
tool	borer	na		30.5	19.4	9
core	bipolar spall	na		34.3	12.8	7.7
core	bipolar spall	na		22.2	11.2	6.3
core	bipolar spall	na		20.5	12.2	5.8
core	bipolar spall	na		27.5	12.2	8
flake	flake	na		38.2	27.8	15
flake	bipolar	na		23.2	22.4	8.4
flake	flake	na		20.6	16.4	6
flake	flake	na		10	12.2	2
core	amorphous	na		25.5	20.8	23
core	fragment	na		28	25	14.7
flake	flake	na		20.6	21	8.2

Notes	No.
Blocky shatter of poor quality	9
	1
	1
	1
	1
	1
	1
	1
crushed distal end, worked 100%	1
Blocky shatter of poor quality	42
borer made on flake with distal dorsal face roughly re	1
	1
	1
	1
	1
flake crushed platform	1
	1
	1
	1
	1
	1
	1

WEDIG PROJECT 2012

Loch Raa Hut Circle, Achiltibuie and Auchtercairn 3 Hut Circle Gairloch

CHIPPED STONE

Rob Engl

Introduction and methodology

A total of 83 pieces of chipped quartz was recovered from the 2012 excavations at the hut circles of Loch Raa and Auchtercairn 3, all but one of these artefacts was retrieved from the latter site. This total consisted of material derived from stratified deposits.

The entire collection was macroscopically examined and a general characterisation of the material was undertaken. General classifications and descriptions of the artefacts were based on those proposed by Ballin (2000). A complete catalogue of all the lithic material is given within the record and a selection of artefacts are illustrated in Illus 18a to 20.

The Quartz

The majority of the assemblage consisted of relatively coarse fine grained quartz with occasional pieces of the more translucent 'greasy' variety. No skin was observed within the assemblage and it is likely that the quartz was obtained from locally derived bed rock rather than cobble sources.

The Assemblage

The assemblage is summarised in Table one.

Table 1. The assemblage by type

	Auchtercairn 3	Loch Raa
Flakes	17	1
Shatter	55	
Amorphous Core	2	
Bipolar Remnant	4	
Platform Core	2	
Core Fragment	1	
Borer		
Total	82	1

The assemblage itself reflects an expedient flake based industry in which a combination of reduction techniques was used. The appearance of four bi-polar remnants suggests that this was the primary method of working the material, yet the presence of the two small platform cores and the amorphous and fragmentary examples suggest that a more hybrid approach was involved. This would initially involve the free-hand reduction of larger pieces, until size restrictions necessitated the use of an anvil from which finally the bi-polar technique was used in order to maximise the material. (Ballin 2008, 26). At Lairg the analysis of a quartz assemblage associated with roundhouse structures of the second Millennium BC, revealed that the majority of flakes were obtained through the application of a direct hard hammer technique (Finlayson 1998 137)

The seventeen flakes obtained from Auchtercairn appear to support this idea. The majority of flakes appear short and thick with platforms appearing crushed or simple in form. This suggests a poorly controlled hard hammer technique was employed.

A single modified tool was recovered in the form of the borer (SF 4.1.2). This artefact was formed on a thick flake. Simple retouch had been applied along the right lateral edge creating a strong point.

Selected Catalogue (dimensions in mm)

SF 4.1.2 Borer. 30.5 x 19.4 x 9. Flake with rough retouch applied along the right lateral edge creating a solid point.

SF 4.4.10 Platform Core. 18 x 16.5 x 14.2. Small core with a 100% worked platform. The core has crush marks on its base consistent with use on an anvil.

SF 4.4.10a Platform Core. 76 x 60 x 24. Large core with single simple worked platform leading to the removal of several flakes.

SF 4.1.11 Amorphous Core. Translucent grey quartz. 25.5 x 20.8 x 23. core with several irregular flake removals.

SF 4.1.11a Amorphous Core. Translucent grey quartz. 46 x 32 x 22. core with several irregular flake removals.

Distribution & Discussion

The lithic assemblages of northern Scotland are heavily dominated by quartz with the majority of them dating to the Late Neolithic/Early Bronze Age.

Given the available evidence it is likely that the small assemblage recovered at Achtercairn is of a similar date.

With the obvious exception of the single flake associated with Loch Raa, the material was recovered from the stone setting and associated cobbled surface of Achtercairn 3, situated down-slope of the roundhouse at Achtercairn 2 and in direct association with well defined areas of charcoal (Wildgoose & Welti 2012).

Given the apparent distribution of material, it is probable that no primary reduction took place within Achtercairn 2 itself. It is therefore likely that the cobbled area on the platform of Achtercairn 3 may represent a discrete zone in which the working of lithic material was undertaken perhaps in conjunction with other activities.

Bibliography

Wildgoose M, & Welti A 2012 Wedig Project 2012 A Study of West Coast Circular structures Through Landscape Survey, Site Survey and Excavation Unpublished Data Structure Report

Finlayson ,B 1998 'Worked Flint and Quartz, *in* McCullagh R P J & Tipping R, (eds), The Lairg Project 1988-1996 The Evolution of an Archaeological Landscape in Northern Scotland. Star Monograph 3

Ballin T B 2008 'Quartz Technology in Scottish prehistory. Scottish Archaeological Internet Report 26, 2008

Ballin T B 2000 'Classification & Description of Lithic Artefacts: a discussion of the basic lithic terminology. *Lithics* 21(2000)

WEDIG PROJECT 2014

Auchtercairn 3 Hut Circle Gairloch

CHIPPED STONE

Rob Engl

Introduction and methodology

A total of 11 pieces of chipped quartz was recovered from the 2014 excavations at the structure Auchtercairn 3. This total consisted of material derived from both unstratified and stratified deposits.

The entire collection was macroscopically examined and a general characterisation of the material was undertaken. General classifications and descriptions of the artefacts were based on those proposed by Ballin (2000). A complete catalogue of all the lithic material is given within the record.

The Quartz

The majority of the assemblage consisted of relatively fine grained translucent grey quartz. No skin was observed within the assemblage and it is likely that the quartz was obtained from locally derived bed rock rather than cobble sources.

The Assemblage

The assemblage is summarised in Table one.

Table 1. The assemblage by type

	Auchtercairn 3
Flakes	5
Shatter	4
Amorphous Core	1
Platform Core	1
Total	11

The assemblage itself reflects an expedient flake based industry in which a combination of reduction techniques was used. The appearance of the platform and amorphous cores suggests simple, hard hammer reduction was the primary method of working the material.

Bipolar working was also identified in the form of 'orange segment' shatter. This reinforces the identification of a hybrid approach to the working of lithic materials on the platform of Auchtercairn 3.

(Engl 2013).

Selected Catalogue (dimensions in mm)

SF 4.4.10 Platform Core. 76 x 60 x 24. Large core with single simple worked platform leading to the removal of several flakes.

SF 4.1.11 Amorphous Core. Translucent grey quartz. 46 x 32 x 22. core with several irregular flake removals.

Distribution & Discussion

The material was recovered from the same contexts of Auchtercairn 3 as was the quartz assemblage recovered during the 2012 excavation. Similarly the material may represent in situ working of lithic material in a discrete zone on the platform of the structure.

Bibliography

Wildgoose M, & Welti A 2012 Wedig Project 2012 A Study of West Coast Circular structures Through Landscape Survey, Site Survey and Excavation Unpublished Data Structure Report

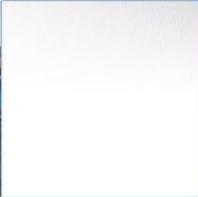
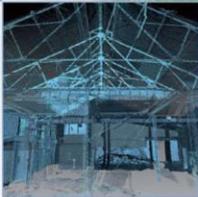
Ballin T B 2008 'Quartz Technology in Scottish prehistory. Scottish Archaeological Internet Report 26, 2008

Ballin T B 2000 'Classification & Description of Lithic Artefacts: a discussion of the basic lithic terminology. Lithics 21(2000)

Engl R P 2013 'Chipped Stone' Auchtercairn 2 and Loch Raa. Unpublished specialist report.

Wedig Project Report on the stone, steatite and ceramic finds

AOC 60044
12th July 2013



ARCHAEOLOGY

HERITAGE

CONSERVATION

WEDIG PROJECT: REPORT ON THE STONE, STEATITE AND CERAMIC

Dawn McLaren

OVERVIEW

Coarse stone tools, in the form of cobble tools, were recovered in small numbers from Achnahaird, Gairloch 1, Gairloch 2 and Rhue hut circles. The tool types present form a homogenous group, dominated by general purpose tools which had been used for pounding, none of which display well-defined wear indicative of extensive or long-term use. Only a small number of the stones show any variation of this wear type but a possible burnisher from Achnahaird has been recognised and a heavy-duty pounder or maul from Rhue had also seen use as a working surface. All of the cobbles used were water rounded stones with no evidence of modification prior to use. Arkosic sandstone and other coarse sandstones were almost exclusively used indicating the tools were made on stones typical of the area.

In addition to the stone finds a sherd of steatite-rich pottery and a fragment of a small steatite cup or bowl were recovered from Loch Raa. Although steatite is best known from outcrops on Shetland, the less well studied west coast mainland sources, such as that at Glenelg, are a more likely source of this material.

