

KINGSTON GASWORKS London KT2

London Borough of Kingston upon Thames

Post-excavation assessment

September 2015



**Kingston Gasworks
Kingsgate Road
London KT2**

Site code KGN14
NGR 51814 16975
OASIS reference: molas1-212903

Planning reference 14/12215/FUL
Condition number 27

Post-excavation assessment and updated project design

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Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED tel 0207 410 2200
2 Bolton House, Wootton Hall Park, Northampton, NN3 8BE tel 01604 700493
email generalenquiries@mola.org.uk

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Registered office: Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED

Executive summary

This report is intended to inform the reader of the results of the excavation at the Kingston Gasworks site: what was found on the site; what post-excavation analysis work has been done so far; what work still needs to be done and why; and how and where the results of the excavation should be made public. The report is written and structured in a particular way to conform to the standards required of post-excavation analysis work as set out in *Management of Archaeological Projects* (English Heritage, 1991 and 1997).

All field work and subsequent assessment was carried out further to the *written scheme of investigation* (MOLA 2015).

An evaluation and subsequent excavation was carried out at Kingston Gasworks. A sequence of Pleistocene gravels overlain by brickearth was recorded. The upper horizon of the brickearth was horizontally truncated by the construction of the Gasworks in c 1896, and has left much of the remaining natural strata contaminated.

Construction of the Gasworks has removed any archaeological features that may have been present in the uppermost undisturbed natural ground over much of the site. Possibly for this reason, no evidence of Roman activity was found despite previous investigations documenting Roman finds and features c 100m and 150m to the west. Features that have survived are limited to a small number of 19th and 20th– century ditches, pits and a singular post hole which are most likely related to rural agricultural activity.

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1 Introduction

1.1 Site background

This report is intended to inform the reader of the results of an excavation carried out by MOLA at Kingston Gasworks in the Royal Borough of Kingston-upon-Thames. The site is currently occupied by a partially demolished gasworks. The NGR is 51814 16975. The site code is KGN14. Modern ground level near to the site lies at c 9.7m OD. The site is being developed to create a residential led development, including two multi-storey buildings, a large basement under the majority of the site and new areas of public realm.

The site does not contain any nationally designated (protected) heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens. The site lies within Kingston Town Centre, a designated Area of Archaeological Significance. This defines the broad area of Roman, Saxon and medieval settlement in Kingston.

1.2 Planning background

The legislative and planning framework in which the excavation took place was fully set out in the *Archaeological impact assessment* which formed the project design for the work (see Section 9, MOLA 2014). To summarise here:

The excavation was carried out to fulfil a condition attached to the Planning Consent given by the Royal Borough of Kingston upon Thames Local Authority (Consent reference 14/12215/FUL; Condition number 27).

Details of the consented development are available at <http://www.kingston.gov.uk/info/200155/planning>.

1.3 Scope of the excavations and report

The excavation took place in a single trench in the south-eastern corner of the gasworks site. The area is bounded to the north and west by disused gas containers, to the east the wall of Kingston College and to the south by another boundary wall. The area was stripped down to top of the natural brick earth to enable the controlled excavation and recording of features cut into the brick earth. Areas shown by the geotechnical site investigations to have deep disturbance or high levels of ground contamination were excluded from the excavation.

1.4 Circumstances and dates of fieldwork

An archaeological evaluation was undertaken in February 2015 which led to the start of an excavation on the 18th March 2015. The excavation took place over a six day period and was completed on the 24th March 2015.

The excavation was undertaken in accordance with the Written Scheme of Investigation (Section 3.2, MOLA 2015). The trench measured c 30m by c 20m and was excavated to a depth of c 8.5m OD.

The initial removal of the concrete slab and modern made ground was carried out by Rye Demolition and monitored by the MOLA site supervisor.

The overburden was then removed to the uppermost horizon of natural brickearth deposit. This enabled the identification, controlled excavation and recording of a number of features cut into the brickearth. Two large sondages were also excavated by machine through areas of discoloured brickearth deposit to establish the nature and deposition of natural deposits.

MOLA site staff comprised 1 Senior Archaeologist and 1 Archaeologist for the duration of the field work, and a single visit from a MOLA Goarchaeologist.

1.5 Organisation of the report

The principles underlying the concept of post-excavation assessment and updated project design were established by English Heritage in the *Management of Archaeological Projects 2* (MAP2), (1991) and further developed in *The Management of Research Projects in the Historic Environment (MoRPHE) Project Planning Note 3: Archaeological Excavations* (1997). English Heritage guidance for the London region stresses that the main difference between this and any other report (eg an evaluation report), is 'the inclusion of an Updated Project Design, which puts forward proposals for analytical work necessary to bring the site to publication' (English Heritage, 2014).

The report below contains the historical and archaeological background of the site in Section 2, followed by the original research aims that guided the project in Section 3. An account of the archaeological remains recovered, ordered by period is provided in Section 4. This is followed by specialist reports that quantify and assess the finds and environmental material recovered during the excavation in Section 5. An assessment of the potential of the data from the site to answer the existing research aims and contribute to additional research questions is covered in Section 6, and the significance of the site discussed in Section 7.

1.6 MOLA team

In the document below the following terms should be understood:

MOLA (Museum of London Archaeology) is a company limited by guarantee registered in England and Wales with company registration number 07751831 and charity registration number 1143574. Registered office: Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED.

Project Manager - MOLA office based manager who was the client's principal point of contact and who has overall responsibility for the project budget and delivery.

Site Supervisor - MOLA site based manager who was responsible for the direction of the field team. Site supervisors on larger sites will tend to be Project Officers in grade, whilst on other sites they will be Senior Archaeologists. On some sites there may be both a Project Officer and/or one or more Senior Archaeologists.

Archaeologists - MOLA excavation staff responsible on site for archaeological excavation.

Health and Safety Compliance Manager – The MOLA manager with sole responsibility for site inspections, reporting and issuing of recommendations for the Site Supervisor and Project Manager to implement. Reports directly to MOLA CEO.

2 Topographical, historical and archaeological background

2.1 Topography

The site lies near the eastern bank of the River Thames. The land in the vicinity of the site slopes downwards from the east to the west towards the Thames. The modern river frontage lies approximately 320m to the west of the site. Ground levels within the site reflect this natural slope. On the eastern side of the site ground levels lie at c 9.6–9.7m above Ordnance Datum (OD), falling to c 7.0–7.7m OD in the western part of the site.

The geology of the site comprises Langley Silt (known as 'brickearth') overlying Kempton Park river terrace gravel and London Clay.

