Supplemental Text 1. Description of Bayesian Models and Results.

Averbuch (40DV60)

This model is the primary model for Averbuch reported in Cobb et alia (2015) where it was run in OxCal 4.2. The algorithm used for this model can be directly derived from the model structure shown and described in Cobb et alia (2015) and Supplemental Text 4. When run in OxCal 4.3, the model shows good overall agreement (A_{model}=98.7) between the radiocarbon dates and the model assumptions. The model estimates that the earliest activity on the site began in *cal AD 1235–1385* (*95% probability*; Figure 3; *start Averbuch*), and probably in *cal AD 1260–1380* (*68% probability*). The model estimates that palisade construction began in *cal AD 1290–1420* (*95% probability*; Figure 6; *Averbuch: start palisade*), and probably in *cal AD 1350–1410* (*68% probability*). Palisade modifications and repair are estimated to have continued for the next *25–165 years* (*95% probability*; Figure 7; *Averbuch: palisade span*), and probably for *40–105 years* (*68% probability*). Palisade modifications and repair are estimated to have ended in *cal AD 1425–1485* (*95% probability*; Figure 6; *Averbuch: end palisade*), and probably in *cal AD 1435–1465* (*68% probability*). Activity on the site is estimated to have ended in *cal AD 1430–1500* (*95% probability*; Figure 4; *end Averbuch*), probably in *cal AD 1440–1475* (*68% probability*), spanning *60–240 years* (*95% probability*; Figure 7; *Averbuch: settlement span*), probably for *70–205 years* (*68% probability*).

