PART II: THE SITES

Chapter 3: Canning Town

Introduction (Figs 3.1 and 3.2)

The site at Canning Town lies 700m to the north of the River Thames and crosses the valley of the tidal River Lea. The River Lea, at this point called Bow Creek, is shown on the early 18th century maps, from where it is possible to trace its gradual movement in ox-bows across the floodplain. This movement, the tidal regime and the presence of marsh such as the Plaistow Level to the east, resulted in little development of the area until the beginning of the 19th century (Fig. 1.6). The West and East India Docks were constructed at this time and the New Iron Bridge was constructed across the River Lea in 1810. The present bridge and road crossing was constructed during 1930-1933. The area on the south-west side of the site was leased to the Great Eastern Rail Company and later used as a LNER wharf. The east side of the River Lea was previously used by the Woolwich Branch of the Great Eastern Railway. More recently the Docklands Light Railway has been constructed alongside the Lea. The location of the site in or close to the low-lying floodplain has resulted in little occupation or settlement during most of the historical period. The medieval villages of Bromley and Poplar were situated further north and west on the higher

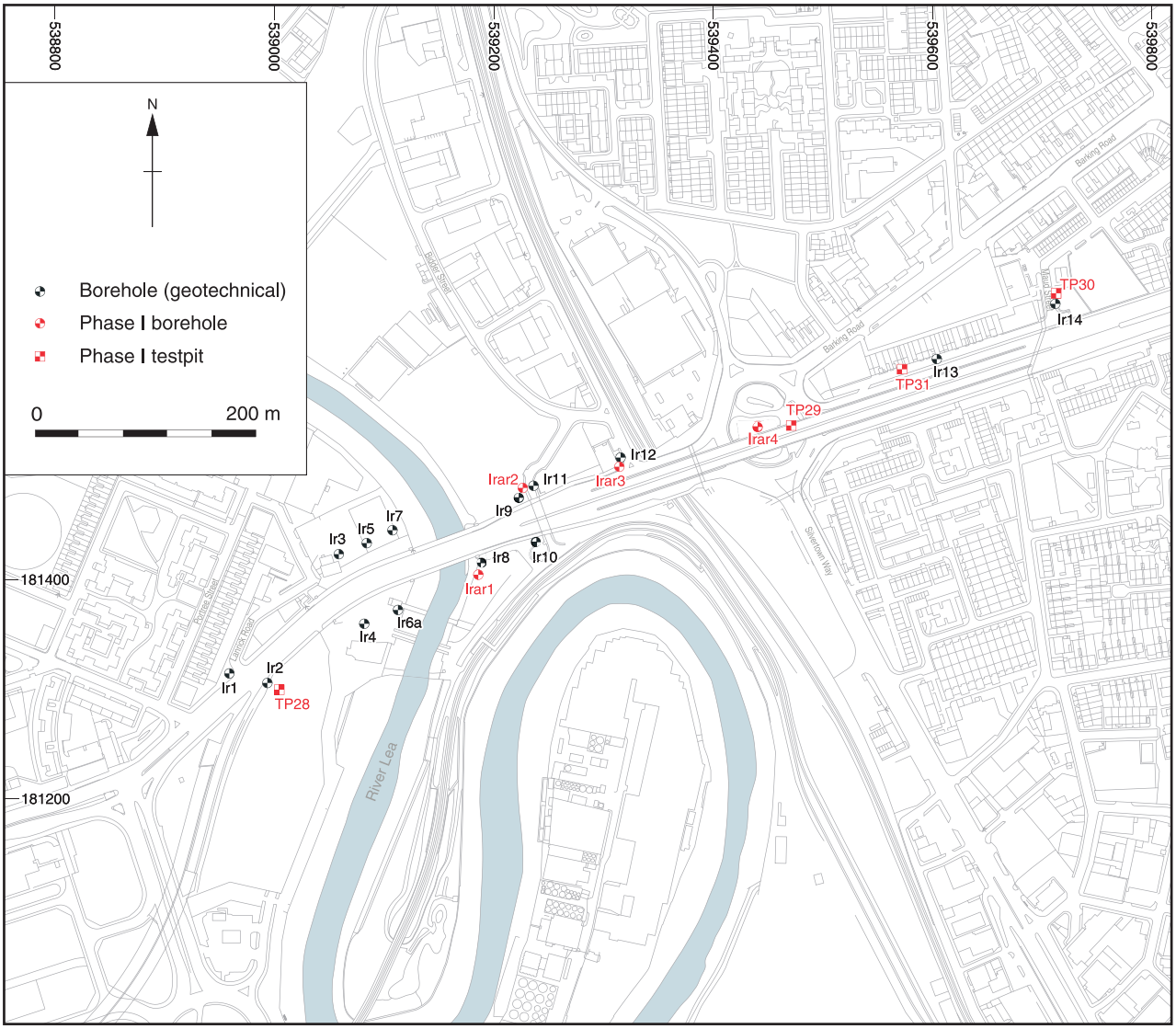

Fig. 3.1 Plan of archaeological interventions, Ironbridge-Canning Town

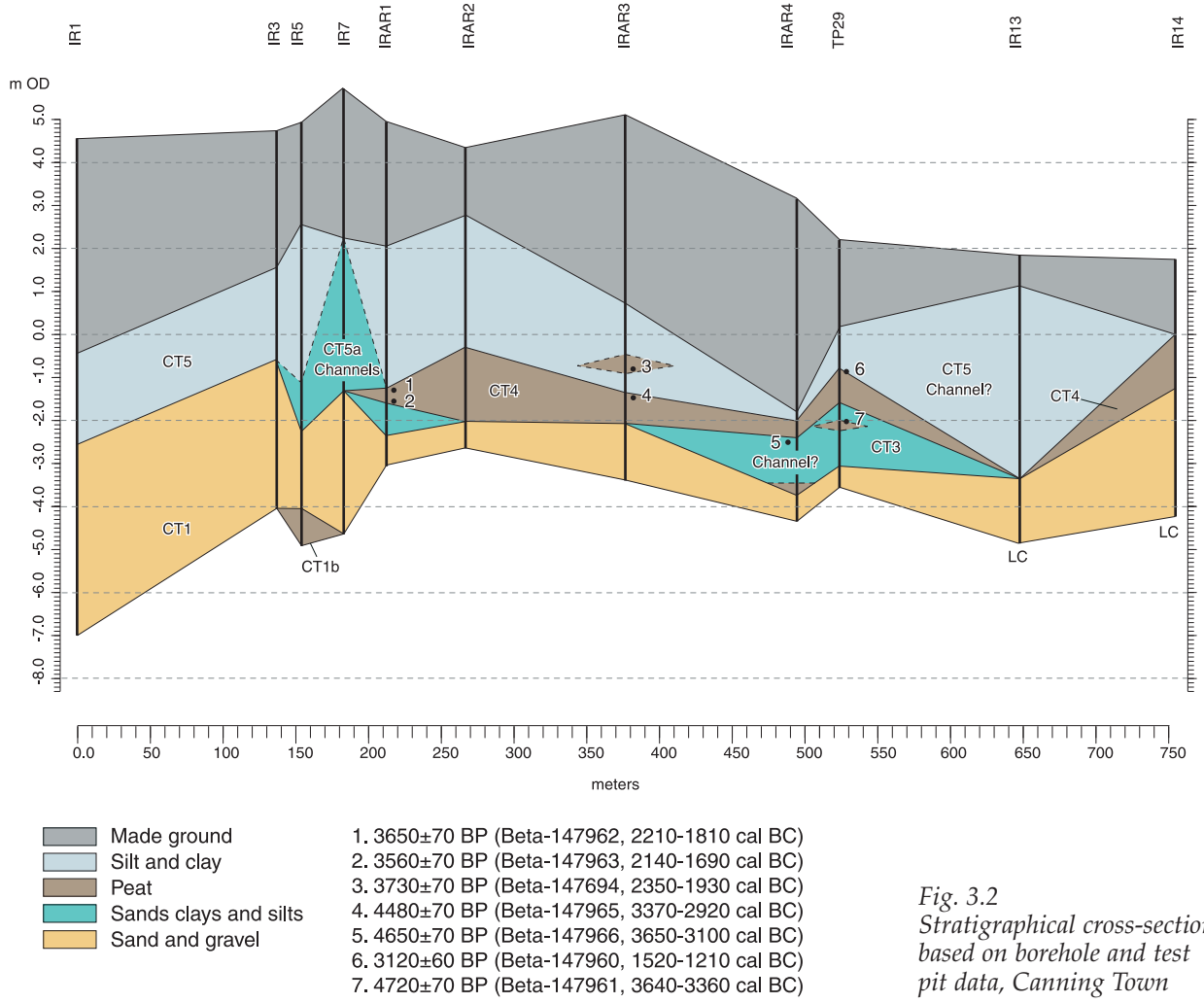

Fig. 3.2
Stratigraphical cross-section based on borehole and test pit data, Canning Town

