Wood Carbonization Protocol

This protocol is for the carbonization of modern wood specimen, to accession into the EAL and JMM wood charcoal comparative collections. It will take approximately 10-40 minutes to carbonize specimen in the muffle furnace, but allocate 1-2 hrs to wrap, carbonize, and unwrap 10 specimens.

SAMPLE PREPARATION

1. Be sure the samples are accessioned into the FileMaker database and assigned an EAL accession number.

PREPARING SPECIMEN ~ 20 - 60 mins

1. Cut or saw wood into pieces so that the smallest dimension is no more than 1.5-2.0 inches thick.
2. Using a pencil, write the accession number in multiple locations on the specimen.
3. Wrap in aluminum foil as tightly as possible, leaving a small flap/tag of foil on to which you will write the accession number.
4. Using an Ultra Fine Sharpie, engrave the accession number onto the flap and onto the foil. The ink will burn away during firing but the engraved number will remain.

CARBONIZING SPECIMEN ~ 15 - 45 mins

1. Turn on the fume hood.
2. Place specimen inside the muffle furnace, with larger specimen on the bottom and smaller ones closer to the front.
3. Draw a diagram of specimen locations, to ensure proper identification following firing.
4. Be sure the ceramic stopper is in the top of the muffle furnace to reduce oxygenated atmosphere.
5. Set muffle furnace to 400°C (725°F).
6. Fire specimens between 10-40 mins.

*Be sure not to raise the sash higher than approved by Health and Safety when working inside fume hood and close sash fully when carbonizing.

REMOVING SPECIMEN ~ 15 mins

1. Remove carbonized specimen when cool, and examine to see if complete carbonization was achieved.

*If specimens are still hot, an introduction of oxygen could ignite a fire during unwrapping. Ensure specimens are cool before unwrapping.

2. Turn off muffle furnace and fume hood.
3. Unwrap tin foil and place specimens in labeled individual cardboard sample boxes with their corresponding accession number.

Revision History:
Created by Kathleen M. Forste, Boston University: 1/30/17
Standardized by Kali Wade, Boston University: 1/17/18