The following report discusses the finds by site with individual catalogue entries for each artefact. A small number of stones collected in the field are natural.

Abbreviations used in text: L length, W width, T thickness, D diameter, H height, R remaining, mm millimeter.

Loch Raa

A single sherd of heavily steatite tempered pottery (LR05) and a damaged rim sherd of a small steatite cup or bowl were recovered from humic-rich soil underlying the turf and overlying the core of the roundhouse wall (context 2.1, trench 2). Both are abraded and the pottery fragment has signs of re-working after breakage as an abrasive or burnisher.

The high proportion of steatite present within the ceramic sherd makes it likely that a steatite-rich clay source was utilised and further angular crushed pieces of steatite added rather than the presence of steatite simply being the product of tempering alone. Temper, in the form of crushed rock or organics, was often added to clay for potting in an attempt to improve the chances of a vessel surviving the firing process (MacSween 2009, 37). Steatite is valued not only for aesthetic purposes but also for its refractory qualities and its use as temper may have improved the thermal properties of a vessel (*ibid*, 37).

In terms of form, the rim of the Loch Raa pot is slightly everted with a flat angled interior bevel similar to Early Iron Age shouldered vessels from Kebister, Shetland, some of which were also steatite tempered (Dalland & MacSween 1999, 181, illus 159.2, no. C76) and conforms generally to Topping's type 5 Early Iron Age rim form but with a more sharply angled well-defined shoulder (1987, illust 2). Steatite backed pottery sherds were recovered from the excavation of hut circle I at Kilphedar, Sutherland (Fairhurst & Taylor 1971, 75-7). Although similar in fabric, the Kilphedar pottery appears to be much finer than that recovered at Loch Raa and the vessel form discussed here finds no parallel amongst the Kilphedar assemblage. Steatite sources in Scotland are rare; the best known are the numerous outcrops on Shetland which have evidence of exploitation from early prehistory (Bray *et al* 2009) but smaller less well known sources are present at Glenelg on the west coast and Strath Naver in Sutherland (Fairhurst & Taylor 1971, 77). Locally-known steatite sources such as that between Achmelvich and Alltan A Bradhan, Highland, (B. Ritchie, pers comm.) could also have been exploited during prehistory.

An Early Iron Age date (2374±27BP; GU30611 (SUERC-47072)) was returned from a piece of hazel charcoal associated with a slab-built hearth (Feature 1.3) in the interior of the round house. The form of the steatite tempered pottery from Loch Raa, by reference to similar shouldered vessels from Atlantic Scotland, is consistent with this Early Iron Age date.

In addition to the steatite-tempered pottery there is also a sherd from a small rounded cup or bowl. Bowl-shaped stone and steatite lamps are well known from broch sites, such as those from Dun Telve, Glenelg (Curle 1916, 250-2, fig 9), Kintradwell and Carn Liath, Sutherland (Maxwell Joass & Aitken 1890, 102, 105), but these tend to be far more robust, thick-walled vessels than the rim sherd present at Loch Raa implies. Instead, a small simple rounded cup or bowl is indicated by the surviving fragment.

Although the provenance of the steatite used for both these items cannot be confirmed with visual analysis alone, a likely source for both would be the outcrop at Glenelg.

CATALOGUE

Pottery

LR05 Re-worked rim fragment from steatite-rich clay and/or heavily tempered steatite pottery shouldered vessel. Slightly everted rim with flat angled bevel suggesting a closed mouth vessel, the wall of the pot at a steep angle suggestive of a shouldered vessel. The fabric is more than 85% steatite with small to large angular steatite inclusions suggesting the use of both naturally steatite-rich clay and crushed steatite temper. The visible clay has fired grey throughout. The sherd has been heavily re-worked evidenced by abrasion and flattening of the broken edge opposing the bevelled rim and one adjacent corner, probably from use as a burnisher. The extensive re-working of the sherd makes accurate estimate of dimensions impossible but a minimum diameter of 160 mm at the rim is indicated. Shouldered vessels with similar rim profiles and tempered with steatite are known from Kebister, Shetland (Dalland & MacSween 1999, 181, illus 159.2, no. C76) and Clickhimin, Shetland

(Hamilton 1968, 92) where their form and context dates them to the Early Iron Age. Surviving H 29 W 33.5 T 8 mm. Context 2.1.

Steatite

LR08 Small damage rim sherd of a small rounded cup or bowl. The rim, which is heavily damaged appears plain and upright. Only a small portion of the inner surface survives which is smoothed with shallow fine scrape marks or striations from abrasion during manufacture. The external surface is rounded suggesting a squat globular or rounded body but is uneven and is marked by recent scratches and gouges. The extent of damage to the rim makes accurate dimensions impossible but a diameter of around 60 mm is suggested. No residues or sooting is present. Surviving H 27 T 5-9 mm. Context 2.1

Achtercairn, Gairloch 1

A single pounder, displaying wear from use as a pounder, came from the core of the round house wall (context 2.4). It had been produced on a flattened spherical cobble with water worn smooth surfaces which displays no evidence of shaping or preparation prior to use. The tool, which could have been used for a range of tasks including food processing and preparing clay for potting, displayed evidence of wear in the form of a band of peckmarks around the circumference of the stone and in a circular patch at the centre of one rounded face. After use as a tool, the cobble had been used as a pot boiler demonstrated by significant heat damage and fire-cracking of the surfaces.

Cobble tools are not inherently datable, seeing use from early prehistory through to the medieval period in some areas, and their chronology of use must be inferred from the dating evidence of their associated context. Two contexts within the interior of the roundhouse (Context 1.3 and 1.4) returned Iron Age dates for activity. The cobble tool and its re-use as a pot boiler are entirely consistent with a later prehistoric date.

CATALOGUE

G.07 Pounder (fire-cracked). Plano-convex spherical coarse sandstone cobble, heat damage to most surfaces causing cracking and spalls to be detached from both faces and edges. The centre of the convex is pitted (D 38 mm), possibly as the result of use as a pounder. Rounded edges are also heavily pitted through heat damage and pecking from use. L 95.5 W 93.5 T 48.5 mm. Context 2.4. Trench 2.

Achnahaird

Eight possible worked stone items were collected in the field in association with this stone-built roundhouse. Three are dismissed after examination as natural water worn cobbles with no evidence of use or modification (Achd 14, 27 & 33). The remaining five cobbles all display signs of use and form a very homogeneous assemblage dominated by tools used as pounders. Such tools are thought to be general purpose tools which could have fulfilled a range of functions including, but not necessarily restricted to, food processing.

Such tools are often referred to as hammerstones but the term ‘pounder’ is preferred here to distinguish between two quite distinct levels of use. In contrast to pounders which are characterised by the presence of peckmarked damage or pitting from percussion damage during use, hammerstones are defined as those which have seen use with heavy physical force leading to the point of impact flaking or fracturing. None of the tools from Achnahaird display extensive damage consistent with use as a hammerstone.

None of the pounders from Achahaird showed signs of extensive use and in most cases the wear traces were so ephemeral it is likely that the tools may have seen only light or even single use prior to discard. This implies that these tools were easily sourced, lightly used and readily discarded. All of the cobble tools have been produced using water-rounded cobbles with a preference for small ovoid stones of durable arkosic sandstone. None of the stone tools display any form of preparation or modification prior to use.

The majority of the worked stone from Achnahaird came from contexts associated with the stone wall of the structure in trench 2. An Iron Age date has been returned from charcoal associated with collapsed material from the round house wall. Although simple tools such as these cannot be closely dated, they are entirely consistent with the later prehistoric date.

CATALOGUE

- Achd 01 Possible burnisher. Small water-rounded quadrangular pebble, one face convex the other distinctly concave which is smooth with a light sheen suggesting use as a smoother or abrasive to burnish pottery or possibly wood. Three corners and one edge have recent damage. L 46 RW 41 T 17.5 mm. Context 2.1
- Achd 06 Pounder (light-use) Small flat ovoid waterworn pebble. One rounded end has small oval pecked facet (16 x 24 mm) at the tip. L 81 W 59 T 24 mm. Context 2.2
- Achd 09 Pounder (light-use) Ovoid arkosic sandstone water worn cobble, one edge of narrow rounded tip is pitted and a narrow band of irregular pits are present along both long edges. The surface damage is so ephemeral that only light use as a pounder is indicated. L 104 W 55 T 34 mm. Context 2.5
- Achd 13 Pounder. Flattened ovoid arkosic sandstone cobble. One wide-rounded corner flattened with faceted peckmarks (W 57) and a further small circular area of pitting (D 15 mm) at one narrow rounded tip. Possible band of abrasion is present adjacent to peckmarked tip along one edge (10 x 52 mm). L 107.5 W 69.5 T 30.5 mm. Context 2.4
- Achd 21 Pounder (light-use). Flattened sub-oval sandstone water-rounded cobble, one rounded edge flattened by a band of light pitting (13 x 61 mm) from use. The adjacent edge has been lost, possibly as the result of wear. L 98 RW 83 T 35 mm. Context 4.2

Rhue

Two items of stone were collected in the field as possible worked stone tools: one (R.08) has seen heavy percussion use as a maul with further peckmarked damage suggestive of expedient use as a working surface. The second stone (R.09) has been dismissed as natural.

