



Crossrail Pudding Mill Lane Portal

Interim Geoarchaeological
Statement



Wessex Archaeology

CROSSRAIL – PUDDING MILL LANE PORTAL GEOARCHAEOLOGY

INTERIM GEOARCHAEOLOGICAL STATEMENT

MoL Site Code: XPM 09

WA Ref: 72212.02

Scope of document and background

This is an advisory statement based upon rapid desk-based assessment of the initial results of borehole survey undertaken at the Crossrail Pudding Mill Lane Portal (hereafter “the Site) (**Figure 1**). Its purpose is to inform positioning of proposed evaluation trenches (up to 10 maximum in total as per tender) through deep alluvial deposits to maximise coverage of deposits containing likely archaeology.

A total of 45 boreholes and window samples were undertaken at the Site from the 17th August to 30th September 2009 (**Figure 1** and **Table 1**). Of these, fourteen boreholes were carried out specifically for archaeological purposes in order to obtain stratified samples for detailed description and potential palaeoenvironmental assessment. These samples are stored at the Wessex Archaeology offices in Salisbury pending further investigation.

A schematic transect based on the initial results of borehole survey along the line of the proposed Crossrail route is presented in **Figure 2**.

Areas of potential

From experience of alluvial river valley archaeology in general, and work in the immediate area in particular, it can be said that in general terms the highest potential for the presence of archaeological features and associated activity is upon the areas of higher underlying gravel. These raised gravel bars, islands or banks are a remnant of Pleistocene braided channel systems, formed during the very high energy meltwater floods of the last Ice Age. These will have formed drier raised areas in a floodplain becoming increasingly wet and marshy throughout prehistory as the water table rose as a result of relative sea level rise.

Trenching vs Boreholing

As a general rule it could be said that in lower areas of gravel, where peat and / or alluvial deposits are thicker and the potential for archaeological features is generally lower, the best approach for investigation would be through examination and assessment / analysis of borehole cores, supported with some trial trenching where practical.

Upon areas of raised gravel, where drier conditions in the past make the potential for the presence of archaeology higher, the best approach would be trial trenching supported by core work.

Proposals for the positioning of trial trenching along the route

From rapid assessment of the borehole observations it is apparent that the underlying gravel topography starts low in the south-west of the route (c.0.4m below Ordnance Datum (OD) at WS203) and rises steadily to the north-east (c.1.3m above OD at PML51). There also appears to be a general drop off moving from the route corridor to the south-east (PML63) (**Figure 2**).

It is recommended that 5 to 6 trial trenches will suffice for the route, with a greater concentration being placed towards the areas of higher underlying gravel to the north-east.

Precise positioning of the trenches is not necessary, as there is no indication of exactly where archaeological features may lie. It is recommended that:

- 1 trench be positioned between WS203 and PML29R
- 1 trench be positioned between PML29R and PML30R
- 3-4 trenches be positioned between PML30R and PML63

Exact positions of the trenches is relatively unimportant, and locations can be ascertained following discussion between the Wessex Archaeology (WA) Project Manager, the Crossrail Project Archaeologist and on-site WA staff, wherever is convenient to the ongoing programme of development works.

Sampling of the sequence(s) exposed by the evaluation trench should be thorough, with both monoliths and bulk samples being taken and recorded appropriately.

An updated Written Scheme of Investigation (WSI), to that of the submitted tendered WSI, Ref: T12936-WSI-v01) detailing the methods by which WA will undertake the evaluation work and specifically indicating proposed locations of trenches, will be submitted to Crossrail, following discussion with the Project Archaeologist and/or other representatives, prior to any evaluation work commencing.



Further reporting

A dedicated geoarchaeological report will be produced which will present:

- discussion and interpretation of the underlying sediments
- the results of deposit modelling work (which will include PML site data incorporated into the larger Olympic Park Site model)
- results of the palaeoenvironmental assessment of the archaeological boreholes

It is envisaged that geoarchaeological results will also be brought into the Evaluation report and expanded upon as appropriate using data obtained from sampling of evaluation trenches.



