

**An Archaeological Watching Brief at the British Rail Goods
Yard, 213-215 Blackhorse Road, Walthamstow, London
Borough of Waltham Forest**

Site Code: GYW 06

Central National Grid Reference: 535777 189303

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June 2006**

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DOCUMENT VERIFICATION

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British Rail Goods Yard, Blackhorse Road, Walthamstow

Type of project

Monitoring of Geotechnical Investigations

Quality Control

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Figure 2 Location of Geotechnical Test Pits and Boreholes

ABSTRACT

This report details the results of an archaeological watching brief of geotechnical boreholes, trial pits (both machine and hand-excavated) and window samples carried out at the British Rail Goods Yard, 213-215 Blackhorse Road, Walthamstow. London clay 'bedrock' was recorded across the site, sealed by a deposit of Thames terrace gravels, also across the entire site. These deposits were both observed to rise toward the east of the site. They were sealed by a layer of alluvium, thus rendering likely the survival of any prehistoric features cut into the gravels. Overlying this, slight evidence for horticultural activity was found in the central portion of the site, and probably represents its use prior to the construction of a goods yard in the late 19th or earlier 20th century. This involved significant ground levelling, specifically truncation of alluvial deposits in the higher eastern half of the site. Varied light industrial usage throughout the 20th century has resulted in the accumulation of layers of made ground and the construction of warehouse structures on the eastern half of the site.

1 INTRODUCTION

- 1.1 An archaeological watching brief of geotechnical boreholes, trial pits (both machine and hand-excavated) and window samples was undertaken between 30th May and 6th June 2006 by Pre-Construct Archaeology Limited at the British Rail Goods Yard, 213-215 Blackhorse Road, Walthamstow, London Borough of Waltham Forest.
- 1.2 The site lies at 213-215 Blackhorse Road, occupies a triangular area of approximately 280m from east to west and approximately 85m from north to south, and has an Ordnance Survey National Grid Reference of 535777 189303. The site is bounded to the north by Blackhorse Road station and to the south by the rear of the properties in Hawarden Road. The eastern half of the site is used by light industry occupying several brick-built warehouse structures, whilst a cobbled road along the southern boundary of the site gives access to the western half of the site, which was most recently a scrap yard but is now waste.
- 1.3 Seven cable percussion boreholes (reduced from eight) and six trial pits (also reduced from eight) were excavated across the site to depths between 4 and 35m. Additionally six window samples and three hand-dug trial pits were excavated to depths of 1.20 to 5m. All boreholes and trial pits were monitored as a watching brief, as were three of the six window samples that were located within the existing warehouse structures.
- 1.5 Willmott Dixon Housing commissioned the work. The project was project managed for Pre-Construct Archaeology by Tim Bradley and supervised by the author. The Museum of London Site Code assigned to the project was GYW 06.
- 1.6 **Note:** This report was prepared before survey data relating to the geotechnical investigation became available. The heights given above Ordnance Datum are therefore calculated from an earlier topographical survey of the site produced by RPS Woods Warren in 2004. Whilst this should provide a good general understanding of the archaeological and geological stratigraphy, all levels in this report should be assumed to be accurate to within a methodological error of $\pm 0.15\text{m}$

2 SUMMARY OF THE ARCHAEOLOGICAL SEQUENCE: BORE HOLES AND TRIAL PITS

2.1 Borehole 201

Context Number	Deposit Description	Height mOD	Thickness m
47	Dark grey sandy silt: probable 20 th century made ground	10.14	0.45
48	Pale to mid brownish grey gravelly clay: alluvium	9.69	1.05
75	Mid brown gravelly clay: alluvium	8.64	1.00
76	Mid grey gravelly clay: alluvium	7.64	1.50
49	Mid orangey brown sandy gravels: terrace gravels	6.14	2.30
50	Pale grey clay: London clay	3.84	27.70

2.2 Borehole 202

Context Number	Deposit Description	Height mOD	Thickness m
24-26 inc.	Tarmac; concrete slab; redeposited sandy clay: 20 th century made ground	10.31	0.90
27	Mid greyish brown clay: alluvium	9.41	1.90
28	Pale to mid orange brown sandy gravels: terrace gravels	7.51	1.80
29	Pale grey clay: London clay	5.71	>0.40

