Supplementary Information for

**THE EARLY MATERIALIZATION OF DEMOCRATIC INSTITUTIONS AMONG THE ANCESTRAL MUSKOGEAN OF THE AMERICAN SOUTHEAST**

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**Figure S1.** Locations of all excavations and proveniences at Cold Springs.



**Table S1.** Radiocarbon data from Cold Springs.



**Table S2.** Modeled ranges for Cold Springs dates.



**Table S3.** Modeled start and end boundaries for the Cold Springs occupation and settlement features.



**Supplemental OxCal Code**

*Supplemental Code 1 (Primary Model)*

The primary model has an Amodel value of 73.6 and an Aoverall value of 70.2. For the overall Woodland component, at the 68% confidence interval (or 1-sigma range) the model yields a start boundary of *cal AD 500-550*, and end boundary of *cal AD 650-700*, and a span of *110-160 years*. The dates associated with the roundhouses yield a start boundary of *cal AD 520-560*, and end boundary of *cal AD 650-680*, and a span of *90-130 years.* The primary model incorporates all archaeological information (e.g., contextual, stratigraphic) into the Bayesian interpretation of the Woodland component radiocarbon dataset. Four dates identified as outliers via general outlier analysis (Alternative Model C) have been removed. These include UGAMS-48312, 48307, 48308, and 41253. After removal of outliers, a charcoal outlier model was applied to account for minor variances in dates yielded from charcoal samples. In total, four alternative models were built using varying applications of outlier analyses and the removal or inclusion of particular dates identified as outliers. Across all five models, modeled starts, ends, and spans for the overall Woodland component, as well as each of the modeled settlement features (e.g., council houses, mounds, etc.) experience no substantive changes. All models yield modeled date ranges that fall with one or two decades of one another.

Plot(“Primary Model”)

 {

 Outlier\_Model("Charcoal",Exp(1,-10,0),U(0,3),"t");

 Sequence()

 {

 Boundary("Start Cold Springs Woodland");

 Phase("Cold Springs Woodland")

 {

 Sequence("Mound A")

 {

 Boundary("Start Mound A");

 Sequence("Mound A")

 {

 Phase("Submound House")

 {

 R\_Date("UGAMS-48310", 1600, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48314", 1580, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48315", 1540, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41247", 1530, 20);

 R\_Date("UGAMS-48309", 1510, 20);

 R\_Date("UGAMS-41251", 1510, 20);

 R\_Date("UGAMS-48311", 1500, 20);

 R\_Date("\*UID-2", 1660, 70)

 {

 Outlier("Charcoal", 1);

 };

 };

 Phase("Floor I")

 {

 D\_Sequence()

 {

 R\_Date("UGAMS-41248",1560,20);

 Gap(5);

 R\_Date("UGAMS-41249",1530,20);

 };

 R\_Date("UGAMS-48313", 1500, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Feature 64")

 {

 R\_Date("UGA-2364", 1505, 55)

 {

 Outlier("Charcoal", 1);

 };

 };

 };

 Phase("Mound Top")

 {

 R\_Date("UGAMS-48306", 1500, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41250", 1470, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Span();

 };

 Boundary("End Mound A");

 };

 Phase("Mound B")

 {

 Sequence()

 {

 Boundary("Mound B Start TAQ");

 Phase("Mound B")

 {

 R\_Date("UGAMS-48320", 1570, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41252", 1570, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Floor 2")

 {

 R\_Date("UGAMS-48321", 1550, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41255", 1460, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Sequence("Above and Below Humus")

 {

 R\_Date("UGAMS-41254", 1520, 25)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48316", 1460, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 R\_Date("UGAMS-48317", 1490, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("UID Structure")

 {

 R\_Date("UGAMS-48319", 1480, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48318", 1450, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 R\_Date("\*UID-1", 1335, 115)

 {

 Outlier("Charcoal", 1);

 };

 Span();

 };

 Boundary("End Mound B");

 };

 };

 Sequence()

 {

 Boundary("Start Round Structures");

 Phase("Round Structures")

 {

 Phase("Structures 13 and 14")

