REASSESSMENT OF THE IRON AGE CHRONOLOGY IN EASTERN ARABIA

IRON AGE CHRONOLOGY IN SOUTH EAST ARABIA AND NEW DATA FROM SALUT SULTANATE OF OMAN

Carl Phillips

Given the three-fold division of Iron I-III now widely adopted for the south-east Arabian Iron Age, excavated data from Salut[1] suggest that the site was first established early in the Iron Age I period (c.1300 BC) and continued throughout the Iron Age II and III periods (to c. 300 BC). The C14 dates from Salut are, however, problematic if one accepts that the three fold division of the Iron Age into Iron I, II and III is also reflected in three distinct pottery assemblages.

In the case made by Magee (1996) the Iron I period is characterised by a small range of pottery shapes made of a distinct grey gritty fabric. Consequently, the painted wares and other vessel types previously considered to mark the beginning of the Iron Age, and well known from sites such as Rumeilah, are considered to be representative of the Iron II period. The identification of Magee's Iron I assemblage at sites such as Tell Abraq and Shimal does not, however, bring about a change of date for the beginning of the Iron Age. Rather, Magee retains the start of the Iron Age at somewhere in the fourteenth/thirteenth century BC and supports this date by reference to a few artefacts found in the Iron I levels at Tell Abraq. These include a seal and a bronze axe-head. As for the Iron Age assemblage at Rumeilah which had previously been dated also to the thirteenth century or thereabouts, Magee has argued that the C14 dates obtained there are not secure and that a date starting nearer to 1100 BC is more likely. Furthermore, in a subsequent review of the C14 data available from Iron Age sites in the UAE and Oman, Magee (2003) shows that at most of these sites, all characterised by painted pottery and other ceramic parallels with Rumeilah, there is no convincing evidence for a date prior to 1100 BC and that a date closer to c. 1000 BC should even be considered. In support of this lowering of dates Magee also suggests that the painted spouted jars, as found at Rumeilah, reflect influence, if not actual import, from Iran and if in Iran such vessels are unlikely to be dated before c. 1100 BC[2] it would be impossible for them to be dated earlier in south east Arabia. The evidence from Salut does not, however, support the application of this interpretation to the whole of south east Arabia.

The evidence from Salut can not be used to doubt the stratigraphic sequence at Tell Abraq or the characteristic pottery types found in the sequence and the comparative dating based on the presence of other objects. But the problem is as follows; the Iron Age I pottery assemblage defined by Magee is not present at Salut,

[1] For background information about Salut and the work of the Italian Mission to Oman (IMTO) see Avanzini, Phillips elsewhere in this volume.

[2] Magee 1996, p. 248.

at least not as a distinct assemblage[3]. From the beginning, the Iron Age pottery at Salut comprises painted pottery and an almost identical range of vessels to those found at Rumeilah and all other Iron Age sites which would fall into Magee's Iron II period – an assemblage which some authors consider the "Classic Iron Age Assemblage".

From Salut there are now two parallel sequences of C14 dates which, after calibration and adopting the lowest dates at 95% probability, appear all to date before 1000BC and some before 1100 BC (fig. 1)[4]. The floors and intervening deposits that these dates come from all contain pottery representative of the "Classic Iron Age", Rumeilah 1 type, including painted spouted jars and small carinated cups. If the situation at Salut is representative of other parts of south east Arabia it means that "Iron I" and "Iron II" cannot be used to automatically infer any chronological or cultural synchronism because a site could have been occupied in the Iron I time-frame (c.1300-1100/1000 BC) but lack any "Iron I" ceramic parallels and have an otherwise typical "Iron II" pottery assemblage. Similarly, without any contrary C14 data, it would be impossible to say that any site with "Iron II" pottery necessarily dates after c.1100/1000 BC. It is tempting, therefore, to suggest that the Iron I and II periods would be better rolled together into an "Early Iron Age", with possible local variations, and for Iron III to be considered as "Late Iron Age". A possible historical scenario is that the painted pottery and other associated types first appear in central Oman and mark the beginning of the Iron Age there, and the later appearance of this cultural horizon at sites such as Tell Abraq is the result of a spread of cultural influences from the heartland of southeast Arabia towards the north[5]. All of this, however, is something which needs to be debated more fully and especially as more data become available.

Given the emphasis on the C14 data from Salut used in the discussion above it is only appropriate that some further preliminary information concerning contexts is provided.