2.2 Archaeology

Prehistoric

Evidence of prehistoric occupation along the river margins at Kingston is relatively common, although mostly taking the form of residual rather than *in situ* remains. A broken Mesolithic flint blade was found lying on the surface of the brickearth during an archaeological evaluation at the Skerne Road car park c 50m to the west of the site (SKR99). During excavations to the south of this at the former gas works off Skerne road, c 30m west of the site, several residual blade cores and blades of Mesolithic or early Neolithic date were found. Scrapers and possible piercers were found which may indicate hide working (SCN01, Bradley 2005, 171).

During excavations c 30m to the west of the site (SKD01), two prehistoric pits and residual stone tools were found, which may be of this date (Bradley 2005, 171). Other flint blades and flakes have been found within the study area: at part of the former gas works, c 100m north of the site (RMD00) and at the Kingston Power Station, where Neolithic pottery sherds were also found, c 225m west of the site (KPR09).

No prehistoric activity from within the study area has been dated to the Bronze Age.

There is no evidence of Iron Age activity within the study area although features or finds simply dated as 'prehistoric', or undated features may date from this time (eg SKD01, KU80 and KPR09).

Roman

Finds of *in-situ* Roman features were found c 100m to the west of site in 2001. These consisted of four early (1st century) pits and two later (3rd century) pits probably used for brickearth extraction and contained significant quantities of pottery, ceramic building material (CBM) and animal bone. In the 19th century during brickearth extraction in Canbury Fields, c 150m west of the site, a number of skeletons associated with Roman pottery and jewellery were found (Hinton 1984, 285). Other Roman finds in the study area have been confined to sherds of pottery and tile.

Early medieval

The site lies c 150m north of the channel which is thought to have marked the northern extent of the Saxon settlement (Hawkins 1998, 271). Archaeological evidence of this channel has been found on two

sites in the study area, c 155m south of the site (SWK96) and c 285m south-west (KPR09). The site is likely to have lain within agricultural land just beyond the settlement.

Late medieval

During the Later medieval period the site lay beyond the main centre of settlement which was located c 575m south-west of the site. It is likely the area around the site was agricultural land at this time.

Post-medieval

Roque's map of 1746 and the Tithe map of Kingston-upon-Thames 1840, show the site to be in agricultural land or fields and largely undeveloped until the 19th century.

The Ordnance Survey 2nd edition 25":mile map of 1896 shows the gasworks, which had been established to the north and west, had been expanded into the northern part of the site. The number 2 gas holder was built in the northern area of site between 1880 and 1896 (LMB Wembley 2013, 12). A further gas holder was built in 1928 in the north-eastern area of site. The Ordnance Survey 1:1250 scale map of 1972 shows the site with all three gas holders fully constructed. A standing building record was made of the gas holders prior to demolition (MOLA 2014).

The archaeological evaluation undertaken in February 2015 (MOLA 2015) consisted of three successful trenches. A fourth proposed trench in the south-west corner (trench 2) could not be excavated due to access problems. The evaluation trench 1 showed that the area on the Seven Kings Way frontage (western site boundary) had been heavily truncated and contaminated by gasworks related features. Trenches 3 and 4 in the south-east quadrant of the site identified an area of relatively undisturbed natural brickearth at a height of approximately 8.37m OD, though the geotechnical investigations indicate that there is a band of disturbed ground, running north to south, in the centre of this to a depth of approximately 5.9m OD. No prehistoric or Roman remains were encountered in the evaluation, but features dated to the post-medieval period were found, indicating that there is potential for earlier remains in the unevaluated areas.

3 Original research aims

All research was/is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology*, 2002

Specific research aims were also established in the Written Scheme of Investigation for the excavation.

Natural topography and the prehistoric environment

Does the untruncated surface of natural brickearth subsoil survive?

Is the apparent truncation of the brickearth noted in the geotechnical investigations the remains of a palaeochannel or other ancient disturbance, or modern disturbance related to the gas holders?

Is there any evidence for a prehistoric presence? If so, what is its context and the likely date range?

Roman

What evidence is there for the 1st to 4th-century Roman settlement observed at adjacent sites to the west? How does the evidence from this site modify our understanding of this settlement?

What is nature of Roman occupation at any one period? Domestic, military, industrial, official, etc?

Medieval

Is there any evidence for settlement or other activity related to the Saxon to post-medieval town of Kingston?

Post-medieval

Are there further features of post-medieval date and what form do they take?

How do these features relate to the post-medieval town of Kingston, or are they associated with rural farming activity?

4 Site sequence: interim statement on field work

4.1 Natural and topography

Two sondage trenches [28] and [29] were excavated within the main trench. These measured c 10m by 2.5m and c 13m by 2.5m respectively. Sondage trench [28] was excavated to a depth of c 1.40m (6.70m OD) and [29] to c 0.75m (7.54m OD). These were located through discoloured areas of brick earth to establish the nature of the brickearth and underlying deposits.

These interventions revealed a sequence of discontinuous sandy silt and gravel banding. The sequence is thought to have been laid down during the Pleistocene period and is therefore of little interest archaeologically. The greenish colour of the sandy silt deposits in these areas is most likely a result of post depositional leached contaminants associated with the gasworks. For a more detailed discussion see the geoarchaeological assessment in section 5.8.

The top of the brickearth (Langley Silt complex) lay at between 8.36m OD and 8.07m OD and slopes off in a westerly direction. This was, however, horizontally truncated.

4.2 Prehistoric

Two sherds of undated prehistoric pottery were recovered from the brickearth in a localised area in the north-east of site. These were not deposited in a feature however, and are likely to be residual.

4.3 Roman

No evidence of Roman activity was observed or recovered from site.

4.4 Saxon

No evidence of Saxon activity was observed or recovered from site.

4.5 Medieval

No evidence of medieval activity was observed or recovered from site.

4.6 Post-medieval

A number of late post medieval pits and ditches seen cut into the brickearth were excavated and recorded. These included a sub-square pit [23], in the north-west of site. Its fill contained a large amount of 19th century pottery, glass and a leather shoe. A number of iron hoops, possibly from staved barrels were within the pit. These were left *in-situ* and the pit was not fully excavated. A late post-medieval linear ditch [25], in the south-west of site, was excavated by way of two 1m slots and produced finds of 19th and 20th-century date. This feature is likely to be related to agriculture or drainage. A shallow scoop feature or pit [27] with a clay fill was cut into the top of this and therefore post-dates the ditch [25]. In the south-east of site a singular post hole was excavated and produced a sherd of 19th or 20th-century pot.