 {

 R\_Date("UGAMS-48302", 1560, 20);

 R\_Date("UGMAS-48300", 1550, 20);

 R\_Date("UGAMS-48304", 1530, 20);

 R\_Date("UGAMS-48305", 1450, 20);

 };

 R\_Date("UGAMS-48289", 1470, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48291", 1430, 20);

 R\_Date("UGAMS-41256", 1410, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Structures 11 and 12")

 {

 R\_Date("UGAMS-48292", 1410, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48290", 1370, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Span();

 };

 Boundary("End Round Structures");

 };

 Sequence()

 {

 Boundary("Start Provenience 10");

 Phase("Provenience 10")

 {

 R\_Date("UGAMS-48296", 1530, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48299", 1430, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48295", 1430, 20);

 R\_Date("Beta-145492", 1410, 50)

 {

 Outlier("Charcoal", 1);

 };

 };

 Boundary("End Provenience 10");

 };

 Phase("Provenience 9")

 {

 R\_Date("UGAMS-48293", 1410, 20);

 R\_Date("UGAMS-48294", 1430, 20);

 };

 Span();

 First();

 Last();

 };

 Boundary("End Cold Springs Woodland");

 };

 };

*Supplemental Code 2 (Alternative Model A)*

Alternative Model A incorporates all archaeological information (e.g., contextual, stratigraphic) into the Bayesian interpretation of the Woodland component radiocarbon dataset. No outlier models are applied and no dates are removed. The model has an Amodel value of 17.1 and an Aoverall value of 19.1. For the overall Woodland component, at the 68% confidence interval (or 1-sigma range) the model yields a start boundary of *cal AD 460-530*, and end boundary of *cal AD 650-700*, and a span of *120-180 years*. The dates associated with the roundhouses yield a start boundary of *cal AD 520-560*, and end boundary of *cal AD 640-670*, and a span of *90-130 years.*

Plot(“Alternative Model A”)

 {

 Sequence()

 {

 Boundary("Start Cold Springs Woodland");

 Phase("Cold Springs Woodland")

 {

 Sequence("Mound A")

 {

 Boundary("Start Mound A");

 Sequence("Mound A")

 {

 Phase("Submound House")

 {

 R\_Date("UGAMS-48310", 1600, 20);

 R\_Date("UGAMS-48314", 1580, 20);

 R\_Date("UGAMS-48315", 1540, 20);

 R\_Date("UGAMS-41247", 1530, 20);

 R\_Date("UGAMS-48309", 1510, 20);

 R\_Date("UGAMS-41251", 1510, 20);

 R\_Date("UGAMS-48311", 1500, 20);

 R\_Date("\*UID-2", 1660, 70);

 };

 Phase("Floor I")

 {

 D\_Sequence()

 {

 R\_Date("UGAMS-41248",1560,20);

 Gap(5);

 R\_Date("UGAMS-41249",1530,20);

 };

 R\_Date("UGAMS-48312", 1600, 20);

 R\_Date("UGAMS-48313", 1500, 20);

 Phase("Feature 64")

 {

 R\_Date("\*UGAMS-48307", 1440, 20);

 R\_Date("UGA-2364", 1505, 55);

 };

 R\_Date("\*UGAMS-48308", 1420, 20);

 };

 Phase("Mound Top")

 {

 R\_Date("UGAMS-48306", 1500, 20);

 R\_Date("UGAMS-41250", 1470, 20);

 };

 Span();

 };

 Boundary("End Mound A");

 };

 Phase("Mound B")

 {

 Sequence()

 {

 Boundary("Mound B Start TAQ");

 Phase("Mound B")

 {

 R\_Date("UGAMS-48320", 1570, 20);

 R\_Date("UGAMS-41252", 1570, 20);

 Phase("Floor 2")

 {

 R\_Date("UGAMS-48321", 1550, 20);

 R\_Date("UGAMS-41255", 1460, 20);

 };

 Sequence("Above and Below Humus")

 {

 R\_Date("UGAMS-41254", 1520, 25);

 R\_Date("UGAMS-48316", 1460, 20);

 };

 R\_Date("UGAMS-48317", 1490, 20);