So far, two main Iron Age building phases have been defined at Salut. On the uppermost part of the site the earliest phase is preserved partly because much of it was covered and thus protected by a level surface (US3) that provides the base for the second main phase of building. The first phase of building includes one part that can best be described as a basement. The floors in this part of the site are generally lower than the floor levels that go with the early building phase elsewhere. The area is also accessed by a short flight of steps that lead down into a corridor that provides access to a number of smaller rooms. In the basement there is a sequence of floors and the earliest floor lies above the bedrock. There is no chance of contamination, therefore, from earlier archaeological deposits. Some of the floors in the basement can be correlated because of the presence of a very distinctive ash layer, whereas some of the later floors are less easy to correlate because of the addition of intervening walls. At some point in time the basement went out of use, probably at the same time as the building alongside of which it was a part. After this the basement was covered by a level deposit (US3) which, as described above, forms a base for the second main building phase.

From the basement, two stratified sequences of C14 dates have been obtained. The calibrated dates are shown in figure 1 where the two sequences are indicated as A and B. It should be noted that US3 covers both sequences and, as would be expected, the C14 date from US3 is younger than all those below. The longer sequence of dates (fig. 1A), starting from the lowest level, begins with US275 followed by, as one moves progressively up through the superimposed levels, US274, US276, US16, and US13. Out of the sequence of five dates only the date from US 13 appears anomalous since it is as old, if not older than the underlying dates. There can be no explanation for this other than the sample being intrusive material; it might result from a short period of abandonment and decay prior to the build-up of US3. The second sequence of dates (fig. 1B), from bottom to top, com-

[3] A few fragments of pottery found at Salut can be compared with the simple bowls illustrated by Magee (Magee 1996, fig. 1) and are similarly found in a grey gritty fabric. At Salut, however, these are found in several levels but not at all in the earliest levels.

[4] The dates are also presented in an appendix which includes the detailed calibration graphs.

[5] As Schreiber points out, the pottery assemblage that is deemed typical of Iron Age I is only found at a few coastal sites and then mostly in those with settlement continuity between the Wadi Suq/late Bronze Age and the Iron Age. This leads to the hypothesis that rather than a general phenomenon useful for chronological dating, this is a local emergence if not the effect of atransition between the culture of the Wadi Suq/Late Bronze Age and that of the "classic" Iron Age.

