North Woolwich Portal (XSV11): Lithic report

North Woolwich Portal was the only site to produce direct evidence for human activity. This comprised small scatters of struck and burnt flint lying within leached sandy soils at the bottom of the recorded sequence in Trenches 3 and 4, and a deposit of burnt flint buried in a pit cut into the soil horizon in Trench 2. These soils had developed on one of a number of local high points or 'sand and gravel islands' in the floodplain floor and they were sealed by humic peats dated 2435-2150 cal BC (Beta-407270).

In all, one hundred and eighty-three pieces of struck flint were retrieved (Table 1). Thirty-one pieces were recovered from context [11] in Trench 3; and a further one hundred and fifty came from context [15] in Trench 4, 50m or so to the east. (Single flints were also recovered from contexts [13] and [14] (Table 1), but are not considered further here.) Most of the flints were excavated by hand, although a number were found during the subsequent wet-sieving of soil samples.

Table 1: Struck flint from Trenches 3 and 4, all contexts (pwc = pebble worked as core)

Cxt No	Flake (frag)	Blade (frag)	Flake/Blade (frag)	Spall	Core (frag)	Nod shatter	Other	Total
11a	2			1	(1) pwc		1 ?burin spall	**5**
11b	2 (4)	4	3	4	(1)	1	1 basally retouched piece	**20**
11 <14>	2		2 (1)	1				**6**
13			1					**1**
14 <30>	1							**1**
15	64 (25)	5 (7)	7 (1)	5	1 3 pwc	2	1 straight backed piece	**122**
15 <32>				**2**				**2**
15 <34>						**1**		**1**
15 <36>	**(2)**		**1**	**1**				**4**
15 <37>	**(1)**			**1**		**1**		**3**
15 <38>				**2**				**2**
15 <39>				**1**		**1**		**2**
15 <40>				**1**			**1 adze fragment (?butt)**	**2**
15 <41>			**1**	**1**				**2**
15 <42>	**3 (2)**		**1**	**1**				**7**
15 <43>	**1**		**1**	**1**				**3**
Tota	**75**	**9**	**17**	**22**	**4**	**6**	**5**	**183**

I	**(34)**	**(7)**	**(2)**		**(2)**			

In addition to the worked pieces, a number of burnt unworked pieces were recovered from the basal soils in Trenches 3 and 4, and from a small pit (context [37]) in Trench 2 (Table 2). Abundant microscopic fragments of burnt flint (and charcoal) were also present in the soil micromorphological samples taken from Trenches 3 and 4.

Table 2: Burnt unworked flint from Trenches 3 and 4, all contexts (*The burnt flint from Trench 2 was not retained)

Cxt No	Nos clasts	Wt (g)
11a	8	115.1
11b	1	3.4
13	1	6.5
15	1	4.9
Total	**11**	**129.9**

Raw material and condition

The raw flint material comprises medium-sized cobbles of reasonable quality for working. The rolled and water-worn natural surfaces of these cobbles are thin and smooth and buff or off-white in colour, which suggests that they were collected from secondary sources such as the terrace gravels and/or the beds of local river channels.

When freshly split the flint is a semi-translucent smoky grey-brown colour with occasional bands of lighter cherty inclusions; much of the assemblage has traces of faint milky-blue re-cortication brought about by chemical changes affecting the surface of the flint during its burial in the soil. A majority of the worked pieces have feather sharp edges suggesting that they have suffered little post-depositional disturbance in the ground.

The flint scatters

Trench 3

A combined total of twenty-five pieces of struck flint were recovered by hand from contexts [11a] and [11b] in Trench 3, together with a further six retrieved through wet-sieving. The assemblage is dominated by waste pieces or 'debitage' generated during the making of tools.

