

POSTER ABSTRACT

Juggling fire without getting burned: working with cyclododecane in Olduvai Gorge

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Working with cyclododecane (CDD) is not as easy as one would expect, mainly due to its physical properties. As a consequence of its low melting point, molten CDD cools down and hardens quickly – often too quickly for a field conservator to be able to apply it evenly with a brush, or even to reach excavated material waiting to be temporarily consolidated before block-lifting. To use CDD efficiently, a lot of practice and experimentation are required.

Few examples in the literature offer approaches to improve skills or solve the problems that will inevitably arise while working with the often limited resources available in archaeological excavations. Clearly, working in the field is very different from working in the controlled environment of a laboratory. Even very simple things may be difficult to achieve.

This poster explores – in a light-hearted but fully grounded way – how conservators overcame apparently mundane challenges when trying to use CDD during the 2014 OGAP (Olduvai Geochronology and Archaeology Project) excavation season in Olduvai Gorge, an important Palaeolithic site in Tanzania, where material resources were limited. We demonstrate how much preparation and improvisation are needed to make things work properly and safely.

Due to the remote location of the site, an inexpensive camping cook set was used to heat CDD, adapting the ‘double boiler’ technique (Figure 1). However, even lighting the fire offered its challenges, given the inconsistent quality of the methylated spirits available to us, and the constant windy conditions. Moreover, because the burner was so small, we had to find ways to shorten the time required to bring the water to a boil. Given the busy character of the excavation (a trench



Figure 1 CDD melted in the ‘double boiler’ in the field. Photo: R. Peters.

regularly had three people working per square metre), and to guarantee safety, an improvised fireplace was set up several metres away from where the material was going to be consolidated. Furthermore, we had to build a shield around the fire, both to protect it from the wind, which could put it out easily, or more dramatically, to prevent it from spreading to the dry vegetation of Olduvai Gorge in the dry season (Figure 2). To transfer the melted CDD from the fireplace to the excavated material, and to keep the CDD melted and in good working conditions, an insulated box was created, using locally available materials (Figure 3). We also made sure that the brushes we used were always heated with the CDD, and avoided introducing a cold brush when working.

These and other simple solutions were found after spending hours experimenting and testing. They can certainly be adapted for use in other excavation sites. Thus, the main objective of this poster is to encourage field conservators to share the small challenges they encounter and how they use their problem-solving skills and creativity to overcome them in the field.



Figure 2 Oldupai (*Sansevieria ehrenbergii*), a local wild sisal plant, grows along the Olduvai Gorge by the excavation sites. Photo: E. Ohara Anderson.

San Francisco, and the Andrew W. Mellon Fellowship in Objects Conservation at the Los Angeles Museum of Art.

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Figure 3 Home-made insulated box with layers of aluminium foil, cardboard, and cotton wadding. Photo: E. Ohara Anderson.

Biographies

Renata F. Peters is a Brazilian conservator who has worked in South and North America, Europe and Africa. She has been a lecturer in conservation at the Institute of Archaeology, University College London (UCL) since 2005. Renata holds a BA in Fine Arts from the Federal University of Minas Gerais (UFMG) in Brazil, and an MA in Principles of Conservation, an MSc in Conservation for Archaeology and Museums, and a PhD in Museum Studies all from UCL.

Eri Ohara Anderson is originally from Japan. She holds an MA in Principles of Conservation and an MSc in Conservation for Archaeology and Museums, both from University College London. Eri received an Institute of Archaeology Award to work as a field conservation assistant during the Olduvai Geochronology & Archaeology Project's 2014 excavation season. After graduating from UCL, Eri proceeded to a graduate internship in the antiquities conservation department at the J. Paul Getty Museum, an assistant conservation position at the Fine Arts Museums of