Supplemental Text 2. Code for OxCal Models.

*Aztalan (primary model)*

Options()

{

kIterations=20000;

};

Plot()

{

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

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

Sequence()

{

Boundary("Primary Model: start Aztalan");

Phase()

{

Phase("Gravel Knoll")

{

R\_Date("F2 (unit 2), Gravel Knoll. south side: Beta-374819", 930, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("F4a (unit 4), Gravel Knoll, NE edge: Beta-374816", 840, 30)

{

Outlier("Charcoal", 1);

};

};

R\_Date("Mound XX-3 (Pit): UGAMS-28207", 900, 20)

{

Outlier("General", 0.05);

};

After("Mound XX-10 fill")

{

R\_Date("UGAMS-28210", 870, 25)

{

Outlier("General", 0.05);

};

};

R\_Date("Base of pit on Mound XX-7: UGAMS-28209", 870, 25)

{

Outlier("General", 0.05);

};

Phase("NW mound: charnel house")

{

R\_Date("charred matting: Beta-114953", 940, 60)

{

Outlier("General", 0.05);

};

R\_Date("charred matting: UGAMS-28211", 850, 20)

{

Outlier("General", 0.05);

};

R\_Date("charnel house: M-642", 320, 100)

{

Outlier();

};

};

Phase("area north of palisade")

{

R\_Date("F200: AA-46512", 909, 32)

{

Outlier("General", 0.05);

};

R\_Date("F201: AA-46510", 796, 53)

{

Outlier("General", 0.05);

};

};

R\_Date("south of creek (F9): AA-46513", 994, 41)

{

Outlier("General", 0.05);

};

Sequence("palisade")

{

R\_Date("F30: WIS-191", 920, 55)

{

Outlier("Charcoal", 1);

};

Phase("Palisades")

{

First("Primary Model: start palisade");

R\_Date("F2013-13: Beta-360269", 740, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("stockade post: ISGS-A1086", 890, 20)

{

Outlier("Charcoal", 1);

};

R\_Date("F103 (Unit 24): Beta-375567", 950, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("preserved post (Tower B in I,4): Beta-310903", 910, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("preserved post (Tower B in I,4): Beta-310904", 940, 30)

{

Outlier("Charcoal", 1);

};

Last("Primary Model: end palisade");

};

};

R\_Date("F2011-8: Beta-318431", 910, 30)

{

Outlier("General", 0.05);

};

R\_Date("plaza area (F5): DIC-3044", 870, 50)

{

Outlier("Charcoal", 1);

};

Phase("riverbank enclosure area")

{

R\_Date("F1: WIS-63", 820, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F42: WIS-74", 730, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("posthole: M-1037", 1200, 75)

{

Outlier("Charcoal", 1);

};

R\_Date("F17a: WIS-68", 850, 80)

{

Outlier("Charcoal", 1);

};

};

Phase("Northeast Mound")

{

After("mound fill")

{

R\_Date("F1967.31.1; Beta-420799", 910, 30)

{

Outlier("General", 0.05);

};

R\_Date("F2013-17: Beta-360267", 820, 30)

{

Outlier("General", 0.05);

};

};

R\_Date("F2013-15: Beta-360270", 880, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("F2013-18: Beta-360268", 890, 30)

{

Outlier("General", 0.05);

};

};

R\_Date("F49 (adjacent to the Northeast Mound): WIS-73", 820, 60)

{

Outlier("Charcoal", 1);

};

Sequence("riverbank midden")

{

R\_Date("Stratum 11-14/11-15 (F10): DIC-3136", 850, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("Stratum 11-10: DIC-3134", 850, 45)

{

Outlier("Charcoal", 1);

};

After("directly above Stratum 11-4: F6")

{

R\_Date("DIC-3135", 1130, 55)

{

Outlier("Charcoal", 1);

};

R\_Date("ISGS-A2636", 930, 15)

{

Outlier("General", 0.05);

};

};

After("stratum 5 surface: F20")

{

R\_Date("DIC-3133", 950, 65)

{

Outlier("Charcoal", 1);

};

};

Date("=F2013-13: Beta-360269");

};

Phase("F101, unit 25")

{

R\_Date("Beta-374821", 950, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("Beta-374822", 890, 30)

