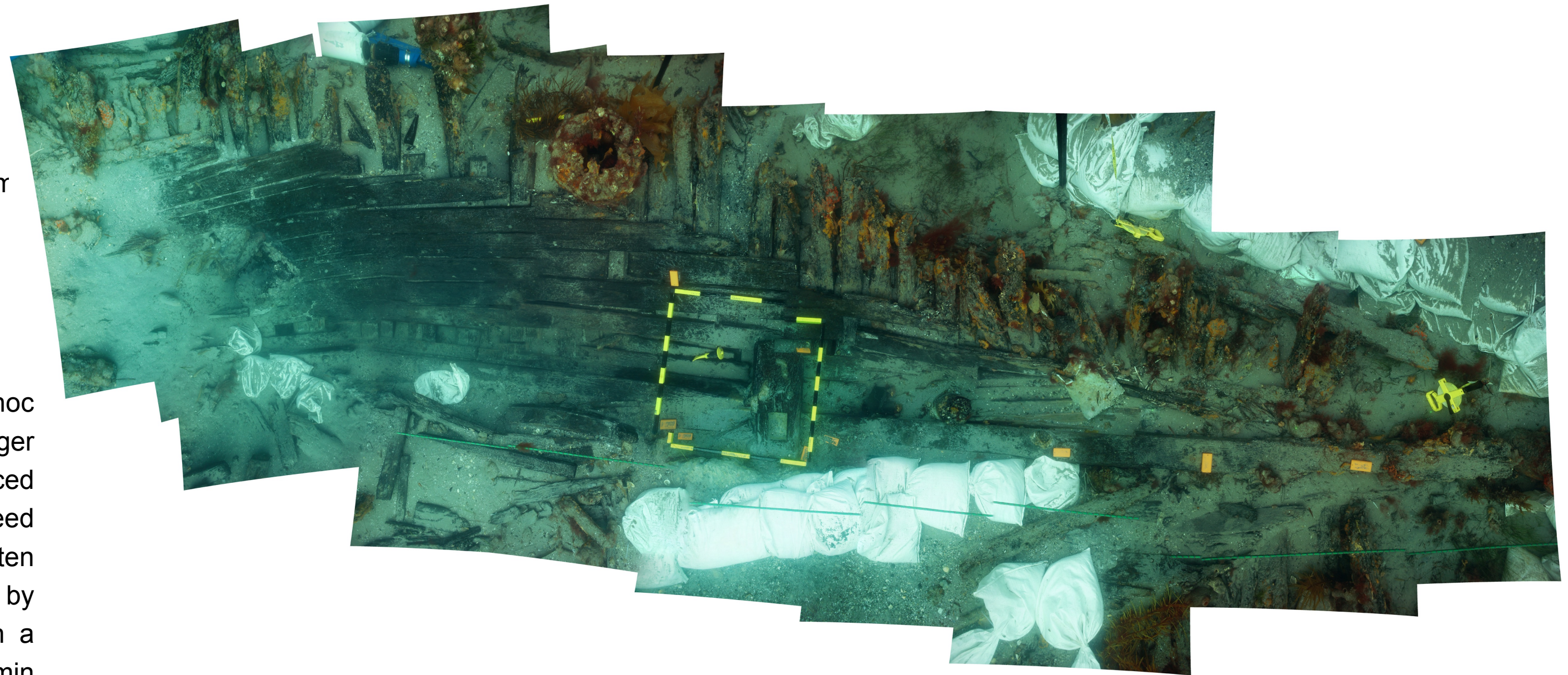# Image Mosaics

Australian Historic Shipwreck Preservation Project
Western Australian Department of Mines and Petroleum

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Image mosaicing is the process by which ad hoc photographs of a scene are combined to form a larger "super image". Traditionally distortions may be introduced and the seams or overlaps between photographs need not be perfect, indeed a degree of disorder is often expected. Image mosaics were historically carried out by hand, aligning images and adjusting the blending in a complicated multivariate process to find the minumin discontinuity. In more recent times automatic processes have been deployed, detecting feature points, non-linearly warping images and finally applying complicated blends between images. Ultimately it should be appreciated that when combining photographs taken with cameras at different locations it is impossible to create a perfect superimage, except in the limit that one is photographing a flat plane. The challenge then is to produce a superimage that minimises the visual artefacts. Recent work in this area involves choosing the depth at which perfect blending is achieved, given that perfect blending cannot be achieved across all depths.

Quote from http://www.ahspp.org.au/clarence/history.
"*The Clarence was built in 1841 by William Lowe at his Deptford shipyard on the Williams River in NSW. On 2 September 1850, Clarence ran aground on a sand bank in Port Philip Bay while transporting 132 sheep from Melbourne to Hobart. It had anchored in Coles Channel for the night, when the cable broke after a southwest to south southwest wind blew up.*"
This is a mosaic of 20 photographs of the wreck captured under difficult circumstances, strong tidal currents and using underwater photography, a challenge in itself. Note colour correction has been applied to partially account for the water column.

Example from geology survey capture.
Government of Western Australia Department of Mines and Petroleum

30,000 pixels x 5000 pixels