5 Quantification and assessment

5.1 The site archive and assessment: stratigraphic

Numbers of contexts, plans, sections, photographs for each of the site codes which form part of the Assessment.

| Type | Description | Quantity | Notes |
|--------------------|---------------------------|--------------|---|
| Contexts | Excavation | 29 | Eval (19) Excavation (10) |
| Plans | 'A4' 1:20 (no. of sheets) | 14 | Eval (9) Excavation (5) |
| Sections | 'A4' | 2 | Excavation (2) |
| Matrices | | Yes | Digital copy |
| Photographs | | Colour (147) | Standing Buildings (79) Evaluation (18) Excavation (50) |

Table 1 Stratigraphic archive

5.2 The building material

Finds of Post-medieval ceramic building material were recovered from [22], [24] and [20] but not retained. These were all 19th and 20th-century in date.

5.3 The pottery

Two fragments of prehistoric pot were recovered but were not associated with any feature and are therefore residual.

5.4 Geoarchaeology

By Virgil Yendell

The deposit sequences in sondage trench [28] and [29] were inspected by a MOLA geoarchaeologist. In sondage trench [28] the sequence as a whole shows discontinuous layers of dark yellow sandy silt with thin bands of pale yellow/white silt interdigitated with coarse orange sand and sub-rounded flint. The interdigitated sediments appear to be in situ fine grained Pleistocene late glacial outwash deposits as flow rates reduced, and prior to the peri-glacial reworking of these deposits that form the Langley Silt (brickearth) and appear as structure-less sandy silts in other trenches onsite. In the sondage trench [29] sequence, the brickearth survives above the gravels, unlike in sondage trench [28].

The brickearth in other trenches on site may be slightly lower than the trench [28] sequence suggesting that the gravel terrace rose higher in the trench [28] area possibly capped by more brickearth but that both the brickearth and possibly the surface of the gravels were truncated when the Gas Works were built in order to level the ground surface.

The <4 cm pale yellow/white silt bands within the Pleistocene deposits of trench [28] may be tufa layers formed as Mesolithic spring water percolated through the sediments to emerge from the edge of the underlying Kempton Park terrace beyond the east of the site.

The sequence as a whole smells contaminated and the green colouring visible in trench [28] appears to be post-depositional (possibly lateral movement of contamination via ground water). The vertical boundary of the green staining was irregular and it is unlikely such a boundary formed as part of the deposition of the sediments. Also, there is no lithological distinction between the two abutting units with bands within them continuing across the colour change.

No sampling was undertaken due to the contaminated nature of the deposits (preparation for environmental proxy assessment and radiocarbon dating require chemical pre-treatment, which may adversely interact with any contamination and the contamination itself can skewer the results). In addition the likely Pleistocene age of the deposits lowers the age and potential of the sequence.

6 Potential of the data

6.1 Realisation of the original research aims

The following research aims were established in the *Written Scheme of Investigation* for the excavation, after consultation with appropriate specialists, and in particular with consideration of the results of previous archaeological investigations within the study area.

Natural topography and the prehistoric environment

Does the untruncated surface of natural brickearth subsoil survive?

The untruncated surface of brickearth has been recorded as possibly surviving in some places within the evaluation trenches. The absence of subsoil in other areas of the site suggests survival is probably minimal and fragmentary and has been truncated in most areas by the construction of the gas works. This is supported by the geoarchaeological assessment (see section 5.8). As such there is little potential for further investigation or analysis.

Is the apparent truncation of the brickearth noted in the geotechnical investigations the remains of a palaeochannel or other ancient disturbance, or modern disturbance related to the gas holders?

The geoarchaeological assessment suggests the brickearth is truncated by modern activity related to the gas holders.

Is there any evidence for a prehistoric presence? If so, what is its context and the likely date range?

A small amount of prehistoric pottery was recovered from the site. It was not however associated with any particular feature and is likely to be residual. As such there is little potential for further work.

Roman

What evidence is there for the 1st to 4th-century Roman settlement observed at adjacent sites to the west? How does the evidence from this site modify our understanding of this settlement?

There was no evidence for any Roman activity or settlement.

What is nature of Roman occupation at any one period? Domestic, military, industrial, official, etc?

There was no evidence any Roman activity or settlement.

Medieval

Is there any evidence for settlement or other activity related to the Saxon to post-medieval town of Kingston?

There was no evidence for activity relating to the Saxon to post-medieval town of Kingston.

Post-medieval

Are there further features of post-medieval date and what form do they take?

A small number of post-medieval features were recorded. These were in the form of pits, a ditch and a post hole.

How do these features relate to the post-medieval town of Kingston, or are they associated with rural farming activity?

The post-medieval features are most likely related with rural farming activity, in the form of refuse pits, a drainage or boundary ditch and a post hole most likely associated with a fence line.

6.2 General discussion of potential

There is little potential for further study of the results from the excavation. A small number of late post-medieval features are of local significance, and have only the potential to elucidate possible field boundaries or the layout of drainage ditches in the 19th and 20th centuries.

As the location of the eastern boundary of Roman burials found at Canbury Fields c 150m to the west, and excavations of Roman features at Skerne Road c 100m to the west, was unknown, it was thought possible that these might extend into the excavation area. As no evidence for these was found, the excavation has proven that either the limit of these Roman features did not extend into the excavation area, or that horizontal truncation of the brickearth related to construction of the gasworks has removed any evidence.

A small amount of prehistoric pottery was found but is however residual and provides no potential for further work.

7 Significance of the data

The English Heritage National *Research Agenda* notes that the themes it discusses 'are by no means exhaustive, but are offered as a general framework upon which to construct specific research designs'. Whilst much of the focus of the document is on the move from single-site to multi-site based synthesis it is also made clear that the 'multi-site synthesis advocated...will not abrogate the need for particular cases of site-specific research and publication'.

Similarly the *Capital Concerns* document notes that the nine themes are 'presented as outline sketches, neither exhaustive individually nor prescriptive as a set' (p7).

The investigation of the natural deposits has local significance. They could help to reconstruct the past landscape and in particular the formation of geological deposits during the Pleistocene period. This could help to elucidate the nature of the landscape during the Mesolithic period in the local area.

The post-medieval ditches and postholes are of local significance only, and do little more than add to the specific layout of agricultural land use.

8 Publication project: aims and objectives

8.1 Revised research aims

There are no revised research aims.

8.2 Preliminary publication synopsis

Publication will occur in the form of an annual summary in London Archaeology and Post-medieval archaeology.