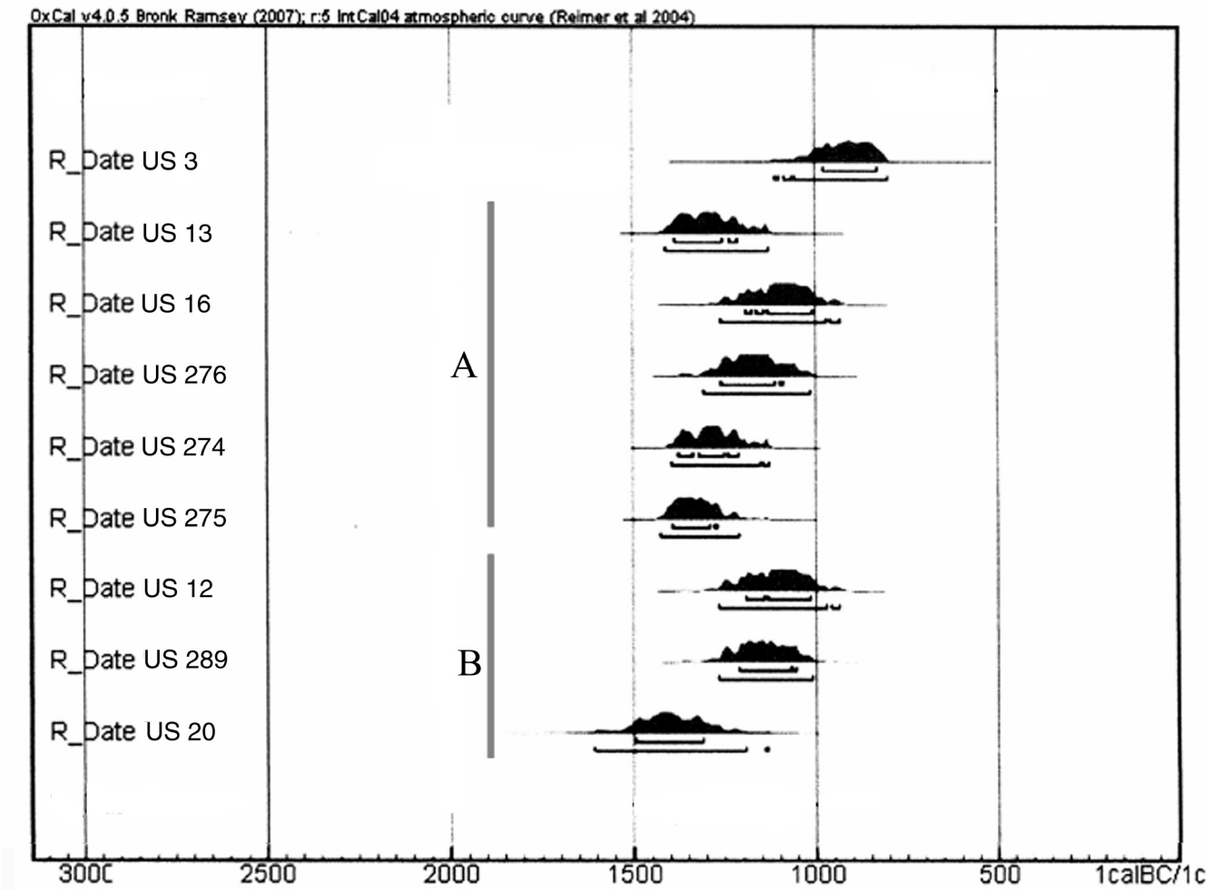


Figure 1 - *Calibrates dates from the basement with the two sequences of dates (A and B).*

prises US20, US289 and US12. Apart from US 13, therefore, the C14 dates provide two complementary sequences going progressively from older to younger and thus suggesting that they are accurate. The dates are also reasonably precise in giving a clear indication that these levels should all be dated before 1000 BC and the lowest levels considerably older, probably between 1300 and 1100 BC. The calibrated date for US3 is consistent with this interpretation.

It can be added that whilst Magee has questioned the reliability of the C14 dates from Rumeilah, based on various criteria, such criticisms are less easy to sustain for Salut where the dates have been obtained from distinct well-defined superimposed levels and all obtained from wood charcoal. As for comparative dating, in another part of the first phase buildings at Salut a bronze axe was found (fig. 2) which matches that of Tell Abraq[6] which Magee[7] uses for fixing the date of the Iron Age to the 14th Century. The C14 date from the context in which the Salut axe was found (US337) indicates a date which is clearly before 1000 BC and most probably before 1100 BC (calibrated 1500-1020 BC / 1420-1130 BC). The context where the axe was found also contained typical Iron Age painted pottery which includes a painted spouted-jar.

Having outlined some of the absolute and relative dating evidence from Salut something more needs be said about the contexts and associated pottery. In order to

[6] Potts 1990, fig. 146.

[7] Magee 1996, fig. 5.

Figure 2 - Bronze axe from the first phase buildings at Salut.

do this a matrix of the excavated stratigraphic units (US) from the specific part of the site (i.e. the basement that forms part of the earliest building phase) is shown in figure 3. The US where C14 dates have been obtained are marked by an asterisk and in column I the dates calibrated to 68.2% probability are listed alongside. In column II is a suggested chronological sequence which conforms to the calibrated dates given in column I.

The earliest floor level is represented by US 51. Three C14 dates come from levels beneath this floor but associated with the building foundations (US20, US275 and US 274) and can be dated clearly before 1200 BC. Stratified above US 51 is a second floor represented by US 18 (inclusive of US 240, 269 and 258) and US19. Above this is a third floor represented by US 15 (inclusive of US 289) and US16 (inclusive of US 288, 276 and 265). Three C14 dates from this floor level are very consistent in suggesting a date between 1200-1050 BC. At some point a pit, US35, was cut and filled, and subsequently covered by a fourth floor represented by US 14. It is probable that this floor is contemporary with US 11 and US 12. A C14 date from US 12 clearly puts this level before 1000BC, and thus gives the lowest possible date for the sealing of the pit US35. There is a final level of floors represented by US 7, US 9 and US 13 and then the entire area was covered by US3.

