Summary of Kərpiclitəpə excavations, 2017

SCPX Pipeline KP 247.2

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Contents

Frontispiece: Site under excavation, April 2018. View to southeast.

Document history and status

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Kərpiclitəpə medieval castle, KP247.21

1. Summary

The site is a medieval castle or fort located beside a tributary of the Gorançay River in Goranboy region, east of Borsunlu village (Figure 1).

The main structure is a rectangular earth walled rampart with decorative brick façades. The fort appears to be an equilateral rectangle with walls 31m long. At each corner is a round projection forming a tower with a diameter of 6.5m. Within the northern wall is an entrance set in a projecting tower. If the fort was built in a mirrored format, there may be a similar entrance in the south wall. The façade of brick and stone was built in two phases without a long period between the two. North of the main structure is a large rectangular brick kiln of fired clay, containing many bricks from the final firing. The use of the kiln will have ceased on completion of the main structure, so the kiln was filled in at this stage, the area was levelled and used for industrial processes.

The interior of the fort was used for a series of furnaces and tandir ovens, several associated with brick structures. This activity was found both inside and outside the fort and appeared to continue after the fort ceased to function and fell into disrepair. The latest phases of activity on the site saw a series of rectangular buildings with earth walls and stone foundations laid out in the same orientation as the fort. These buildings also had many tandir ovens.

Figure 1: Drone image during 2018 excavation. View to southeast.