8.3 Publication project: task sequence

All work carried out on this project is subject to the health and safety policy statement of MOLA as defined in the MOLA Health And Safety Policy. This document is available on request. It is MOLA policy to comply with the requirements of the Health and Safety at Work Act 1974, the Management of Health and Safety at Work Regulations 1992 and all Regulations and Codes of Practice made under the Act which affect MOLA operations.

8.4 Publication text method statement

Task 1 Write publication summary

0.5 days

| Task No. | Done by | Task Description | Time required (person days) |
|-----------------|----------------|---------------------------|------------------------------------|
| <i>Task 1</i> | | Write publication summary | 0.5 |

9 Publication project: resources and programme

Financial resources sufficient to cover the work proposed in this document have been sought via a separate document.

10 Acknowledgements

Thanks to Berkley Homes (West London) Limited for funding the excavation works and this report.

Thanks also to Richard Bell (Berkley) and Gillian King (Historic England) for their support and advice during the fieldwork.

The evaluation was supervised by Ken Pitt and evaluation and the project managed by Michael Smith.

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12 Appendix: management, delivery and quality control

MOLA (Museum of London Archaeology) is a company limited by guarantee registered in England and Wales with company registration number 07751831 and charity registration number 1143574. The Registered Office is Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED). It has its own independent Board of Trustees but works in partnership with the Museum of London via a Memorandum of Understanding.

MOLA is a 'Registered Organisation' with the archaeological professional body, the Chartered Institute for Archaeologists (CIfA). The *CIfA Register* is a rigorous Quality Assurance scheme for archaeologists. In order to be accepted, MOLA has passed a Board resolution to comply with the CIfA Code of Conduct and Standards, to demonstrate that compliance through bi-annual re-registration, to submit to regular CIfA inspections, and to ensure that all MOLA activities are under the overall direction of a Member grade (MifA) 'responsible post-holder'. The Registered Organisation scheme also provides procedures for investigating and handling of external complaints.

MOLA subscribes to and abides by the general principles and specific terms of the *Code of Good Practice On Archaeological Heritage in Urban Development Policies* established by the Cultural Heritage Committee of the Council of Europe, and adopted at the 15th plenary session in Strasbourg on 8-10 March 2000 (CC-PAT [99] 18 rev 3). In particular to the following points: ...*archaeologists shall be aware of development costs and adhere to agreed timetables* (Para 3 'The Role of the Archaeologist'), with all work '*carried out to written statements setting out standards timetables and costs*' (para 4 *ibid*).

MOLA further subscribes to and ensures that its activities comply with and/or are guided by the following policies, procedures and guidance:

- Appropriate local and regional planning authority archaeology guidance – eg for London: English Heritage, *Standards for archaeological work* (2014)
- Appropriate Archaeological Research Framework for the region – eg for London: English Heritage Archaeology Division, *Research Agenda* (1997); Museum of London, *A research framework for London archaeology* (2002); and *Historic Environment Research Strategy for Greater London* (in prep. CBA/MoL/Rowsome).
- English Heritage, *Management of Archaeological Projects* (MAP2), (1991)
- English Heritage Centre for Archaeology, *Guidelines* (various)
- Museum of London Archaeological Service, *Archaeological Site Manual* (1994)
- Museum of London Archaeological Service, *Archaeological Finds Procedure Manual* (2006)
- National archive disposition standards including Museum and Galleries Commission, *Standards in the Museum Care of Archaeological Collections* (1992) and Society of Museum Archaeologists, *Towards an Accessible Archaeological Archive: the Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales* (1995)
- Relevant local archive deposition standards, eg for London, Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (2009).

MOLA governance and organisational strategy are determined by the Senior Management Group (SMG), led by the Chief Executive Officer and comprising the Finance Director, the Head of Operations, and four Directors heading the Planning, Development Services Research & Education and Northampton divisions. The SMG reports regularly to an independent Board of Trustees, who oversee MOLA's performance and strategic direction. As a charitable company MOLA is monitored and regulated by the Charities Commission.

MOLA is structured to reflect its project orientation. Within Development Services the Director manages the Client Team of c 10 Project Managers (PMs). Individual PMs are responsible for developing new work for MOLA, and thereafter for designing, budgeting and delivering projects for clients. They remain the principal point of contact for the client for the duration of each project.

PMs drive projects through successive stages in accordance with client needs, forming project teams by drawing upon the skills available within MOLA Operations teams. PMs ensure that projects are completed to the highest standards within time and budget. Financial monitoring of projects against budget is undertaken by the Finance Director and PMs at monthly review meetings. Project management software is employed by MOLA Operations to plan resourcing and track and adhere to programme and budget. Project team meetings are held throughout the programme, allowing refinement of research strategies in the light of on- or off-site findings or analysis. Recording, excavation, and sampling strategies may be modified to provide optimum information retrieval in support of the research objectives. At post-excavation phase internal project management is normally devolved to a designated Post-Excavation Project Manager.

All archaeological field work is controlled and monitored on a day to day basis by the on-site Site Supervisor (SS), who reports to the designated Project Manager. Together with PMs and the Field Manager (responsible for H&S) they also liaise as necessary with the client's agents and principal contractors regarding all enabling works and H&S..

All written documentation, eg initial '*written scheme of investigations*' ('*wsis*'), evaluation reports, post-excavation *Assessment Reports* and final publications undergo stages of internal review and sign-off prior to final issue to clients. For both field and reporting work PMs and SSs meet and liaise with the client and the Local Authority's archaeological advisor or officer to ensure delivery according to *wsis* and to review progress, research aims, archaeological procedures, and site strategies as appropriate..

