**Appendix: List of lab equipment and supplies**

**Processing dried samples**:

* 4mil zipper bags (8x10” or 9x12” sizes, double bagged) for crushing dried samples and for temporary housing of crushed, sieved samples.
* hammer or mallet for bulk crushing of dried samples.
* mortar and pestle for crushing small samples (ours is made of glass).
* #8 AMST International testing sieves for sieving crushed samples (see **Grain-size analysis** for sieve specifications).
* parchment paper (from grocery store or discount retail stores such as Walmart) for collecting and transferring sieved sample to a container (zipper bag or beaker).

**Making test bars:**

* plastic tray (see figures 1-4; e.g., cafeteria tray—ours came from surplus property on University of Florida’s campus and other surplus facilities).
* Nitrile or latex gloves to protect hands and/or samples from contamination.
* small (e.g., 25 ml) graduated cylinder (figures 1, 2) or beaker for adding small amounts of water to dry sample until plasticity is achieved.
* purified or distilled or deionized water.
* template for making standardized test bars (ours is plastic, recycled from an old army surplus industrial dishwasher rack, Figure 2; soon we will have a printable 3-d file of this template to share with interested researchers).
* parchment paper for lining template (see **Processing dried samples** list)**.**
* spatula to help mix clay and water to plastic mass (optional) (ours is stainless steel from surplus property, pictured in figures 2, 3).
* wooden block (pictured in Figure 3) to extrude bar from template (matches inside dimensions of template; our is made from a scrap piece of bamboo flooring).
* pointed stylus for labeling test bars with clay sample number (ours is a recycled dental tool from surplus property); this tool can also be used to score the bar along 5 equidistant lines for breaking bar apart for briquette firings. We use a recycled a hair comb (see Figure 4) for marking the distances and then an edged tool for scoring.
* edged tool (optional); can be made of hard plastic, wood, or metal, for scoring equidistant lines on test bars.
* metric calipers for marking 10 cm distances on test bars.
* metric ruler for measuring marked distances after drying (for calculation of % Linear Drying Shrinkage).
* metric balance for weighing test bars before and after drying (our portable digital balance has a capacity of 500 g and readability of 0.1 g).
* drying rack for slow drying of test bars.
* electric drying oven for final drying of bars prior to obtaining dry weights and (Figure 12; ours is a Fisher Isotemp Oven, 100 Series Model 106G).

**Firing briquettes:**

* pliers or hammer and chisel or hack saw or rock saw for cutting bar into briquettes for firing (if samples are too hard to snap apart scored lines); and for cutting very hard/strong fired briquettes for thin sectioning (we can also use our rock saw for this, a Lortone, inc. Lapidary Trim Saw, Model FS6).
* electric furnace for firing briquettes (our is a ThermoFisher Scientific Thermolyne Benchtop muffle furnace, 120V; our smaller, portable furnace with manual settings is a Thermolyne 10500 Furnace.
* electric drying oven for slow cooling of briquettes in draw trial firings (see **Making test bars** list and Figure 12).
* Munsell® Soil Color Chart (available through [https://www.**wards**ci.com/](https://www.wardsci.com/) and <http://www.forestry-suppliers.com/>) for recording fired briquette colors.
* labeling materials (see **Curation supplies**).

**Grain-size analysis:**

* set of AMST International approved sieves (<http://www.solutionsdirectonline.com/advantech/pdf/standard-sieves-astm-e-11-specifications-table.pdf>; e.g., U.S.A Standard Testing Sieves, made by a number of manufacturers, available through <http://www.forestry-suppliers.com/> and <https://www.fishersci.com/us/en/home.html>). See Figure 10; ours are USA Testing Sieves, #s 5, 10, 18, 35. 60, 120, 170, and 325).
* spray attachment for faucet or spray water bottle.
* 12-quart (or its equivalent in liters) plastic basins (Figure 9; e.g., Rubbermaid or Sterlite or their generic equivalents, purchased from discount retail or home improvement stores).
* Soft brush, e.g., paint brush, to use during sieving.
* glass beakers (various sizes, including 250 ml, 500 ml, 1000 ml, and 2000 ml).
* flexible plastic tubing (purchased from home improvement/plumbing supply stores) and bulb pipette (ours is a plastic kitchen baster) for siphoning water (supernatant) from settled sieved fine fractions.
* table salt for flocculating the supernatant when needed.
* drying rack for air drying of sieved sediments.
* drying oven for drying fine fraction (see **Making test bars** list and Figure 12).
* aluminum foil to cover beakers of fine fraction while in the drying oven.
* parchment paper for transferring dried, sieved sediments from sieve to curation bags.
* paint brush and soft wire brush to help remove dried sediments from sieves.
* metric balance for weighing dried sieved sediments and fine fraction (see **Making test bars** list; we also have a portable digital balance with a capacity of 2 kg and readability of 1 g for weighing beakers containing dried fine fractions).
* 4mil zipper bags for collecting sieved sediments after drying (sizes include 5x8” for the parent bag and 2x3”, 2.5x3”, 3x4”, 4x4”, 4x6” for the sediments and fine fraction [figures 11, 13). We buy our bags from Associated Bag (<http://www.associatedbag.com/> [Our Own Brand Zipper Bags - 4 Mil]).
* Sharpie fine point black markers for labeling bags.
* binocular microscope or hand lens for examining sieved sediments (our microscope is a Stereozoom 7 with 10x eyepieces, eyepiece micrometer, and fiber-optic ring light illumination).
* 10% HCl solution for testing for limestone, shell, or calcareous matrix.
* petrographic microscope for analysis of clay sample thin sections (our is a Leitz Laborlux 11 Pol with mechanical stage).

**Other analyses** (see Note 5; equipment we have but don’t use routinely in our SOP):

* Mohs Hardness kit (available through [https://www.**wards**ci.com/](https://www.wardsci.com/)).
* hotplate, metal saucepan with wire basket and tap water for porosity measurements.
* metric balance with readability of 0.001 g (for porosity and firing weight loss measurements).

**Curation supplies:**

* 4mil zipper bags for storing various components of archived samples.
* lidded polyethylene containers for permanent storage of components (Figure 13; Gladware Soup & Salad™ containers are the appropriate size (or generic equivalents if available; we have purchased generic equivalents at our local Publix supermarket and at Big Lots).
* archival peel and stick tags for labeling curation container with sample and accession numbers (our are from <http://www.gaylord.com/>).
* labeling materials for writing firing temperature directly on fired briquettes: clear lacquer (we use clear nail polish owing to difficulties we’ve experienced with using B-72), archival pens (e.g., Micron) or pen holder with nib and India Ink or other quality artist’s ink.
* small card stock boxes with lids for storing sets of fired briquettes (optional) (Figure 13). 2.5x3” 4 mil zipper bags would also work and are necessary for crumbly or disintegrated fired briquettes.
* shelving or cabinetry for storing curated samples.