



C261 EARLY EAST SECTION

Addendum to Method Statement for Archaeological Excavation at Stepney Green Shaft (Phase 2) – Geoarchaeological and Brick Sampling Strategy

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This Method Statement is an addendum to C261 Method Statement for Stepney Green excavation and Targeted Watching Briefs Phase 2 (C261-MLA-X-GMS-CRG02-500002) to provide geoarchaeological and brick sampling methodology on features revealed during the excavation as follows:

Environmental and Geoarchaeological method statement:

Sampling of moat and quarry pit fills at Stepney Green Shaft (XRV10) (incorporating CBM sampling strategy)

This document sets out the methodology for sampling the fills of the moat, identified in the northern part of the current excavation area at Stepney Green, and any quarry pits that might be encountered when the excavation area is extended. An appendix sets out the general MOLA procedures for sampling environmental remains.

The moat surrounds a late medieval / early Tudor courtyard manor house and about 30m of the c 5m wide feature has been exposed. It is uncertain whether quarry pits, perhaps excavated for brickearth to make the bricks for the building, exist on the site. If they do (and can be dated) their fills might provide complimentary evidence to that from the moat (or extend the environmental evidence into earlier or later periods).

Environmental remains from the moat fills, especially seeds, insects, fish and animal bone might provide evidence for the diet and activities of the inhabitants of the courtyard building, as well as information about surrounding land use. In particular, given the high status nature of the courtyard house and its likely 15th-16th century date, food remains might include evidence of imported exotics. The nature of the moat itself and the characteristics of the wider landscape (forest, farmland, heath etc) might be gleaned from microfossils, especially pollen, diatoms, ostracods and perhaps snails. Depending on the impact of cleaning out the moat and the nature and date of its fills, the deposit sequence through the moat might record changes in all of these strands of information through time. If any quarry pits are found that are contemporary with the moat they could give complimentary information about the rural (as opposed to higher status) economy and diet.

Material discarded from the courtyard building is likely to be found close to entrances and other openings onto the moat. In contrast, information about the wider landscape and land-use as well as the nature of the moat itself (eg: water-filled or a boggy hollow) might be more reliable if sampled away from such openings. Sampling will therefore aim to target at least one of each of these types of locations and a minimum of two sections will be cut / maintained through the ditch fills, one close to and one well away from any known opening or entrance during excavation.

A geoarchaeologist will visit the site to examine the sections through the moat fills and take monolith and adjacent bulk samples (see geoarchaeological sampling, below). Additional sampling will be undertaken by the archaeologists excavating the moat, intended to pick up any variation in the characteristics of the fills along its length. An initial slot through the fills has shown they are about 2m deep, comprising clayey waterlain basal fills overlain by organic sediments and backfill. Each clayey and organic context will be sampled with 40litre (clayey) and 20litre (organic) bulks and, if the backfill is not purely building rubble, backfill contexts will also be sampled with 40litre bulks. If contexts extend for more than 8m along the length of the moat, a second bulk sample will be taken, to give good lateral coverage around the feature.

A section will also be maintained during the excavation of any quarry pits identified and all organic or waterlain contexts, as well as dumped backfills (though not if rubble rich) will be bulk sampled by the excavators in the same way as for the moat fills. The sections will be examined by a geoarchaeologist to interpret the depositional processes of the fills and one or more quarry pit will be selected for sampling with monolith samples and adjacent bulks (see geoarchaeological sampling, below), in the same way as the moat fills.

The MOLA Head of Human Environment or a suitable MOLA Environmental Archaeologist / Geoarchaeologist will be present to discuss the sampling and results of any processing undertaken during any site visit made by the EH Regional Science Advisor and if requested by Kim Stabler (EH, GLAAS).

Geoarchaeological sampling

- For each sampling location a key requirement is for a section face to be cut or maintained through the moat and quarry fills for recording and sampling.
- Sampling will follow geoarchaeological examination and provisional interpretation of the section face, with the deposits described (according to texture, structure, colour, inclusions, nature of interfaces, lateral and vertical trends) and the section drawing annotated with the geoarchaeological observations and interpretations.
- Sampling will consist of overlapping monoliths for off-site sedimentary examination and micro-fossils, with an adjacent column of continuous bulk sample slabs, respecting context interfaces, for macro-remains and grab samples for dating as appropriate.
- The location of the samples taken will be added to the section drawing (which will be located on OS Grid and levelled into OS Datum).

CBM (ceramic building material: brick and tile) sampling

- Samples of bricks will be taken from all phases of walls to date the structure. A minimum of two bricks (preferably 4) from each phase will be retained. If different types of brick are noted within a single phase, two of each type will be retained (early bricks are often re-used in later brick structures).
- Roofing tile will also be sampled – no more than a 30x45cm finds bag full per context, which will include a representative selection of all the different tile types present and any obvious differences in fabric or colour, if this is possible to spot before items are washed. Both the top and bottom areas of tiles will be kept (nail holes in top, could be glazing on bottom). If vast quantities of tile exist in many contexts a few representative contexts or features will be sampled.
- Certain items of CBM and related materials, however, will always be kept, not sampled. These include:
 - Wall plaster (plain and decorated);
 - keyed flue, voussoir and other tile;
 - floor tiles (plain and decorated);
 - finials / louvers;
 - items with markings (eg: stamps, signatures, paw prints)
 - bricks with markers marks on the base (but if a number of bricks have the same mark, just two of each with the clearest mark will be kept)
- Any keyed daub or daub with wattle marks will be kept, but a sample will be retained if a lot of this material is found.