{

Outlier("Charcoal", 1);

};

};

Sequence("Southwest Mound")

{

After("13 feet below mound surface")

{

R\_Date("WIS-160", 840, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("UGAMS-30800", 880, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("Wooden post from structure on mound: WIS-162", 810, 60)

{

Outlier("Charcoal", 1);

};

};

R\_Date("Pit 10 (NE quadrant of site): M-1214", 580, 100)

{

Outlier("Charcoal", 1);

};

Phase("Structure 64-H2: F17A-64")

{

R\_Date("UGAMS-29310", 990, 20)

{

Outlier("Charcoal", 1);

};

R\_Date("UGAMS-29311", 950, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("M84-1025-N2-4, E14-16 S-9, L-1: ISGS-A1105", 980, 20)

{

Outlier("General", 0.05);

};

R\_Date("M84-1111-N2-4, E14-16 S-11: ISGS-A1106", 1120, 20)

{

Outlier("General", 0.05);

};

R\_Date("Post hole below fill of TU2: Beta-318430", 910, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("F215/59: ISGS-A1247", 955, 15)

{

Outlier("General", 0.05);

};

Phase("no provenience")

{

Phase("measurements from charred cooking residues")

{

R\_Date("UGAMS-2739", 910, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1253", 1045, 15)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1241", 960, 20)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1249", 1080, 20)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1252", 895, 20)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2724", 920, 40)

{

Outlier("General", 0.05);

};

};

Phase("dog burials")

{

R\_Date("Spec 1: D-AMS-021794", 942, 24)

{

Outlier("General", 0.05);

};

R\_Date("Spec 2: D-AMS-021795", 1049, 26)

{

Outlier("General", 0.05);

};

R\_Date("Spec 3: D-AMS-021796", 976, 31)

{

Outlier("General", 0.05);

};

};

};

};

Boundary("Primary Model: end Aztalan");

Difference("Primary Model: Aztalan span", "Primary Model: end Aztalan", "Primary Model: start Aztalan");

Difference("Primary Model: time before palisade", "Primary Model: start palisade", "Primary Model: start Aztalan");

Difference("Primary Model: time with palisade", "Primary Model: end palisade", "Primary Model: start palisade");

Difference("Primary Model: time after palisade", "Primary Model: end Aztalan", "Primary Model: end palisade");

};

};

*Aztalan (alternate model)*

Options()

{

kIterations=20000;

};

Plot()

{

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

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

Sequence()

{

Boundary("Alternate Model: start Aztalan");

Phase()

{

Phase("Gravel Knoll")

{

R\_Date("F2 (unit 2), Gravel Knoll. south side: Beta-374819", 930, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("F4a (unit 4), Gravel Knoll, NE edge: Beta-374816", 840, 30)

{

Outlier("Charcoal", 1);

};

};

R\_Date("Mound XX-3 (Pit): UGAMS-28207", 900, 20)

{

Outlier("General", 0.05);

};

After("Mound XX-10 fill")

{

R\_Date("UGAMS-28210", 870, 25)

{

Outlier("General", 0.05);

};

};

R\_Date("Base of pit on Mound XX-7: UGAMS-28209", 870, 25)

{

Outlier("General", 0.05);

};

Phase("NW mound: charnel house")

{

R\_Date("charred matting: Beta-114953", 940, 60)

{

Outlier("General", 0.05);

};

R\_Date("charred matting: UGAMS-28211", 850, 20)

{

Outlier("General", 0.05);

};

R\_Date("charnel house: M-642", 320, 100)

{

Outlier();

};

};

Phase("area north of palisade")

{

R\_Date("F200: AA-46512", 909, 32)

{

Outlier("General", 0.05);

};

R\_Date("F201: AA-46510", 796, 53)

{

Outlier("General", 0.05);

};

};

R\_Date("south of creek (F9): AA-46513", 994, 41)

{

Outlier("General", 0.05);

};

Sequence("palisade")

{

R\_Date("F30: WIS-191", 920, 55)

{

Outlier("Charcoal", 1);

};

Phase("Palisades")

{

First("Alternate Model: start palisade");