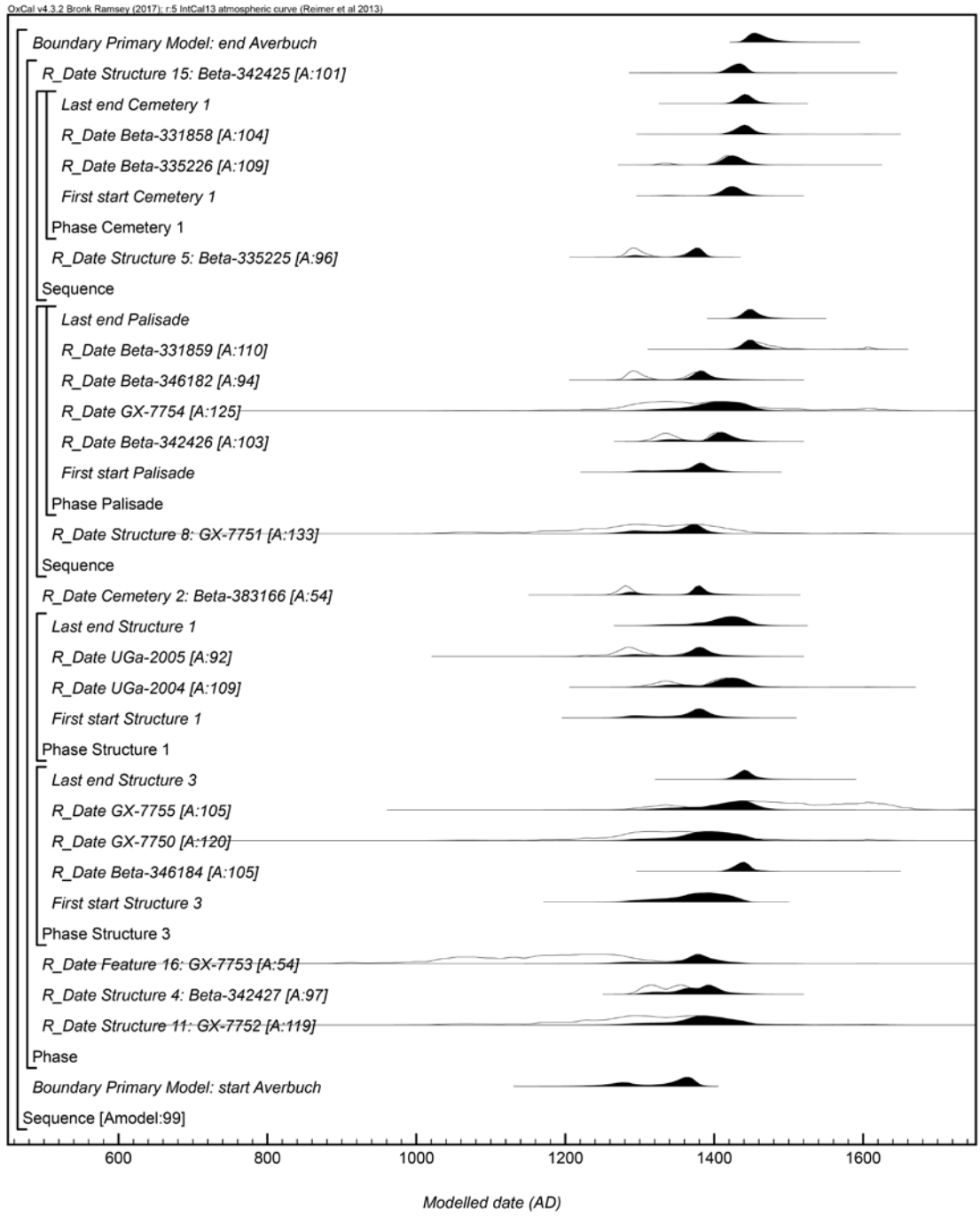

Figure S1. Results and structure of the primary chronological model for Averbuch. The brackets and keywords define the model structure. The outlined distribution is the result of radiocarbon calibration and the solid distributions are the chronological model results.

Brentwood Library (40WM210)

Eight radiocarbon results from Brentwood Library have been modeled (Supplemental Table 1). The dated contexts are described in Supplemental Table 1 and there are no stratigraphic relationships between the dated samples.

The algorithm used for this model can be directly derived from the model structure shown in Supplemental Text 4. The model shows good overall agreement (A_{model}=104.7) between the radiocarbon dates and the model assumptions. The model estimates that the earliest activity on the site began in *cal AD 1220–1515* (*95% probability*; Figure 3; *start Brentwood Library*), and probably in *cal AD 1285–1395* (*68% probability*). The model estimates that palisade construction began in *cal AD 1290–1515* (*95% probability*; Figure 6; *Brentwood Library: start palisade*), and probably in *cal AD 1330–1425* (*68% probability*). Palisade modifications and repair are estimated to have continued for the next *1–190 years* (*95% probability*; Figure 7; *Brentwood Library: palisade span*), and probably for *40–145 years* (*68% probability*). Palisade modifications and repair are estimated to have ended in *cal AD 1435–1550* (*95% probability*; Figure 6; *Brentwood Library: end palisade*), and probably in *cal AD 1450–1500* (*68% probability*). Activity on the site is estimated to have ended in *cal AD 1445–1620* (*95% probability*; Figure 4; *end Brentwood Library*), probably in *cal AD 1455–1525* (*68% probability*), spanning *1–325 years* (*95% probability*; Figure 7; *Brentwood Library: settlement span*), probably for *80–230 years* (*68% probability*).