Stratigraphic units	I	II
US3*	980-830 BC	
9 ---------- 7 ---------- 13 (251, 241, 272)		
11 ---------- 12* ---------- 14	1200-1010 BC	Pre-1000 BC
Pit 35		
15 (289*) _____16* (288, 276*, 265)	1220-1050 BC 1200-1000 BC 1270-1050 BC	1200-1050 BC
19__ _____18 (240, 269, 258)		
Floor 51		
274*	1380-1210 BC	Pre-1200 BC
275*	1400-1270 BC	
279		
20*	1500-1310 BC	Pre-1300 BC
Bedrock Bedrock		

Figure 3 - *Matrix of the basement excavated US. Column I: dates calibrated to 68.2% probability; Column II: suggested chronological sequence; *: US where C14 dates have been obtained.*

Following this dated sequence of floors and a pit, it appears likely that the earliest two floors would date prior to c. 1100 BC if not earlier. And opting for the lowest probable dates, it is difficult to envisage any of the remaining floors and pit dated later than c. 1000 BC.

Finally, it remains for some of the characteristic pottery to be illustrated. In figures 4 and 5 a selection

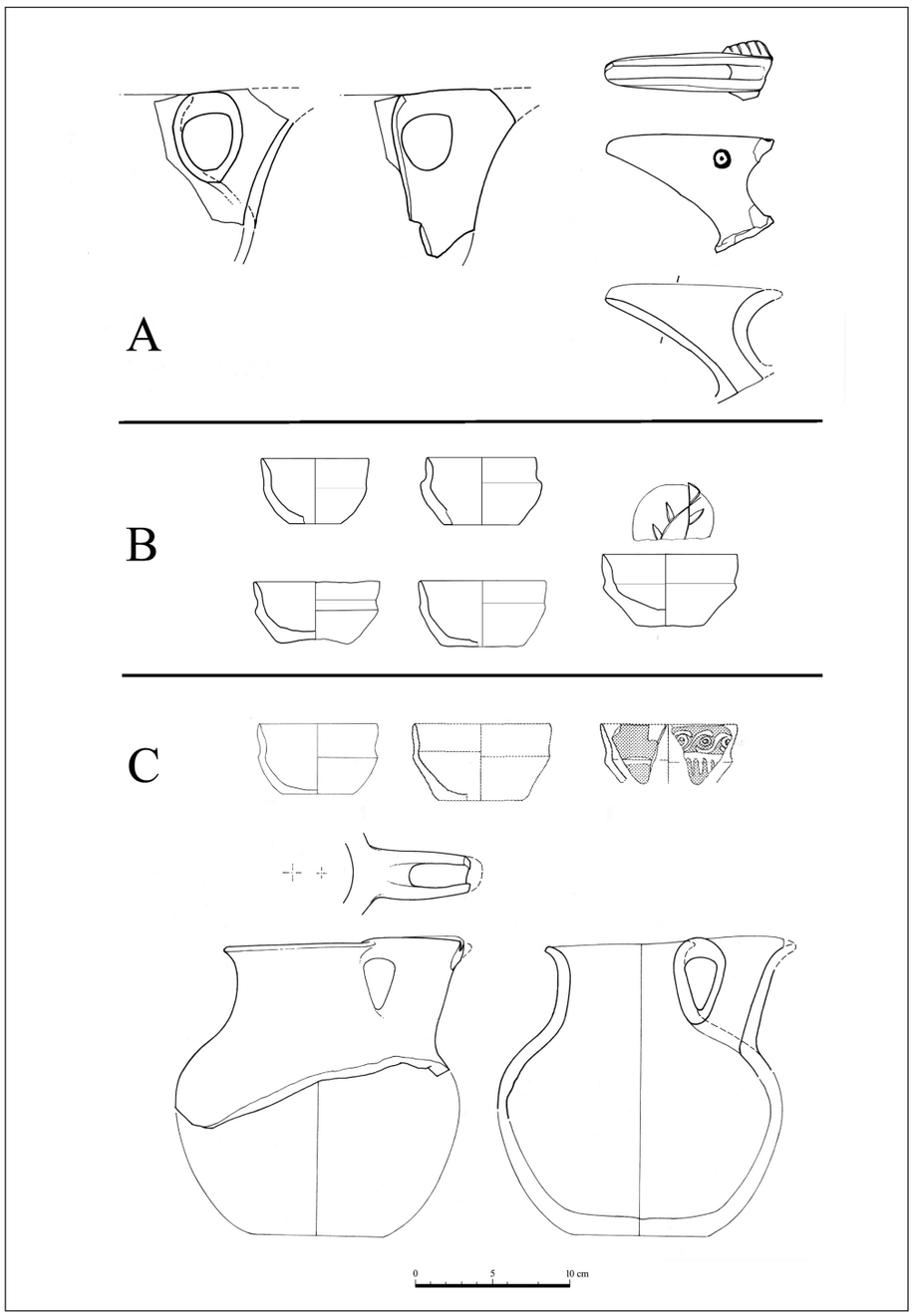


Figure 4 - *Selected pottery from the basement: A, US 51; B, US 18/19; C, US 15/16.*