R\_Date("F2013-13: Beta-360269", 740, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("stockade post: ISGS-A1086", 890, 20)

{

Outlier("Charcoal", 1);

};

R\_Date("F103 (Unit 24): Beta-375567", 950, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("preserved post (Tower B in I,4): Beta-310903", 910, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("preserved post (Tower B in I,4): Beta-310904", 940, 30)

{

Outlier("Charcoal", 1);

};

Last("Alternate Model: end palisade");

};

};

R\_Date("F2011-8: Beta-318431", 910, 30)

{

Outlier("General", 0.05);

};

R\_Date("plaza area (F5): DIC-3044", 870, 50)

{

Outlier("Charcoal", 1);

};

Phase("riverbank enclosure area")

{

R\_Date("F1: WIS-63", 820, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F42: WIS-74", 730, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("posthole: M-1037", 1200, 75)

{

Outlier("Charcoal", 1);

};

R\_Date("F17a: WIS-68", 850, 80)

{

Outlier("Charcoal", 1);

};

};

Phase("Northeast Mound")

{

After("mound fill")

{

R\_Date("F1967.31.1; Beta-420799", 910, 30)

{

Outlier("General", 0.05);

};

R\_Date("F2013-17: Beta-360267", 820, 30)

{

Outlier("General", 0.05);

};

};

R\_Date("F2013-15: Beta-360270", 880, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("F2013-18: Beta-360268", 890, 30)

{

Outlier("General", 0.05);

};

};

R\_Date("F49 (adjacent to the Northeast Mound): WIS-73", 820, 60)

{

Outlier("Charcoal", 1);

};

Sequence("riverbank midden")

{

R\_Date("Stratum 11-14/11-15 (F10): DIC-3136", 850, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("Stratum 11-10: DIC-3134", 850, 45)

{

Outlier("Charcoal", 1);

};

After("directly above Stratum 11-4: F6")

{

R\_Date("DIC-3135", 1130, 55)

{

Outlier("Charcoal", 1);

};

R\_Date("ISGS-A2636", 930, 15)

{

Outlier("General", 0.05);

};

};

After("stratum 5 surface: F20")

{

R\_Date("DIC-3133", 950, 65)

{

Outlier("Charcoal", 1);

};

};

Date("=F2013-13: Beta-360269");

};

Phase("F101, unit 25")

{

R\_Date("Beta-374821", 950, 30)

{

Outlier("Charcoal", 1);

};

R\_Date("Beta-374822", 890, 30)

{

Outlier("Charcoal", 1);

};

};

Sequence("Southwest Mound")

{

After("13 feet below mound surface")

{

R\_Date("WIS-160", 840, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("UGAMS-30800", 880, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("Wooden post from structure on mound: WIS-162", 810, 60)

{

Outlier("Charcoal", 1);

};

};

R\_Date("Pit 10 (NE quadrant of site): M-1214", 580, 100)

{

Outlier("Charcoal", 1);

};

Phase("Structure 64-H2: F17A-64")

{

R\_Date("UGAMS-29310", 990, 20)

{

Outlier("Charcoal", 1);

};

R\_Date("UGAMS-29311", 950, 20)

{

Outlier("General", 0.05);

};

};

After("M84-1025-N2-4, E14-16 S-9, L-1: residue measurement")

{

R\_Date("ISGS-A1105", 980, 20)

{

Outlier("General", 0.05);

};

};

After("M84-1111-N2-4, E14-16 S-11: residue measurement")

{

R\_Date("ISGS-A1106", 1120, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("Post hole below fill of TU2: Beta-318430", 910, 30)

{

Outlier("Charcoal", 1);

};

After("F215/59: residue measurement")

{

R\_Date("ISGS-A1247", 955, 15)

{

Outlier("General", 0.05);

};

};

Phase("no provenience")

{

After("measurements from charred cooking residues")

{

R\_Date("UGAMS-2739", 910, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1253", 1045, 15)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1241", 960, 20)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1249", 1080, 20)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1252", 895, 20)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2724", 920, 40)

{

Outlier("General", 0.05);

};

};

Phase("dog burials")

{

R\_Date("Spec 1: D-AMS-021794", 942, 24)

{

Outlier("General", 0.05);

};