The maul is defined as such due to the extent and character of the peckmarked damage which encircles the circumference of the water rounded boulder in an irregular band, concentrating at the wide rounded ends. The peckmarks are distinct and large and have softened through wear suggesting the tool was used to both pound and crush. What material type was being worked with this tool is unknown but it could have been used to crush temper for pottery, to peck other stone items or to process foodstuffs. Two small patches of smaller, deeper peckmarks are present on one rounded face and may be the result of expedient use of the stone as a working surface. The stone used is a water rounded boulder with no evidence of modification or shaping prior to use.

Tools of this type cannot be closely dated as they had a long currency of use from early prehistoric times through the medieval period in some areas but is consistent with an Iron Age date from an interior hearth feature.

CATALOGUE

R.08 Maul/working surface. Flattened spherical boulder of sandstone with distinct bands of quartzite, surfaces water worn and smooth throughout. An irregular band of deep, wide, peckmarks (W 46.5- 105 mm) made as the result of percussion damage from pounding, encircles the circumference at the widest point with wear concentrating at the rounded ends, particularly one wide, thick blunt end. Two small oval clusters of deep peckmarks (W 54 mm; W 32 mm) off-centre on one concave smooth face may be the result of limited expedient use as a working surface. L 172 W 165 T 140 mm. Context 2.4

Gairloch 2

A single lightly-used pounder came from a clay-rich layer (context 1.10), possibly the remains of a floor.

CATALOGUE

Acht 1.5 Pounder (light-use). Large ovoid arkosic sandstone cobble, one rounded end with very restricted (SF 13.5 x 17 mm) pecked facet from use as a pounder. L 157 W 110 T 107 mm. Context 1.10

REFERENCES

- Bray, I, Forster, A K & Clelland, S 2009 'Steatite and Shetland: a geological introduction and gazateer of sites', in Forster, A K & Turner, V E (ed), 4-17
- Dalland, M & MacSween, A 1999 'The coarse pottery', in Owen, O & Lowe, C *Kebister. The four-thousand-year-old story of one Shetland township*, 178-89. Edinburgh: Soc Antiq Scot (=Monograph Ser No. 14).

- Curle, A O 1916 'An account of the ruins of the broch of Dun Telve, near Glenelg, excavated by H.M. Office of works in 1914', *Proc Soc Antiq Scot* (1915-16), 241-54.
- Fairhurst, H & Taylor, D B 1971 'A hut-circle settlement at Kilphedir, Sutherland', *Proc Soc Antiq Scot* 103 (1970-71), 65-99
- Forster, A K & Turner, V E 2009 (ed) *Kleber: Shetland's Oldest Industry. Shetland Soapstone Since Prehistory*. Lerwick: Shetland Amenity Trust.
- Hamilton, J R C 1968 *Excavations at Clickhimin, Shetland*. Edinburgh.
- MacSween, A 2009 'A note on the use of steatite as temper', in Forster, A K & Turner, V E (ed), 37-8.
- Maxwell Joass, J & Aitken, T 1890 'The Brochs or "Pictish Towers" of Cinn-Trolla, Carn-Liath, and Craig-Carril, in Sutherland, with Notes on other Northern Brochs', *Archaeol Scot* 5, 95-130
- Topping, P G 1987 'Typology and chronology in the later prehistoric pottery assemblages of the Western Isles', *Proc Soc Antiq Scot* 117, 67-84

Recommendations

The steatite-tempered pottery sherd and fragment of steatite bowl from Loch Raa merit illustration for publication, as does the pounder/maul from Rhue.

There is no merit in retaining stones identified as natural within the site archive. Discard of natural stones is recommended.

APPENDIX 1

ARCHIVE CATALOGUE OF STONE, STEATITE & CERAMIC OBJECTS

Abbreviations used in text: L length, W width, T thickness, D diameter, R remaining, mm millimetre.

Loch Raa

Pottery

LR05 Re-worked rim fragment from steatite-rich clay and/or heavily tempered steatite pottery shouldered vessel. Slightly everted rim with flat angled bevel suggesting a closed mouth vessel, the wall of the pot at a steep angle suggestive of a shouldered vessel. The fabric is more than 85% steatite with small to large angular steatite inclusions suggesting the use of both naturally steatite-rich clay and crushed steatite temper. The visible clay has fired grey throughout. The sherd has been heavily re-worked evidenced by abrasion and flattening of the broken edge opposing the bevelled rim and one adjacent corner, probably from use as a burnisher. The extensive re-working of the sherd makes accurate estimate of dimensions impossible but a minimum diameter of 160 at the rim is indicated. Shouldered vessels with similar rim profiles and tempered with steatite are known from Kebister, Shetland (Dalland & MacSween 1999, 181, illus 159.2, no. C76) and Clickhimin, Shetland (Hamilton 1968, 92) where their form and context dates them to the Early Iron Age. Surviving H 29 W 33.5 T 8 mm. Context 2.1

Steatite

LR08 Small damage rim sherd of a small rounded cup or crucible. The rim, which is heavily damaged appears plain and upright. Only a small portion of the inner surface survives which is smoothed with shallow fine scrape marks or striations from abrasion during manufacture. The external surface is rounded suggesting a squat globular or rounded body but is uneven and is marked by recent scratches and gouges. The extent of damage to the rim makes accurate dimensions impossible but a diameter of around 60 mm is suggested. No residues or sooting is present. Surviving H 27 T 5-9 mm. Context 2.1

Gairloch 1

G.07 Pounder (fire-cracked). Plano-convex spherical coarse sandstone cobble, heat damage to most surfaces causing cracking and spalls to be detached from both faces and edges. The centre of the convex is pitted (D 38 mm), possibly as the result of use as a pounder. Rounded edges are also heavily pitted through heat damage and pecking from use. L 95.5 W 93.5 T 48.5 mm. Context 2.4. Trench 2.

Achnahaird

- Achd 01 Possible burnisher. Small water rounded quadrangular pebble, one face convex the other distinctly concave which is smooth with a light sheen suggesting use as a smoother or abrasive to burnish pottery or possibly wood. Three corners and one edge have recent damage. L 46 RW 41 T 17.5 mm. Context 2.1
- Achd 06 Pounder (light-use) Small flat ovoid water worn pebble. One rounded end has small oval pecked facet (16 x 24 mm) at the tip. L 81 W 59 T 24 mm. Context 2.2
- Achd 09 Pounder (light-use) Ovoid arkosic sandstone water worn cobble, one edge of narrow rounded tip is pitted and a narrow band of irregular pits are present along both long edges. The surface damage is so ephemeral that only light use as a pounder is indicated. L 104 W 55 T 34 mm. Context 2.5
- Achd 13 Flattened ovoid arkosic sandstone cobble. One wide-rounded corner flattened with faceted peckmarks (W 57) and a further small circular area of pitting (D 15 mm) at one narrow rounded tip. Possible band of abrasion is present adjacent to peckmarked tip along one edge (10 x 52 mm). L 107.5 W 69.5 T 30.5 mm. Context 2.4
- Achd 14 Natural. Flattened quadrangular arkosic sandstone water rounded cobble. One corner lost but likely to be accidental damage rather than damage from use. L 85 T 69.5 T 38.5 mm. Context 2.4
- Achd 21 Pounder (light-use). Flattened sub-oval sandstone water-rounded cobble, one rounded edge flattened by a band of light pitting (13 x 61 mm) from use. The adjacent edge has been lost, possibly as the result of wear. L 98 RW 83 T 35 mm. Context 4.2
- Achd 27 Natural. Quadrangular water-rounded arkosic sandstones cobble; no modification or working in ends. L 79.5 W 51 T 37.5 mm. Context 2.8
- Achd 33 Natural. Ovoid coarse sandstone cobble, much of the original surfaces lost and pitted due to weathering/erosion. No evidence of modification due to wear. L 95.5 W 77 T 49 mm. Context 4.2

Rhue

- R.08 Maul/working surface. Flattened spherical boulder of sandstone with distinct bands of quartzite, surfaces water worn and smooth throughout. An irregular band of deep, wide, peckmarks (W 46.5- 105 mm) made as the result of percussion damage from pounding, encircles the circumference at the widest point with wear concentrating at the rounded ends, particularly one wide, thick blunt end. Two small oval clusters of deep peckmarks (W 54 mm; W 32 mm) off-centre on one concave smooth face may be the result of limited expedient use as a working surface. L 172 W 165 T 140 mm. Context 2.4
- R.09 Natural. Heavily eroded coarse quartz-rich sandstone cobble, the ends, edges and much of one rounded face lost through erosion or wreathing. No obvious heat damage or modification through wear. Remaining L 135 W 135 T 81 mm. Context 2.4