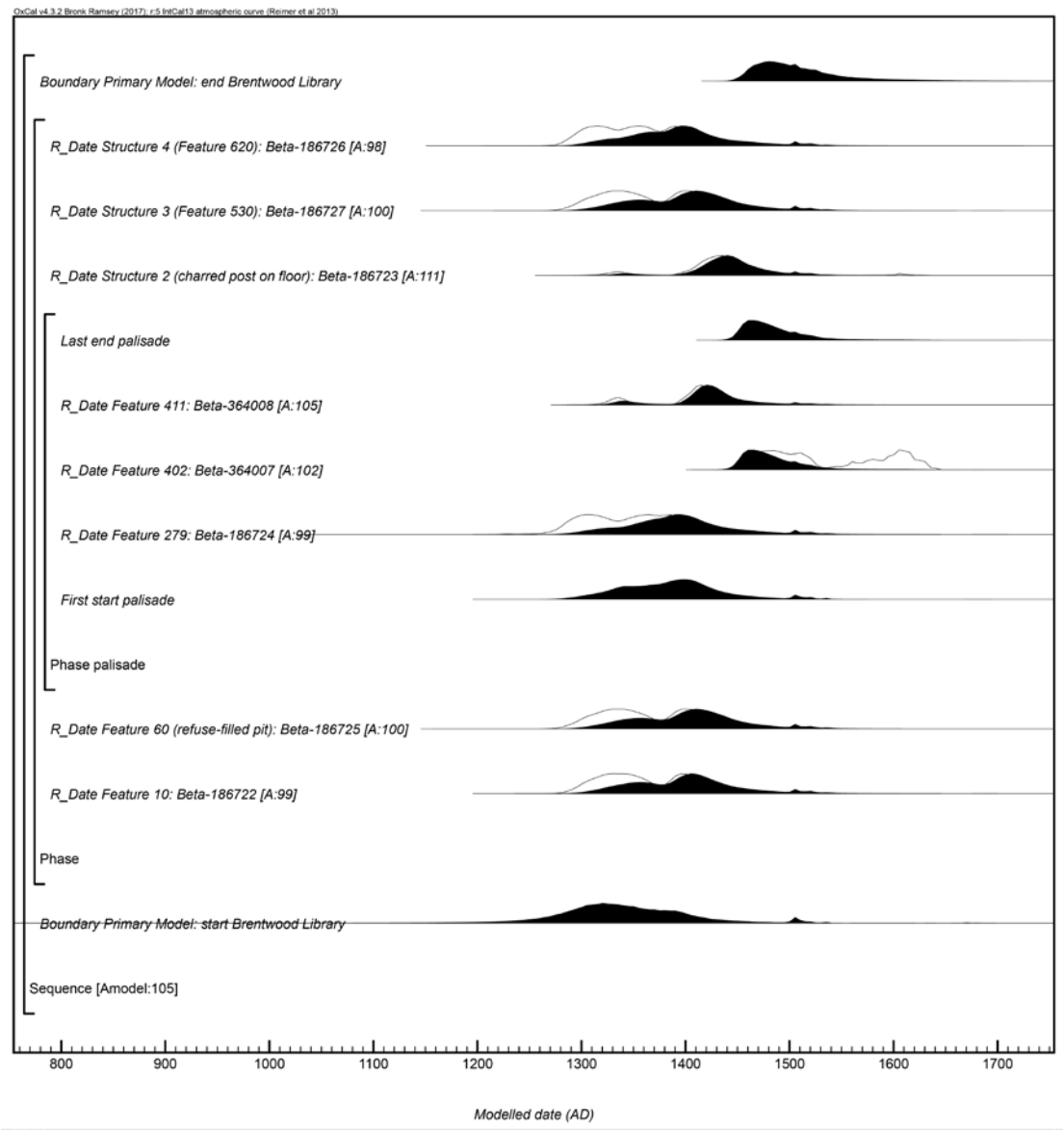

Figure S2. Results and structure of the primary chronological model for Brentwood Library. The brackets and keywords define the model structure. The format is as described in Figure S1.

East Nashville Mounds (40DV4)

Thirteen radiocarbon results from East Nashville Mounds have been modeled (Supplemental Table 1). The dated contexts are described in Supplemental Table 1. One sample (TX-7859) comes from unidentified charcoal found in a discrete charred mass spanning several mortuary contexts (Burials 4a,4b, and 9) that superimposes a posthole (Posthole 15) dated with an unidentified wood charcoal sample (Beta-61246; Walling 2000), and this is the only stratigraphic relationship amongst the dated samples.

The algorithm used for this model can be directly derived from the model structure shown in Appendix E. The model shows good overall agreement (A_{model}=96.8) between the radiocarbon dates and the model assumptions. The model estimates that the earliest activity on the site began in *cal AD 1105–1450* (*95% probability*; Figure 3; *start East Nashville Mounds*), and probably in *cal AD 1175–1345* (*68% probability*). Activity on the site is estimated to have ended in *cal AD 1435–1605* (*95% probability*; Figure 4; *end East Nashville Mounds*), probably in *cal AD 1450–1525* (*68% probability*), spanning *1–435 years* (*95% probability*; Figure 7; *East Nashville Mounds: settlement span*), probably for *150–340 years* (*68% probability*).