2.3 **Borehole 203**

Context Number	Deposit Description	Height mOD	Thickness m
8	Dark grey sand silt gravel mix: 20 th century made ground	10.41	1.80
9	Greenish greyish mid brown sandy clay: alluvium	8.61	2.10
10	Mid orangey brown sandy gravel: terrace gravels	6.51	2.10
11	Pale grey clay: London clay	4.41	>4.00

2.4 **Borehole 204**

Context Number	Deposit Description	Height mOD	Thickness m
1-3 inc.	Sand-silt-gravel mix; concrete slab; clay-sand mix: 20 th century made ground	10.29	1.10
4	Mid greyish brown silty clay: possible horticultural horizon	9.19	0.90
5	Pale to mid greyish brown silty clay: alluvium	8.29	0.50
6	Greyish mid orange sandy gravel: terrace gravels	7.79	3.70
7	Pale grey clay: London clay	4.09	>18.80

2.5 **Borehole 205**

Context Number	Deposit Description	Height mOD	Thickness m
70-71 inc.	Tarmac; pale to mid greyish brown silty sand: 20 th century made ground	10.26	0.70
72	Greenish brownish mid grey clay: alluvium	9.56	1.00
73	Greenish brown sandy clay: alluvium	8.56	1.30
74	Orangey mid brown sandy gravels: terrace gravels	7.26	>2.00

2.6 **Borehole 206**

Context Number	Deposit Description	Height mOD	Thickness m
77-79 inc.	Tarmac; Cobbled surface; pale greyish brown silty sand: 20 th century made ground	10.21	0.70
80	Pale orangey brown sandy clay: alluvium	9.51	1.70
81	Mid orangey brown sandy gravel: terrace gravels	7.81	1.40
82	Pale grey clay: London clay	6.41	>3.70

2.7 **Borehole 207**

Context Number	Deposit Description	Height mOD	Thickness m
51-52 inc.	Concrete surface; dark grey silty sand: 20 th century made ground	10.54	0.70
53	Mid greyish brown clay: alluvium	9.84	1.20
54	Mid orangey brown sandy gravel: terrace gravels	8.64	3.00
55	Pale grey clay: London Clay	5.64	>5.10

2.8 **Trial Pit 201**

Context Number	Deposit Description	Height mOD	Thickness m
19-22 inc.	Sand-silt-scrap mix; concrete slab; silty sand; sand-clinker mix; 20 th century scrap pile and made ground	11.05	2.50
23	Pale greyish brown clay: alluvium	8.55	>1.50

2.9 **Trial Pit 203**

Context Number	Deposit Description	Height mOD	Thickness m
12-15 inc.	Sand-silt-gravel mix; compacted CBM fragments; concrete slab; silt-sand-rubble mix: 20 th century made ground	11.00	1.30
16	Greenish greyish mid brown silty clay: possible horticultural horizon	9.70	0.50
17	Brownish greenish mid grey sandy clay: alluvium	9.20	2.00
18	Orangey mid brown gravelly sand	7.20	>0.10

2.10 **Trial Pit 204**

Context Number	Deposit Description	Height mOD	Thickness m
63-66 inc.	Silty sand; clinker; concrete slab; silt-sand-clinker mix: 20 th century made ground	10.65	1.20
67	Pale orangey brown clay: alluvium	9.45	0.20
68	Pale greenish grey sandy clay: alluvium	9.25	2.10
69	Pale greyish brown sandy gravel: terrace gravels	7.15	>0.50

Note: The deposits in this pit were heavily contaminated

2.11 Trial Pit 205

Context Number	Deposit Description	Height mOD	Thickness m
30-33 inc.	Concrete surface; silty sand; clinker; silty sand: 20 th century made ground	10.44	0.90
34	Mid orangey brown clay-sand-gravel mix: possible alluvial layer	9.54	0.30
35	Mid orangey brown clay: alluvium	9.24	0.50
36	Pale to mid greenish grey silty clay: alluvium	8.74	0.60
37	Mid orangey brown clay: alluvium	8.14	0.9
38	Mid orangey brown sandy gravel: terrace gravels	7.24	>0.80