Gairloch 2

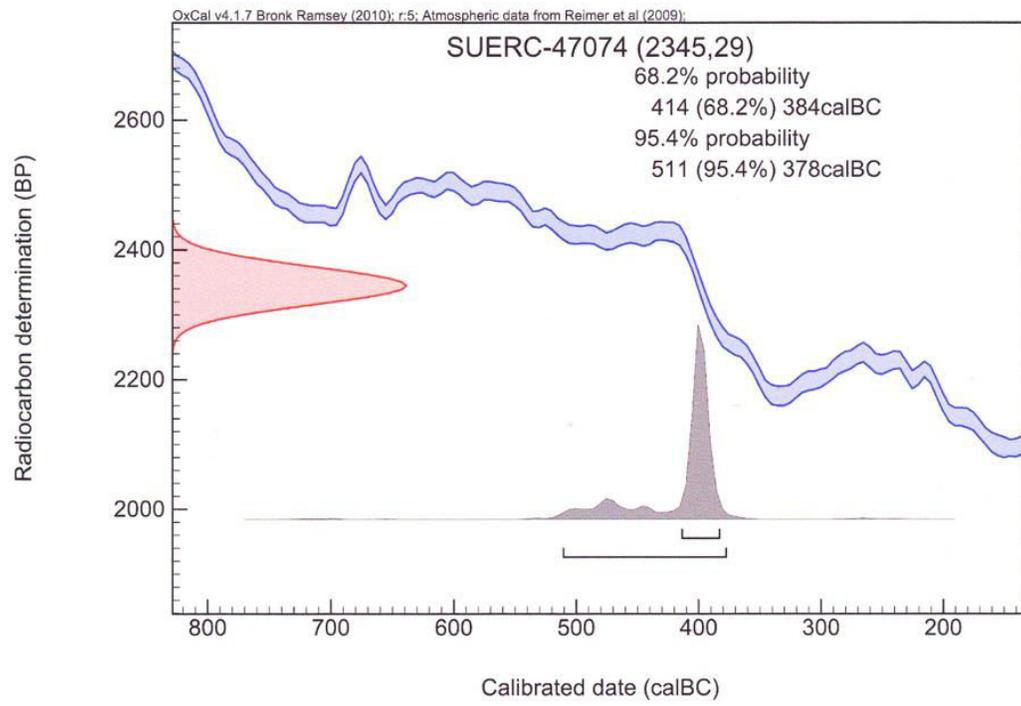
- Acht 1.5 Pounder (light-use). Large ovoid arkosic sandstone cobble, one rounded end with very restricted (SF 13.5 x 17 mm) pecked facet from use as a pounder. L 157 W 110 T 107 mm. Context 1.10
- Acht 1.6 Natural. Plano-convex sub-oval waterworn boulder of arkosic sandstone. No evidence of use or modification. L 204 W 174 T 97 mm. Context 1.12



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tel: **0131 440 3593** | fax: **0131 440 3422** | e-mail: **edinburgh@aocarchaeology.com**

www.aocarchaeology.com

Calibration Plot





Scottish Universities Environmental Research Centre

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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47074 (GU30613)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Achnahaird
Context Reference 2.2
Sample Reference F05

Material Charcoal : Alder

$\delta^{13}\text{C}$ relative to VPDB -26.4 ‰

Radiocarbon Age BP 2345 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *NRM*

Date :- *2.7.13*

Checked and signed off by :- *C. Muir*

Date :- *2/7/13*



University
of Glasgow

The University of Glasgow, charity number SC004401



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Scottish Universities Environmental Research Centre

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RADIOCARBON DATING CERTIFICATE

29 September 2014

Laboratory Code SUERC-55525 (GU35220)

Submitter Scott Timpany
ORCA Marine
Orkney College
East Road
Kirkwall, KW15 1US

Site Reference Achtercairn 3
Context Reference Kubiena 1
Sample Reference 03cm

Material Peat : humic acid dated

$\delta^{13}\text{C}$ relative to VPDB -29.8 ‰

Radiocarbon Age BP 313 ± 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N. Russell*

Date :- 29/09/2014

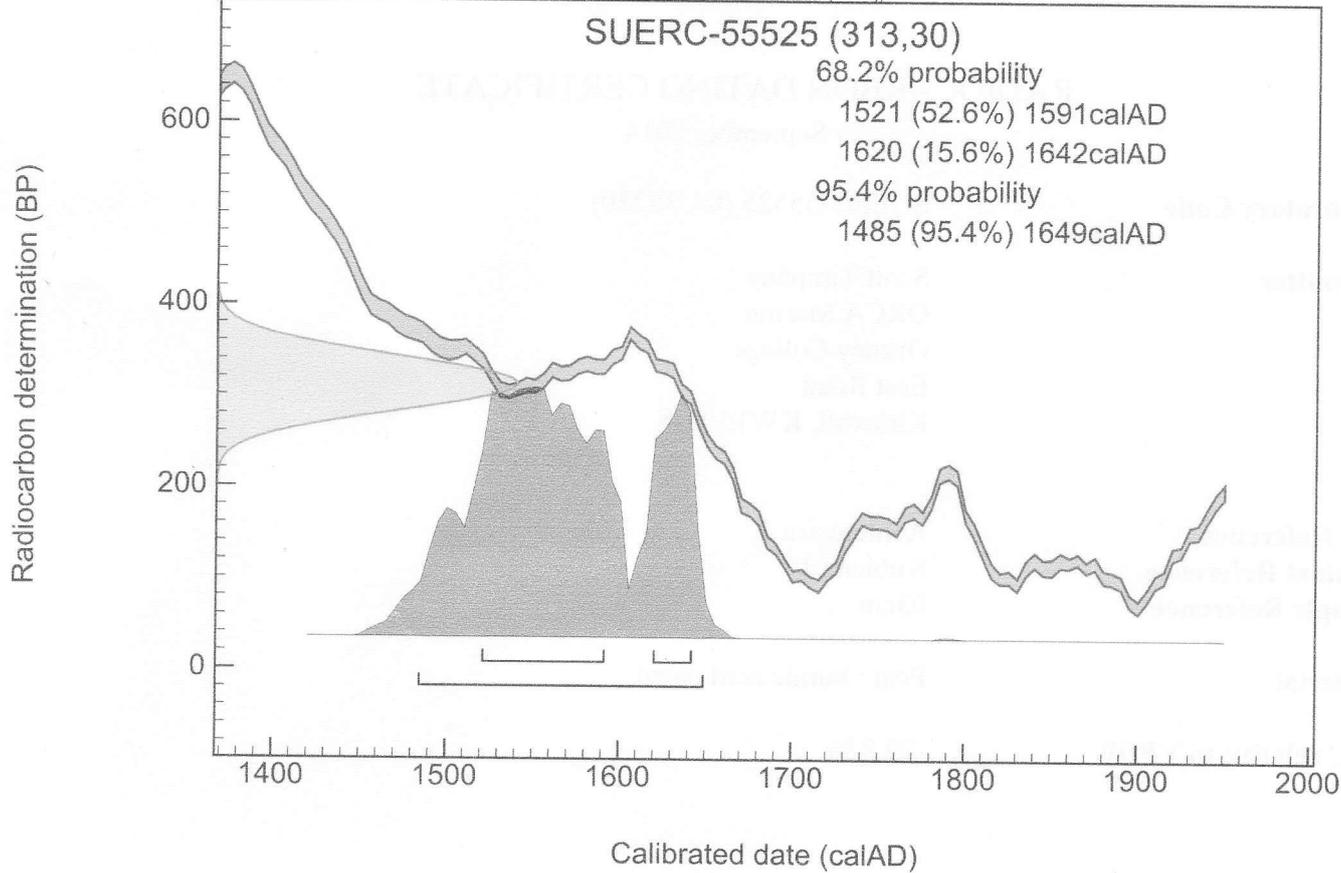
Checked and signed off by :- *E. Dunbar*

Date :- 29/09/2014

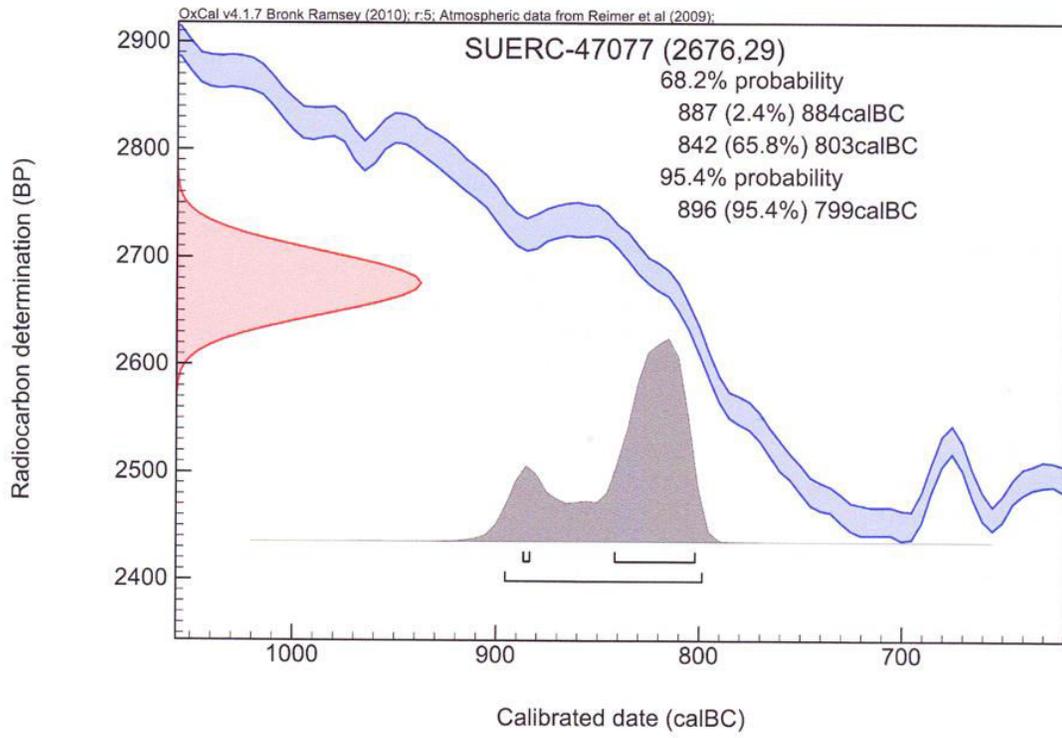


Calibration Plot

OxCal v4.1.7 Bronk Ramsey (2010); r:5; Atmospheric data from Reimer et al (2013);



