## THE USE OF LINEAR COLLAPSIBLE FOAM FOR MOLDING FOSSIL FOOTPRINTS IN THE FIELD

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Time in the field is a valuable commodity and any method that shortens the time making an impression in the field translates to more time available for exploration. Additionally, transportation of the materials can be difficult and a burden. Current methods of copying fossil footprints entails the use of liquid latex, Plaster of Paris, or silicon rubber that is poured or brushed into the footprint, allowed to harden, then removed. This often leads to residue material left at the site, damage to the fossil and expenditure of long periods of time. The use of linear collapsible foam (the same foam used to take impressions of body parts for orthotics) eliminates the residue, does no damage, is inexpensive, and produces a high quality impression of the footprint within minutes. The foam has a density of from .7 to 2.8 pounds per square inch and can be ordered in various thickness and size. The cost of the foam is competitive with other molding materials(~\$.65/board-ft). The lighter density foam was deemed too friable to use, however, the denser foams proved ideal for taking impressions. There are limitations using this method. Objects that have undercuts, even slight ones, will not copy and the foam will be damaged when removed; footprints that are deeper that approximately 1 inch may not copy due to excess compression of the foam; transportation of the material must be made in a single lid cardboard box to prevent damage to the impression; and large area footprints requiring large sheets of the foam may require multiple people to compress the foam into the object. Once taken a master cast of the impression is made using Plaster of Paris or Water Putty, at this point the foam impression is destroyed removing it from the hardened cast. Organic based casting materials can not be used because of absorption of the liquid into the foam and possible reactions with the foam. Once made the master copy retains the details and sharpness of the original fossil. This method produces a copy of the subject within a few minutes in the field and it is easier to transport the materials into the field and back. Finally, the master cast can be used to make a latex mold to produce additional copies if required.



STEP 1: Clean footprint of debris, lose parts of the footprint can be left alone as the foam has no adhesive properties. Crocodile footprint, Comanche National Grassland, Co.



STEP 2: Measure and cut foam to size length plus 2 ", width plus 2 " and depth plus 1" and place over the imprint. Footprints greater than 1 " in depth may not copy due to the amount of foam compressed.



STEP 3: Place the press board over the foam, covering the foam completely.



STEP 4: Firmly and evenly press the foam into the footprint until the foam no longer collapses. For large sheets of the foam this step may require more than one person.



STEP 5: Remove press board and lift the foam evenly off the footprint being careful not to bump the sides as you lift the foam.



Footprint of a turtle or small crocodile. Comanche National Grassland, Co.



Foam impression of the footprint above.



Plaster cast of the impression dry brushed to emphasize features.

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