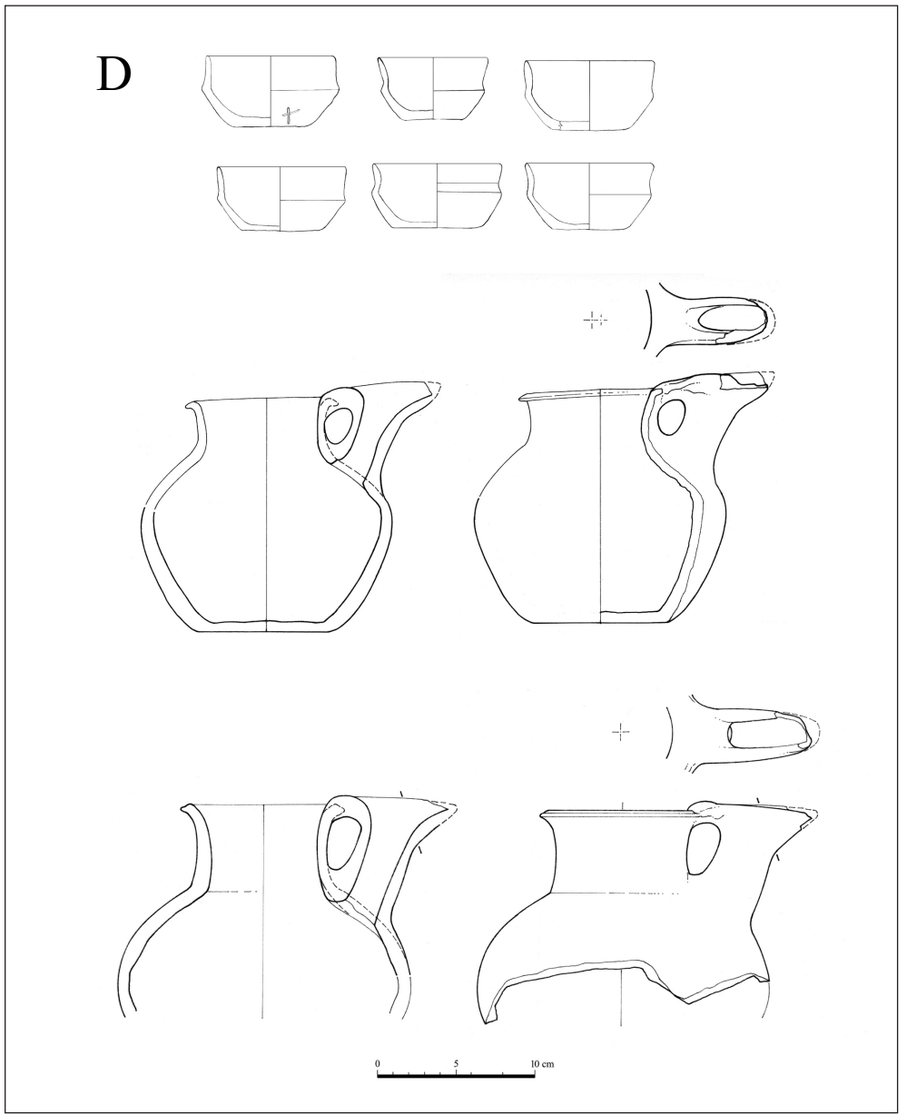


Figure 5 - *Selected pottery from the basement: D, US 35.*

of the pottery is shown. Figure 4A comprises pottery from US51; 4B comprises pottery from US 18/19; 4C comprises pottery from US15/16 and figure 5D comprises pottery from US35. These figures do not represent anything like the entire range of pottery from these specific contexts and the examples shown have been specifically chosen to make the point that they comprise vessel types that should be representative only of Iron II – "the classic Iron Age assemblage" and yet here they are in what chronologically is the Iron I period. As stated at the beginning of this article, this doubts the viability of the Iron I, II and III framework which has been widely accepted following Magee's first promotion of it in 1996.

