



Historic Mortar Testing on the Chatham Defensive Lines

In Chatham, Kent, there is a system of defensive ditches and bastions originating in Napoleonic times (earliest date 1755-56, significantly enhanced in 1778-83). The "Chatham Defensive Lines" provided a "line of fire" for the cannon defending Chatham Naval Dockyards. The lines were re-fortified during WW2.

Kiwa CMT has recently completed examination, testing and analysis on "heritage" mortar from these defensive lines. We were able to confirm that the mortar is a binder rich historic High Calcium Air Lime material with the lime binder used either in lime putty or "Hot Mixed Quicklime" form. The testing was able to identify the other main components of the mix which include natural quartz dominated sand and potential animal hair (often used to give historic mortars and plaster an early strength). The information will inform accurate replication of the mortar mix allowing sympathetic repair/restoration works and avoiding any future damage from use of inappropriate cement based repair materials for this important heritage site.

Identification of historic lime and gypsum based materials is becoming an ever increasing and important requirement under the topical subject of conservation of our historic buildings and structures.

Our client was delighted with the accuracy of our report, commenting that our findings "show how accurate you are as a lab", with our report tying neatly with historical documents held by the client.