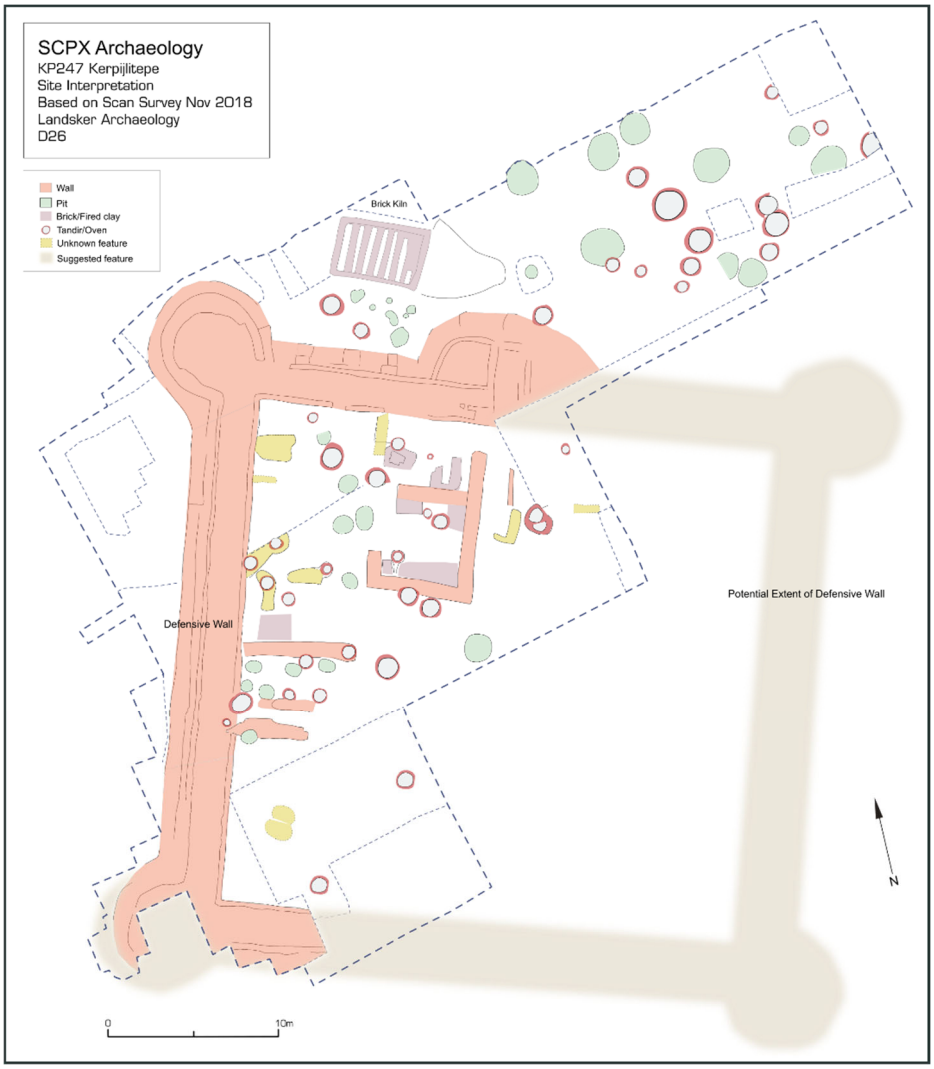

Figure 2: Combined interpretation plan of 2017 and 2018 excavations.

During the latest phase of activity, there were major episodes of robbing bricks from the façade of the wall. This can be seen in the many broken bricks strewn over the site (resulting in the local name, 'brick-hill') and large robbing pits along the wall façade that confused the interpretation of the site.

2. Discovery of the site

The feature was first identified in October 2016. Two trial excavations in November 2016 showed that there were stratified deposits extending up to 1.5m deep across the site. A scope of works was agreed for work on the site with a timetable of three months to undertake it. This began in January 2017 and continued without a break until July 2017. It had been recognised early on that the importance of the site precluded laying the SCPX pipe through the remains. Various options to avoid the site had been considered with preference given for a route to the south, closer to the river. A series of trial pits showed that the site did not extend into this area, so the route was adopted with the pipe being laid here in September 2017.

The archaeological team were granted permission for a further excavation period between January and April 2018, which concentrated on the interior of the fort to the south of the 2017 excavation and followed the line of the west wall towards the southwest tower. The site has since been covered and carefully backfilled.

The two phases of excavation are termed 2017 excavation and 2018 excavation, for the purposes of this report. A report on the whole of the work is presented in Nəcəfov (2018).

3. Fort Wall

This is an earth rampart fronted by a façade of mortared brick and stone in a decorative pattern. The limits of the earth rampart are defined by two lines of stone 2.4m apart. These stones can be followed through all areas where the wall was exposed. The lines of stone appear to survive nearly unchanged by later activity, presumably because they were of limited value and were covered by both the façade wall and by earth as the rampart gradually collapsed (Figures 2, 3, 6).

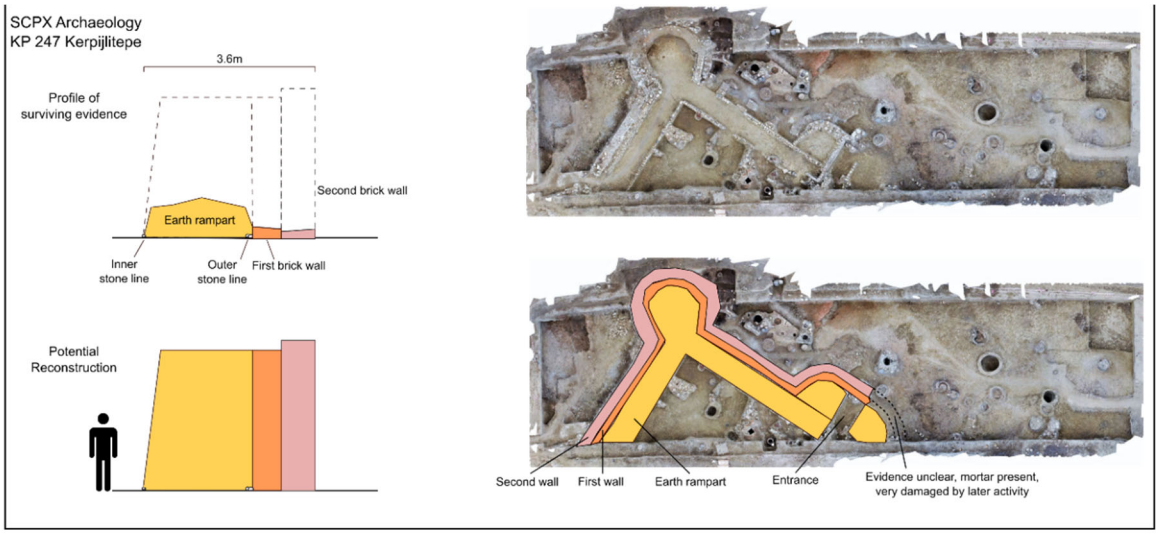

Figure 3: Potential reconstruction and plan view of features using 2017 excavation data.

