

Ancient Monuments Laboratory
Report 12/91

**EXAMINATION OF PIGMENT SAMPLES
FROM HAUGHMOND ABBEY, SHROPSHIRE**

Michael Heyworth

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Summary

Samples were taken from the surface of architectural stonework and sculpture and from fragments of plaster from this medieval monument and the pigments on them examined. XRF analysis detected iron and calcium, suggesting the red pigments were haematite and the white samples limewash.

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A number of the fragments of architectural stonework and sculpture at Haughmond Abbey have traces of limewash and paint on them. In most cases the paint is a red which may have been a ground for another colour. There are also fragments of plaster found during excavations at the abbey with both limewash and paint. Samples of the pigments were taken for analysis (AML No. 900481) in an attempt to establish the original colour scheme on the sculpture and the various pigments used. It was hoped that it might then be possible, by comparison of the composition of the pigments on different fragments, to help confirm which elements belong to the same architectural scheme. Some traces of pigment and limewash are also present on a number of architectural fragments that are still in situ on the abbey, particularly the Chapter House facade, and some sampling was undertaken of these fragments.

Initially the pigments samples were all analysed by qualitative X-ray fluorescence and examined under a low power microscope. The results of these examinations are listed in Table 1.

The fragments of painted plaster and stonework which were coloured were all a variety of red and XRF analysis showed that this was due to an iron-rich pigment, probably haematite. No traces of other colours were identified. Many of the fragments also had a white surface coating which XRF analysis showed to be calcium-rich and is likely to be a form of limewash. The surface of the white surface coating had occasionally become darkened, probably due to exposure to atmospheric pollution.

Two samples were taken from the arch of the Chapter House which still survives in situ. One sample had traces of a red pigment which XRF analysis again showed to be iron-rich, probably haematite. The other sample had no coloured pigments but seemed to be a layer of limewash and XRF analysis showed calcium was the main element present, which would agree with this interpretation.

Further more detailed examination of the samples is being undertaken which may add extra information to that presented here.

Table 1

<u>Site number</u>	<u>Type of sample</u>	<u>Pigment colour</u>	<u>XRF Result</u>
HDA 78 401	Painted plaster	Red	Iron
HDA 106/1	Painted plaster	Red	Iron
HDA 204/1 SF 20	Painted plaster	Red	Iron
HDA 211/1 SF 130	Painted plaster	Red	Iron
HDA 214/1 SF 115	Painted plaster	Pink/Red	Iron
HDA 78 4127/1 SF 433	Painted plaster	Red	Iron
HDA 78 4133/1 SF 429	Painted plaster	Purple	Iron
HDA 78 4123/1 SF 423	Painted plaster	Pink/Red	Iron
HDA 78 443 SF 431	Painted plaster	Red	Iron

<u>Inventory number</u>	<u>Type of sample</u>	<u>Pigment colour</u>	<u>XRF Result</u>
78800100	Painted stonework	Red	Iron
78800102	Painted stonework	Pink/Red (?)	Iron
78800145	Painted stonework	(White)	Calcium
78800156	Painted stonework	(White)	Calcium
78800180	Painted stonework	Red	Iron
78800181	Painted stonework	(White)	Calcium
78800187	Painted stonework	Red	Iron
78800202	Painted stonework	(White)	Calcium
78800210	Painted stonework	Pink/Red (?)	Iron
78800270	Painted stonework	Pink/Red (?)	Iron
78800286	Painted stonework	(White)	Calcium
78800291	Painted stonework	(White)	Calcium
78800336	Painted stonework	(White)	Calcium

<u>Sampled area</u>	<u>Type of sample</u>	<u>Pigment colour</u>	<u>XRF Result</u>
Chapter House	Painted stonework	Red	Iron
Chapter House	Painted stonework	(White)	Calcium