Concluding remarks

Hopefully the data presented above will help spark fresh debate on the question of Iron Age chronology. Given that the Iron Age in southeast Arabia spans a

millennium or more, it is to be expected and desirable that some internal chronological markers can be established. A good example is provided by "Burnished Maroon Slipped Ware" [8] which can be taken as indicative of new influences which appear in the latter part of the Iron Age – influences that are apparent over a wide area of south east Arabia[9]. It is also inevitable that individual archaeological sites and surveys will produce data that can be interpreted as chronologically significant. However, caution should be applied when constructing chronological frameworks based on a few sites only and then proposing to apply this framework to the region as a whole. Hence, some might now argue, for example, that the data from Salut is incompatible with the data from Tell Abraq regarding the characterisation of the earliest phase of the Iron Age. This is not, however, necessarily the case, and given a more flexible definition of the Iron Age into an Early and Late period (Early, c. 1300-600 BC / Late, c. 600-300BC) would enable the differences between what constitutes "Iron I", "Iron II" and even "Iron III" to be viewed in a more cohesive way.

REFERENCES

MAGEE P.

1996 - « The Chronology of the Southeast Arabian Iron Age », *Arabian Archaeology and Epigraphy* 7, pp. 240-252.

2003 - « New chronometric data defining the Iron Age II period in south-eastern Arabia », *Proceedings of the Seminar for Arabian Studies* 33, pp. 1-10.

2005 - « Investigtaing cross-Gulf trade in the Iron Age III period: chronological and compositional data on Burnished Maroon Slipped Ware (BMSW) in southeastern Arabia and Iran », *Arabian Archaeology and Epigraphy* 16, pp. 82-92.

POTTS, D.T.

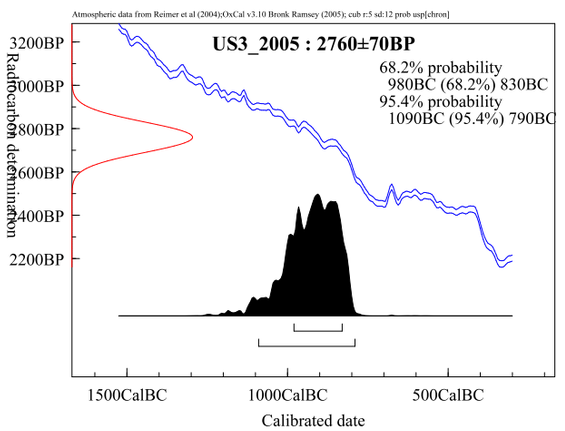
1990 - *A Prehistoric Mound in the Emirate of Umm al-Qaiwain, U.A.E.* Munksgaard, Copenhagen.

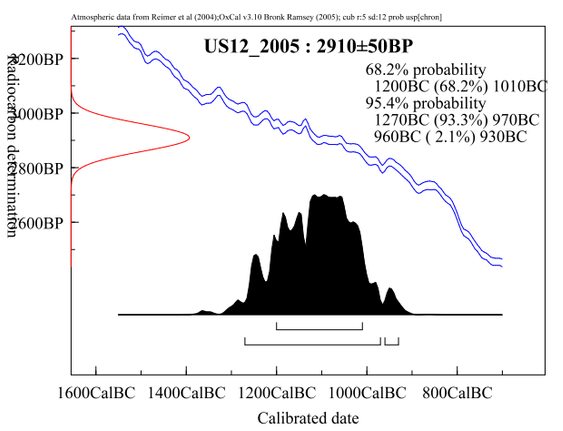
[8] E.g. Magee 2005.

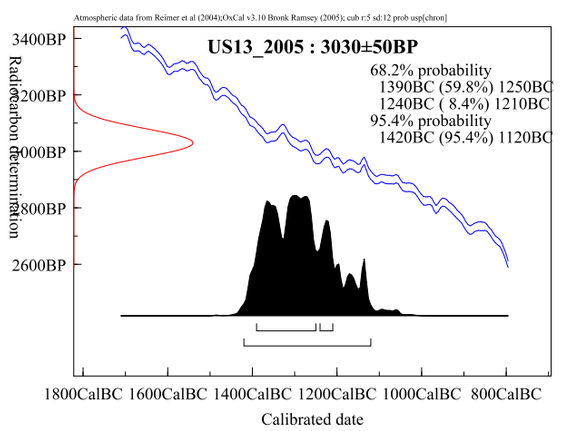
[9] It can be added that Burnished Maroon Slipped Ware (BMSW) is present at Salut where its presence is confined to re-used first phase contexts and in the second phase buildings. No BMSW has been found in primary first phase contexts.