Calibration Plot





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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47077 (GU30616)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Achtercairn 2
Context Reference 1.11
Sample Reference 1.3

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -25.3 ‰

Radiocarbon Age BP 2676 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N.R.M*

Date :- *2-7-13*

Checked and signed off by :- *E. Muir*

Date :- *2/7/14*





RADIOCARBON DATING CERTIFICATE

17 July 2014

Laboratory Code SUERC-53880 (GU34311)

Submitter Jackaline Robertson
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road
Loanhead, EH20 9SY

Site Reference Acht3

Context Reference T5.2

Sample Reference 8

Material Charcoal : Alder

$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 3341 \pm 35

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

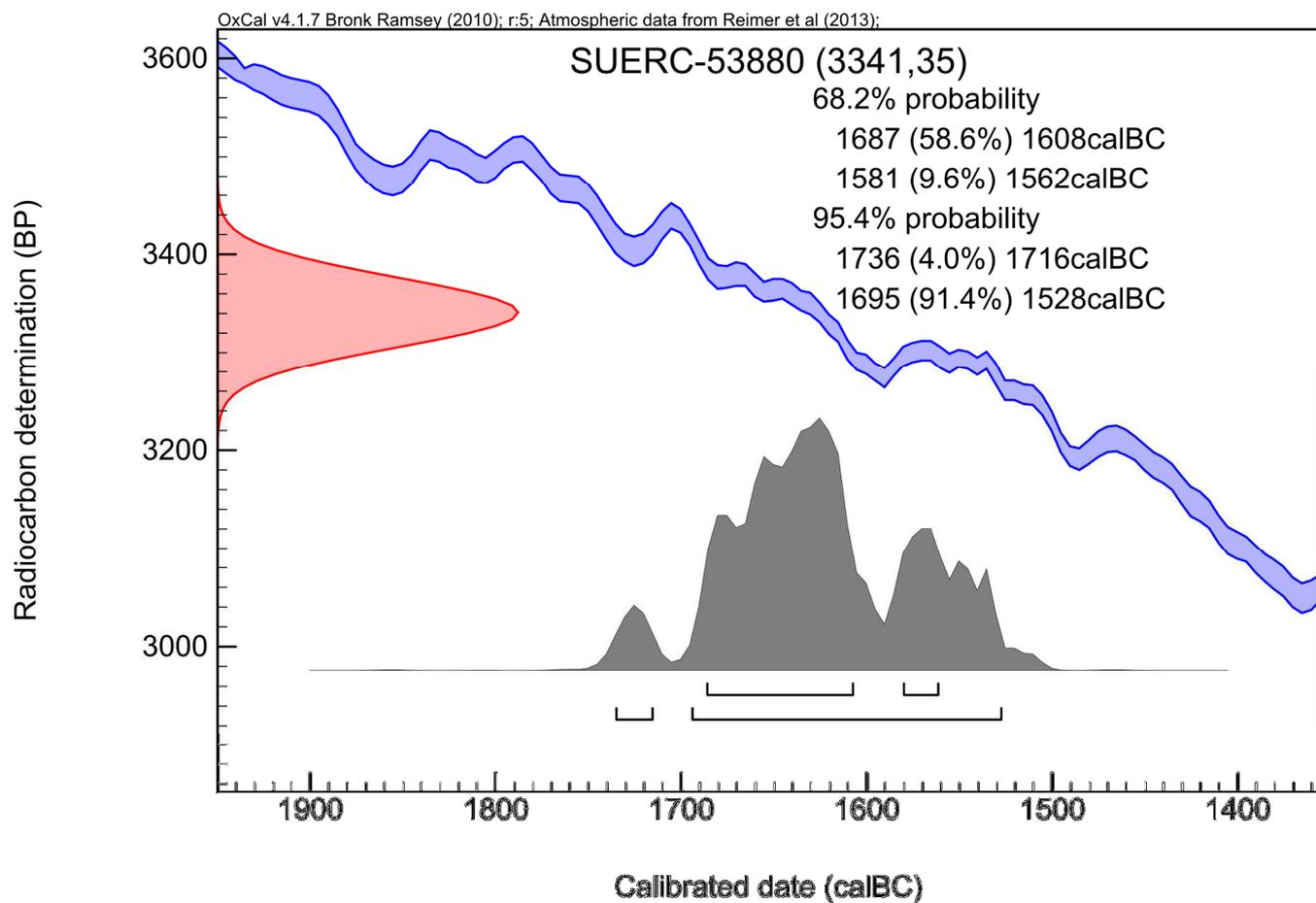
Conventional age and calibration age ranges calculated by :-

Date :- 17/07/2014

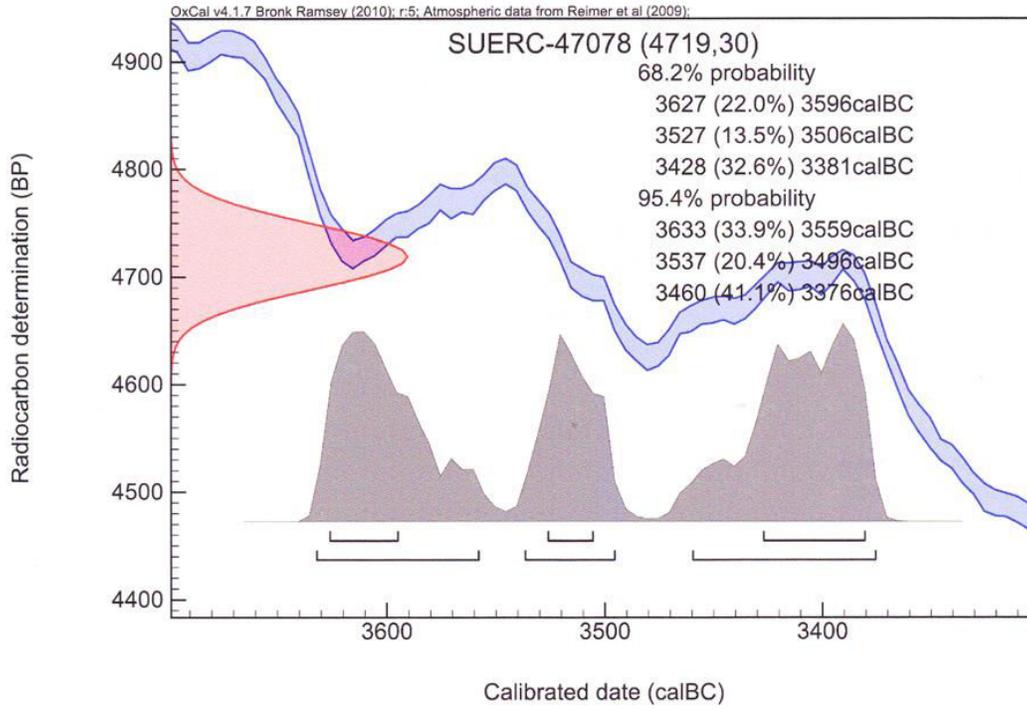
Checked and signed off by :-

Date :- 17/07/2014

Calibration Plot



Calibration Plot





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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47078 (GU30617)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Achtercaim 2

Context Reference 4.3

Sample Reference 4.5

Material Charcoal : Alder

$\delta^{13}\text{C}$ relative to VPDB -25.6 ‰

Radiocarbon Age BP 4719 \pm 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N.R.M.*

Date :- *2-7-13*

Checked and signed off by :- *G. Muir*

Date :- *2/7/13*





RADIOCARBON DATING CERTIFICATE

17 July 2014

Laboratory Code SUERC-53880 (GU34311)

Submitter Jackaline Robertson
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road
Loanhead, EH20 9SY

