

Salts & Ceramics

Salt Efflorescence

A ring of salts is seen on the exterior of this ceramic vessel. The salts may be from the contents of the vessel or may migrate into the ceramic from the burial environment.



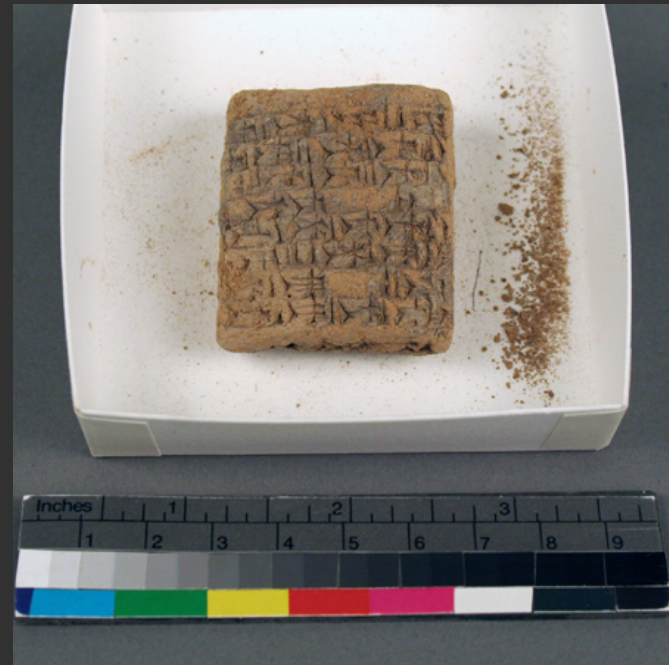
Ceramic jug
Cypriot, 750-600 BC
MCCM 2010.49.404

Surface Spalling

Salts move through the ceramic with the evaporation of moisture. If salt crystals form within the pores of the ceramic, the surface may crumble and fall away. This loss is called spalling.



Ceramic pitcher
Ghassulian, 3800-3350 BC
MCCM 2010.49.63



Unfired clay tablet
Near Eastern, date unknown
MCCM lab study collection

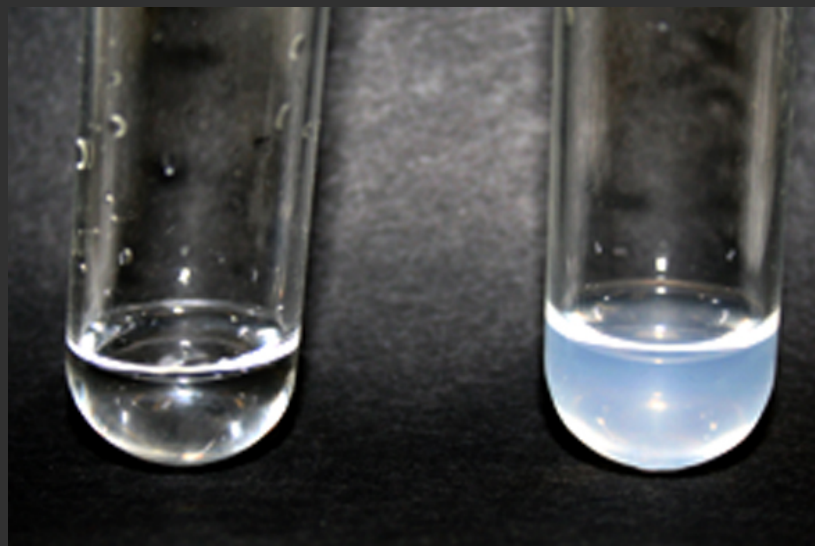
Making Salty Shards



Salt efflorescence can be produced on ceramic shards by soaking pieces of a broken flower pot in a saturated solution of salts, such as Epsom salt and pickling salt. A gallon jug was cut down to create the soaking tub, and the shards were partly submerged.