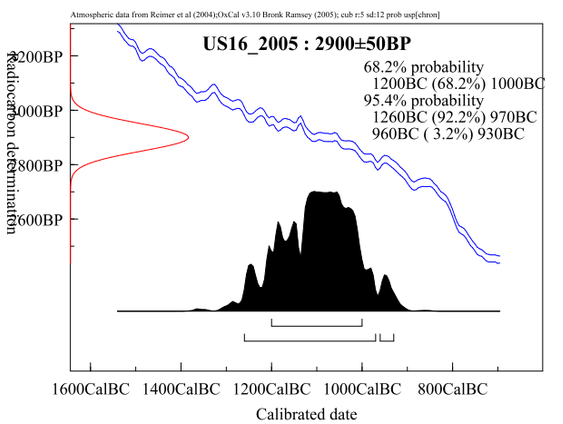
Appendix: Calibrated C14 dates from Salut

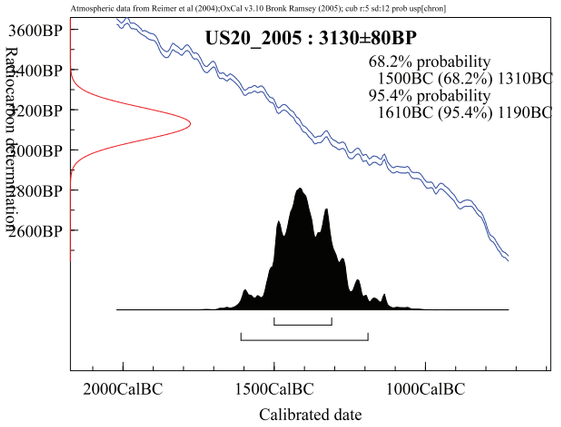
Context (Lab. number)	*Calibrated BC 2 sigma range (95,4%)*	*Calibrated BC 1 sigma range (68,2%)*
US3 (GX-31546)	1090-790 BC	980-830 BC
US12 (GX-31548)	1270-930 BC	1200-1010 BC
US13 (GX-31549)	1420-1120 BC	1390-1210 BC
US16 (GX-31773)	1260-930 BC	1200-1000 BC
US20 (GX-31550)	1610-1190 BC	1500-1310 BC
US274 (14Fi0901, 14Fi0905)	1400-1120 BC	1380-1210 BC
US275 (14Fi0899, 14Fi0906)	1430-1210 BC	1400-1270 BC
US276 (14Fi0919, 14Fi0923)	1310-1010 BC	1270-1080 BC
US289 (14Fi0904, 14Fi0908)	1270-1010 BC	1220-1050 BC
US337 (GX-33107)	1500-1020 BC	1420-1130 BC

