Lambs House, Leith; assessment of dendrochronological potential

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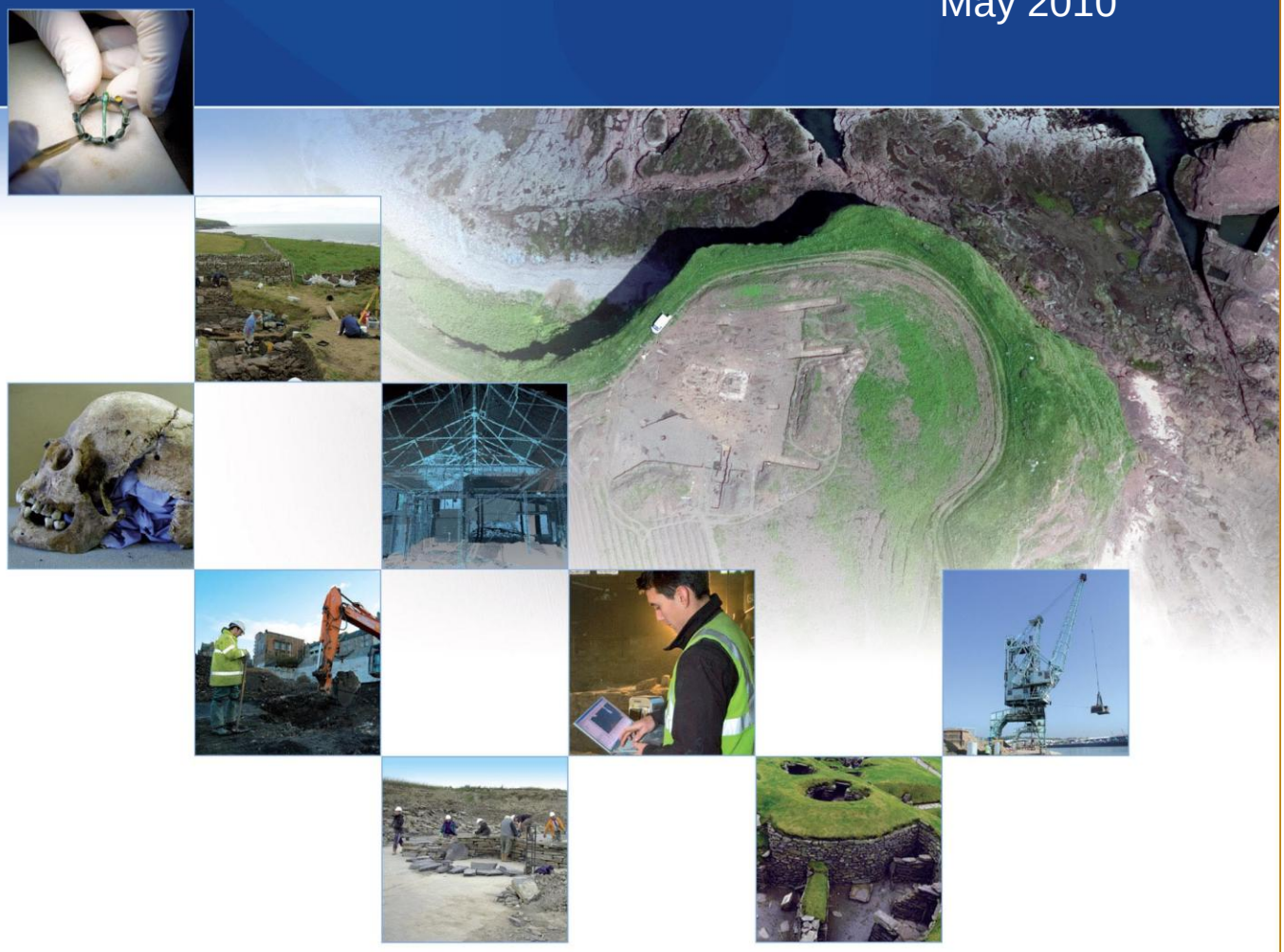

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LAMBS HOUSE, LEITH; ASSESSMENT OF DENDROCHRONOLOGICAL POTENTIAL

Lambs House was visited on 11.05.2010 to assess the dendrochronological potential of the surviving original timbers within the house.

Description

The attic

The timbers within the roof structure have largely been replaced. However, 11 of the original timbers appear to have been re-used as rafters. These are all pine timbers with the exception of one oak timber on the south-east side. All are squared heart baulks with bark edge surviving along one or more edges. There is woodworm damage to the outer rings but it is not extensive.

There is a group of three oak beams around the stairwell into the attic. These may have been re-used in this position although there was no clear evidence of re-use. Bark and/or bark edge is present on two of the timbers.

The floors

The original joists on Floors 1 and 2 are mainly still *in situ*, although a few have been replaced on both floors. There are 25 original joists on Floor 1 and 31 on Floor 2. On the ground floor, only the stumps of four joists survive *in situ*. All the joists are squared heart baulks of pine with bark edge surviving on one or more edges. Woodworm damage is minimal.

The pine timbers

Dendrochronological potential

The ring-pattern was visible on the sawn-off ends of 5 of the pine rafters in the attic and the ends of the joists on the ground floor and it was thus possible to estimate the number of growth-rings present, a crucial factor in successful dendro-dating. The ground floor joists were *circa* 120 years of age while the rafters were more variable, some being between 70-90 years and others between 150-170 years of age. Sequences of 100+ rings are preferred for successful dendro-dating of pine so these estimates suggest that there would be plenty of suitable candidates amongst the 70-odd pine timbers in the building. The presence of bark edge on so many of the timbers also means that it should be possible to produce an exact calendar date for their felling. Woodworm damage is not so extensive that it would be difficult to obtain complete sequences.