 Phase("UID Structure")

 {

 R\_Date("UGAMS-48319", 1480, 20);

 R\_Date("UGAMS-48318", 1450, 20);

 };

 R\_Date("\*UID-1", 1335, 115);

 R\_Date("\*UGAMS-41253", 1710, 25);

 Span();

 };

 Boundary("End Mound B");

 };

 };

 Sequence()

 {

 Boundary("Start Round Structures");

 Phase("Round Structures")

 {

 Phase("Structures 13 and 14")

 {

 R\_Date("UGAMS-48302", 1560, 20);

 R\_Date("UGMAS-48300", 1550, 20);

 R\_Date("UGAMS-48304", 1530, 20);

 R\_Date("UGAMS-48305", 1450, 20);

 };

 R\_Date("UGAMS-48289", 1470, 20);

 R\_Date("UGAMS-48291", 1430, 20);

 R\_Date("UGAMS-41256", 1410, 20);

 Phase("Structures 11 and 12")

 {

 R\_Date("UGAMS-48292", 1410, 20);

 R\_Date("UGAMS-48290", 1370, 20);

 };

 Span();

 };

 Boundary("End Round Structures");

 };

 Sequence()

 {

 Boundary("Start Provenience 10");

 Phase("Provenience 10")

 {

 R\_Date("UGAMS-48296", 1530, 20);

 R\_Date("UGAMS-48299", 1430, 20);

 R\_Date("UGAMS-48295", 1430, 20);

 R\_Date("Beta-145492", 1410, 50);

 };

 Boundary("End Provenience 10");

 };

 Phase("Provenience 9")

 {

 R\_Date("UGAMS-48293", 1410, 20);

 R\_Date("UGAMS-48294", 1430, 20);

 };

 Span();

 First();

 Last();

 };

 Boundary("End Cold Springs Woodland");

 };

 };

*Supplemental Code 3 (Alternative Model B)*

Alternative Model B incorporates all archaeological information (e.g., contextual, stratigraphic) into the Bayesian interpretation of the Woodland component radiocarbon dataset. A charcoal outlier model is applied to all charcoal dates, but no dates are removed. The model mirrors Alternative Model A except for the application of the charcoal outlier model. The model has an Amodel value of 69.8 and an Aoverall value of 66. For the overall Woodland component, at the 68% confidence interval (or 1-sigma range) the model yields a start boundary of *cal AD 500-550*, and end boundary of *cal AD 660-710*, and a span of *110-170 years*. The dates associated with the roundhouses yield a start boundary of *cal AD 520-560*, and end boundary of *cal AD 650-690*, and a span of *90-140 years.*

Plot(“Alternative Model B”)

 {

 Outlier\_Model("Charcoal",Exp(1,-10,0),U(0,3),"t");

 Sequence()

 {

 Boundary("Start Cold Springs Woodland");

 Phase("Cold Springs Woodland")

 {

 Sequence("Mound A")

 {

 Boundary("Start Mound A");

 Sequence("Mound A")

 {

 Phase("Submound House")

 {

 R\_Date("UGAMS-48310", 1600, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48314", 1580, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48315", 1540, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41247", 1530, 20);

 R\_Date("UGAMS-48309", 1510, 20);

 R\_Date("UGAMS-41251", 1510, 20);

 R\_Date("UGAMS-48311", 1500, 20);

 R\_Date("\*UID-2", 1660, 70)

 {

 Outlier("Charcoal", 1);

 };

 };

 Phase("Floor I")

 {

 D\_Sequence()

 {

 R\_Date("UGAMS-41248",1560,20);

 Gap(5);

 R\_Date("UGAMS-41249",1530,20);

 };

 R\_Date("UGAMS-48312", 1600, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48313", 1500, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Feature 64")

 {

 R\_Date("\*UGAMS-48307", 1440, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGA-2364", 1505, 55)

 {

 Outlier("Charcoal", 1);

 };

 };

 R\_Date("\*UGAMS-48308", 1420, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Phase("Mound Top")

 {

 R\_Date("UGAMS-48306", 1500, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41250", 1470, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Span();

 };