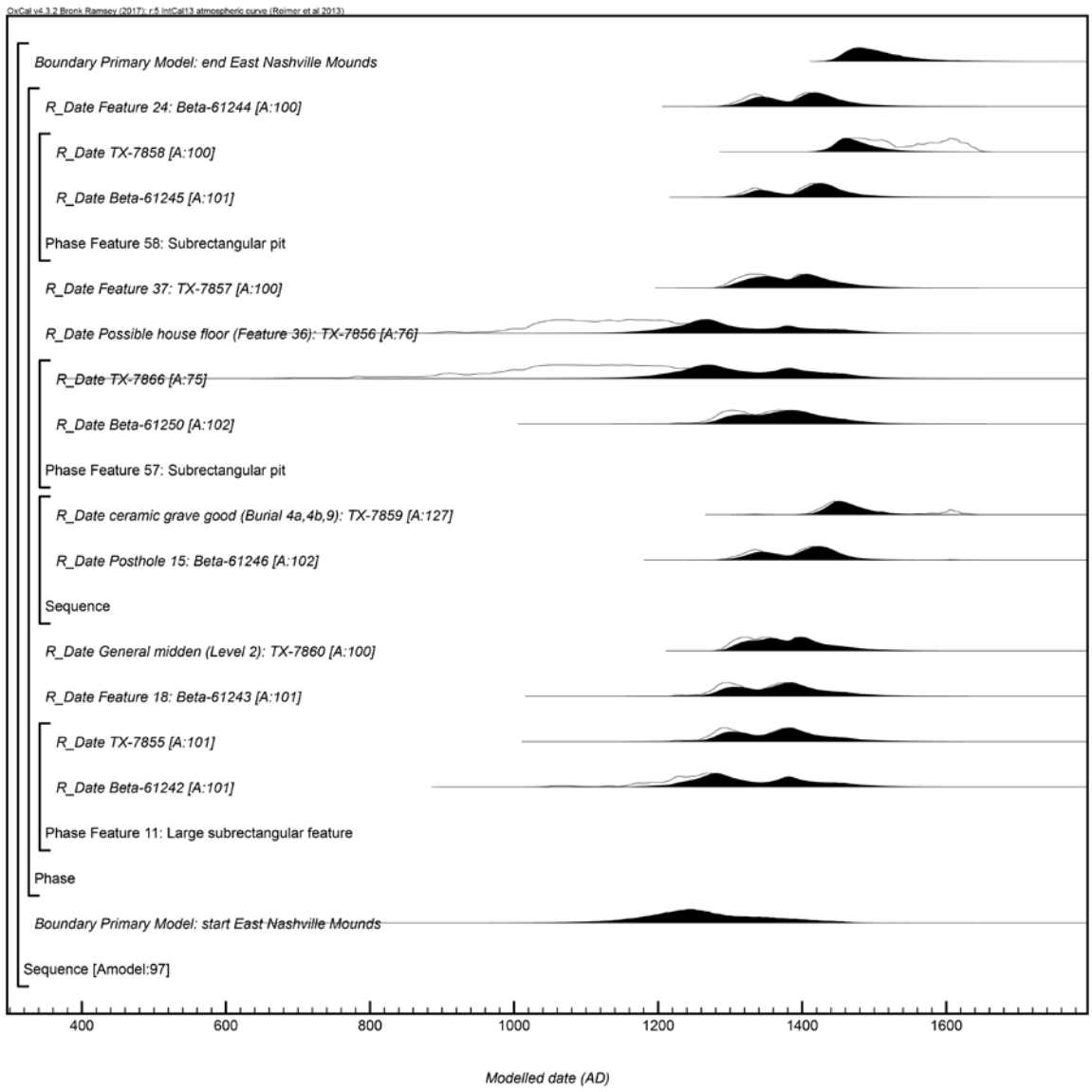

Figure S3. Results and structure of the primary chronological model for East Nashville Mounds. The brackets and keywords define the model structure. The format is as described in Figure S1.