ground. The settlement pattern may have been significantly different in the Bronze Age and earlier periods when lower sea-levels may have allowed exploitation and occupation of the river banks and eyots. The River Lea is likely to have been used as both a navigable route and possibly for ritual deposition.

The Stage I evaluation involved the excavation of four test pits; *c* 3m x 4m and 5m deep (TP28-TP31) and four boreholes (Irar 1-4) (Fig. 3.1). In addition to the archaeological records, the assessment of stratigraphy drew on archive geotechnical borehole logs (Ir 1-14). Overall five broad sediment units were identified at Canning Town (Fig. 3.2). Pockets of fibrous peat, dark brown organic clay and soft brown clay within the basal part of the Pleistocene gravel sequence may date to the Late Glacial period (see below). A variable sequence of Holocene deposits occurred beneath the recent fills including an intermittent peat bed sandwiched between minerogenic alluvium. Assessment of the sediments recovered from three locations (Irar 2, Irar 4 and TP29) identified enriched phosphate levels including vivianite precipitate as well as fragments of charcoal; however no direct evidence of cultural activity was identified during the test pitting. Between 3m and 5m of modern fill occurred to the east and west of Iron Bridge, raising the levels of the ground along Bow Creek. Similar efforts to raise land levels have not been necessary to the east of Silvertown Way, where the depth of fill is between 0.5 and 1.5m. The depths of recent fill and the relatively limited scale of impact at Ironbridge-Canning Town did not warrant Phase III investigations. A watching brief carried out during construction did not identify any further evidence of human activity.

Sedimentary architecture and environments of deposition

The pre-Holocene sediments and basement topography

Fluvial gravel (CT1)

At Canning Town poorly sorted coarse flint gravel lay between the Holocene soft sediment sequence and the London Clay bedrock. These deposits were only penetrated to *c* 0.5m to 1.0m by the purposive

geoarchaeological drilling, although the geotechnical investigations managed to reach bedrock. These sediments typically accumulated in cold climate braided river conditions during the late Pleistocene. The height datums indicate that they probably correlate with the Shepperton Gravels, deposited between 10,000 and 15,000 BP.

Organic clay and peat (CT1b)

This group of sediments was only identified in the geotechnical borehole logs and no samples were available for closer examination. The deposits all lie at the base or within the main gravel aggradation phase and comprise soft brown clay (Irar 3), pockets of fibrous peat (Irar 4) or dark brown organic clay (Irar 6a). These organic sediments are probably indicative of lower flow velocities and small-scale channel infill features of probable Late Glacial date. Similar deposits were most recently identified during borehole work at the Olympic Park in Stratford spanning both the Windermere Interstadial (warm phase) and Loch Lomand Stadial (cold phase) at *c* 11,000–13,000 BP (Corcoran *et al*. 2011, 150).