Note: The deposits in this pit were heavily contaminated

2.12 Trial Pit 206

Context Number	Deposit Description	Height mOD	Thickness m
39-42 inc.	Tarmac; concrete slab; clinker; crushed chalk: 20 th century made ground	10.37	0.38
43	Orangey greyish brown silty sandy clay: possible horticultural horizon	9.99	0.52
44	Mid orangey brown sandy clay: alluvium	9.47	0.50
45	Greenish bluish pale grey clay: alluvium	8.97	1.80
46	Pale grey sandy gravel: terrace gravels	7.17	>0.80

Note: The deposits in this pit were heavily contaminated

2.13 Trial Pit 207

Context Number	Deposit Description	Height mOD	Thickness m
56-59 inc.	Silt-sand-CBM mix; sandy clayey silt; clinker; clay-clinker mix: 20 th century made ground	10.42	0.90
60	Greenish greyish pale brown clay: possible trample layer or horticultural horizon	9.52	0.05
61	Greenish pale grey clay: alluvium	9.47	2.05
62	Greenish greyish pale brown sandy gravel: terrace gravels	7.42	>0.80

3 WINDOW SAMPLES

3.1 Six window samples were excavated as part of the geotechnical investigation. Archaeological monitoring of these was minimal due to the difficulty of analysing the samples through the misted plastic of their casings. However, it was possible to discern the approximate extent of made ground beneath the concrete slab flooring of the buildings in which three of the samples were located, and to suggest an approximate height for the transition from alluvial clay to terrace gravels.

3.2 WS 204

Deposit Description	Approx. Height mOD	Approx. Thickness m
Concrete surface and makeup	10.34	0.30
Gravelly silt: probable 20 th century made ground	10.04	1.50
Mid orangey brown clay: alluvium	8.54	1.20
Greyish orange sandy gravel: terrace gravels	7.34	>2.00

3.3 WS 205

Deposit Description	Approx. Height mOD	Approx. Thickness m
Concrete surface and makeup	10.22	0.22
Mid brown sand-CBM mix: probable 20 th century made ground	10.00	1.78
Greyish orange sandy gravel: terrace gravels	8.22	1.80
Sand: terrace sand	6.42	>0.20

3.4 **WS 206**

Deposit Description	Approx. Height mOD	Approx. Thickness m
Concrete surface and makeup	10.49	0.30
Mid orangey grey gravely silt: probable 20 th century made ground	10.19	0.30
Mid grey clay-gravel mix: probable 20 th century made ground, possibly horticultural soil	9.89	0.60
Mid greenish grey clay: alluvium	9.29	0.80
Greyish orange sandy gravel: terrace gravel	8.49	>2.00

4 HAND-EXCAVATED TRIAL PITS

4.1 The geotechnical investigation required that three trial pits be hand-excavated against the walls of the three principle buildings on the site in order to determine the depth of the foundations. These did not require intensive archaeological supervision because the pits were excavated to a depth of between 1.20m and 1.50m, which was sufficient only to penetrate into the upper reaches of the clay alluvium at most. A general summary of the observed stratigraphy in each pit is presented here.

4.2 Hand-Excavated Trial Pit 201

The earliest deposit here was mid orangey brown alluvial clay at a height of 9.49mOD and 0.60m thick to the limit of excavation. Overlying this was 20th century made ground at a height of 10.14mOD and 0.65m thick. The foundation construction trench for the adjacent building was cut through this deposit and into the clay beneath to a level of 8.89mOD, and contained a brick-built foundation approximately 1.50m deep. The modern concrete ground surface overlying this and abutting the building's superstructure was at a height of 10.39mOD and was 0.25m thick.

4.3 Hand-Excavated Trial Pit 202

The earliest deposit in this pit was mid greyish brown sandy silt that may represent an earlier horticultural horizon. It was at a height of 10.13mOD and was 1.00m thick to the limit of excavation. The foundation trench for the adjacent building was cut through this deposit to a level deeper than 9.13mOD, where excavation of the pit was halted. The brick-built foundation within this trench rested upon a raft that extended 0.30m beyond the foundation wall face and whose upper surface was at level of 9.23mOD. Sealing the backfill of this cut was a concrete surface at a height of 10.27mOD and 0.14m thick, which abutted the superstructure of the building. This was overlain by a modern tarmac layer, likewise abutting the building, at a height of 10.33mOD and 0.06m thick.