R\_Date("Spec 2: D-AMS-021795", 1049, 26)

{

Outlier("General", 0.05);

};

R\_Date("Spec 3: D-AMS-021796", 976, 31)

{

Outlier("General", 0.05);

};

};

};

};

Boundary("Alternate Model: end Aztalan");

Difference("Alternate Model: Aztalan span", "Alternate Model: end Aztalan", "Alternate Model: start Aztalan");

Difference("Alternate Model: time before palisade", "Alternate Model: start palisade", "Alternate Model: start Aztalan");

Difference("Alternate Model: time with palisade", "Alternate Model: end palisade", "Alternate Model: start palisade");

Difference("Alternate Model: time after palisade", "Alternate Model: end Aztalan", "Alternate Model: end palisade");

};

};

*Crescent Bay Hunt Club (primary model)*

Plot()

{

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

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

Sequence()

{

Boundary("Primary Model: start Crescent Bay Hunt Club");

Phase()

{

Phase("F04-14")

{

R\_Date("UGAMS-2729", 880, 40)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2730", 730, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1070", 700, 20)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228622", 530, 40)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228621", 590, 40)

{

Outlier("General", 0.05);

};

};

R\_Date("F04-15: UGAMS-2731", 920, 40)

{

Outlier("General", 0.05);

};

R\_Date("F06-63: UGAMS-2732", 800, 40)

{

Outlier("General", 0.05);

};

R\_Date("F10-29: ISGS-A1654", 765, 15)

{

Outlier("General", 0.05);

};

R\_Date("F10-98: ISGS-A1653", 795, 15)

{

Outlier("General", 0.05);

};

R\_Date("F04-22: ISGS-A1246", 990, 20)

{

Outlier("General", 0.05);

};

R\_Date("F00-06: Beta-155617", 600, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-11: Beta-155618", 600, 70)

{

Outlier("General", 0.05);

};

R\_Date("F00-15: UGAMS-197990", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F00-21: Beta-155620", 720, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-26: Beta-155619", 620, 80)

{

Outlier("General", 0.05);

};

R\_Date("F02-01: ISGS-A1242", 690, 15)

{

Outlier("General", 0.05);

};

R\_Date("F02-27: UGAMS-197992", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F02-40: Beta-180695", 750, 40)

{

Outlier("General", 0.05);

};

R\_Date("F04-03: ISGS-A1238", 785, 15)

{

Outlier("General", 0.05);

};

R\_Date("F04-35: ISGS-A1243", 745, 20)

{

Outlier("General", 0.05);

};

R\_Date("F10-11: D-AMS-021780", 856, 24)

{

Outlier("General", 0.05);

};

R\_Date("F10-14: D-AMS-021779", 854, 21)

{

Outlier("General", 0.05);

};

R\_Date("F12-53: ISGS-4036", 580, 15)

{

Outlier("General", 0.05);

};

R\_Date("F14-01: UGAMS-197991", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F17-05: UGAMS-197993", 665, 15)

{

Outlier("General", 0.05);

};

R\_Date("F68-01: WIS-346", 760, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-06: WIS-358", 780, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-09: WIS-382", 810, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-10: WIS-348", 800, 50)

{

Outlier("Charcoal", 1);

};

};

Boundary("Primary Model: end Crescent Bay Hunt Club");

Difference("Primary Model: Crescent Bay Hunt Club span", "Primary Model: end Crescent Bay Hunt Club", "Primary Model: start Crescent Bay Hunt Club");

};

};

*Crescent Bay Hunt Club (alternate model)*

Plot()

{

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

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

Sequence()

{

Boundary("Alternate Model: start Crescent Bay Hunt Club");

Phase()

{

After("F04-14: residue measurements")

{

R\_Date("UGAMS-2729", 880, 40)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2730", 730, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1070", 700, 20)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228622", 530, 40)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228621", 590, 40)

{

Outlier("General", 0.05);

};

};

After("F04-15: residue measurement")

{

R\_Date("UGAMS-2731", 920, 40)

{

Outlier("General", 0.05);

};

};

After("F06-63: residue measurement")

{

R\_Date("UGAMS-2732", 800, 40)

{

Outlier("General", 0.05);

};

};

After("F10-29: residue measurement")