The early Holocene topographic template

A major temporal unconformity is likely to be represented by the surface of the terrace gravels, in other words the early Holocene topographic template. The surface therefore represents the Mesolithic/Neolithic land surface. Inundation of this land surface during the early to mid Holocene appears to have commenced under freshwater conditions and is represented by the lower alluvial sediments described below.

The Holocene sediments (Fig. 3.3)

Freshwater sand and clay silts (CT3)

This group of sediments directly overlay the Pleistocene gravels and consisted of minerogenic sandy-silts or clay-silts. The sequence is well represented in TP29 by contexts 200 and 201 (Fig. 3.3). The fine-grained nature of the sediments suggests deposition in a relatively low-energy environment. Pollen was only preserved at the top of this unit immediately below the overlying peat where pollen of grasses contributed the highest proportions. The presence of *Bithynia* sp., a mollusc that prefers flowing water conditions, along with a tooth from a cyprinid (Cyprinidae: carp family) and amphibian bones suggests these deposits accumulated in freshwater conditions in or adjacent to an active channel. Debris from a number of different habitats and activities appears to have accumulated in this location, including microscopic charcoal. Age estimates in TP29 from a peat layer towards the top of this unit suggests much of the lower alluvial sequence predates at least *c* 3600 cal BC.

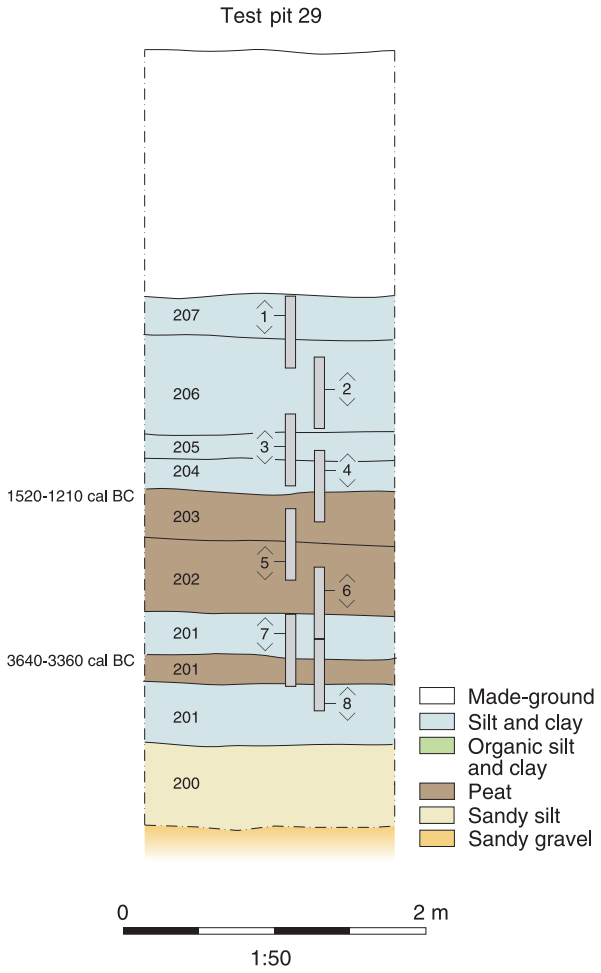

Fig. 3.3 Sample section, TP29, Ironbridge-Canning Town

Freshwater peat and organic silt (CT4)

This group of sediments are dominated by highly organic silts and peat. The peat directly overlay the Pleistocene gravels, or the lower alluvium where present, and was sealed by a further extensive unit of minerogenic alluvium. Differentiation from the last, however, proved difficult due to the high organic content of the silts. The peat unit varied from firm humified peat to wood peat, but the presence of fine silty material within the peat implies that frequent low-energy flood episodes occurred throughout the period represented by it. Radiocarbon age estimates from TP29 indicate that accumulation occurred between the early Neolithic and the middle Bronze Age at 3640-3370 cal BC (Beta-147961: 4720±60 BP) and 1520-1210 cal BC (Beta-147960: 3120±60 BP).