Site Reference Acht3

Context Reference T5.2

Sample Reference 8

Material Charcoal : Alder

$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 3341 \pm 35

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

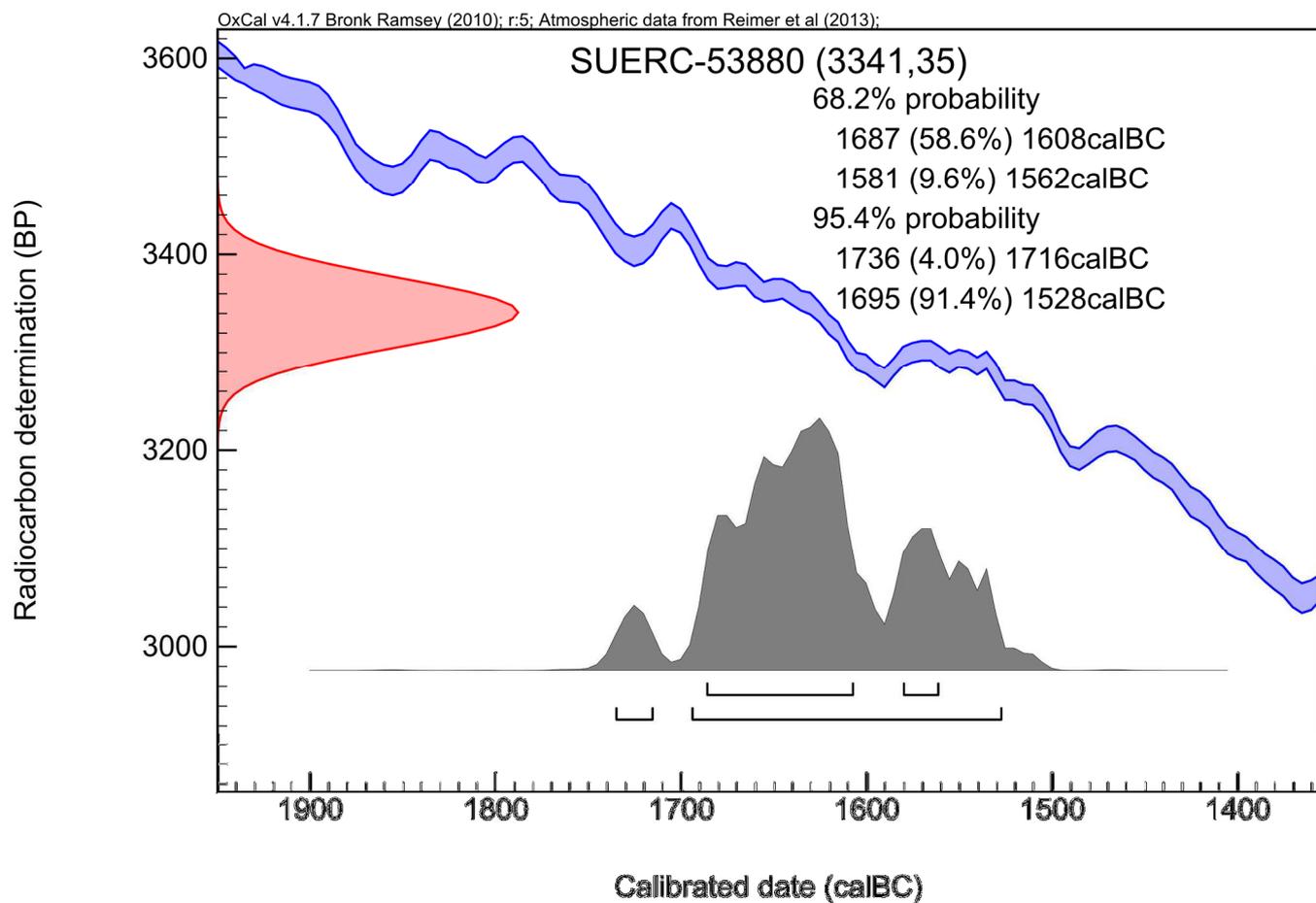
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

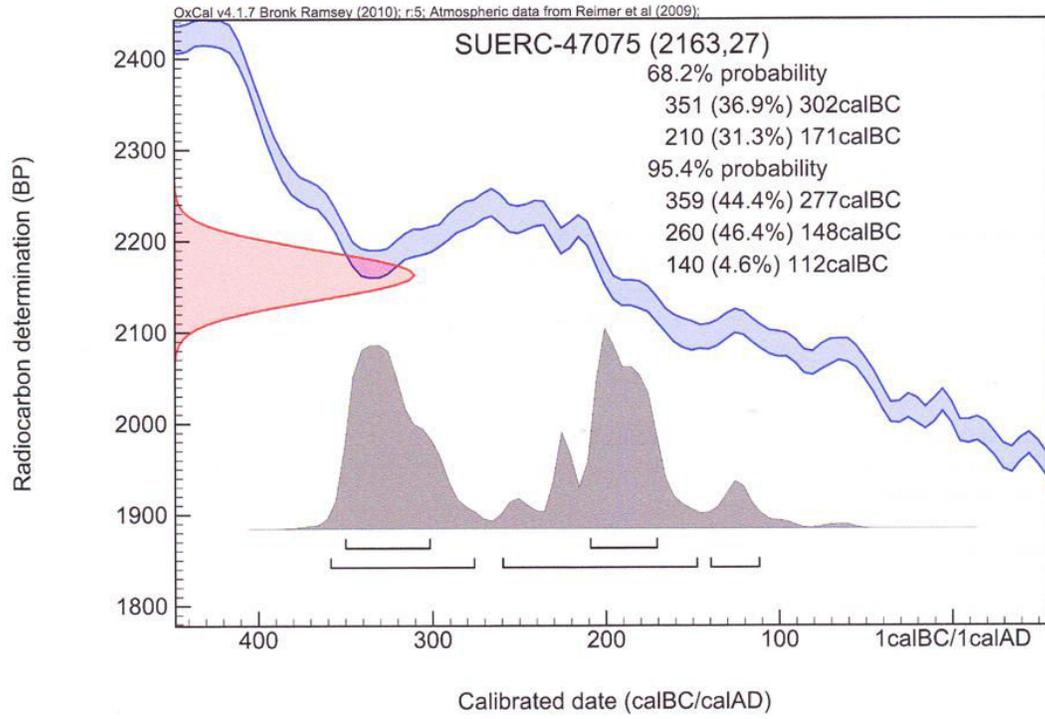
Conventional age and calibration age ranges calculated by :-  Date :- 17/07/2014

Checked and signed off by :-  Date :- 17/07/2014

Calibration Plot



Calibration Plot





Scottish Universities Environmental Research Centre

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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47075 (GU30614)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Achtercairn 1
Context Reference 1.3
Sample Reference 1.2

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -26.1 ‰

Radiocarbon Age BP 2163 \pm 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *NRM*

Date :- *27/3*

Checked and signed off by :- *G. Muir*

Date :- *2/7/13*

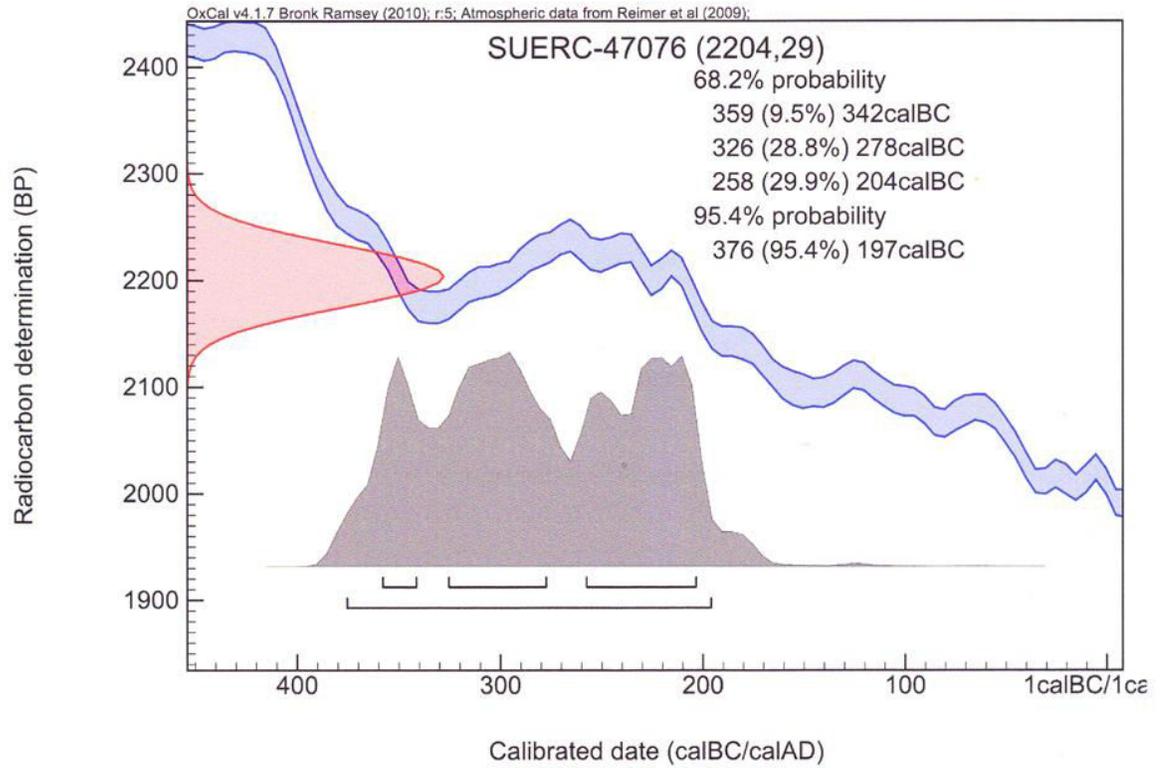


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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47076 (GU30615)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Achtercaim 1
Context Reference 1.4
Sample Reference 1.7