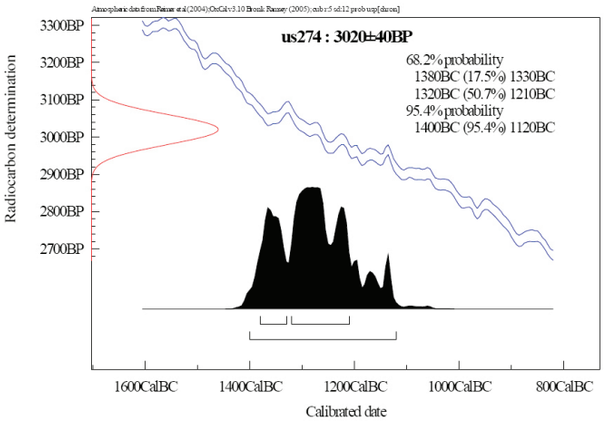


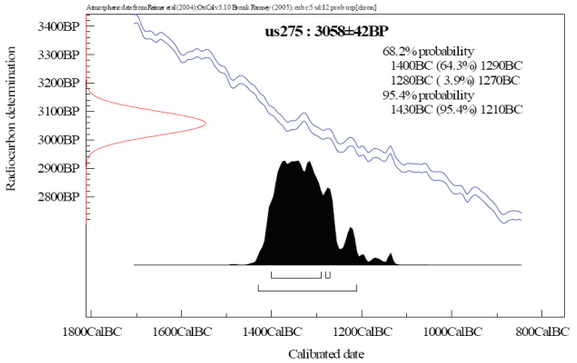


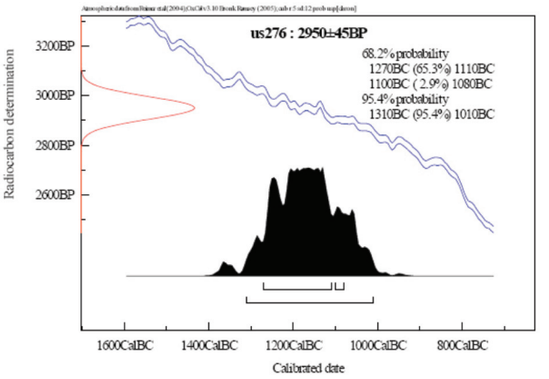


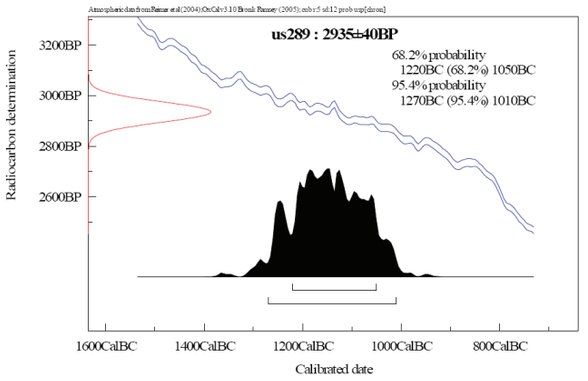


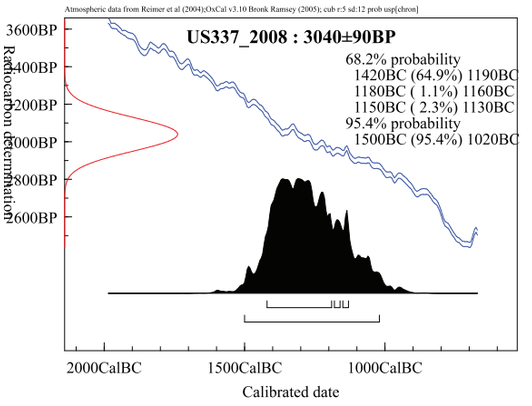

Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
US20_2005 : 3130±80BP
68.2% probability
1500BC (68.2%) 1310BC
95.4% probability
1610BC (95.4%) 1190BC
Radiocarbon determination
3600BP
3400BP
3200BP
3000BP
2800BP
2600BP
2000CalBC
1500CalBC
1000CalBC
Calibrated date


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
us274 : 3020±40BP
68.2% probability
1380BC (17.5%) 1330BC
1320BC (50.7%) 1210BC
95.4% probability
1400BC (95.4%) 1120BC
Radiocarbon determination
3300BP
3200BP
3100BP
3000BP
2900BP
2800BP
2700BP
1600CalBC
1400CalBC
1200CalBC
1000CalBC
800CalBC
Calibrated date


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
us275 : 3058±42BP
68.2% probability
1400BC (64.3%) 1290BC
1280BC (3.9%) 1270BC
95.4% probability
1430BC (95.4%) 1210BC
Radiocarbon determination
3400BP
3300BP
3200BP
3100BP
3000BP
2900BP
2800BP
1800CalBC
1600CalBC
1400CalBC
1200CalBC
1000CalBC
800CalBC
Calibrated date


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
us276 : 2950±45BP
68.2% probability
1270BC (65.3%) 1110BC
1100BC (2.9%) 1080BC
95.4% probability
1310BC (95.4%) 1010BC
Radiocarbon determination
3200BP
3000BP
2800BP
2600BP
1600CalBC
1400CalBC
1200CalBC
1000CalBC
800CalBC
Calibrated date


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
us289 : 2935±40BP
68.2% probability
1220BC (68.2%) 1050BC
95.4% probability
1270BC (95.4%) 1010BC
Radiocarbon determination
3200BP
3000BP
2800BP
2600BP
1600CalBC
1400CalBC
1200CalBC
1000CalBC
800CalBC
Calibrated date


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
US337_2008 : 3040±90BP
68.2% probability
1420BC (64.9%) 1190BC
1180BC (1.1%) 1160BC
1150BC (2.3%) 1130BC
95.4% probability
1500BC (95.4%) 1020BC
Radiocarbon determination
3600BP
3400BP
3200BP
3000BP
2800BP
2600BP
2000CalBC
1500CalBC
1000CalBC
Calibrated date