4.4 Hand-Excavated Trial Pit 203

The earliest deposit in this pit was mid orangey brown alluvial clay at a height of 9.98mOD and 0.75m thick to the limit of excavation. Overlying this was 20th century made ground at a height of 10.33mOD and 0.35m thick. The construction trench for the adjacent building was cut through this deposit down to a level of 9.54mOD, and contained a brick-built foundation 0.90m deep that projected approximately 0.20m

beyond the plane of the wall face for the lower 0.30m of its profile. Sealing the backfill of this cut and abutting the adjacent building superstructure was a modern tarmac surface at a height of 10.43mOD and 0.10m thick.

5 CONCLUSIONS

- 5.1 Natural London clay 'bedrock' was recorded across the site rising toward the northeast from 3.84mOD at the west end of the site to 5.64mOD and 6.41mOD at the southeast and east portions of the site respectively. The overlying river terrace gravels mimic the general topographic rise from west to east. However, they are higher toward the southeast rather than the east or northeast portions of the site, rising from 6.14mOD in the west to 7.81mOD and 8.64mOD in the east and southeast respectively. This subtle shift in topography is probably due to gradual changes in the hydrodynamic conditions that shaped these deposits.
- 5.2 A layer of clay alluvium was observed across most of the site, varying in height from 8.29mOD to 9.84mOD, although most levels lie within a range from 9.00 to 9.50mOD. This broadly flat topography is due to levelling of the site in the late 19th and 20th centuries, during which it is likely that higher alluvial deposits were truncated away in the eastern portion of the site. The western area of the site is probably relatively undisturbed, as here the ground has been artificially made up above the level of the land surrounding it. Despite this previous activity, the alluvium remains a substantial deposit, often between 1.00 and 2.00m thick, and notably more than this in the west, where it reaches 3.55m at the end of the site. Only at the eastern end of the northern warehouse building has modern activity cut through the alluvium into the underlying terrace gravels. The alluvium obviously results from the past activity of the rivers Lea and Thames, but unfortunately no artefacts were recovered from within it during the investigation, and thus no firm chronology can be suggested for the formation of the deposit.
- 5.3 No features were observed cutting into the alluvium, although there are remnants of an overlying horticultural soil across the central portion of the site (Borehole 204, Trial Pits 203, 206 and 207, and Window Sample 206). It is possible that this is more widespread, but that the narrow windows provided by the borehole samples were insufficient to discern previously-worked clayey soil from silty alluvial clay. This soil was worked into the 19th century, possibly ending when the site was levelled for use as a railway goods yard in the late 19th to earlier 20th centuries. Abundant clinker in the recent made ground deposits may testify to this usage. Later still, after the goods yard had ceased operation, brick-built warehouses were erected on the eastern part of the site and much of the site was surfaced with concrete, at one point overlying an earlier cobbled surface (Borehole 206).

5.4 Although no artefacts were recovered from the earlier deposits, the investigation has established that Thames terrace gravels lie almost completely undisturbed across much, possibly all, of the site. There is therefore a good possibility that any prehistoric features cut into these gravels will have survived. Furthermore, any later activity upon the alluvium that predates the goods yard may survive in the western portion of the site where ground levelling does not appear to have been too severe.

OASIS ID: preconst1-61211

Project details

Project name	British Rail Goods Yard, Blackhorse Road, Waltham Forest
Short description of the project	Archaeological monitoring of geotechnical investigations identified a thick layer of alluvium sealed the natural gravel.
Project dates	Start: 30-05-2006 End: 06-06-2006
Previous/future work	No / Not known
Any associated project reference codes	GYW06 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Transport and Utilities 2 - Other transport infrastructure
Monument type	NONE None
Monument type	NONE None
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	'Test-Pit Survey'
Prompt	Direction from Local Planning Authority - PPG16

Project location

Country	England
Site location	GREATER LONDON WALTHAM FOREST WALTHAMSTOW British Rail Goods Yard, Blackhorse Road, Walthamstow
Postcode	E17 6LQ
Study area	0.90 Hectares
Site coordinates	TQ 35777 89303 51.5857116176 -0.039963571389 51 35 08 N 000 02 23 W Point
Height OD / Depth	Min: 6.14m Max: 7.84m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	GLAAS
Project design originator	Tim Bradley

Project director/manager	Tim Bradley
Project supervisor	Andrew Sargent
Type of sponsor/funding body	Willmott-Dixon Housing