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -26.5 ‰

Radiocarbon Age BP 2204 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N.R.M.*

Date :- *2-7-13*

Checked and signed off by :- *G. Muir*

Date :- *2/7/13*

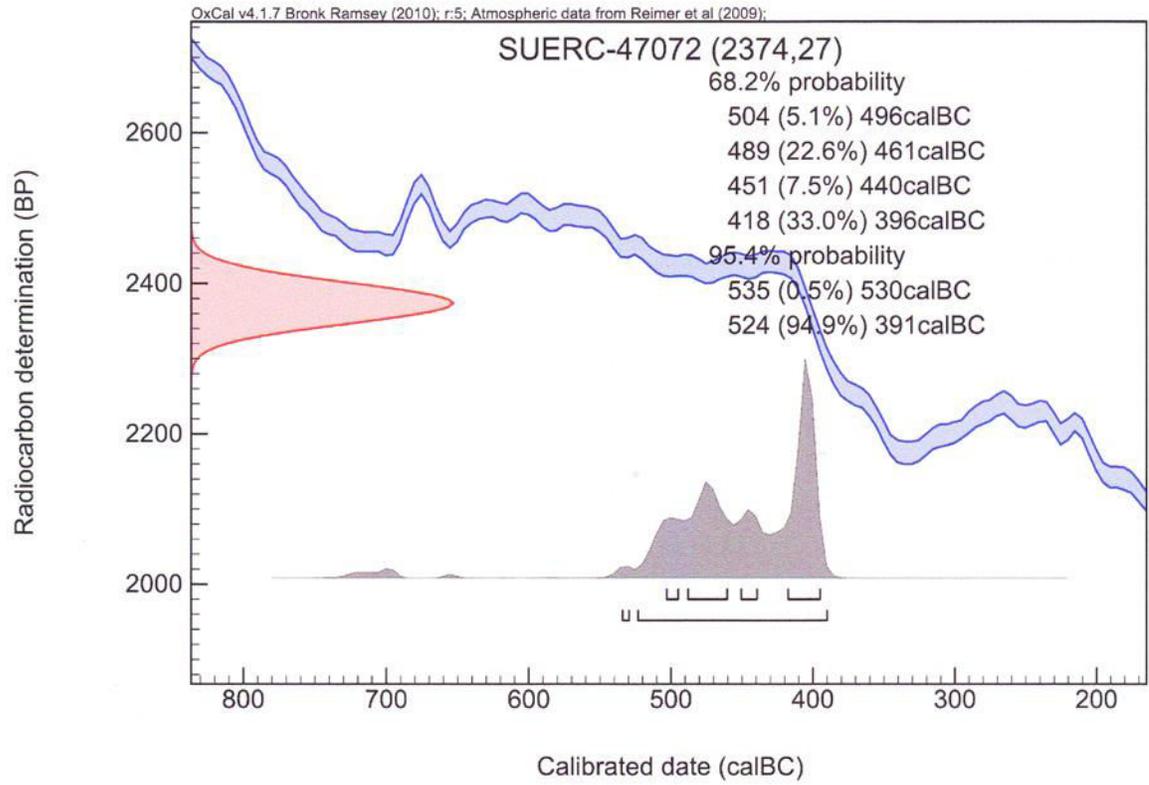


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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47072 (GU30611)
Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY
Site Reference Wedigs 2012 Loch Raas
Context Reference 1.3
Sample Reference LR6
Material Charcoal : Hazel
 $\delta^{13}\text{C}$ relative to VPDB -26.8 ‰
Radiocarbon Age BP 2374 \pm 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *J. R. M.*

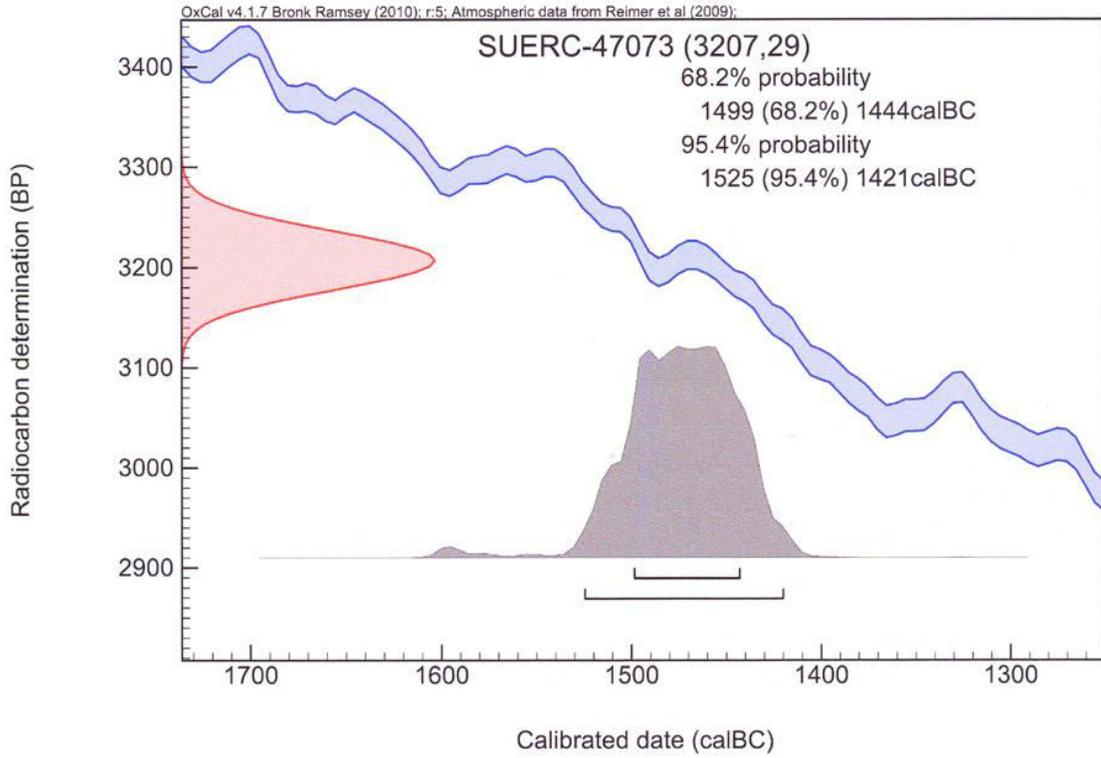
Date :- 2-7-13

Checked and signed off by :- *E. Muir*

Date :- 2/7/13



Calibration Plot





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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47073 (GU30612)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Loch Raa

Context Reference 1.5

Sample Reference LR7

Material Charcoal : Hazel

$\delta^{13}\text{C}$ relative to VPDB -26.2 ‰

Radiocarbon Age BP 3207 \pm 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N. Hall*

Date :- *2-7-13*

Checked and signed off by :- *E. Muir*

Date :- *2/7/13*

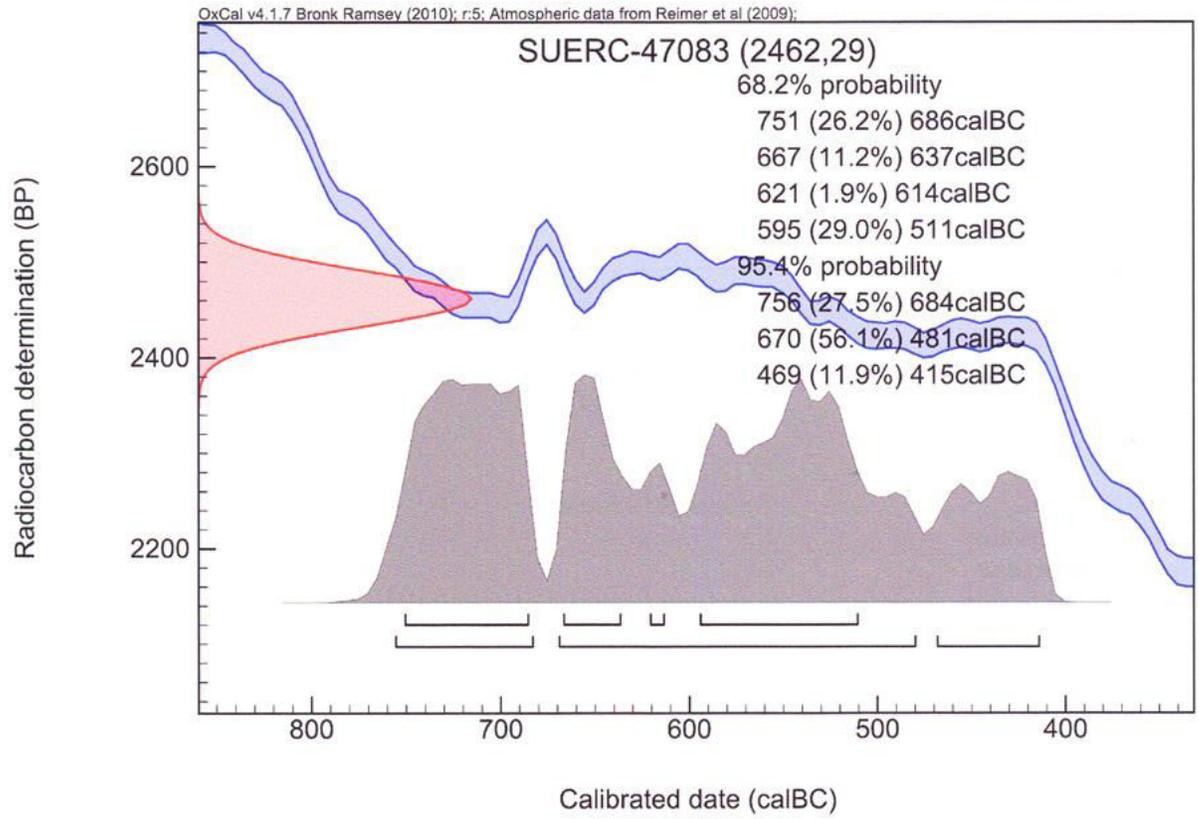


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Calibration Plot





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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47083 (GU30619)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Rhue
Context Reference 1.3
Sample Reference F05