 Boundary("End Mound A");

 };

 Phase("Mound B")

 {

 Sequence()

 {

 Boundary("Mound B Start TAQ");

 Phase("Mound B")

 {

 R\_Date("UGAMS-48320", 1570, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41252", 1570, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Floor 2")

 {

 R\_Date("UGAMS-48321", 1550, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-41255", 1460, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Sequence("Above and Below Humus")

 {

 R\_Date("UGAMS-41254", 1520, 25)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48316", 1460, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 R\_Date("UGAMS-48317", 1490, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("UID Structure")

 {

 R\_Date("UGAMS-48319", 1480, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48318", 1450, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 R\_Date("\*UID-1", 1335, 115)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("\*UGAMS-41253", 1710, 25)

 {

 Outlier("Charcoal", 1);

 };

 Span();

 };

 Boundary("End Mound B");

 };

 };

 Sequence()

 {

 Boundary("Start Round Structures");

 Phase("Round Structures")

 {

 Phase("Structures 13 and 14")

 {

 R\_Date("UGAMS-48302", 1560, 20);

 R\_Date("UGMAS-48300", 1550, 20);

 R\_Date("UGAMS-48304", 1530, 20);

 R\_Date("UGAMS-48305", 1450, 20);

 };

 R\_Date("UGAMS-48289", 1470, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48291", 1430, 20);

 R\_Date("UGAMS-41256", 1410, 20)

 {

 Outlier("Charcoal", 1);

 };

 Phase("Structures 11 and 12")

 {

 R\_Date("UGAMS-48292", 1410, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48290", 1370, 20)

 {

 Outlier("Charcoal", 1);

 };

 };

 Span();

 };

 Boundary("End Round Structures");

 };

 Sequence()

 {

 Boundary("Start Provenience 10");

 Phase("Provenience 10")

 {

 R\_Date("UGAMS-48296", 1530, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48299", 1430, 20)

 {

 Outlier("Charcoal", 1);

 };

 R\_Date("UGAMS-48295", 1430, 20);

 R\_Date("Beta-145492", 1410, 50)

 {

 Outlier("Charcoal", 1);

 };

 };

 Boundary("End Provenience 10");

 };

 Phase("Provenience 9")

 {

 R\_Date("UGAMS-48293", 1410, 20);

 R\_Date("UGAMS-48294", 1430, 20);

 };

 Span();

 First();

 Last();

 };

 Boundary("End Cold Springs Woodland");

 };

 };

*Supplemental Code 4 (Alternative Model C)*

Alternative Model C incorporates all archaeological information (e.g., contextual, stratigraphic) into the Bayesian interpretation of the Woodland component radiocarbon dataset. A general outlier model was applied to all dates. An outlier likelihood of 5% was applied to each date in the model to estimate posterior outlier probabilities. Four dates were identified as outliers. UGAMS-48312 (92% probability of being an outlier) and UGAMS-41253 (99% probability of being an outlier) had high posterior probabilities of being outliers and were removed from the model. UGAMS-48307 (11% probability of being an outlier) and UGAMS-48308 (32% probability of being an outlier) had lower probabilities that the previous two outlier removed, but also showed significant disagreement with the model parameters with agreement indices of 44.8% and 39.2% respectively. The slightly heightened outlier posteriors combined with their low agreement indices was used as justification for their removal. The four outliers identified in Alternative Model C subsequently removed from Alternative Model D and the Primary Model.

Plot(“Alternative Model C”)

 {

 Outlier\_Model("General", T(5), U(0,4),"t");

 Sequence()

 {

 Boundary("Start Cold Springs Woodland");

 Phase("Cold Springs Woodland")

 {

 Sequence("Mound A")

 {

 Boundary("Start Mound A");

 Sequence("Mound A")

 {

 Phase("Submound House")

 {

 R\_Date("UGAMS-48310", 1600, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48314", 1580, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48315", 1540, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41247", 1530, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48309", 1510, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41251", 1510, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48311", 1500, 20)

 {

 Outlier(0.05);

 };

 R\_Date("\*UID-2", 1660, 70)

 {

 Outlier(0.05);