Evidence for the earth rampart itself was difficult to identify due to the excavation technique and the disturbance caused by later activity to remove bricks heavily disturbed the mass of rampart material. However, evidence of the earth rampart could be distinguished in the southern section of the 2018 excavation at both the locations where it crossed the west and north ramparts (Figures 4 and 12). This was identified in retrospect and full information is unclear due to the later disturbance. The shape of the rampart cannot be easily determined. The outer portion would be vertical as it was supported by the brick façade. The inner face of the rampart may have been very steep or nearly vertical. Just to the west of the entrance in the north wall, a later tandir oven lay across the back of the rampart. This could indicate that either the rear of the rampart was sloping, or more likely, that this tandir activity occurred at a time when the rampart had been heavily disturbed. There are two tandir ovens in a similar location over the rear wall of the rampart on the line of the west wall exposed in the 2018 excavation. The only other indication of the form of the rear of the rampart is that the northern entrance was faced by a fired brick wall, west of the entrance. This was vertical and appears associated only with the entrance.

Figure 1: Earth wall rampart, south section, 2017 Excavation. Inner line of stones to left of scale bar, earth wall rampart and outer line of stones to right. First wall upper surface partially exposed on right. Far right in section is evidence of a robbing episode of the outer wall.

Figure 5: North wall, 2017 excavation. Looking northwest (opposite to Figure 7). In the distance is the northwest tower showing first and second walls.

The line of the rampart appears to be generally clear of later features. This seems to show that the outline of the four walls were a feature of the site into the later periods, a view supported by the alignment of later buildings matching the fort earth ramparts.

4. Fort brick walls

The outer face of the rampart was faced with a brick wall, bonded with mortar and laid in a distinctive decorative repeating pattern interspaced with rounded boulders (Figure 6). The feature was built in two phases with an apparently complete wall built on the inside, partly over the outer line of stones of the earth rampart. The first wall is not fully exposed, but where it is visible, appears to have the same design as the second period wall, so appears to have been intended as a final feature (see the decorated first wall segment in the north entrance tower, Figure 11). Wherever the wall has been exposed, this two-phase construction element is repeated, on both walls, towers and the north entrance tower. In some locations, later disturbance has removed much of the evidence.

The second phase wall is built directly in front of the earlier wall. Both are independent with no signs of interlinking or joining bricks. The best-preserved portion of the wall is the northern segment of the west wall exposed in the 2017 excavations. The southern part of this wall as shown in 2018 is more damaged, but traceable, while most of the north wall as seen in 2017 is shown by fragmentary remains such as traces of white mortar, bedded into natural soil.

The final, completed width of the wall, including the façade brick wall (1.2m) was 3.6m wide.

This is the same style seen in the wall around Shamkir medieval town and is exposed in parts of the walls around Ganja medieval city. This is regarded as a typical decorative feature of the Arran school of architecture (Dostiyev, 2012).

F*igure 6: West wall, 2017 excavation. Looking east. External face of outer wall with two lines of round stones separated by brick courses, upper portion having evidence of stone removal. To the left and right is robbing backfill material. This is the best-preserved section of the outer wall.*

5. Towers

Two towers have been exposed, the northwest in 2017 (Figure 7) and the southwest in 2018. Two other towers can be expected to the northeast and southeast corner of the fort if the structure has the expected mirrored layout. The northwest tower is built into the corner of the fort as an integral feature and includes all the elements of earth rampart, demarcated by stone and two phases of construction of decorated brick and stone façade. The dimensions of this are the same as the main walls with no additional strengthening. The second phase wall around the tower has been severely robbed but can be traced because the lower course of brick was left in place. The first phase wall survived to a greater height, possibly because the robbers feared the collapse of the earth core of the rampart if it was undermined.

