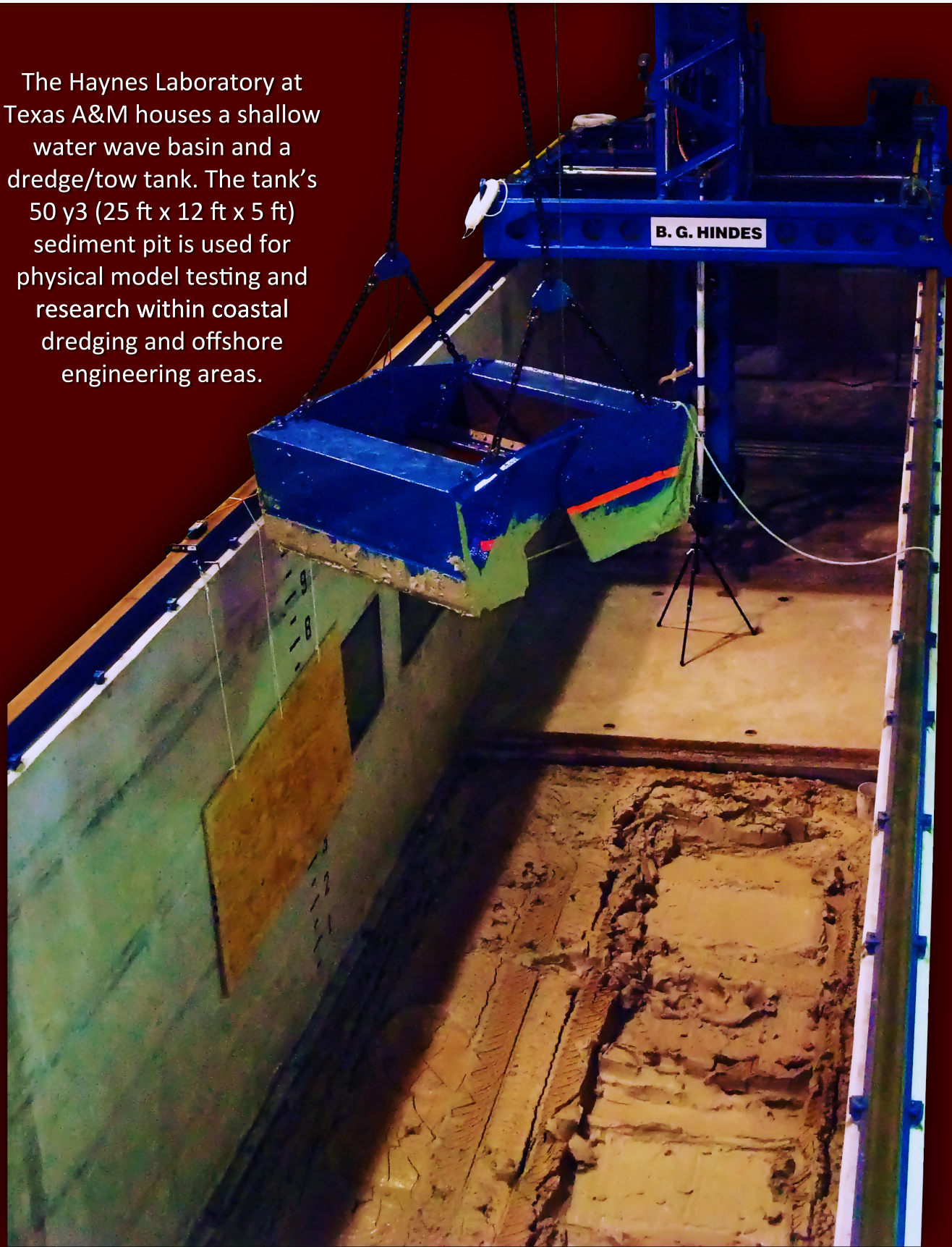


## Haynes Coastal Engineering Lab...

The Haynes Laboratory at Texas A&M houses a shallow water wave basin and a dredge/tow tank. The tank's 50 y<sup>3</sup> (25 ft x 12 ft x 5 ft) sediment pit is used for physical model testing and research within coastal dredging and offshore engineering areas.



## and Center for Dredging Studies

During recent testing, a mud mixture of 2 parts medium sand, 2 parts granular bentonite, and 5 parts water was placed overtop a 6 inch layer of sand to test drag embedment anchors.

After testing was complete, a specialized Cable Arm clamshell bucket was donated to remove the 44 y<sup>3</sup> of mud, without disturbing the 5.5 y<sup>3</sup> of sand underneath.

The Cable Arm clamshell has a 5 ft by 6 ft footprint when fully open. Due to the weight and the use of the cables to hold and operate it, the bucket "floated" over the harder, more dense material. This allowed for the removal of only the soft mud found on top.

Overlapping side plates on the Cable Arm clamshell bucket minimized the amount of mud leaving through the sides of the bucket. Along with its level-cut technology, this created a cleaner, more efficient removal of the material.

On June 24, 2010, two days and 52.5 tons of mud later, the removal of the soft, top layer was complete. Shovels were then used to break up the layer of sand which the Cable Arm clamshell bucket removed from the tank's concrete bottom. The remaining sediment was then vacuumed out after adding roughly 6 inches of water to the bottom of the sediment pit.

