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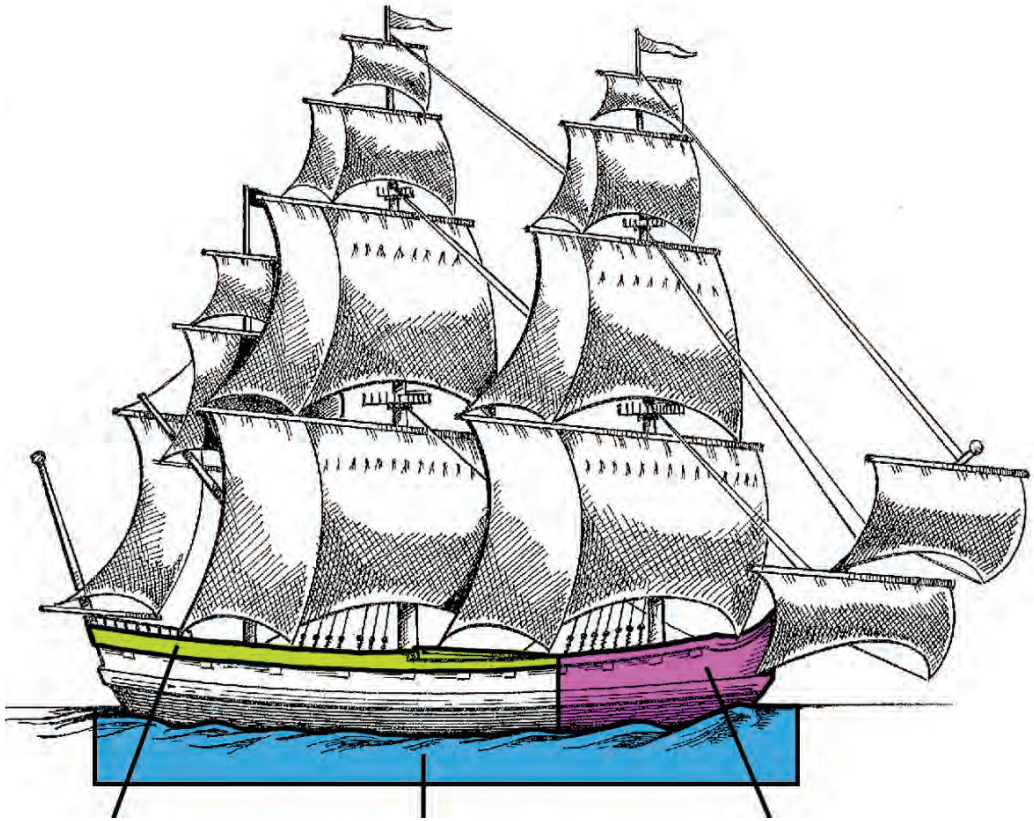
The image below is an artist's interpretation of what *El Nuevo Constante* may have looked like.

Image credit (Bottom left): Stan Dark © 1997.