The southwest tower exposed in 2018 is less well preserved and has not been fully excavated. Enough remains in situ to confirm its location and form.

Figure 7: Northwest tower, 2017 excavation. View to southeast. The first wall is exposed showing the level top and decorated tile and stone external walling. The second, outer wall has been removed by later robbing, but traces can be found lower down.

Figure 8: Detail of junction of the northwest tower and north wall, 2017 excavation, looking west. The first wall is to the rear with level top. On the left extent of the wall are broken bricks indicating broken bonding bricks to the north wall, which is now totally removed by robbing.

6. North entrance

This is located midway along the northern wall. The feature is heavily damaged with many of the outer elements having been removed and much of the east of the feature given a conjectural interpretation due to the heavy disturbance and that much lies under the south border of the 2017 excavation. Enough survives, however, to give a reasonable level of confidence in this interpretation (Figures 9, 10 and 11).

The entrance is seen as a narrow passageway through the north wall and defended by a tower, projecting from the main wall. The tower is formed of a half-round earth core defined by stone lines and fronted by the two-phase decorative brick façade found elsewhere. This formed a tower 11m wide and 3.6m deep in front of the rampart. The tower was an integral component of the design of the fort as shown by the absence of the decorative façade brick wall within the core of the tower. The entrance itself was formed of a narrow passage 1.8m wide and 5.6m long through the centre of the tower. This was demarcated by two lines of mortared brick walling on either side. On the west side, a line of fired brick formed a line along the inside wall of the fort. As the east side has not been excavated, it is not known if this is repeated there.

The original height of the rampart can be estimated to be three times the foundation width, giving a height of 10m (Figure 3). There may have been a parapet, but this could add a further 1.5m to the wall height. Whether the towers exceeded the wall height is unknown, research into other examples may indicate if this is likely. As there is no additional strengthening of the foundations to support a taller tower, it may be thought to be unlikely.

Figure 9: Detail of junction of the north entrance tower and north wall, 2017 excavation, looking west. The first wall is to the rear with level top. On the left extent of the wall are broken bricks indicating broken bonding bricks to the north wall, which is now totally removed.

Figure 10: North entrance tower, 2017 excavation. Looking south. Preserved wall to west, mirrored by ephemeral traces to the east. Large stones are probably a surface to the entrance as they are level with the top of the foundation step of the wall.

Figure 11: North entrance tower, 2017 excavation, looking west. Brick and stone decorated wall on the west of the entrance, ephemeral remains of east wall. North wall is in the distance.

Figure 12: North entrance tower, 2017 excavation. South section looking south. Disturbed robbing of first and second walls on far left. Earth wall rampart is in the centre. Stone line supporting the now removed east wall of the entrance is on the right.

7. Brick kiln

North of the fort, between the northwest tower and north entrance is the well-preserved remains of a brick kiln. This is a rectangular structure, measuring internally 3m by 4.7m, with walls 0.7m wide. The structure was formed of earth bricks that had been impacted by fire (Figures 13 and 14).

A stoke hole, or flue, is located near the floor of the kiln, in the east end of the structure. Within the kiln, six low arches supported the load of brick to be fired. The kiln was made of raw earth brick which had been altered to form a crumbly, briquetage type material by the repeated firing of the kiln. The structure appeared to be formed of a wall, two earth bricks wide, the inner line of which was affected by firing while the outer line was not heat affected.

The interior of the kiln contained a large number of bricks, particularly at the east end. These appear to be remnants of the final firing of the kiln. After abandonment, the kiln was quickly backfilled to create a level area. If it had remained open more damage to the interior would have been noted.

Figure 13: Brick kiln 2017 excavation. Under excavation, showing east and south wall with fired bricks at the base. View to southeast.

Figure 14: Brick kiln during 2018. Note the flue arch in the centre of the end wall (to the left of the figure). Unfired bricks form the outside of the wall. View to west.