Gordontown (40DV4)

Three radiocarbon results from Gordontown are available (Supplemental Table 1) and only two radiocarbon dates (TX-5551, TX-5550) have been obtained from this site. One radiocarbon sample (TX-5551) is from unidentified wood charcoal found within

the southeast quadrant of Structure 1 (Moore et al. 2006; Moore and Breitburg 1998). Another radiocarbon sample (TX-5550) is from unidentified wood charcoal found within a floor layer of Structure 3 (Moore et al. 2006; Moore and Breitburg 1998). The 95% calibrations for the two dates ranges are cal AD 1260–1430 (TX-5551) and cal AD 1290–1460 (TX-5551) (Supplemental Table 1). These calibrations are in the same time range as the Bayesian modeling results for the other MCR settlements (Figures 3 and 4). These results were not modeled because the Gordontown radiocarbon dataset alone is not robust enough to construct a meaningful chronological model.

Rutherford-Kizer (40SU15)

Fifteen radiocarbon results from Rutherford-Kizer have been modeled (Supplemental Table 1). The dated contexts are described in Supplemental Table 1. Two pits (Feature 36, Feature 20) dated with samples of unidentified charcoal (Beta-70877, Beta-70874, Beta-70875) superimpose a structure (Structure 1) that is dated with samples of unidentified charcoal (Beta-70878, Beta-70879, Beta-70880) from postholes (Feature 34, Feature 88, Feature 96) (Moore and Smith 2001), and this is the only stratigraphic relationship amongst the dated samples. Additionally, one date (Beta-90627) from unidentified wood charcoal has been excluded from modeling because it is a clear outlier that is much older than the other dates.

The algorithm used for this model can be directly derived from the model structure shown in Appendix E. The model shows good overall agreement (A_{model}=69.7) between the radiocarbon dates and the model assumptions. The model estimates that

the earliest activity on the site began in *cal AD 1075–1270* (*95% probability*; Figure 3; *start Rutherford-Kizer*), and probably in *cal AD 1135–1255* (*68% probability*). The model estimates that palisade construction began in *cal AD 1170–1320* (*95% probability*; Figure 6; *Rutherford-Kizer: start palisade*), and probably in *cal AD 1220–1290* (*68% probability*). Palisade modifications and repair are estimated to have continued for the next *55–250 years* (*95% probability*; Figure 7; *Rutherford-Kizer: palisade span*), and probably for *110–210 years* (*68% probability*). Palisade modifications and repair are estimated to have ended in *cal AD 1335–1460* (*95% probability*; Figure 6; *Rutherford-Kizer: end palisade*), and probably in *cal AD 1390–1445* (*68% probability*). Activity on the site is estimated to have ended in *cal AD 1350–1510* (*95% probability*; Figure 4; *end Rutherford-Kizer*), probably in *cal AD 1400–1465* (*68% probability*), spanning *90–405 years* (*95% probability*; Figure 7; *Rutherford-Kizer: settlement span*), probably for *175–325 years* (*68% probability*).