The thirty-one pieces include several partially worked flint cobbles, a few small irregular flakes and spalls and a handful of narrow, parallel-sided blades. Diagnostic pieces are few but include part of a broken pyramidal core from which a series of small bladelets have been detached (Fig 1, no 1), a possible waste piece struck from the re-sharpening of a burin (the

latter perhaps used to work bone or antler) (Fig 1, no 2), and a single carefully worked small point known as a microlith (Fig 1, no 3). Such microlithic points are thought to comprise the tips and barbs attached to wooden arrow shafts, although other functions have been suggested (such as piercers or drill bits).

1. Plunging flake from the end of a pyramidal bladelet core of mottled grey opaque flint, L 50mm, W 27mm, T 18mm

2. Possible burin spall of triangular section detached in re-sharpening a burin, L 43mm, W 6mm, T 6mm **(NB. Not located)**

3. Small obliquely-blunted point with marginal basal retouch[1], and milky-blue re-corticated surfaces, L 24mm, W 8mm, T 2mm. The small size of this piece suggests that it dates to the Later Mesolithic period.

Trench 4

The second assemblage is larger and more coherent and comprises one hundred and fifty pieces of struck flint recovered from context [15] in Trench 4. These were strewn across an oval area around 25 sq m in extent at the western end of the trench (Fig 2). Like the smaller scatter in Trench 3 further west this scatter is dominated by waste debitage – principally secondary and tertiary flakes (some large and irregular in shape) alongside a handful of neater parallel-sided blades and fragments. Again diagnostic pieces are few, and comprise a single opposed-platform core opportunistically worked on a robust primary flake struck from a river cobble (Fig 1, no 4), a broken straight- backed piece which is likely to form part of another narrow microlithic point (Fig 1, no 5), the ?butt of a slender adze, and a number of waste flakes generated during the making of one or more axes/adzes (Fig 1, nos 6–10).

4. An opposed-platform bladelet core worked on a large primary flake of mottled dark grey flint with lighter cherty banding and smooth thin grey cortex, L 62mm, W 58mm, T 28mm

5. Broken straight-backed point with its distal tip missing[2], of semi-translucent grey-brown flint, L 34mm, W 8mm, T 2mm. Points of this form are characteristic of Later Mesolithic narrow blade industries **(NB. Not located)**

6. Axe-preparation flake with a dihedral butt, of semi-translucent smoky grey-brown flint with traces of milky-blue re-cortication, L 60mm, W 75mm, T 11mm

7–9. Axe-finishing flakes with multi-directional flake scars and a variety of butt forms, all of semi-translucent smoky grey-brown flint with traces of faint milky-blue re-cortication, L 80–54mm, W 60–50mm, T 7-9mm

10. Broken axe-finishing/sharpening flake of semi-translucent smoky grey-brown flint with faint milky-blue re-cortication, L 60mm, W 32mm, T 7mm

11. Butt fragment of a slender adze, L 47mm, W 40mm, T 20mm, Wt 44g (not illustrated)

Dating, affinities and significance of the flint scatters

Both flint scatters are dominated by fresh secondary and tertiary flakes with plain, faceted and occasionally deliberately abraded platforms – the latter an indication of careful platform-edge preparation on the part of the flint knapper. Flakes within the second scatter are noticeably larger in size, and their prominent bulbs of percussion suggest that they were struck with a hard stone hammer (rather than with a soft antler or bone hammer). True parallel-sided blades are few in either scatter (one plunging example is nearly 60mm in length), though there are a number of narrow flakes/blades. The two microliths – an obliquely-backed point with marginal basal retouch from context [11b] and the broken straight-backed piece from context [15] – suggest that elements of both assemblages are likely to be of Later Mesolithic date (c 8500–6000 BP). Broad confirmation of this is provided by a single radiocarbon date of 2435-2150 cal BC (Beta-407270) on samples taken from the overlying peat horizon context [9] in Trench 3.