8. Lime and gypsum working areas

As most of the bricks were bonded with a lime mortar, it is not surprising that evidence for the manufacture of this lime is found on the site. Several areas where lime and gypsum were mixed to form mortar can be identified from the 2017 excavations.

1. An area south of the kiln and towards the north wall of the fort, 3.3m wide and 6.5m long. This survives as a very thick and distinctive area of line, strongest and thickest close to the kiln and merging into the soil around the other limits. The northern edge of the deposit butts up to the wall of the brick kiln, suggesting both were contemporary. This was used as the floor of an industrial area in the later phase of the site with pits and tandir ovens placed on, and dug into, the surface of the lime.

2. A thick area of lime was revealed just outside the west wall of the fort, near the limits of the 2017 excavation. Not enough of this was exposed to indicate the nature of deposit, but it appears to be very similar to the lime near the kiln.

3. During the 2017 excavation, outside the fort wall, areas of lime forming a surface were identified and can be seen in the excavation section. This was very thin compared to the other examples, but possibly represents the outer margins of a mortar creation area that is outside the area excavated.

These areas of lime are all in early stratigraphic locations in the site sequence. They therefore appear likely to be related to the manufacturing activities associated with the production of mortar for the fort brick façade and other areas where mortar was needed.

9. Internal structures

The 2017 work revealed structures that were contemporary with the fort and others that were later, but still associated with the layout of the fort. Only a small area was available in the 2017 excavation. However, the 2018 excavation shows early period structures laid out in a rectangular pattern, aligned with the fort, and respecting the northern entrance. There are signs of different periods of use with tandir ovens laid over earlier structures. These contained

both tandir ovens and brick surface combinations. These are located inside stone foundation, earth-walled structures.

10. External structures

Features excavated in 2017 can be divided into three specific groups tandir ovens, pits and walls.

Tandir ovens

Can be classed as:

Type I: traditional tandir fired clay in a round pit.

Type II: ceramic cylinder with open top and base sometimes vents or flues at the top or base of the cylinder.

Type III: shallow circular hearths. A considerable number appeared to be furnaces or hearths with no evidence of an upper structure. A number of these have open vents or stoke holes.

Several ovens are closely associated with brick surfaces, probably to assist with activities around the oven. One example excavated in 2017, had a large void under the brick surface. There are several other similar examples in the 2018 excavation.

Pits

In the area outside, north of the fort, are at least seven circular pits. These are over 1m deep and are well defined. It is likely that they are storage pits, later used as convenient locations to dispose of rubbish. Some contain a wide range of material including pottery vessels and lids, a ceramic whistle, the coin hoard, objects including pegs and a decorated bone object. Of the coins in the hoard, all belonged to the Eldiguzid dynasty, with one being identified as Qizil Arslan (1186-1191).

Walls

In the area north east of the entrance there are two lines of stone foundations for earth walls. These lie roughly at right angle to each other, suggesting they are associated, although both are fragmentary and not well-preserved. It appears from initial analysis and from checking drawings that the pits dug in those areas respect the line of the walls, so it is very possible that they are of a similar period of use.

Structures west of the site

During work to establish the extent of the site, machine dug trenches were opened to the west and east of the site. Limited evidence was found to the east, but in the west, however, a series of lines of stone were found, resembling the rows of stone either side of the earth rampart. It is likely that some form of large structure lies over 50m from the east of the fort.

The presence of rows of stone close to the kurgans excavated as part of the Borsunlu Camp archaeological work, should also be considered. These are about 700m to the southwest and lie on the far side of the river. There is at present no indication that they are associated with the medieval fort

Latest structures on the site

One of the main structures excavated in 2017 was a rectangular structure, partly overlying the north fort wall. This was the foundation stone layer of an earth-walled structure 5m externally and at least 6m long. This building lay in the same orientation as the fort, so it is likely that the influence of this had not entirely vanished at this point. Associated with this building were several type II tandirs and others including those with brick platforms (Figure 15).

Figure 15: Late structure, 2017 excavation. View to northeast. Rectangular building with tandir ovens and debris of brick robbing.