 };

 };

 Phase("Floor I")

 {

 D\_Sequence()

 {

 R\_Date("UGAMS-41248",1560,20);

 Gap(5);

 R\_Date("UGAMS-41249",1530,20);

 };

 R\_Date("UGAMS-48312", 1600, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48313", 1500, 20)

 {

 Outlier(0.05);

 };

 Phase("Feature 64")

 {

 R\_Date("\*UGAMS-48307", 1440, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGA-2364", 1505, 55)

 {

 Outlier(0.05);

 };

 };

 R\_Date("\*UGAMS-48308", 1420, 20)

 {

 Outlier(0.05);

 };

 };

 Phase("Mound Top")

 {

 R\_Date("UGAMS-48306", 1500, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41250", 1470, 20)

 {

 Outlier(0.05);

 };

 };

 Span();

 };

 Boundary("End Mound A");

 };

 Phase("Mound B")

 {

 Sequence()

 {

 Boundary("Mound B Start TAQ");

 Phase("Mound B")

 {

 R\_Date("UGAMS-48320", 1570, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41252", 1570, 20)

 {

 Outlier(0.05);

 };

 Phase("Floor 2")

 {

 R\_Date("UGAMS-48321", 1550, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41255", 1460, 20)

 {

 Outlier(0.05);

 };

 };

 Sequence("Above and Below Humus")

 {

 R\_Date("UGAMS-41254", 1520, 25)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48316", 1460, 20)

 {

 Outlier(0.05);

 };

 };

 R\_Date("UGAMS-48317", 1490, 20)

 {

 Outlier(0.05);

 };

 Phase("UID Structure")

 {

 R\_Date("UGAMS-48319", 1480, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48318", 1450, 20)

 {

 Outlier(0.05);

 };

 };

 R\_Date("\*UID-1", 1335, 115)

 {

 Outlier(0.05);

 };

 R\_Date("\*UGAMS-41253", 1710, 25)

 {

 Outlier(0.05);

 };

 Span();

 };

 Boundary("End Mound B");

 };

 };

 Sequence()

 {

 Boundary("Start Round Structures");

 Phase("Round Structures")

 {

 Phase("Structures 13 and 14")

 {

 R\_Date("UGAMS-48302", 1560, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGMAS-48300", 1550, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48304", 1530, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48305", 1450, 20)

 {

 Outlier(0.05);

 };

 };

 R\_Date("UGAMS-48289", 1470, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48291", 1430, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-41256", 1410, 20)

 {

 Outlier(0.05);

 };

 Phase("Structures 11 and 12")

 {

 R\_Date("UGAMS-48292", 1410, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48290", 1370, 20)

 {

 Outlier(0.05);

 };

 };

 Span();

 };

 Boundary("End Round Structures");

 };

 Sequence()

 {

 Boundary("Start Provenience 10");

 Phase("Provenience 10")

 {

 R\_Date("UGAMS-48296", 1530, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48299", 1430, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48295", 1430, 20)

 {

 Outlier(0.05);

 };

 R\_Date("Beta-145492", 1410, 50)

 {

 Outlier(0.05);

 };

 };

 Boundary("End Provenience 10");

 };

 Phase("Provenience 9")

 {

 R\_Date("UGAMS-48293", 1410, 20)

 {

 Outlier(0.05);

 };

 R\_Date("UGAMS-48294", 1430, 20)

 {

 Outlier(0.05);

 };

 };

 Span();

 First();

 Last();

 };

 Boundary("End Cold Springs Woodland");

 };

 };

*Supplemental Code 5 (Alternative Model D)*

Alternative Model D incorporates all archaeological information (e.g., contextual, stratigraphic) into the Bayesian interpretation of the Woodland component radiocarbon dataset. No outlier models are applied, but four dates are removed based on the results yielded from Alternative Model C: UGAMS-48312, 48307, 48308, and 41253. The model mirrors Alternative Model A except for the removal of these four identified outliers. The model has an Amodel value of 75.2 and an Aoverall value of 68.8. For the overall Woodland component, at the 68% confidence interval (or 1-sigma range) the model yields a start boundary of *cal AD 490-540*, and end boundary of *cal AD 650-690*, and a span of *110-160 years*. The dates associated with the roundhouses yield a start boundary of *cal AD 520-560*, and end boundary of *cal AD 640-670*, and a span of *90-120 years.*