{

R\_Date("ISGS-A1654", 765, 15)

{

Outlier("General", 0.05);

};

};

After("F10-98: residue measurement")

{

R\_Date("ISGS-A1653", 795, 15)

{

Outlier("General", 0.05);

};

};

After("F04-22: residue measurement")

{

R\_Date("ISGS-A1246", 990, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("F00-06: Beta-155617", 600, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-11: Beta-155618", 600, 70)

{

Outlier("General", 0.05);

};

R\_Date("F00-15: UGAMS-197990", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F00-21: Beta-155620", 720, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-26: Beta-155619", 620, 80)

{

Outlier("General", 0.05);

};

After("F02-01: residue measurement")

{

R\_Date("ISGS-A1242", 690, 15)

{

Outlier("General", 0.05);

};

};

R\_Date("F02-27: UGAMS-197992", 595, 15)

{

Outlier("General", 0.05);

};

After("F02-40: residue measurement")

{

R\_Date("Beta-180695", 750, 40)

{

Outlier("General", 0.05);

};

};

After("F04-03: residue measurement")

{

R\_Date("ISGS-A1238", 785, 15)

{

Outlier("General", 0.05);

};

};

After("F04-35: residue measurement")

{

R\_Date("ISGS-A1243", 745, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("F10-11: D-AMS-021780", 856, 24)

{

Outlier("General", 0.05);

};

R\_Date("F10-14: D-AMS-021779", 854, 21)

{

Outlier("General", 0.05);

};

R\_Date("F12-53: ISGS-4036", 580, 15)

{

Outlier("General", 0.05);

};

R\_Date("F14-01: UGAMS-197991", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F17-05: UGAMS-197993", 665, 15)

{

Outlier("General", 0.05);

};

R\_Date("F68-01: WIS-346", 760, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-06: WIS-358", 780, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-09: WIS-382", 810, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-10: WIS-348", 800, 50)

{

Outlier("Charcoal", 1);

};

};

Boundary("Alternate Model: end Crescent Bay Hunt Club");

Difference("Alternate Model: Crescent Bay Hunt Club span", "Alternate Model: end Crescent Bay Hunt Club", "Alternate Model: start Crescent Bay Hunt Club");

};

};

*Carcajou Point (primary model)*

Plot()

{

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

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

Sequence()

{

Boundary("Primary Model: start Carcajou Point");

Phase()

{

R\_Date("F41: M-786", 960, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F57: M-785", 930, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F12: Beta-114955", 700, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F15: Beta-114957", 660, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F17: M-747", 430, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F2: WIS-77", 1060, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F3: Beta-201790", 680, 40)

{

Outlier("General", 0.05);

};

R\_Date("F5: Beta-114954", 1010, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F8: Beta-114956", 1020, 80)

{

Outlier("Charcoal", 1);

};

Phase("C. Plain")

{

R\_Date("UGAMS-2718", 970, 60)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1114", 915, 20)

{

Outlier("General", 0.05);

};

};

};

Boundary("Primary Model: end Carcajou Point");

Difference("Primary Model: Carcajou Point span", "Primary Model: end Carcajou Point", "Primary Model: start Carcajou Point");

};

};

*Carcajou Point (alternate model)*

Options()

{

kIterations=20000;

};

Plot()

{

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

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

Sequence()

{

Boundary("Alternate Model: start Carcajou Point");

Phase()

{

R\_Date("F41: M-786", 960, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F57: M-785", 930, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F12: Beta-114955", 700, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F15: Beta-114957", 660, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F17: M-747", 430, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F2: WIS-77", 1060, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F3: Beta-201790", 680, 40)

{

Outlier("General", 0.05);

};

R\_Date("F5: Beta-114954", 1010, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F8: Beta-114956", 1020, 80)

{

Outlier("Charcoal", 1);

};

After("C. Plain: residue measurements")

{

R\_Date("UGAMS-2718", 970, 60)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1114", 915, 20)

{

Outlier("General", 0.05);

};

};

};

Boundary("Alternate Model: end Carcajou Point");

Difference("Alternate Model: Carcajou Point span", "Alternate Model: end Carcajou Point", "Alternate Model: start Carcajou Point");

};