Project archives

Physical Archive Exists?	No
Digital Archive recipient	LAARC
Digital Archive ID	GYW 06
Digital Contents	'none'
Digital Media available	'Database','Text'
Paper Archive recipient	LAARC
Paper Archive ID	GYW 06
Paper Contents	'none'
Paper Media available	'Context sheet','Drawing','Map','Report','Unpublished Text'

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1

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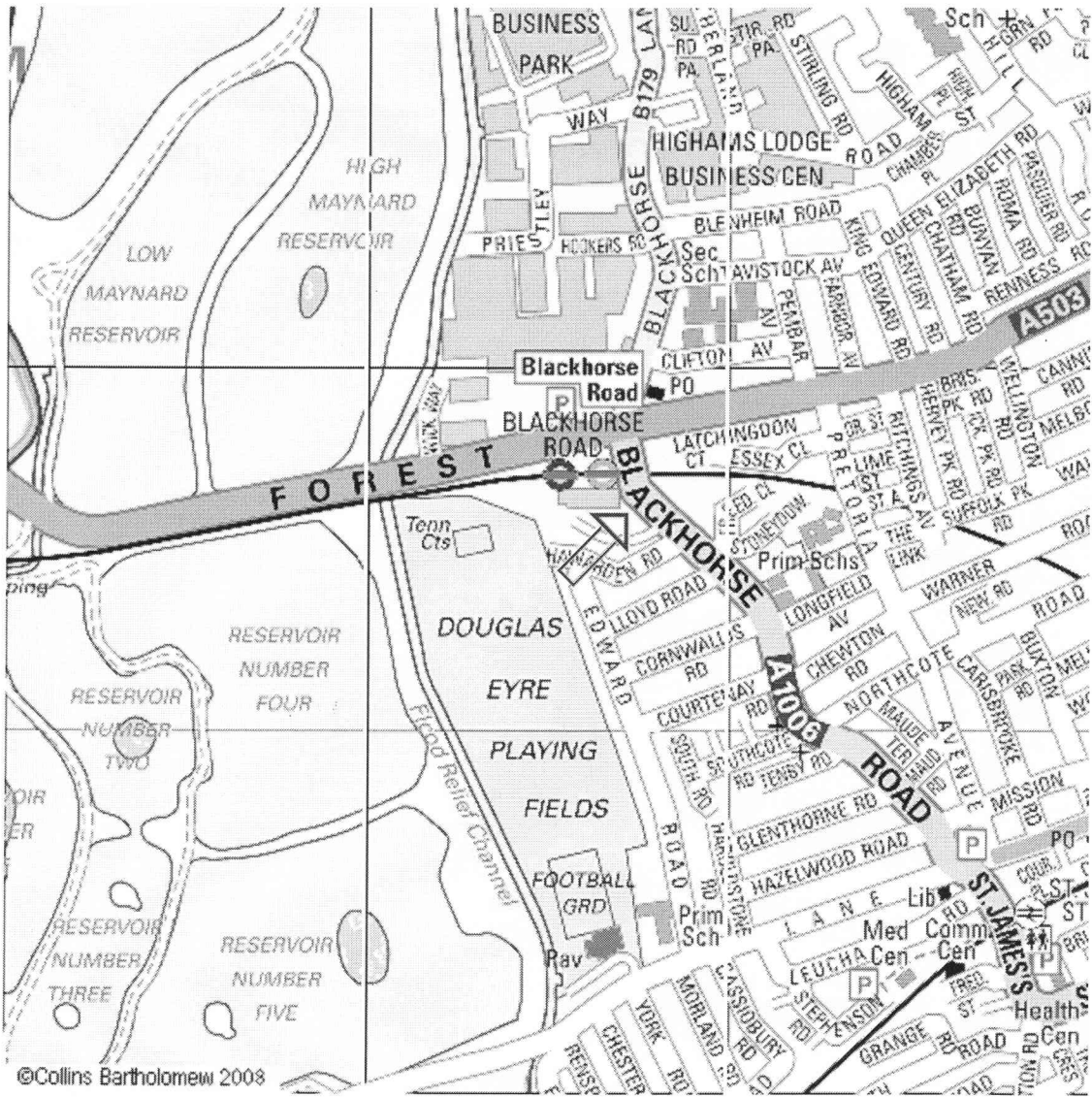


Figure 1 Site Location

Figure 2 Location of Geotechnical Test Pits and Boreholes