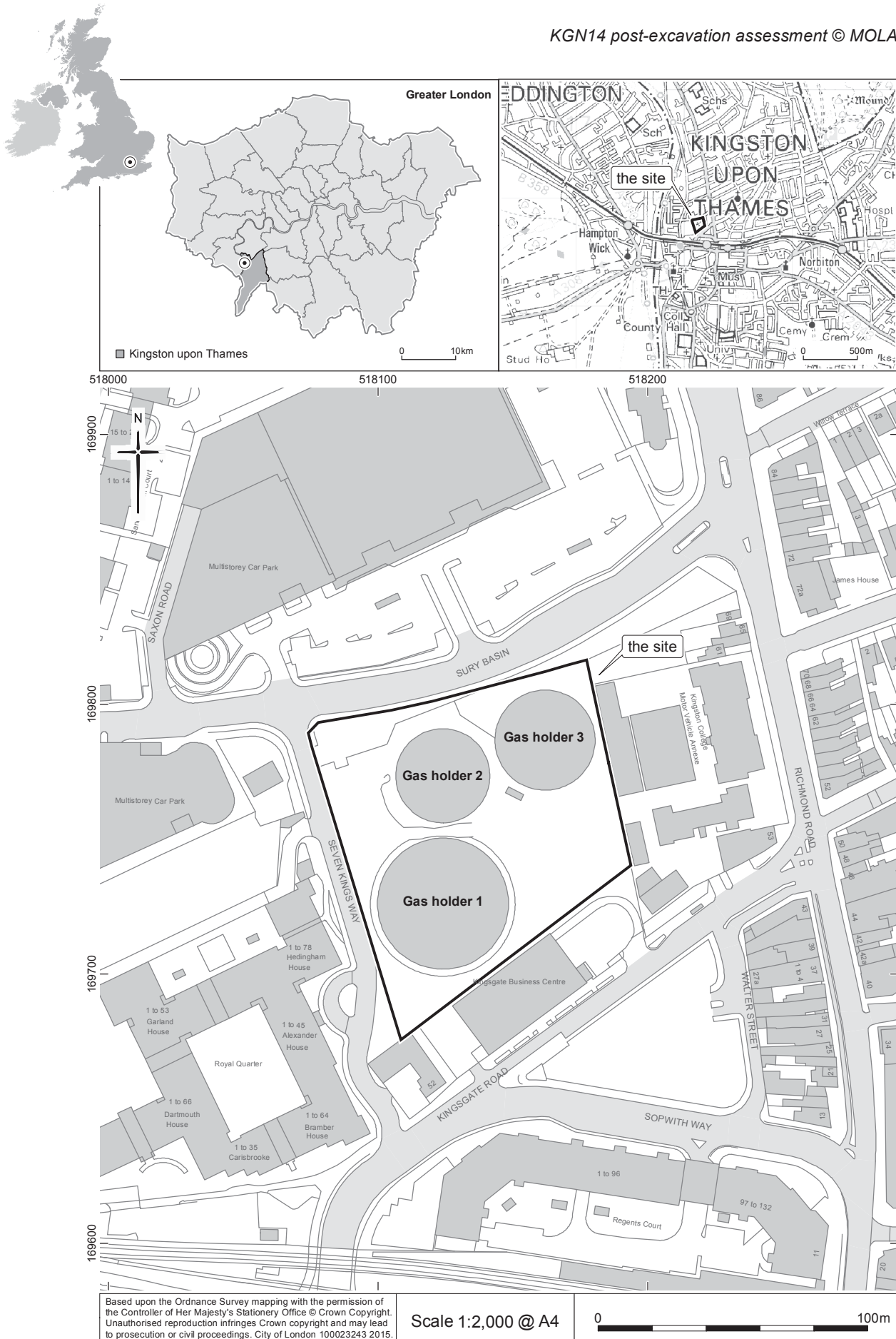
At all stages, what constitutes an appropriate archaeological response will be assessed against criteria of local, regional and national significance and within frameworks of valuable archaeological research topics identified in local or regional Archaeological Research Frameworks (where these exist).

13 Appendix: Photos of gas holder substructures

Photographs were taken of the exposed substructures of gas holders 1 and 2 during the excavation. These show the structures post-demolition of the superstructures in order to supplement the pre-demolition photographs taken as part of the standing building record (MOLA 2014). There was no safe access into the below ground structures so all recording was made from the top of the tanks.

Gas holder 1 (figs 14 to 16) was previously referred to as Gasometer 5. It was built in 1957 as a spiral guided holder (MOLA 2014). The below ground structure was shown to be formed by a reinforced concrete tank with a diameter of 50.3m and a depth of 8.5m. It had a substantial conical dumpling in the centre of the tank. The dumpling was often left in place to avoid the cost of excavating the central core of the tank. In this case it was faced with concrete plates. The area between the outer wall and the dumpling would be water filled to create a gas-proof seal at the base of the holder. A series of vertical posts rose from the top of the dumpling, and supported concentric concrete rings. These would have provided the support for the above ground telescopic shell. The holder was constructed too late to be included in the typology of 19th century gasholders devised by Tucker (2014), however, it would have been a development of his type *iii*) high pressure holders which started to be developed in Britain from the 1930s (*ibid*, 34).

Gas holder 2 (figs 17 and 18) was previously referred to as Gasometer 2. It was built at some time between 1880 and 1886 with a static guide frame of 14 cast iron columns or standards. Its below ground tank had a diameter of 35m and a depth of 8m. Its retaining wall was brick-built with regularly spaced iron pilasters supporting an iron ring at the top internal face of the tank. The latter may have helped to support the 14 above ground cast iron columns or standards (see MOLA 2014 fig 20) though the relationship between them had been removed by the time the present observations were made. It had no pronounced dumpling, though there was a small raised structure of uncertain material in the centre. The holder corresponds to Tucker's type *i*) a low pressure, water-sealed holder with an external column-guided system (Tucker 2014, 33).