Proposed sampling strategy

Experience has demonstrated that a much larger assemblage of pine timbers than oak is required to build a robust site chronology that is dateable (Crone 2008, 25). At least 20 pine timbers should be sampled throughout the building to date its construction. It is assumed that the pine joists throughout the building are part of the same single phase of construction, and form an integral component of the original building; certainly they have all been converted in the same fashion. For the same reason it also seems likely that the pine rafters are part of the same phase, although re-used in their current positions. Timbers sampled for analysis should be spread throughout the building to test these assumptions, ie to determine the chronological relationships between the rafters and the various floor levels. The four joists on the ground floor would be sampled, together with six of the rafters, five of the joists on Floor 1 and five on Floor 2.

The oak timbers

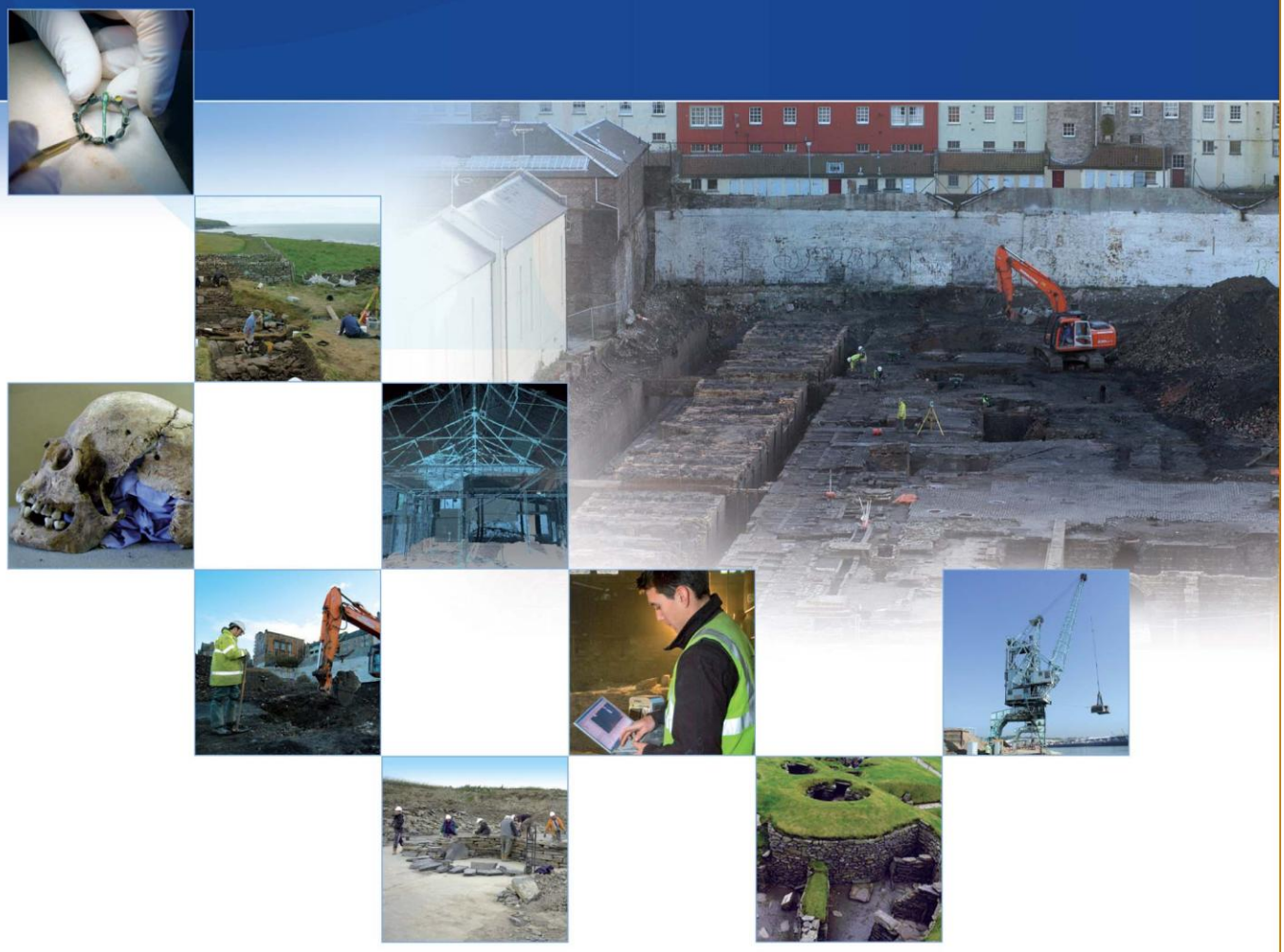
Dendrochronological potential

The end-grain was not visible on any of the oaks so the length of the ring-pattern could not be estimated, but the figuring suggests that some of them are not particularly long-lived, possibly *circa* 70 years. However, the ring-pattern of the large beam which supports some of the newer rafters could be considerably longer. The bark edge is present on three of the oak timbers so it is likely that an accurate felling date can be produced.

Proposed sampling strategy

The four oak timbers in the attic also appear to have been re-used in their current positions, although whether this re-use occurred in the 17th century or 20th century is unknown. From the late 16th century oak was very rarely used in building construction so it is possible that these timbers are remnants of an earlier building that stood on the site, although this could not be conclusively demonstrated. All four oak timbers would be sampled.

Crone, B A 2008 'Dendrochronological analysis of oak and pine timbers', in *Stirling Castle Palace; archaeological and historical research 2004-2008*. http://sparc.scran.ac.uk/publications



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