Plot(“Alternative Model D”)

 {

 Sequence()

 {

 Boundary("Start Cold Springs Woodland");

 Phase("Cold Springs Woodland")

 {

 Sequence("Mound A")

 {

 Boundary("Start Mound A");

 Sequence("Mound A")

 {

 Phase("Submound House")

 {

 R\_Date("UGAMS-48310", 1600, 20);

 R\_Date("UGAMS-48314", 1580, 20);

 R\_Date("UGAMS-48315", 1540, 20);

 R\_Date("UGAMS-41247", 1530, 20);

 R\_Date("UGAMS-48309", 1510, 20);

 R\_Date("UGAMS-41251", 1510, 20);

 R\_Date("UGAMS-48311", 1500, 20);

 R\_Date("\*UID-2", 1660, 70);

 };

 Phase("Floor I")

 {

 D\_Sequence()

 {

 R\_Date("UGAMS-41248",1560,20);

 Gap(5);

 R\_Date("UGAMS-41249",1530,20);

 };

 R\_Date("UGAMS-48313", 1500, 20);

 Phase("Feature 64")

 {

 R\_Date("UGA-2364", 1505, 55);

 };

 };

 Phase("Mound Top")

 {

 R\_Date("UGAMS-48306", 1500, 20);

 R\_Date("UGAMS-41250", 1470, 20);

 };

 Span();

 };

 Boundary("End Mound A");

 };

 Phase("Mound B")

 {

 Sequence()

 {

 Boundary("Mound B Start TAQ");

 Phase("Mound B")

 {

 R\_Date("UGAMS-48320", 1570, 20);

 R\_Date("UGAMS-41252", 1570, 20);

 Phase("Floor 2")

 {

 R\_Date("UGAMS-48321", 1550, 20);

 R\_Date("UGAMS-41255", 1460, 20);

 };

 Sequence("Above and Below Humus")

 {

 R\_Date("UGAMS-41254", 1520, 25);

 R\_Date("UGAMS-48316", 1460, 20);

 };

 R\_Date("UGAMS-48317", 1490, 20);

 Phase("UID Structure")

 {

 R\_Date("UGAMS-48319", 1480, 20);

 R\_Date("UGAMS-48318", 1450, 20);

 };

 R\_Date("\*UID-1", 1335, 115);

 Span();

 };

 Boundary("End Mound B");

 };

 };

 Sequence()

 {

 Boundary("Start Round Structures");

 Phase("Round Structures")

 {

 Phase("Structures 13 and 14")

 {

 R\_Date("UGAMS-48302", 1560, 20);

 R\_Date("UGMAS-48300", 1550, 20);

 R\_Date("UGAMS-48304", 1530, 20);

 R\_Date("UGAMS-48305", 1450, 20);

 };

 R\_Date("UGAMS-48289", 1470, 20);

 R\_Date("UGAMS-48291", 1430, 20);

 R\_Date("UGAMS-41256", 1410, 20);

 Phase("Structures 11 and 12")

 {

 R\_Date("UGAMS-48292", 1410, 20);

 R\_Date("UGAMS-48290", 1370, 20);

 };

 Span();

 };

 Boundary("End Round Structures");

 };

 Sequence()

 {

 Boundary("Start Provenience 10");

 Phase("Provenience 10")

 {

 R\_Date("UGAMS-48296", 1530, 20);

 R\_Date("UGAMS-48299", 1430, 20);

 R\_Date("UGAMS-48295", 1430, 20);

 R\_Date("Beta-145492", 1410, 50);

 };

 Boundary("End Provenience 10");

 };

 Phase("Provenience 9")

 {

 R\_Date("UGAMS-48293", 1410, 20);

 R\_Date("UGAMS-48294", 1430, 20);

 };

 Span();

 First();

 Last();

 };

 Boundary("End Cold Springs Woodland");

 };

 };