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Scale 1:2,000 @ A4

0 100m

Fig 1 Site location

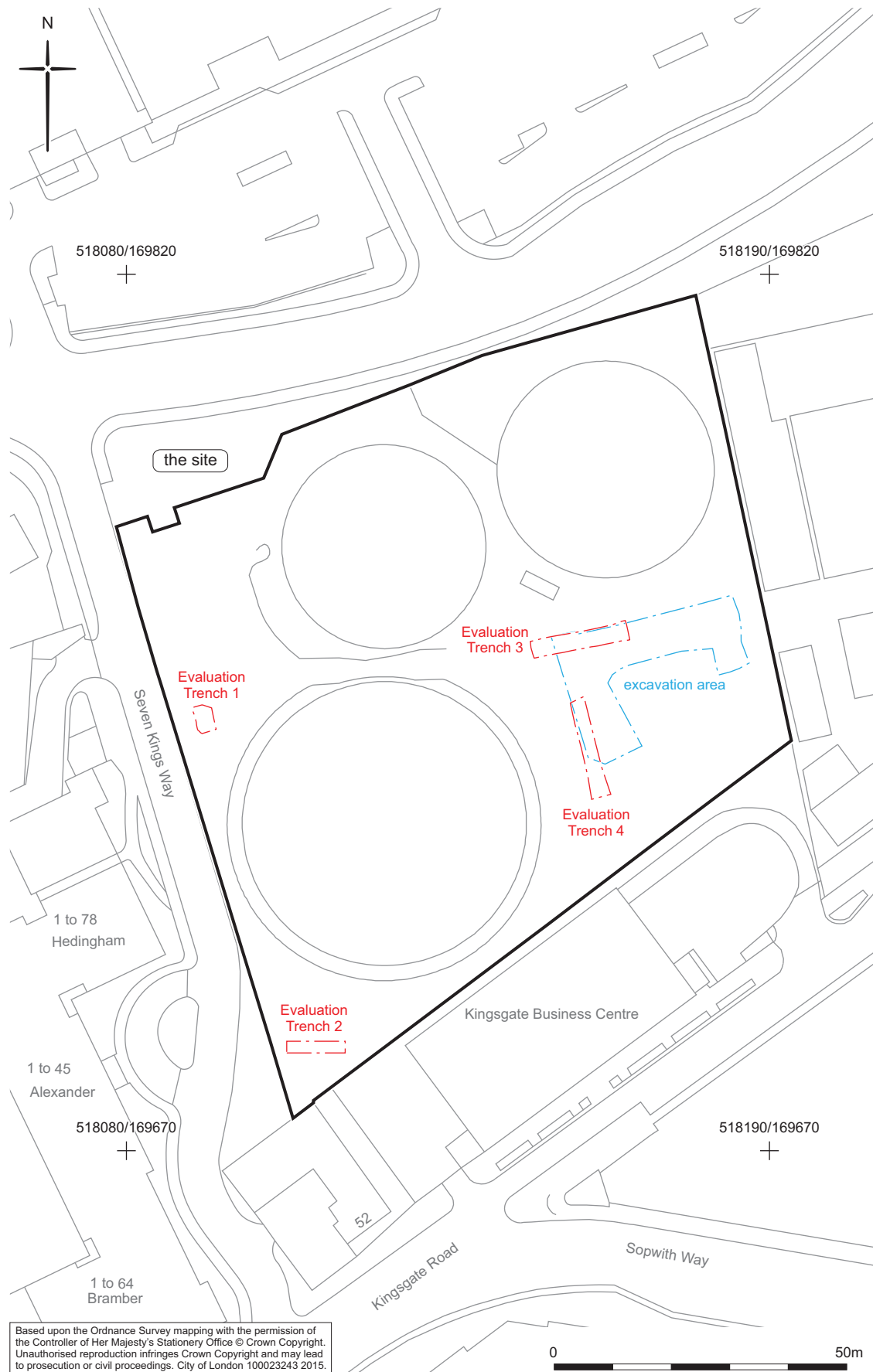


Fig 2 Area of excavation



Fig 3 Rocque's map of 1746

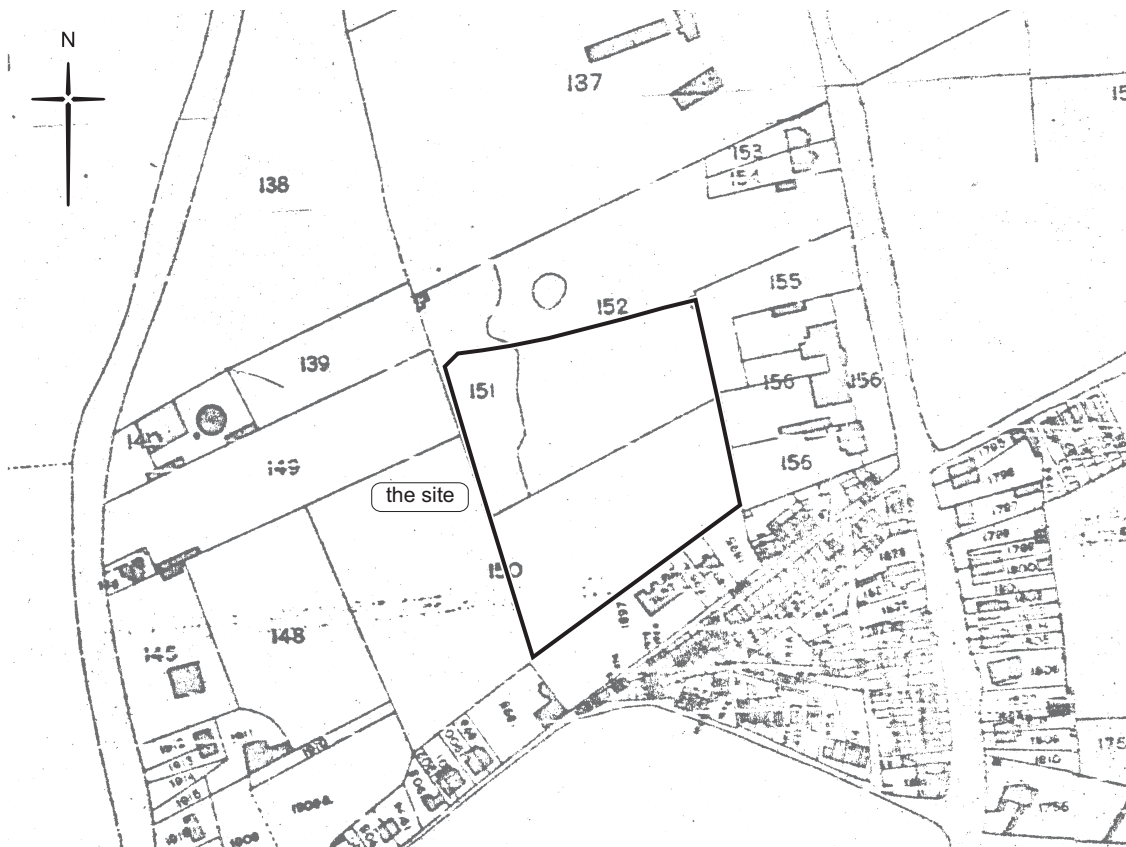


Fig 4 Tithe map of Kingston-upon-Thames, 1840 (Kingston Local History Room)