11. Demolition and robbing of brick from the site

The site name together with the spread of brick noted across the surface of the mound when discovered shows that a large quantity of fired brick had been removed and discarded, during the history of the site. The process of robbing bricks from the fort walls has in most cases, reduced the brick façades down to one or two courses of brick, and in some cases, nearly removed the bricks entirely. The north wall is the prime example of this with nearly all bricks having been removed, but with a few examples left behind in an unusual regular pattern (Figures 5, 8, 9). This is thought to be caused by the presence of the earth rampart close by, which led the robbers to leave plinths of brick standing to prevent the rampart material collapsing while they removed the intervening bricks. Finally, the robbers removed the standing brick plinths, leaving only the lower course of bricks which were too dangerous to remove entirely.

Other areas of brick removal seem to be by simple quarrying from above. No evidence was seen during the early stages of excavation for quarry pits. They would have been very difficult to see in the soil. There were certainly collections of round stones and brick which could be evidence of this, but as there was no reason to anticipate this during the excavation, it was not looked for. The later stone foundation structure on the site has no north gable end. It is possible that the evidence for this was removed by robbing activity. If so, this indicates that this phase of robbing at least, was very late in the sequence of the site.

12. Artefacts

Large numbers of all classes of material were retrieved from the site, including bones of sheep, horse, cattle and camel. Many of these relate to the latest phases of use of the site.

Figure 16: Coin hoard from pit in 2017 excavation.

Figure 17: Decorated bone showing head with head dress. 2017 excavation.

13. Site sequence and dating

The earliest phase of activity is the construction of the fort which combined the earth rampart and first and second façade walls. The brick kiln and the lime working areas were also an integral part of this phase. The backfill and levelling of the kiln should also be considered part of this phase (Figure 18).

The second period of use is likely to involve the initial structures inside the fort.

At a slightly later date, activity outside the fort will have begun. This is complex and may have continued into later periods.

Late structures were identified in the 2017 excavation as a rectangular building associated with tandir ovens. It is not known if similar features were located in the 2018 excavation.

The latest activity on site is the quarrying or robbing of bricks from the fort wall.

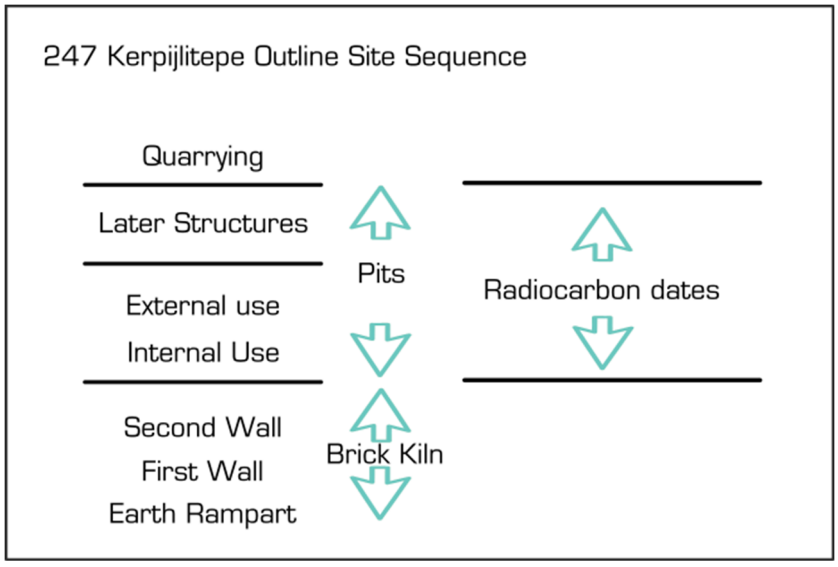

Figure 18: Provisional site sequence.

A series of 18 radiocarbon dates have been obtained from a range of stratigraphic locations across the 2017 excavation site. These range from 1000 to 1250 cal AD confirming the broad range of use of the site (Figure 19). Further analysis of these dates is contained in Maynard (2022).