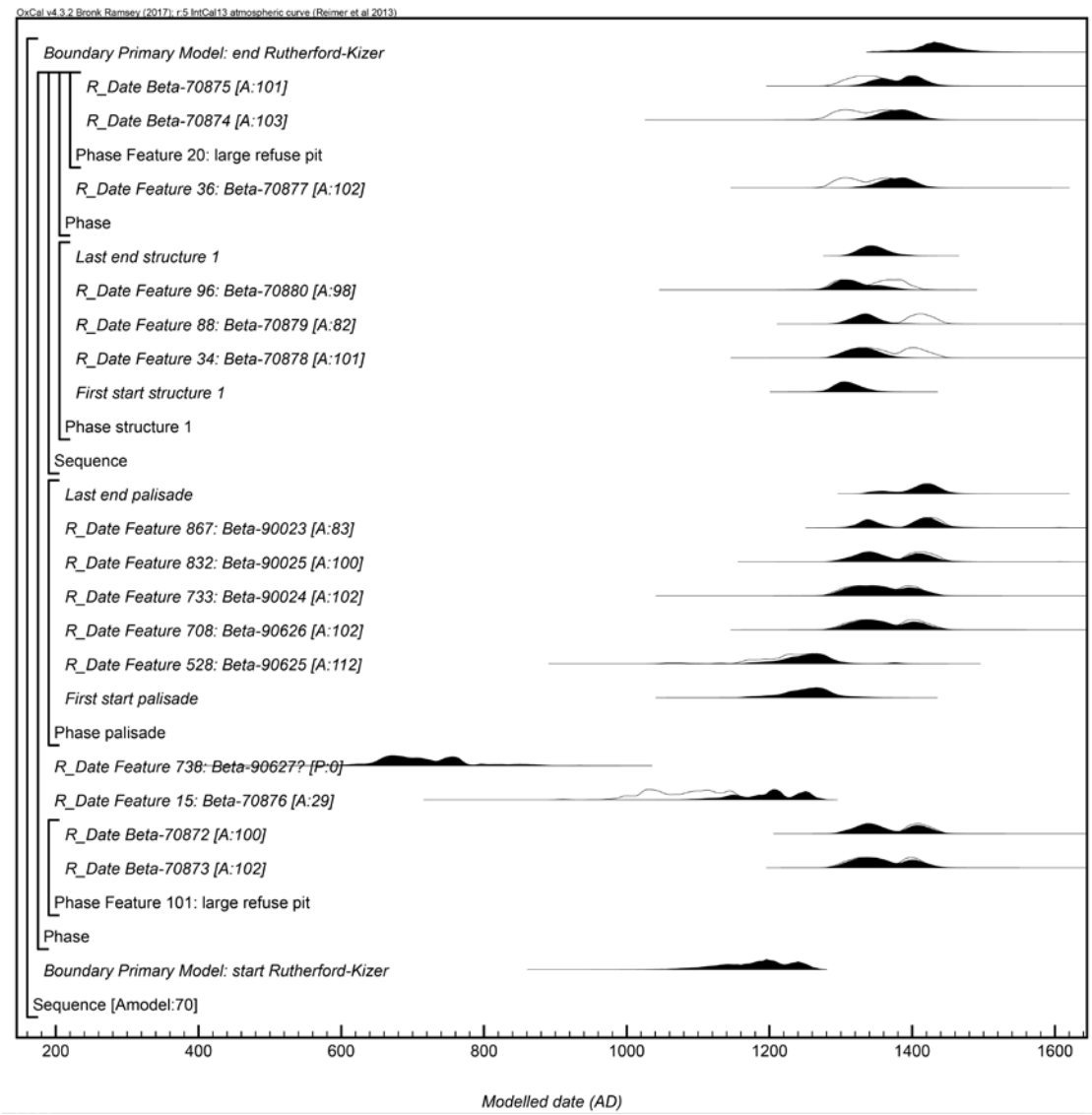

Figure S4. Results and structure of the primary chronological model for *Rutherford-Kizer*. The brackets and keywords define the model structure. The format is as described in Figure S1.

Sellars (40WI1)

Ten radiocarbon results from Sellars have been modeled (Supplemental Table 1). The dated contexts are described in Supplemental Table 1 and there are no stratigraphic relationships between the dated samples. Three dates (UGa-4553, UGa-948, UGa-

4551) from unidentified wood charcoal have been excluded from modeling because they are clear outliers that are much older than the other dates.

The algorithm used for this model can be directly derived from the model structure shown in Supplemental Text 4. The model shows good overall agreement (A_{model}=101.5) between the radiocarbon dates and the model assumptions. The model estimates that the earliest activity on the site began in *cal AD 1040–1435* (*95% probability*; Figure 3; *start Sellars*), and probably in *cal AD 1205–1425* (*68% probability*). The model estimates that palisade construction began in *cal AD 1145–1440* (*95% probability*; Figure 6; *Sellars: start palisade*), and probably in *cal AD 1245–1430* (*68% probability*). Palisade modifications and repair are estimated to have continued for the next *1–270 years* (*95% probability*; Figure 7; *Sellars: palisade span*), and probably for *1–160 years* (*68% probability*). Palisade modifications and repair are estimated to have ended in *cal AD 1315–1480* (*95% probability*; Figure 6; *Sellars: end palisade*), and probably in *cal AD 1400–1440* (*68% probability*). Activity on the site is estimated to have ended in *cal AD 1325–1565* (*95% probability*; Figure 4; *end Sellars*), probably in *cal AD 1335–1480* (*68% probability*), spanning *1–465 years* (*95% probability*; Figure 7; *Sellars: settlement span*), probably for *1–225 years* (*68% probability*).