Wessex Archaeology

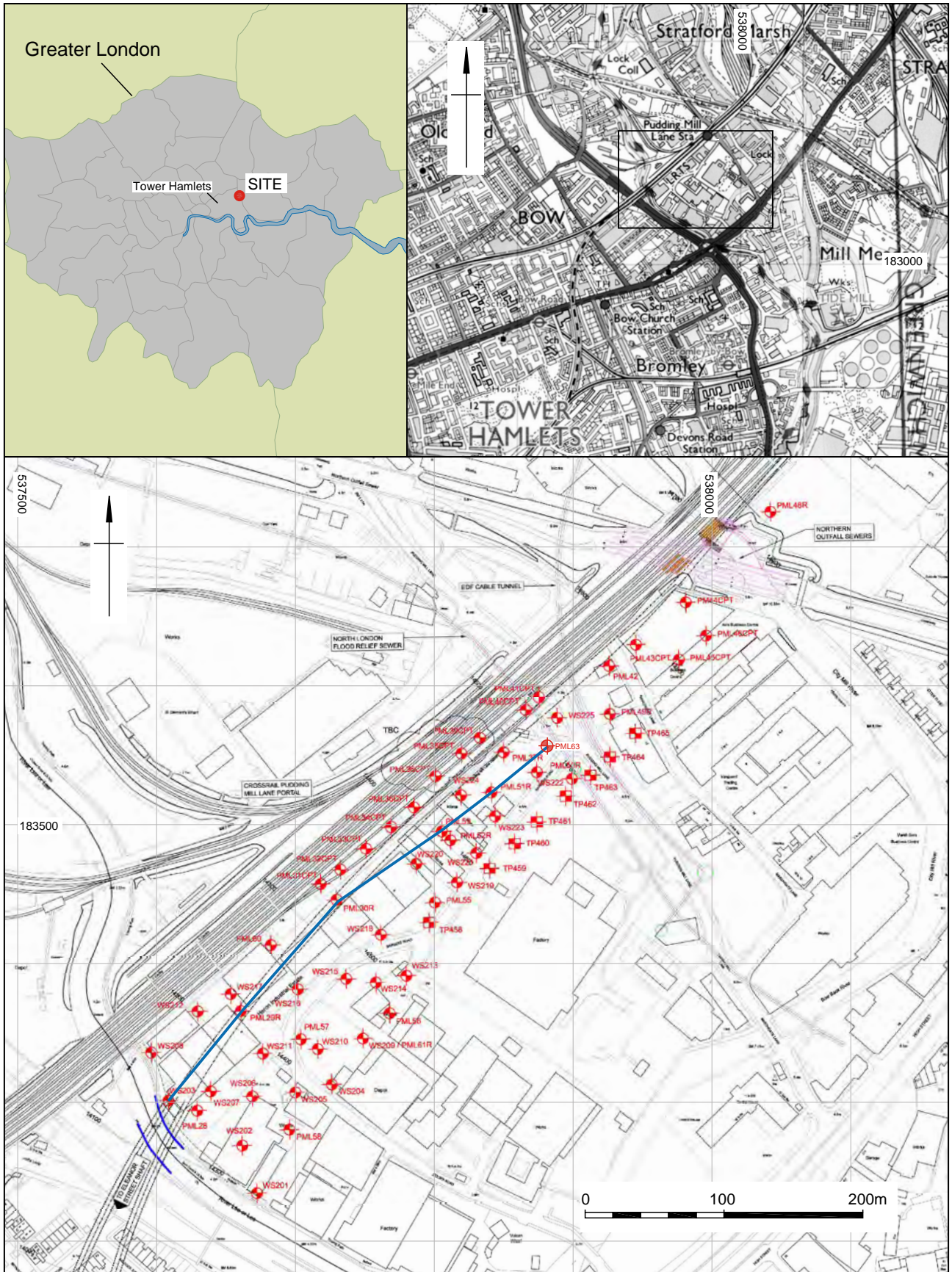
Crossrail - Pudding Mill Lane Portal Geoarchaeology

Record of Archaeological Monitoring of Geotechnical Investigations
Undertaken from 17/08/09 to 30/09/09

Table 1

1	2	3
Arch BH & WS completed	WS completed at non Arch BH	non Arch BH completed
WS203Arch	WS202	PML29R
WS207Arch	WS204	PML30R
WS208Arch	WS205	PML37R
WS216Arch	WS206	PML50R
WS218Arch	WS214	PML51R
WS220Arch	WS215	PML52R
WS221Arch	WS217	PML56
WS222Arch	WS219	PML57
WS223Arch	WS224	PML61R
PML30R Arch		PML62R
PML55Arch		PML63
PML59Arch		201
PML60Arch		
212Arch		
9 / 14 WS/Arch BH	9 WS	12 non Arch BH