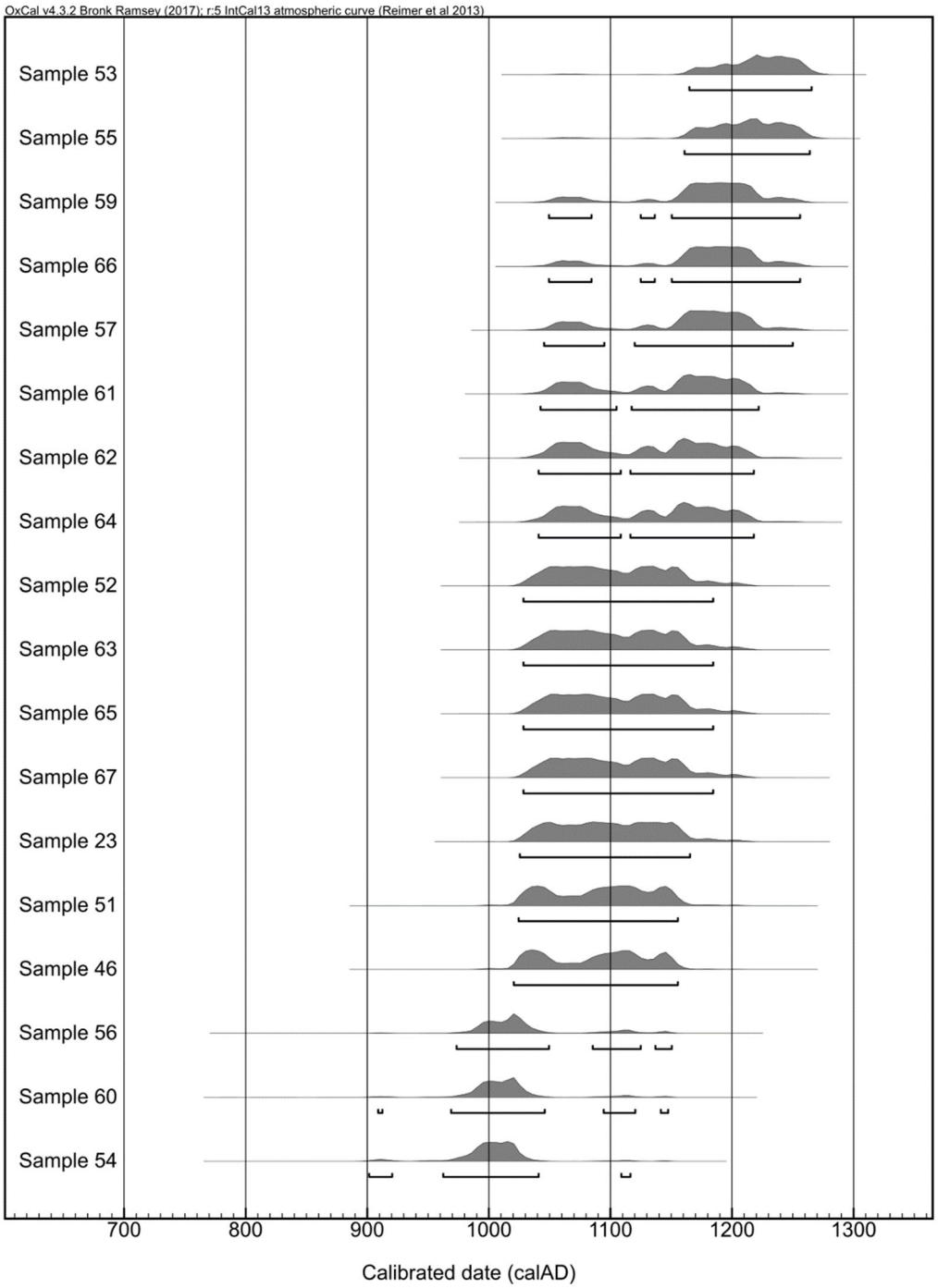

Figure 19: Range of radiocarbon results. Preliminary results prior to Bayesian analysis.

14. References

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