APPENDIX: General Methodology for environmental sampling

The MOLA Project Manager and Site Supervisor will ensure the following provision for environmental archaeology is made, with the support of a MOLA Environmental Archaeologist / Geoarchaeologist:

1. That a range of suitable samples are collected from the site for the recovery of an appropriate range of environmental evidence that will contribute to the research strategy that underpins the requirement for excavation and recording.
2. That the environmental procedures outlined in the *Archaeological Site Manual* (MoLAS 1994) and *Environmental archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2002) are followed.
3. That general bulk samples, 40 litres in size (20L if waterlogged) will be the standard samples taken and that the processing methods are designed to recover a wide a range of materials from the same deposit in a single sample. In addition, as a number of post-excavation analytical techniques will be employed on the material recovered, a number of different sampling approaches will be required. These might include: gridded/spatial bulk samples, to sample horizontal stratigraphy where it survives (i.e. floor layers), the sample size will depend on feature; column bulk samples (c.2-20L) to sample ditches, deep refuse deposits and natural deposits; spot samples for dating; monolith and micromorphology samples to recover *in-situ* blocks of sediments or complex strata.

Sample	Sampled by	Material	Processing
Hand Collected	Archaeologist	Human Bone	Hand washing
	Archaeologist	Large/small mammal, bird, fish	Power hosed
Bulk (general 40 litre sample)	Archaeologist	Large/small mammal, bird, fish, reptile, amphibian, marine molluscs, eggshell, plant macrofossils	Flotation or wet sieving
		Insects	Paraffin flotation
		Artefacts	Hand Washed
Column bulk (20 litre)	Archaeologist on advice of geoarchaeologist	Freshwater and terrestrial molluscs, ostracods	Disaggregated and wet sieved
Monolith	Geoarchaeologist	Sediments	Laboratory cleaning
		Pollen and Diatoms	Sub-sampled for external Specialist
Kubiena	Geoarchaeologist	Soils/complex strata	External Specialist

Spot/Grab	Archaeologist	Coprolites, unidentified organic materials	Specialist
	Geoarchaeologist	Radiocarbon	Plant remains extracted and identified by archaeobotanist before submitting to an external lab for dating

4. The sampling strategy will be monitored throughout the excavation and adapted in light of the preservation and the type of features encountered. A MOLA Environmental Archaeologist/Geoarchaeologist will undertake site visits to provide advice and additional advice will be sought from the EH Regional Archaeological Science Advisor when necessary. A MOLA Environmental Archaeologist/Geoarchaeologist will be on site during any visit made by the EH Regional Archaeological Science Advisor.

5. As a general policy, uncontaminated negative features will be bulk sampled and bone collected by hand. Horizontal stratigraphy if it survives will be sampled on a spatial basis where appropriate. Unstratified contexts, make-up layers and contexts thought to have a high degree of residual or intrusive material will not be sampled. Bulk samples may also be taken to recover artefacts such as evidence for metalworking and/or other industrial activity.

6. Human Burials will be recovered individually, with separate parts of the body (i.e. right arm, torso, left leg etc.) bagged separately on site. Samples will be taken for analysis of the abdominal area if the soil conditions are wet or moist. Control samples will also be taken by consultation with the appropriate Specialist. Cremations will be excavated in consultation with specialists. Whenever possible, processing will take place at the MOLA base during the excavation so that results can feed back onto site and inform any modifications needed in the sampling strategy.

Environmental sampling approach to typical archaeological features:

- *Cess/rubbish pit fills*: in general a 40 litre sample will be taken from each fill within the pit. If the fill is deep and homogeneous samples should be taken from the top, middle and base of the fill. The sample size may be reduced to 20 litres if waterlogged.
- *Discrete rubbish dumps/middens*: a single 40 litre sample will be taken, if they are extensive these will be sampled spatially with smaller bulk samples (for example: 10-20 litres at 1m intervals), and if deep, at different depths, as there may be variations within the deposit.
- *Occupation deposits (sunken floors, cellars etc)*: as for midden deposits, but paying particular attention to corners and other areas where greater accumulation occurred. Where appropriate soil blocks for micromorphology will also be taken from these deposits.
- *Ditches/Linear cuts*: will be sampled at several locations along the length (40 litre bulk samples at intervals for macro-remains (plants,

insects, molluscs) and 20 litres for waterlogged deposits). Any natural accumulations encountered within such features will be examined by a geoarchaeologist and have monolith samples taken (for study of sediments and micro-organisms eg pollen), with an adjacent column of continuous bulk sample slabs, respecting context interfaces, for macro-remains.