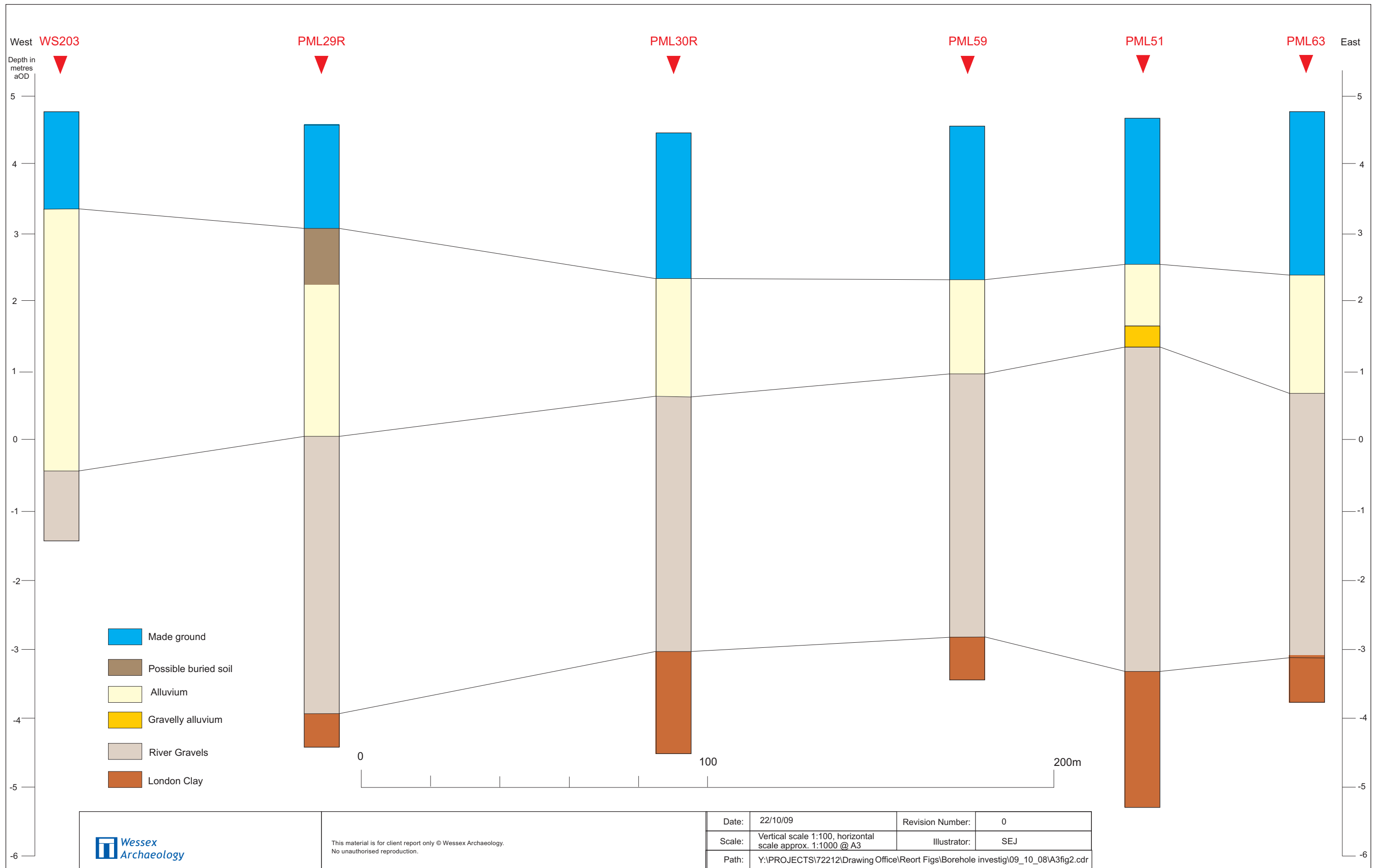
Arch = Archaeological; WS = Window Sample; BH = Borehole



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	Date: 21/10/09	Revision Number: 0
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	Path: Y:\PROJECTS\72212\Drawing Office\Report Figs\Borehole Investig\09-10-08\72212 Borehole.dwg	

Site location showing boreholes and line of transect

Figure 1



West to east schematic transect through boreholes

Figure 2



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