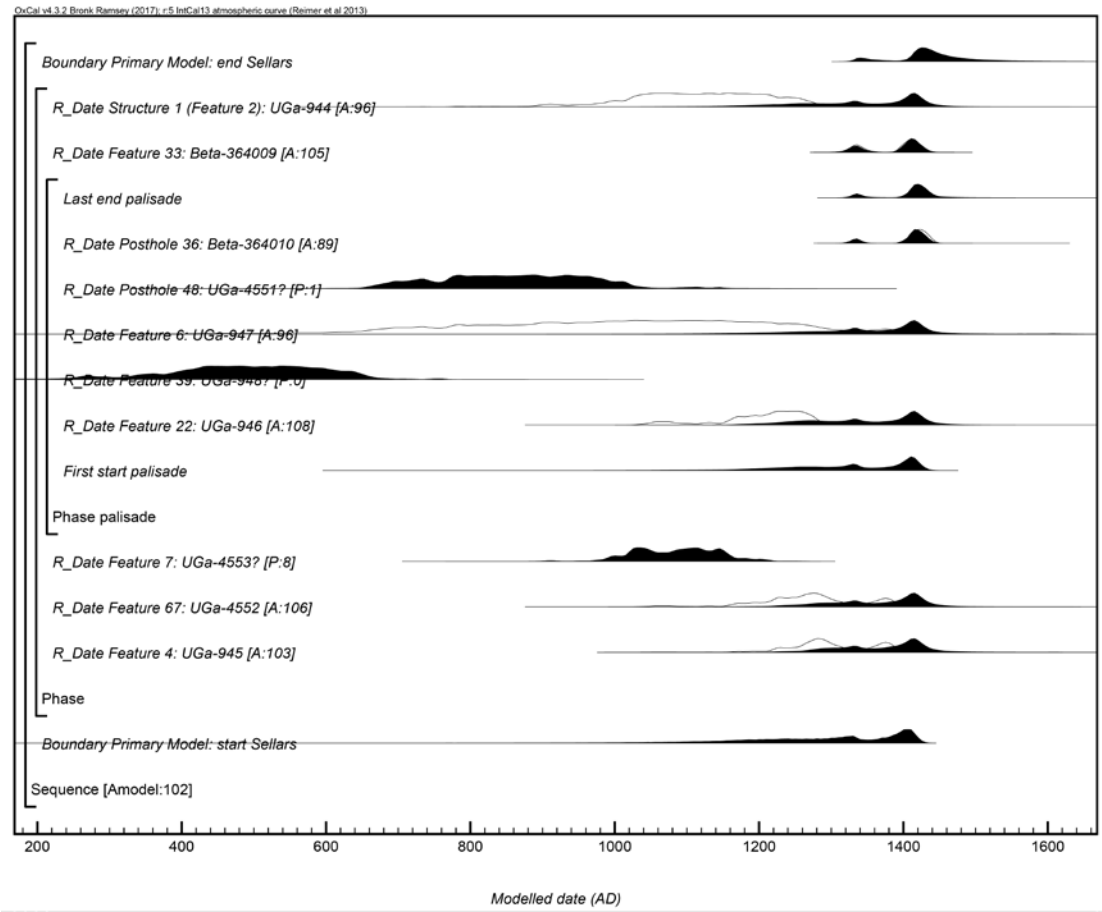

Figure S5. Results and structure of the primary chronological model for Sellars. The brackets and keywords define the model structure. The format is as described in Figure S1.