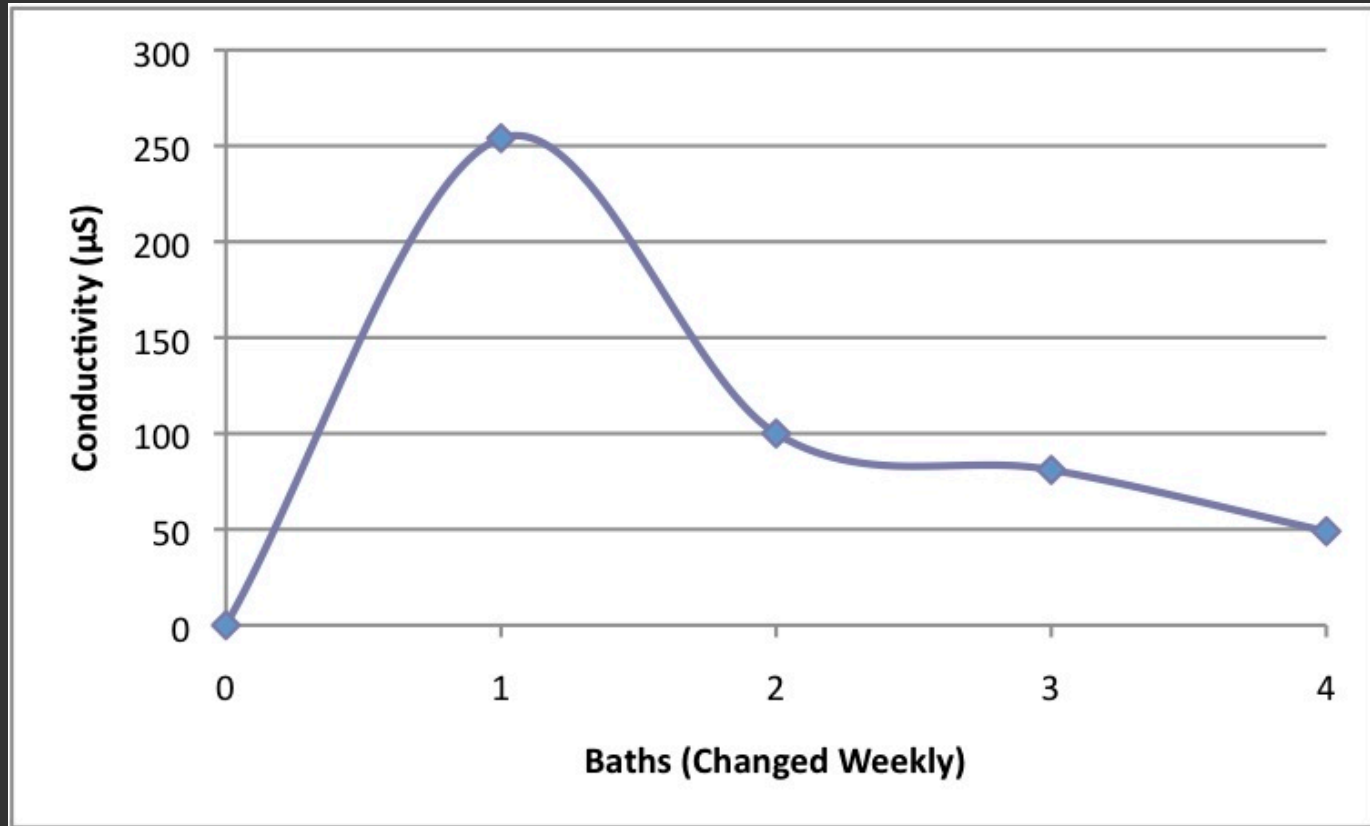
Spot Tests for Specific Ions

The salt content can be identified by spot testing for specific ions. Small samples of the salt are placed in test tubes or well plates and reacted with known reagents to monitor for characteristic reactions.



Desalination

Salts can be removed by repeatedly soaking the shards in baths of fresh water.



The conductivity of the salty bath water can be measured and graphed as a representation of decreasing salt concentration.