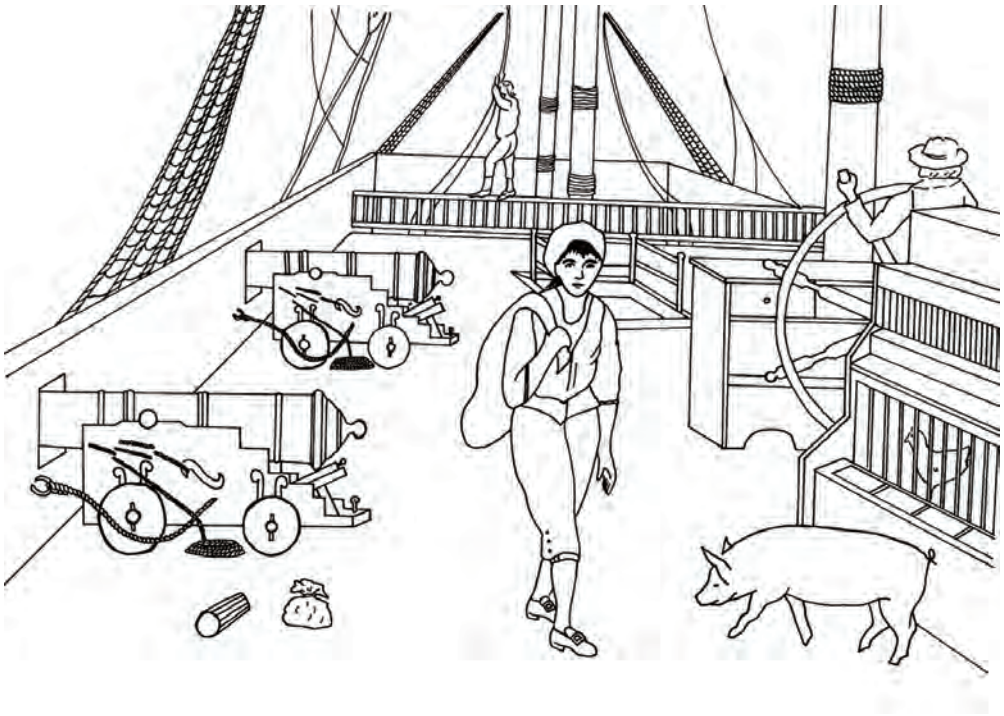


Upper Deck **Lower Hull** **Below Deck**

Upper Deck

Based on the historical records and the excavation, archaeologists have a good idea of what was on the upper deck of the ship. In this area were the 22 cannons. The cannonballs were probably stored nearby.

The live animals likely were kept in pens on the upper deck as well. Chickens provided eggs and other animals were a source of fresh meat on the long voyage.