Pollen was well preserved in these sediments. Alder dominated, with oak, lime and hazel also present. Grasses and sedges were also represented which suggests that a damp alder carr may have existed in the vicinity with an understorey of grasses, sedges and ferns. Samples from TP29 contained seeds from a wide range of plants of

river-bank, ditches and marshes, including sedge, gypsywort and branched burweed. Charcoal fragments in TP29 and TP30 may indicate cultural activity, but the lack of any corroborative evidence means that it could also have resulted from natural fires. The phosphatic mineral vivianite was present in the organic silts in borehole Irar 2. Stratigraphically this corresponds with the vivianite in the lower part of the overlying alluvium in borehole Irar 4 (see below) and may suggest a discrete area of cultural activity.

Freshwater and estuarine clay silt (CT5)

This sedimentary complex was dominated by minerogenic clays and silts containing variable quantities of organic material and zones dominated by laminated sediments. In some instances, such as Irar 1, coarser flint gravel horizons were also present. The deposits typically underlay 19th century made ground and the accumulation in TP29 post-dates *c* 1500-1210 cal BC. The deposit thickness varied from less than 1m to over 4m, with an upper surface occurring at *c* -1.0 to +2.0m OD.

These deposits represent a period of inundation leading to the development of an intertidal wetland system. Sediments at the base of this sequence in TP29, immediately above the peat, contained a range of microfossils including freshwater bivalves and gastropods. However brackish water ostracods (*Cytherura gibba)* and minute foraminifera (*Haynesina germanica*, *Ammonia limnetes* and *Elphidium williamsoni)* were also present and increased up-profile. The pollen was dominated by grains from grasses and sedges, which suggest an increase in the importance of reedswamp vegetation up-profile. Significant levels of goosefoot pollen may indicate areas of local saltmarsh. These factors indicate that the environment of deposition was probably brackish but that sediment input was also received from both upstream (freshwater) and downstream (brackish, tidal) sources. Interestingly the uppermost levels of this sequence contained a pollen spectra suggesting a return to a more wooded environment dominated by alder and willow, with oak, lime and hazel in drier habitats. Various possible cultural indicators occurred in isolation, often near the base of the deposits. Ceramic fragments were identified in one borehole (Irar 1), along with gravel, as matrix supported clasts within the clay silt. These were extremely fragmented and provide evidence of the fluvial reworking of deposits associated with cultural activity, rather than *in situ* activity. The phosphatic mineral vivianite was also present within the lower part of the unit in borehole Irar 4, and enriched phosphate levels also occurred higher in the sequence in TP29 at *c* 2.20m bgl. The depth and ages ascribed to the sediments levels containing vivianite suggests the activity in Irar 1 may be of middle to late Bronze Age date, whilst those in TP29 are most likely to be later, probably post-Roman.

Fluvial gravel (CT5a)

In addition to the fine grained clays and silts the geotechnical logs recorded localised accumulations of sand and gravel. This group of sediments is very restricted in distribution and was only recorded in two boreholes (Ir 5 and Ir 7). No sediment was available for examination and these deposits were not observed in the purposive geoarchaeological boreholes. The deposits were described as clay units containing significant quantities of sand and gravel, with an upper surface occurring between -1.1m and 2.0m OD. Superficially the description is similar to some of the thinner gravel horizons identified within the clay silts. Coarse sand and gravel are indicative of generally higher flow velocities and may represent sediments deposited closer to the former main channel through this area, contemporary with deposition of the finer grained alluvium.