

Coin Cleaning Process

April 9, 2006 -- Ron Pierson

Coin Cleaning Photos: Step One



All artifacts are tagged and assigned individual identification numbers at the time of recovery onboard the salvage vessel. The exact DGPS co-ordinates, as well as bottom terrain, and depth are recorded by the captain then entered into the Corporate Database.



Pre-conservation photos are taken of each coin, measurements are also taken at this time and all information is recorded in the Corporate Database.



John Corcoran, conservator/diver, records the weight of each coin and notes any anomalies.



The first step of the actual conservation process is to remove some of the hard concretion encasing the coin.



A 10% mixture of muriatic acid and water is used to soften and deteriorate the encrustation. The bubbles mean its working.



There is no need to subject the delicate silver to excessive amounts of acid, so after approximately 10 minutes in the solution the still partially encrusted coin is rinsed in fresh water.



Only a small section of the metal must be accessible to attach the alligator clip.



The coin is attached to a stainless steel alligator clip and stainless steel wire.



The coins are placed into the electrolysis tanks, beginning the electrolytic cleaning process.



The electrolysis tank consists of Soda Ash and water, with a stainless steel plate (anode) and a low voltage current. During the process of electrolysis hydrogen bubbles are released and the chlorides are expelled from the metal.

Coin Cleaning Photos: Step Two



Electrolysis time differs for each artifact. The average amount of time required for a silver coin is 3 to 4 days.



At least once during the process the coins are removed from the tank, rinsed in fresh water and the build up of concretions, which remained on the coin when placed in electrolysis, is removed with a soft brush.

Coin Cleaning Photos: Step Three



The coins are removed from electrolysis and rinsed thoroughly in fresh water. Nitric acid, at a 5% concentration is poured into individual cups holding the coins.



The nitric acid acts as a bleaching agent. The coin remains in this solution for approximately 15 minutes.



Following the Nitric acid bath, the coins are rinsed and brushed with baking soda and water.



The baking soda has a two-fold effect on the coins, it neutralizes any remnants of the nitric acid and acts as a light abrasive/polish for the silver.

Coin Cleaning Photos: Step Four



Every artifact that comes into the lab is assigned a tag number on the boat upon recovery. It is vitally important that this tag number remains with the artifact-this is our only way of assuring provenience. John outlines each coin and records its tag number so that they may be matched up following polishing.



The coins are placed in a jewelry tumbler with stainless steel shot and burnishing compound.



John places the coins into the tumbler.



The coins remain in the tumbler for approximately 15 to 20 minutes.



The coins are removed from the tumbler and rinsed in fresh water, then matched up with the outlines and reunited with their unique tag numbers.



The final step in the conservation process is to weight each coin and take a post conservation photo of the obverse and reverse side of the coin. This information is then entered into the Corporate Database, and made available to the public the following day.