};

*Koshkonong Creek Village (primary model)*

Plot()

{

Sequence()

{

Boundary("Primary Model: start Koshkonong Creek Village");

Phase()

{

R\_Date("F12–01: ISGS-A2272", 1000, 20);

Phase("F12-06")

{

R\_Date("ISGS-A2310", 605, 20);

R\_Date("UGAMS-28214", 520, 20);

};

R\_Date("F14-19: UGAMS-42554", 660, 20);

R\_Date("F14-28: UGAMS-28212", 740, 25);

R\_Date("F14-29: UGAMS-28213", 610, 30);

R\_Date("F17-02: UGAMS-42555", 770, 20);

};

Boundary("Primary Model: end Koshkonong Creek Village");

Difference("Primary Model: Koshkonong Creek Village span", "Primary Model: end Koshkonong Creek Village", "Primary Model: start Koshkonong Creek Village");

};

};

*Koshkonong Creek Village (alternate model)*

Plot()

{

Sequence()

{

Boundary("Alternate Model: start Koshkonong Creek Village");

Phase()

{

After("F12–01: residue measurement")

{

R\_Date("ISGS-A2272", 1000, 20);

};

Phase("F12-06")

{

After("residue measurement")

{

R\_Date("ISGS-A2310", 605, 20);

};

R\_Date("UGAMS-28214", 520, 20);

};

After("F14-19: residue measurement")

{

R\_Date("UGAMS-42554", 660, 20);

};

After("F14-28: residue measurement")

{

R\_Date("UGAMS-28212", 740, 25);

};

After("F14-29: residue measurement")

{

R\_Date("UGAMS-28213", 610, 30);

};

After("F17-02: residue measurement")

{

R\_Date("UGAMS-42555", 770, 20);

};

};

Boundary("Alternate Model: end Koshkonong Creek Village");

Difference("Alternate Model: Koshkonong Creek Village span", "Alternate Model: end Koshkonong Creek Village", "Alternate Model: start Koshkonong Creek Village");

};

};

*Oneota at Lake Koshkonong (primary model)*

Plot()

{

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

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

Sequence()

{

Boundary("Primary Model: start Oneota at Lake Koshkonong");

Phase()

{

Phase("Carcajou Point")

{

R\_Date("F41: M-786", 960, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F57: M-785", 930, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F12: Beta-114955", 700, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F15: Beta-114957", 660, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F17: M-747", 430, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F2: WIS-77", 1060, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F3: Beta-201790", 680, 40)

{

Outlier("General", 0.05);

};

R\_Date("F5: Beta-114954", 1010, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F8: Beta-114956", 1020, 80)

{

Outlier("Charcoal", 1);

};

Phase("C. Plain")

{

R\_Date("UGAMS-2718", 970, 60)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1114", 915, 20)

{

Outlier("General", 0.05);

};

};

};

R\_Date("Crabapple Point (F5): WIS-609", 970, 55)

{

Outlier("Charcoal", 1);

};

Phase("Crescent Bay Hunt Club")

{

Phase("F04-14")

{

R\_Date("UGAMS-2729", 880, 40)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2730", 730, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1070", 700, 20)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228622", 530, 40)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228621", 590, 40)

{

Outlier("General", 0.05);

};

};

R\_Date("F04-15: UGAMS-2731", 920, 40)

{

Outlier("General", 0.05);

};

R\_Date("F06-63: UGAMS-2732", 800, 40)

{

Outlier("General", 0.05);

};

R\_Date("F10-29: ISGS-A1654", 765, 15)

{

Outlier("General", 0.05);

};

R\_Date("F10-98: ISGS-A1653", 795, 15)

{

Outlier("General", 0.05);

};

R\_Date("F04-22: ISGS-A1246", 990, 20)

{

Outlier("General", 0.05);

};

R\_Date("F00-06: Beta-155617", 600, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-11: Beta-155618", 600, 70)

{

Outlier("General", 0.05);

};

R\_Date("F00-15: UGAMS-197990", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F00-21: Beta-155620", 720, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-26: Beta-155619", 620, 80)

{

Outlier("General", 0.05);

};

R\_Date("F02-01: ISGS-A1242", 690, 15)