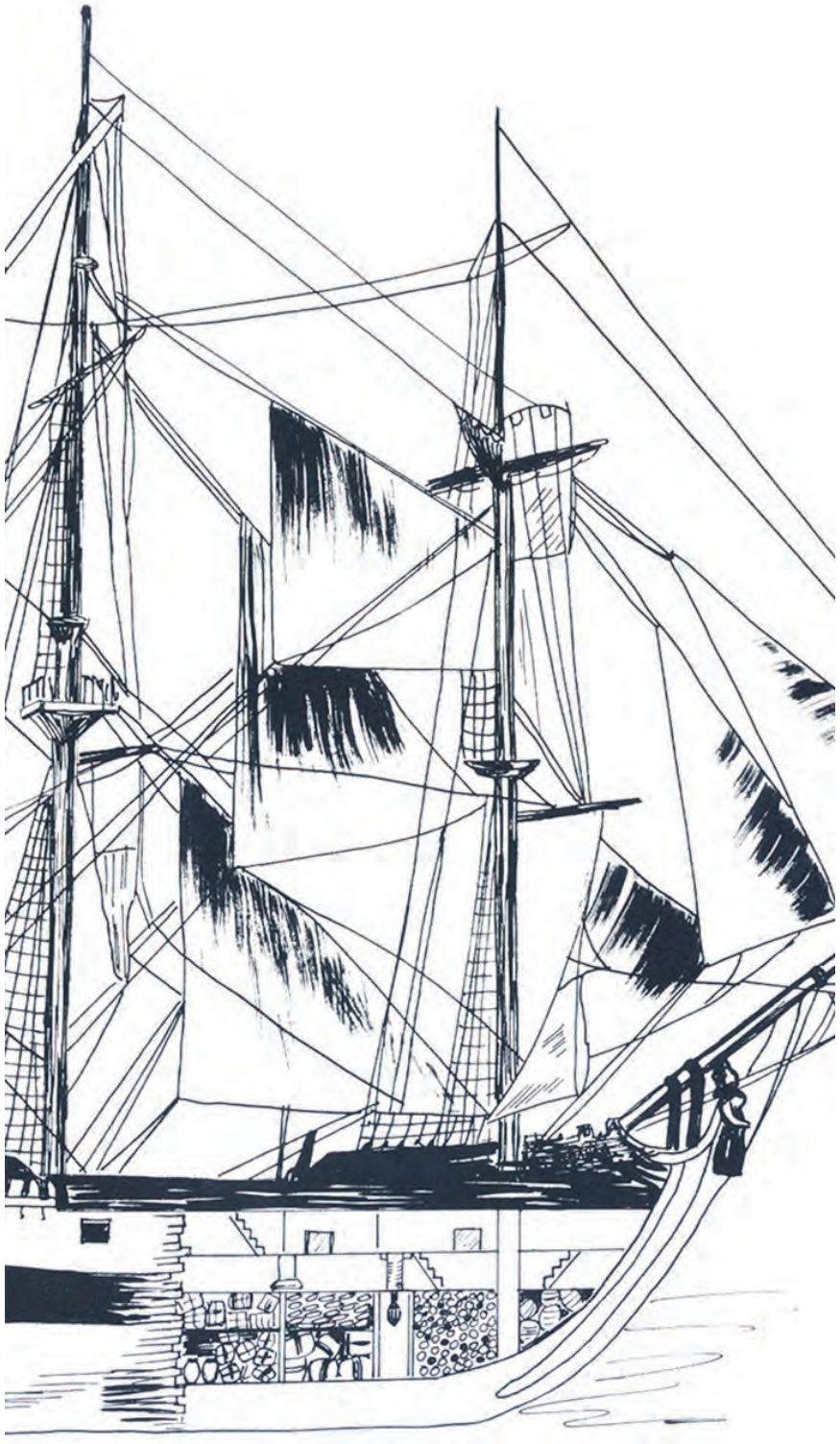


Below Deck

The ship had more than one level, as the illustration shows. The lowest one was carefully loaded with rocks and heavy cargo. This material, called ballast, helped keep the ship stable and upright. On *El Nuevo Constante*, the copper ingots provided some of the ballast. To supplement this cargo, the ship also carried ballast stones. These smooth, rounded river cobbles were on board just to stabilize the ship. After the wreck, the people recovering the cargo may not have been able to reach the lowest levels, so the things stored there were left on the ship. Much of the cargo, however, was lightweight, and it was stored in a higher level.

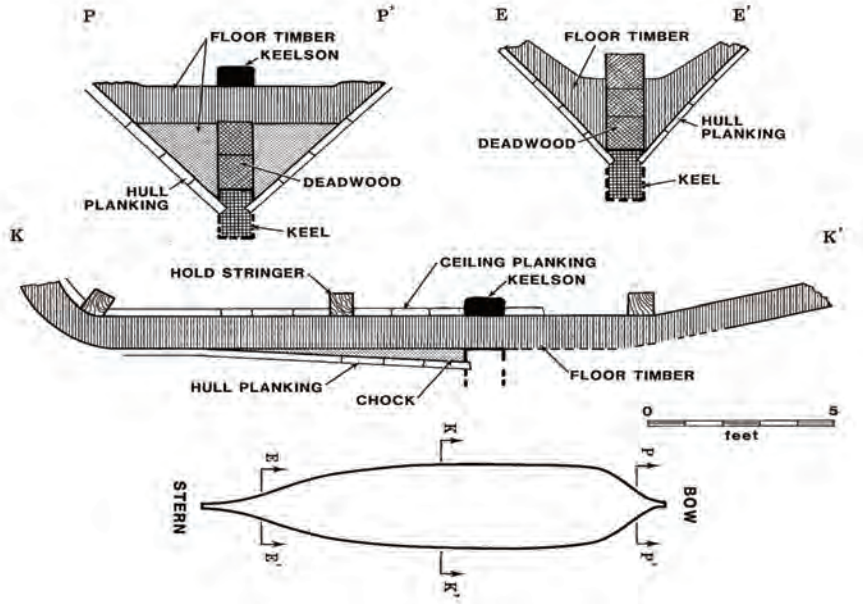
(Right) Cutaway view of ship showing where cargo and ballast were stored.

(Below) Piles of ballast stones recovered from the ship.



