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From Gunboat to Garbage Can: The Conservation of a Cannonball *Final*

By Ashley Deming, Maritime Archaeologist, SDAMP Manager

We undertook this project for two main reasons:

- 1) To conserve an artifact so it will last for many generations to come and
- 2) To conduct a conservation project in a way that not only effectively conserved the artifact, but was also comprehensible and affordable for many hobby divers to do to their own artifacts if or when they ever brought up metal objects.

We spent many hours in the lab cleaning off the corrosion and checking the ball to make sure everything was still working the way it should. We changed the solution out every three months and fretted that the ball would have deteriorated more each time we pulled it out of the conservation tank.

The cannonball was removed from the

solution on the 22nd of February. I consulted our cannonball guru Freddie Clark about the next step in the process. I asked him what we should do with the ball now that we had removed it from the tank and cleaned it for the final time. "Put it outside," he said. "Just outside? Are you sure? Totally exposed?" I replied. I couldn't fathom doing all this conservation just to stick the ball right back outside where it could rot and rust all over again. Not to mention what Johanna Rivera would say as a trained conservator! Freddie just laughed and told me to trust him, which I did. He said the ball needed to be exposed to the elements and the soda ash (sodium carbonate) needed to leach out of the ball. He said this would look like the ball was snowing. If

it didn't 'snow' much, or stopped 'snowing' after a month or two, we had done a great job and the ball was ready to for its final treatment. This was the final test to see if the electrolysis had really worked.

I followed Freddie's advice and stuck the ball outside under the steps of our trailer (Figure 1). Sure enough, it started 'snowing' almost immediately. I cannot tell you how nerve-racking it was just leaving it out there. I made Mike check it every day to see if it was rusting any more or had split into pieces (my worst fear). We rinsed it a few times to remove the 'snow' and left it outside to do its thing. After a month, the 'snow' was gone and the ball was still in really good shape (Figure 2). We had passed the test! Freddie told me

he had some great new stuff he'd been using for other cannonball and shell conservation that was a little different from the normally used tannic acid. Carl, Mike, and I headed over to his place to find out what this magical new substance might be.

Freddie looked at the ball and seemed pleased at our efforts. We weighed it in at 11.5lbs and 5.25" in diameter. Since it started out with a diameter of 5.25" and a weight of 11.6lbs, we felt pretty good about the whole thing! We discovered that it most likely would have been an 18 pounder originally as the size is more consistent with the 18lb shot preferred by the British during the Revolutionary War.

After the dimensions were recorded, Freddie began
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Figure 1

Ball under the trailer after removed from electrolysis and cleaned

Figure 2

Ball after 1 month outside

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applying a coat of the special sealer (Figure 3). This final seal is to prevent the ball from any further corrosion. The magic substance is LifeGuard Active Rust Primer. It is used to coat ship hulls to prevent against rust and corrosion. Seemed like the perfect substance to us. We looked at a few

cannonballs Freddie had already applied it to and the results were fantastic! We coated our cannonball with 2-3 coats of Active Rust Primer and let it dry (Figure 4). It started to dry immediately and was dry enough to handle after only 15 minutes! This certainly seems like a great substance for this use.

Well, it took a year from when our cannonball went into the electrolysis tank to when we put the final coat of sealer on it and the time has seemed to fly by. The ball is now fully conserved and looks great (Figure 5)! We have decided to name it Fred after our amazing advisor to the project. Fred will be a

main attraction in our education and outreach programs. We would like to thank Jason Thompson for the donation of the ball, Glenn Dutton and Rufus Perdue for their guidance and support, and most of all Freddie Clark; for without his tutelage and patience we would have been totally lost. ■



Image 3
Freddie Clark applying the Active Rust Primer



Image 4
Immediately following the coating of Active Rust Primer



Image 5
Fred, our conserved Rev. War cannonball

Paleontologist's Panel

The Mammoth Mammoth

By Dave Cicimurri, Chief Curator of Natural History, South Carolina State Museum

It was standing room only at the British Bulldog Pub in Columbia, where I attended my first "wing night" gathering of hobby divers (29 February). I got to meet a great crowd of people and see a lot of

awesome fossils, and man I'm really looking forward to the next event. Folks brought a nice variety of shark teeth (mako, snaggletooth, sandtiger, and good old "megs" and "ricks"), whale teeth and sawfish spines,

along with a few nice odds and ends that included a horse neck vertebra and some teeth, part of a muskrat skull, and a sea turtle jaw. A big THANKS for showing off your finds and letting me ramble on about them, and

especially for the warm welcome. Hopefully, I'll get to see you at the next event!

I also brought something from the State Museum's collection to show off, but I didn't really get to talking about it in

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