{

Outlier("General", 0.05);

};

R\_Date("F02-27: UGAMS-197992", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F02-40: Beta-180695", 750, 40)

{

Outlier("General", 0.05);

};

R\_Date("F04-03: ISGS-A1238", 785, 15)

{

Outlier("General", 0.05);

};

R\_Date("F04-35: ISGS-A1243", 745, 20)

{

Outlier("General", 0.05);

};

R\_Date("F10-11: D-AMS-021780", 856, 24)

{

Outlier("General", 0.05);

};

R\_Date("F10-14: D-AMS-021779", 854, 21)

{

Outlier("General", 0.05);

};

R\_Date("F12-53: ISGS-4036", 580, 15)

{

Outlier("General", 0.05);

};

R\_Date("F14-01: UGAMS-197991", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F17-05: UGAMS-197993", 665, 15)

{

Outlier("General", 0.05);

};

R\_Date("F68-01: WIS-346", 760, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-06: WIS-358", 780, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-09: WIS-382", 810, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-10: WIS-348", 800, 50)

{

Outlier("Charcoal", 1);

};

};

Phase("Koshkonong Creek Village")

{

After("F12–01: residue measurement")

{

R\_Date("ISGS-A2272", 1000, 20)

{

Outlier("General", 0.05);

};

};

Phase("F12-06")

{

R\_Date("ISGS-A2310", 605, 20)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-28214", 520, 20)

{

Outlier("General", 0.05);

};

};

After("F14-19: residue measurement")

{

R\_Date("UGAMS-42554", 660, 20)

{

Outlier("General", 0.05);

};

};

After("F14-28: residue measurement")

{

R\_Date("UGAMS-28212", 740, 25)

{

Outlier("General", 0.05);

};

};

After("F14-29: residue measurement")

{

R\_Date("UGAMS-28213", 610, 30)

{

Outlier("General", 0.05);

};

};

After("F17-02: residue measurement")

{

R\_Date("UGAMS-42555", 770, 20)

{

Outlier("General", 0.05);

};

};

};

Phase("Schmeling")

{

R\_Date("F08: ISGS-A1211", 785, 20)

{

Outlier("General", 0.05);

};

R\_Date("F08-02: ISGS-A1244", 765, 15)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-42556", 670, 20)

{

Outlier("General", 0.05);

};

};

};

Boundary("Primary Model: end Oneota at Lake Koshkonong");

Difference("Primary Model: span of Oneota occupation at Lake Koshkonong", "Primary Model: end Oneota at Lake Koshkonong", "Primary Model: start Oneota at Lake Koshkonong");

};

};

*Oneota at Lake Koshkonong (alternate model)*

Plot()

{

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

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

Sequence()

{

Boundary("Alternate Model: start Oneota at Lake Koshkonong");

Phase()

{

Phase("Carcajou Point")

{

R\_Date("F41: M-786", 960, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F57: M-785", 930, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F12: Beta-114955", 700, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F15: Beta-114957", 660, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F17: M-747", 430, 250)

{

Outlier("Charcoal", 1);

};

R\_Date("F2: WIS-77", 1060, 80)

{

Outlier("Charcoal", 1);

};

R\_Date("F3: Beta-201790", 680, 40)

{

Outlier("General", 0.05);

};

R\_Date("F5: Beta-114954", 1010, 70)

{

Outlier("Charcoal", 1);

};

R\_Date("F8: Beta-114956", 1020, 80)

{

Outlier("Charcoal", 1);

};

After("C. Plain: residue measurements")

{

R\_Date("UGAMS-2718", 970, 60)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1114", 915, 20)

{

Outlier("General", 0.05);

};

};

};

R\_Date("Crabapple Point (F5): WIS-609", 970, 55)

{

Outlier("Charcoal", 1);

};

Phase("Crescent Bay Hunt Club")

{

After("F04-14: residue measurements")

{

R\_Date("UGAMS-2729", 880, 40)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-2730", 730, 40)

{

Outlier("General", 0.05);

};

R\_Date("ISGS-A1070", 700, 20)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228622", 530, 40)

{

Outlier("General", 0.05);

};

R\_Date("Beta-228621", 590, 40)

{

Outlier("General", 0.05);