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -26.8 ‰

Radiocarbon Age BP 2462 ± 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *NRM*

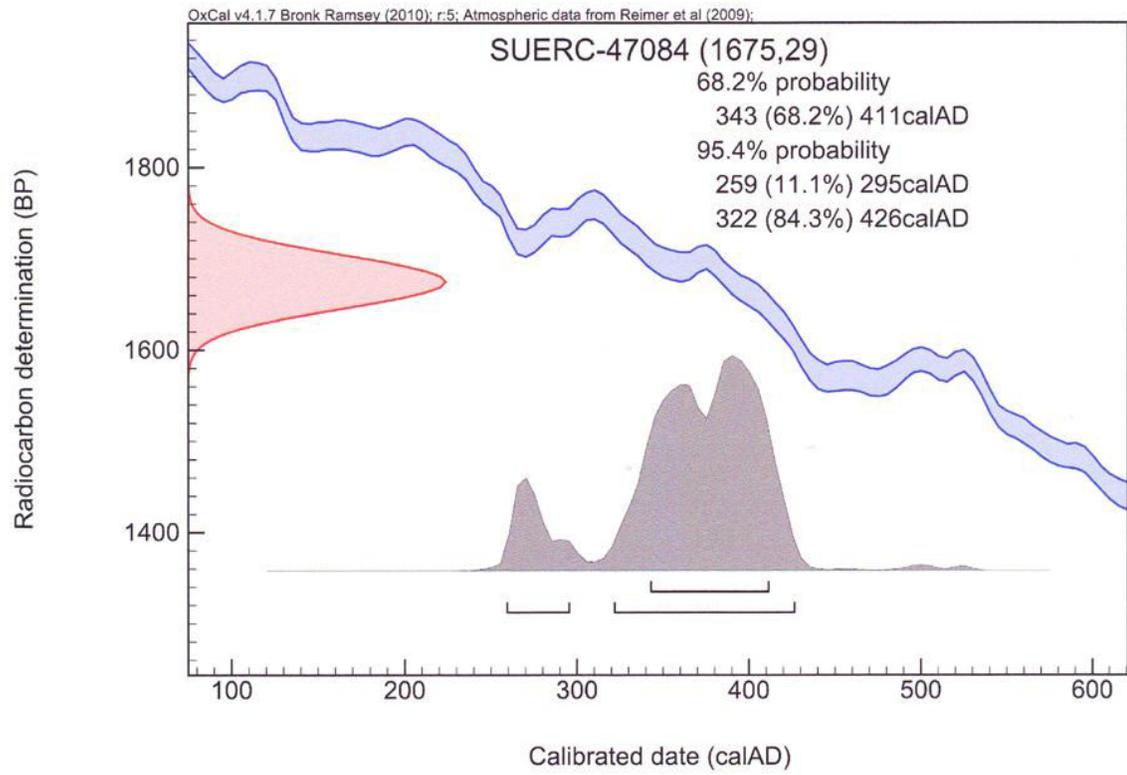
Date :- *2-7-13*

Checked and signed off by :- *E. Muir*

Date :- *2/7/13*



Calibration Plot





Scottish Universities Environmental Research Centre

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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47084 (GU30620)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Rhue
Context Reference 2.3
Sample Reference F04

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -27.1 ‰

Radiocarbon Age BP 1675 ± 29

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N.R.M*

Date :- *2-7-13*

Checked and signed off by :- *G. Muir*

Date :- *2/7/13*

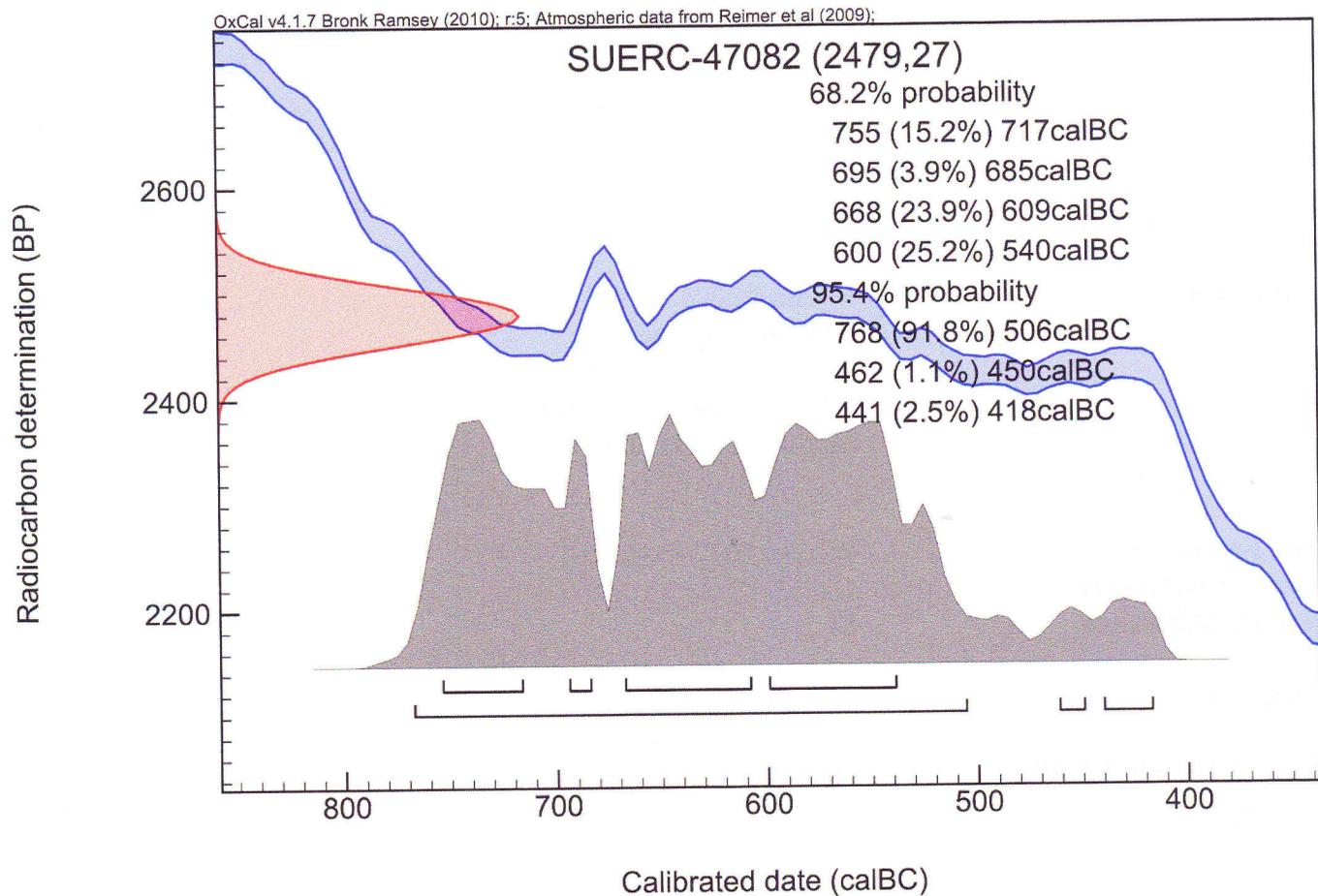


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Calibration Plot





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RADIOCARBON DATING CERTIFICATE

02 July 2013

Laboratory Code SUERC-47082 (GU30618)

Submitter Martin Cook
AOC Archaeology
Edgefield Industrial Estate
Edgefield Road, Loanhead
Midlothian, EH20 9SY

Site Reference Wedigs 2012 Srathain 1

Context Reference 1.2

Sample Reference S1.1

Material Charcoal : Birch

$\delta^{13}\text{C}$ relative to VPDB -26.1 ‰

Radiocarbon Age BP 2479 \pm 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- *N.R.M.*

Date :- *2-7-13*

Checked and signed off by :- *G. Muir*

Date :- *2/7/13*



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