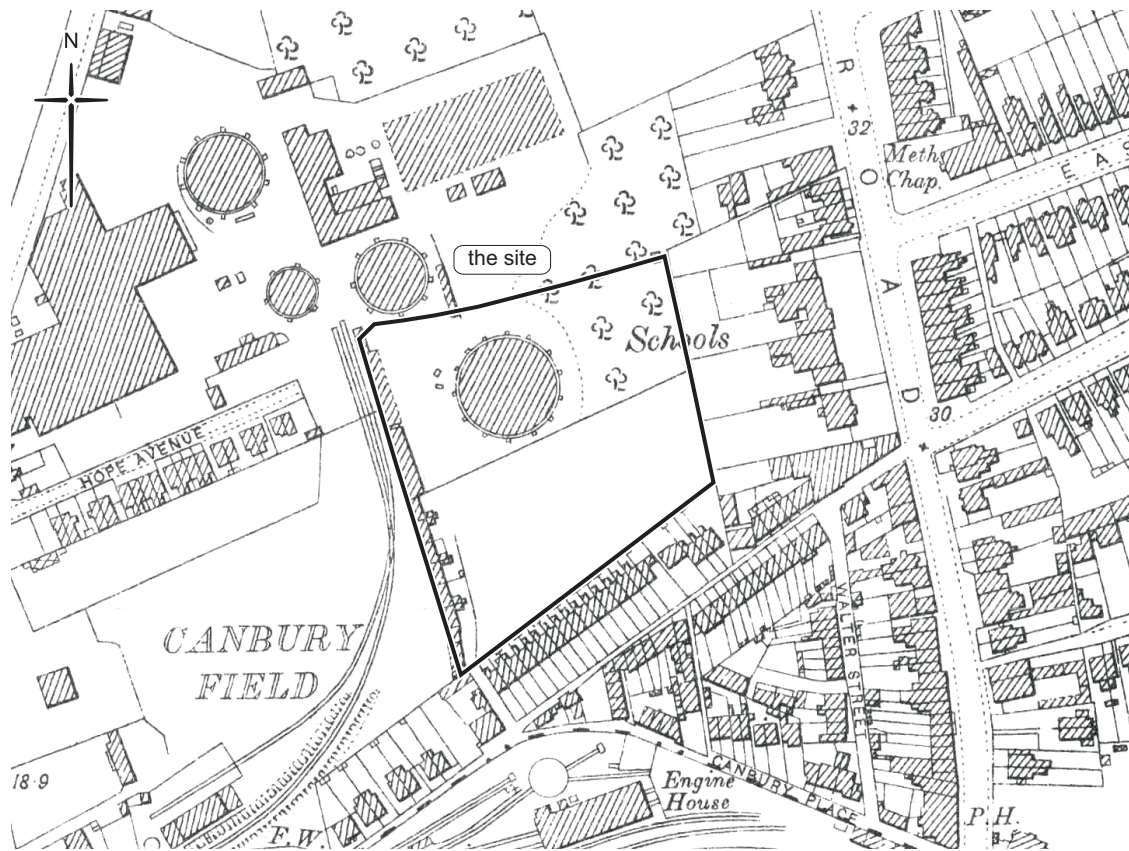


Fig 5 Ordnance Survey 2nd edition 25" map of 1896 (not to scale)

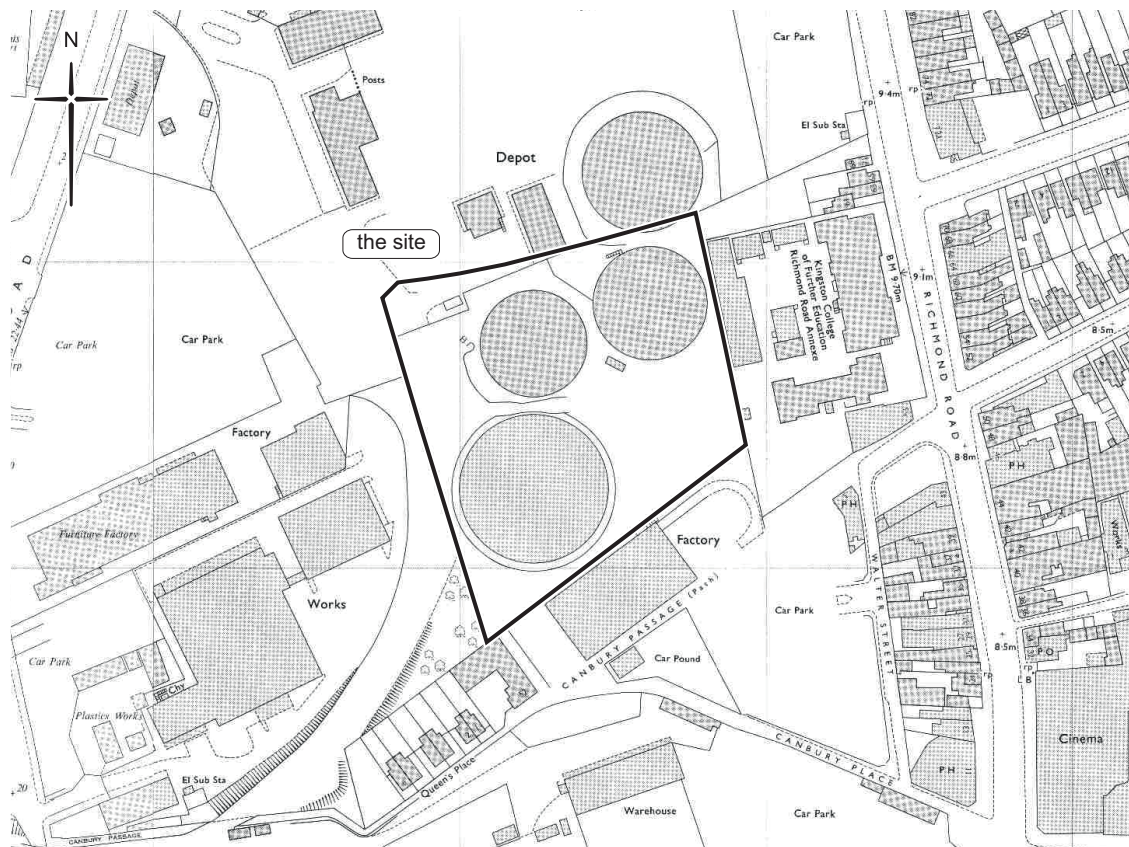


Fig 6 Ordnance Survey 1:1250 scale map of 1972 (not to scale)

