Sibudu stone tools with residues, and unworked ochre fragments, for chemical analysis

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| **square** | **layer** | **date** | **tool type** | **residue** |
| D6 | MOD |  | flake | Hornfels. Ochre. |
| B5a | PGS | 11.11.04 | Backed blade | Hornfels. Ochre and black residue. |
| C6c | GR | 02.03.07 | Broken backed piece | Hornfels. Clear ochre hafting line. |
| C6c | GS | 6.3.07 | Blade | Hornfels. Ochre. |
| B6a | GS2 | 4.2.04 | Backed tool | Hornfels. Ochre hafting adhesive. |
| C6a | SS2 | 2.3.06 | Unifacial point | Hornfels. Many residues, some ochre, some brown liquid or paste. Note there is still some loose, powdery brown sediment that I did not clean off, but it can be cleaned if desired. |
| C5a | Br SPCA | 24.8.99 | Blade | Hornfels. Thick ochre residue on both faces. Ochre not for hafting purposes |
| B6d | RSp | - | Unifacial point | Hornfels. Note the hafting line with ochre in the adhesive |
| B4a | RSp | - | Retouched piece | Hornfels. With ochre. |
| D2a | Pumpkin | 25.8.99 | Blade | Hornfels.Thick ochre residue on both faces. Ochre not for hafting purposes. |
| E2a | MC | 22.08.99 | Broken retouch | Hornfels. Ochre on dorsal surface |
| C3a | Co | 16.8.99 | Unifacial point broken | Hornfels.Yellow ochre (?) mixture on base of point. |
| D6 | MOD | 1999 | 19 geological fragments of ochre (manuports to Sibudu) |

Export to

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**Motivation for the export**

Previous microscopy carried out over more than 10 years has suggested that many of Sibudu’s tools were hafted with an adhesive that contains red ochre together with a number of other products, such as plant gum or resin and possibly fat or wax. The conclusion has been based on visual comparisons of the residues on the artefacts with modern comparative collections of natural products. However, biomolecular archaeology has made huge advances in the past few years and it is now possible to identify extremely small residue samples of organic and other material without damaging artefacts. Dr Degano is an experienced chemist and she has successfully identified adhesive components on stone tools from European archaeological sites. Her laboratory in Pisa, Italy, is equipped with the latest instruments for this purpose and she will conduct gas chromatography on minute amounts of residue removed from each of the tools. The ochre fragments from the site are required in order to compare the pieces found in the sediments with the residues on the lithics. The lithics will be returned to South Africa as soon as tiny samples of the residues have been extracted. They will be sent to Italy and returned to South Africa by DHL courier.