

HOT OUT of the (ROCK) OVEN

An Example of Native American Earth Oven Technology at the I.P. Morris Site in Philadelphia

Fire-cracked rock feature at the I. P. Morris site.
Photograph by Allison Butchko and Tim Hitchens, 2014.

Archaeologists excavating Native American campsites buried beneath the I. P. Morris Co. machine shop building in Philadelphia recently discovered the circular cluster of fire-cracked rock. This precontact pit feature, measuring 1.2 meters in diameter, contained charcoal and several layers of river cobbles that had been cracked and fractured in situ from intense heat. The size, spatial arrangement, and contents of the feature suggest that the bed of fire-cracked rocks may have functioned as the heating element of an earth oven.^{1,2}

Humans have used earth oven technology in the Old and New Worlds for thousands of years. Earth ovens are cooking facilities that use hot rocks encased in sediments to bake large quantities of food. The construction and use of Native American earth ovens typically involved the following steps: 1) digging a pit; 2) building a fire in the depression; 3) adding layers of rocks atop the fire to serve as the heating element; 4) placing food wrapped or packed with plant materials on the layer of heat-retaining rocks (i.e., the heating element); 5) capping/burying the food layer and hot rocks to contain heat; and 6) uncovering the oven contents for extraction and consumption. Ethnographic accounts indicate that native populations used earth ovens to process roots, tubers, and other plant foods that contained toxic substances and required longer cook times to be rendered digestible.^{3,4} Various types of meat, fish, shellfish, and insects—such as grasshoppers—were also cooked in earth ovens.⁵



Artist's depiction of earth oven construction. *Painting by Charles Shaw, courtesy of Texas Beyond History.net, Texas Archeological Research Laboratory, The University of Texas at Austin.*

In North America, fire-cracked rock features associated with earth oven technology have been recovered from contexts as old as 7000 B.C.⁶ Archaeological evidence, including diagnostic stone projectile points and soapstone bowl fragments, indicate that native groups occupied the I. P. Morris site with fluctuating intensity over the past 4,500 years.⁷ Radiocarbon dating of charred organic materials recovered from the earth oven reveals that the feature was in use by 1691 B.C. - [Jeremy W. Koch](#)

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