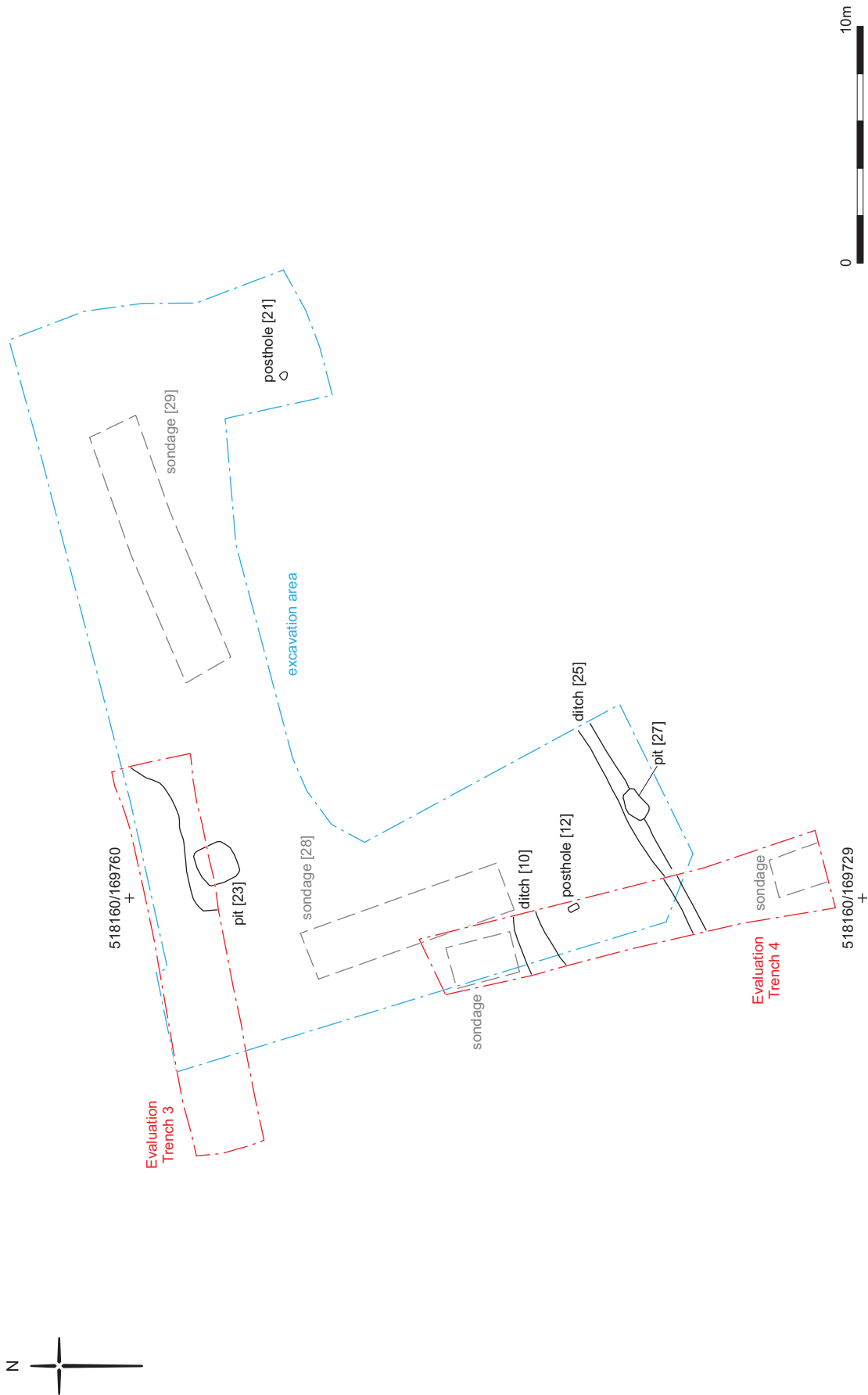


Fig 7 Plan of features (excavation and evaluation)



Fig 8 View across east of site looking north



Fig 9 View across north of site looking west, showing sondage [29]



Fig 10 View across west of site looking north, showing sondage [28], post-medieval ditch [25] and pit [27]



Fig 11 Showing late post-medieval ditch [25] and pit [27], looking east



Fig 12 East facing section of sondage [28], showing Pleistocene gravel deposits and tufa layers



Fig 13 Pit [23] looking south showing 19th-century barrel staves



Fig 14 Gas holder 1 (see fig 1) substructure, looking south-west



Fig 15 Gas holder 1 (see fig 1) substructure, looking north-west



Fig 16 Gas holder 1 (see fig 1) substructure, looking west



Fig 17 Gas holder 2 (see fig 1) outer wall, looking north



Fig 18 Gas holder 2 (see fig 1) outer wall, looking north-west

14 OASIS archaeological report form

14.1 OASIS ID: molas1-212903

Project details

| | |
|--|--|
| Project name | Kingston Gasworks |
| Short description of the project | An evaluation and subsequent excavation was carried out at Kingston Gasworks. The occupation of the site by Gasworks since c 1896 has left the majority of natural brick earth contaminated. Construction of the Gasworks has removed any archaeological features that may have been present in the uppermost undisturbed natural ground over much of the site. Possibly for this reason, no evidence of Roman activity was found despite previous investigations documenting Roman finds and features c 100m and 150m to the west. A small amount of prehistoric pottery was recovered but is likely to be residual. Features that have survived are limited to a small number of 19th and 20th- century ditches, pits and a singular post hole which are most likely related to rural agricultural activity. |
| Project dates | Start: 18-03-2015 End: 25-03-2015 |
| Any associated project reference codes | molas1-204574 - OASIS form ID |
| Type of project | Field evaluation |
| Site status | Area of Archaeological Importance (AAI) |
| Current Land use | Industry and Commerce 1 - Industrial |
| Monument type | DITCH Post Medieval |
| Monument type | PIT Post Medieval |

Project location

| | |
|-------------------|---|
| Country | England |
| Site location | GREATER LONDON KINGSTON UPON THAMES KINGSTON UPON THAMES Kingston Gasworks |
| Postcode | KT2 |
| Study area | 450.00 Square metres |
| Site coordinates | TQ 5181 1697 50.9315994606 0.160611775328 50 55 53 N 000 09 38 E Point |
| Height OD / Depth | Min: 7.00m Max: 8.06m |

Project creators

| | |
|--------------------------|------------------------|
| Name of Organisation | MOLA |
| Project brief originator | Berkeley First limited |

Project design originator English Heritage

Project director/manager Mike Smith

Project supervisor Tim Johnston

Project archives

Physical Archive recipient LAARC

Physical Archive ID KGN14

Physical Contents "Ceramics"

Digital Archive recipient LAARC

Digital Archive ID KGN14

Digital Contents "Stratigraphic","Survey"

Digital Media available "Images raster / digital photography"

Paper Archive recipient LAARC

Paper Archive ID KGN14

Paper Contents "Stratigraphic"

Paper Media available "Context sheet","Diary","Matrices","Plan","Report","Section"

Entered by Tim Johnston (tjohnston@mola.org.uk)

Entered on 3 June 2015