The fresh condition and tight distribution of the larger of the two scatters in particular suggests that it represents a single, short-lived, possibly task-specific and more or less undisturbed episode of human activity. The large size and distinctive form of many of the hard hammer flakes in particular further suggests that the location was principally used for the initial working of one or more river cobbles into axes/adzes subsequently carried elsewhere for final shaping[3] (Fig 3). (The broken ?butt of a slender adze was found during the subsequent wet sieving programme ([15] <40>).) The dominance of axe-preparation and axe-thinning flakes amongst the assemblage can be matched locally elsewhere, as at Erith and Purfleet further downstream[4]. Moreover, a number of finished axes/adzes have been reported from the locality, as at Poplar, Beckton Gas Works, the King George V Dock, and from local stretches of the Thames at Woolwich and Erith[5] (Fig 4). Such tools would have been mounted on wooden hafts and used for tree felling and carpentry.

The episodes of flint working at North Woolwich Portal indicate that Later Mesolithic human communities were engaged in a range of foraging tasks, encompassing hunting and woodcraft. Furthermore the worked flints are loosely associated with traces of unworked burnt flint and charcoal suggestive of the former presence of hearths, around which a number of these activities are likely to have taken place. (An undated pit containing quantities of burnt flint and perhaps connected with cooking was located beneath peats in Trench 2 further west, although this was not associated with any worked flint.) It is possible that the local vegetation was being deliberately fired too – perhaps to encourage animals into open clearings on the higher sand islands in the valley floor. Apart from a number of fish bones in the soil samples taken from context [15], however, no animal bones survived, though it is possible that elements of the flint assemblages were deployed on large terrestrial fauna such as deer and aurochsen[6].

The North Woolwich Portal finds form part of a complex mosaic of intermittent and perhaps seasonal human exploitation of the lower Thames floodplain in the early-mid Holocene.

Locally, other areas of ancient sand islands have been exposed in Addington Street, Lambeth[7], Fords Park Road, Canning Town[8] and at the Royal Docks Community School, Custom House[9], for example, and all have produced large assemblages of struck flint incorporating Later Mesolithic microliths similar in form to those found on the present site. Closer still, small groups of struck flint now in the British Museum were recovered from the base of the lower of two peat horizons encountered during the construction of the King George V Dock just to the north of the present site[10]. These included a flint axe said to have been found 'in alluvium 30 feet below the surface'[11]. It is likely that similar finds await discovery on other deeply-buried former sand islands and adjacent river channels within this complex floodplain landscape[12].

Footnotes

1. Clark 1934, Class C1a

3. Clark 1934, Class B1

3. See Ashton 1988 for a full description of the technology

4. Taylor 1996; Leivers et al 2007, 21

5. Eg Wymer 1977, 183, 187, 192 and 198; Cotton and Green 2004, 125–6

7. Microwear analysis has not been carried out on the North Woolwich Portal flints, but evidence for the cutting of meat and the cutting and scraping of dry hide has been identified at sites on the Old Kent Road (Donahue in Sidell et al 2002, 82-3) and the Royal Docks Community School (Randolph Donahue pers comm), as well as a range of other functions including wood and antler working and the gutting of fish at Three Ways Wharf, Uxbridge (Grace in Lewis and Rackham 2010, 171–80)

7. Powell and Leivers 2012, 25 and fig 4 nos 1–10

8. Nicholls et al 2013, 18–19 and fig 13 nos 1–13

9. Holder 1998

10. Binns and Barrow 1914, 119; British Museum Acc Nos 1958, 5–6, 2968–2969 and 4104.

11. J N Carreck Collection (Wymer 1977, 192)

12. The identification of such locations requires the employment of predictive sub-surface modelling, as originally outlined by Lacaille (1961, 145), advocated by Merriman (1992), and subsequently developed in the lower Lea valley by Corcoran et al (2011)

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Figures

1. Struck flint from contexts [11] (Trench 3) and [15] (trench 4) including microliths and axe/adze debitage

2. Plan of flint scatter at the western edge of Trench 4 (context [15]) by 1m grid square

3. Group of axe/adze debitage from context [15]

4. Examples of complete Mesolithic axes/adzes dredged from the Thames at Woolwich and Erith

Jon Cotton, December ‘15 (updated March ‘17)