};

};

After("F04-15: residue measurement")

{

R\_Date("UGAMS-2731", 920, 40)

{

Outlier("General", 0.05);

};

};

After("F06-63: residue measurement")

{

R\_Date("UGAMS-2732", 800, 40)

{

Outlier("General", 0.05);

};

};

After("F10-29: residue measurement")

{

R\_Date("ISGS-A1654", 765, 15)

{

Outlier("General", 0.05);

};

};

After("F10-98: residue measurement")

{

R\_Date("ISGS-A1653", 795, 15)

{

Outlier("General", 0.05);

};

};

After("F04-22: residue measurement")

{

R\_Date("ISGS-A1246", 990, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("F00-06: Beta-155617", 600, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-11: Beta-155618", 600, 70)

{

Outlier("General", 0.05);

};

R\_Date("F00-15: UGAMS-197990", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F00-21: Beta-155620", 720, 40)

{

Outlier("General", 0.05);

};

R\_Date("F00-26: Beta-155619", 620, 80)

{

Outlier("General", 0.05);

};

After("F02-01: residue measurement")

{

R\_Date("ISGS-A1242", 690, 15)

{

Outlier("General", 0.05);

};

};

R\_Date("F02-27: UGAMS-197992", 595, 15)

{

Outlier("General", 0.05);

};

After("F02-40: residue measurement")

{

R\_Date("Beta-180695", 750, 40)

{

Outlier("General", 0.05);

};

};

After("F04-03: residue measurement")

{

R\_Date("ISGS-A1238", 785, 15)

{

Outlier("General", 0.05);

};

};

After("F04-35: residue measurement")

{

R\_Date("ISGS-A1243", 745, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("F10-11: D-AMS-021780", 856, 24)

{

Outlier("General", 0.05);

};

R\_Date("F10-14: D-AMS-021779", 854, 21)

{

Outlier("General", 0.05);

};

R\_Date("F12-53: ISGS-4036", 580, 15)

{

Outlier("General", 0.05);

};

R\_Date("F14-01: UGAMS-197991", 595, 15)

{

Outlier("General", 0.05);

};

R\_Date("F17-05: UGAMS-197993", 665, 15)

{

Outlier("General", 0.05);

};

R\_Date("F68-01: WIS-346", 760, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-06: WIS-358", 780, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-09: WIS-382", 810, 50)

{

Outlier("Charcoal", 1);

};

R\_Date("F68-10: WIS-348", 800, 50)

{

Outlier("Charcoal", 1);

};

};

Phase("Koshkonong Creek Village")

{

After("F12–01: residue measurement")

{

R\_Date("ISGS-A2272", 1000, 20)

{

Outlier("General", 0.05);

};

};

Phase("F12-06")

{

After("residue measurement")

{

R\_Date("ISGS-A2310", 605, 20)

{

Outlier("General", 0.05);

};

};

R\_Date("UGAMS-28214", 520, 20)

{

Outlier("General", 0.05);

};

};

After("F14-19: residue measurement")

{

R\_Date("UGAMS-42554", 660, 20)

{

Outlier("General", 0.05);

};

};

After("F14-28: residue measurement")

{

R\_Date("UGAMS-28212", 740, 25)

{

Outlier("General", 0.05);

};

};

After("F14-29: residue measurement")

{

R\_Date("UGAMS-28213", 610, 30)

{

Outlier("General", 0.05);

};

};

After("F17-02: residue measurement")

{

R\_Date("UGAMS-42555", 770, 20)

{

Outlier("General", 0.05);

};

};

};

After("Schmeling: residue measurements")

{

R\_Date("F08: ISGS-A1211", 785, 20)

{

Outlier("General", 0.05);

};

R\_Date("F08-02: ISGS-A1244", 765, 15)

{

Outlier("General", 0.05);

};

R\_Date("UGAMS-42556", 670, 20)

{

Outlier("General", 0.05);

};

};

};

Boundary("Alternate Model: end Oneota at Lake Koshkonong");

Difference("Alternate Model: span of Oneota occupation at Lake Koshkonong", "Alternate Model: end Oneota at Lake Koshkonong", "Alternate Model: start Oneota at Lake Koshkonong");

};

};