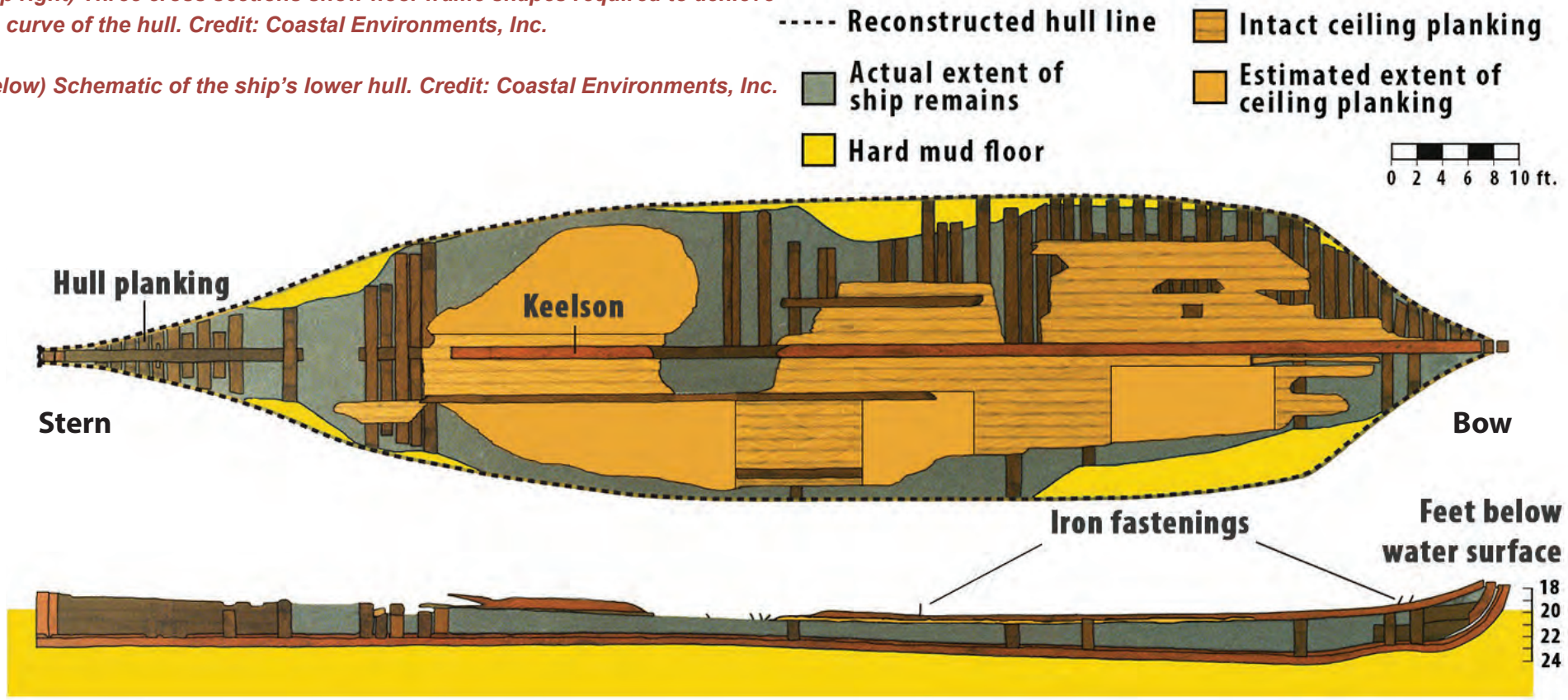
Lower Hull

The largest object recorded in the excavation was the lower 3 to 4 feet of the ship's wooden hull. It was 127.5 feet long and 26 feet at its widest point. The hull gave a lot of information about shipbuilding in the 1700s. Frame timbers averaged 11 to 13 inches in width. These were the large pieces that curve upward to form the ribs of the ship. Analysis showed that the frame timbers were oak. The large central timber, known as the keelson, was intact down much of the length of the vessel. One-inch diameter iron bolts attached it to the keel and other pieces. A large portion of the interior decking, or "ceiling" planking, also was still in place. Researchers identified samples of this ceiling planking as pine.



(Top right) Three cross sections show floor frame shapes required to achieve the curve of the hull. Credit: Coastal Environments, Inc.

(Below) Schematic of the ship's lower hull. Credit: Coastal Environments, Inc.



Wooden planks covered the outside of the ship. These planks were 4 inches thick and up to 13 inches wide. Wooden pegs, called trunnels, and iron bolts attached the hull planks to frames. The pegs were approximately 1.75 inches in diameter. Analysis showed the hull planks and pegs to be made of white oak.

Another layer of wood was often used to reduce worm damage to the hull. Shipbuilders spread tar, often mixed with animal hair, on the hull and then covered it with the wood sheathing. Sheathing made from 1-inch-thick spruce boards was found attached to *El Nuevo Constante's* hull. Most of the lower hull probably once had this sheathing, though it remained in only a few places.

Several hundred metal and wooden artifacts came from *El Nuevo Constante*. Most relate to the structure and outfitting of the ship.

Divers recovered two bases of wooden bilge pumps from the middle part of the ship. They were found on either side of the keelson. This was the typical location for pumps on ships of this size. The pieces are the bottoms of the long pump shafts that extended from the low, inner part of the hull to an upper deck. The outside shape of each shaft is hexagonal, and the central, circular hole is 3.5 inches in diameter. They are made of elm. Each specimen has a lead screen nailed to the base.

(Top) Lead strainers like the one seen above were used to strain debris that could clog the ship's bilge pumps. Bilge pumps were used to pump water out of the ship.

(Bottom) The lead screen can be seen on the base of one bilge pump (left) and the circular hole can be seen in the center of the other (right).