

Phase II Area
Beam Washlands
Dagenham
Greater London
Essex



**Archaeological Evaluation Report
(Incorporating Geophysical Survey
Results)**



Oxford Archaeology

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**Beam Washlands, Dagenham,
Greater London, Essex**

NGR TQ 5020 8360

Phase II Area

ARCHAEOLOGICAL EVALUATION REPORT

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Summary

Oxford Archaeology (OA) undertook a field evaluation in July 2005 at Washlands Reservoir, Dagenham, Essex (NGR 5020 8360) on behalf of Halcrow Group Limited. The Environmental Agency has proposed a flood alleviation scheme here for the Beam River. This will involve significant landscaping of areas within the Beam River flood plain.

This evaluation is the second phase of evaluation and excavation works in this development area and consisted of thirteen trenches located on a gravel promontory to the east of a reservoir area, and just north of the confluence of the Beam and Wantz rivers. This evaluation (Phase II) was carried out on land immediately south of an ongoing Strip Map and Sample excavation, which has identified pre-historic activity from the early Mesolithic, Bronze Age and Iron Age periods and later Roman occupation.

Archaeological features were few and dispersed throughout the evaluation area. Of interest were two in-situ cremation burials located in the centre of the evaluated area (Trenches 13 and 14). One of these cremations has been dated to the Roman period; the other is likely to be contemporary. Two isolated and two other closely associated postholes were seen in three of the trenches towards the south-east of the site (Nos. 15, 16 and 17). All are undated and there were too few in number to allow any meaningful interpretation. Two ditches of unknown date were identified in Trenches 11 and 12 to the north-west end of the site.

Two wide and shallow features were seen in Trenches 11 and 15: these also remain undated and are difficult to interpret. A large ditch at the south-east edge of site in Trenches 12, 18 and 19, which coincides with a clear break of slope in the existing topography, appears to be of post-medieval date. It is likely to represent a continuation of a ditch seen in the excavation area to the north-west. This ditch runs parallel to the course of the Wantz Stream to the south and west, probably forming an early flood defence barrier.

OA commissioned Stratascan to undertake a geo-physical survey of the evaluation area in December 2005, after the evaluation. The resistivity data appears to correspond well with a number of the archaeological features identified within the trial trenches, however a number of low resistance anomalies were mapped but were not identified within the trenches. While it is possible that these anomalies represent archaeological features, they may equally represent shallow modern activity just beneath topsoil, or be of geological origin. Of note is the fact that the cremations (that were left in situ) were not identified by the geo-physical survey.

1 INTRODUCTION

1.1 Location and scope of works

- 1.1.1 The Environment Agency (EA) has proposed a flood alleviation scheme for the Beam River. The proposed programme of work will include significant landscaping of areas within the Beam River flood plain. This flood plain is a designated Area of Archaeological Significance within the London Borough of Barking and Dagenham UDP.
- 1.1.2 Halcrow Group Limited has appointed Oxford Archaeology (OA) as the contractor for the archaeological evaluation of the impact area. OA operated in accordance with a Written Scheme of Investigation (OA 2005a) agreed with the Greater London Archaeology Advisory Service (GLAAS) on behalf of Halcrow/EA. This evaluation is known as Phase II: previous evaluation work has been undertaken nearby, followed by a strip, map and sample excavation (see below, 1.3).
- 1.1.3 The site (Fig.1) is to the south-west of Dagenham Hospital (now demolished) and to the north and east of the Wantz Stream (NGR TQ 502 836). The Beam River flows approximately north-south to the east of the development area.
- 1.1.4 The evaluation comprised thirteen trenches, representing a 5% sample of the impact area; the area is 1.4 ha. in total. After the evaluation fieldwork was complete, OA commissioned *Stratascan* to undertake a Geophysical Survey of the site (see section 6, below and Figs 7 and 8).

1.2 Topography and geology

- 1.2.1 The site is located on the south-west side of a gravel promontory between the Beam River to the north-east and the River Wantz. The ground slopes gently down towards the reservoir, which is bounded by a sharp bank.
- 1.2.2 The underlying geology is London Clay overlain by Lower Thames Valley, Mucking Gravels of the first terrace (equivalent to the Taplow Gravels of the Middle Thames). It is situated on the periphery of the River Beam floodplain and is therefore unlikely to contain the alluvial and peat deposits that are known of closer to the Wantz Stream and Beam River (British Geological Survey South Sheet, 1st edn. Quaternary, 1977).

1.3 Historical and archaeological background

- 1.3.1 A rapid assessment of the Greater London Sites and Monument Records logged with the Archaeological Data Service showed no previously known archaeological remains or excavation sites within a 1 km radius of the investigation area. The majority of the archaeology identified in the Lower Thames floodplain has been located on the Lower Thames Gravel. Most typically peripheral activity has been recently identified on the edge of the Terrace Gravel with settlement focus usually on the higher ground.

Prehistoric

- 1.3.2 A Palaeolithic flint assemblage was recovered in Gale Street Dagenham (GLSMR-060541) during the building of the Beacontree Estate, some 2.7 km to the north-west

of the investigation area. A prehistoric earthwork (GLSMR 060975 - unclassified) is known at Ivy Walk, c 2.5 km to the north-west of the investigation area. Bronze Age and Roman linear features are known at Woolwich Manor Way c 8 km to the south-west (see A13/A117 DBFO Road Scheme, Post-Excavation Project Design, OA - forthcoming). During construction of the A13/A117, a Middle Bronze Age timber revetment or pier was identified at the margin of the floodplain at Prince Regent Lane, Docklands, c 8 km east of the evaluation area (A13/A117 DBFO Road Scheme, Post-Excavation Project Design - forthcoming).

- 1.3.3 An Iron Age settlement (GLSMR 061906) was discovered on the First Terrace Gravel c 6 km west of Dagenham at Abbey Road, Barking (MoLAS 2000). A number of sites are located in Redbridge on the First Terrace Gravels, c 6-7 km to the east of Dagenham. These include a large triple-ditched enclosure/hill-fort and a middle Iron Age settlement or farmstead (GLSMR 06006002, 060059).
- 1.3.4 Iron Age sites have been identified on the Gorbets Tey Second Terrace Gravels some 4-5 km to the north in Redbridge and Havering. These include a field system and a cropmark site (GLSMR 060335) at Eastern Avenue, Ilford. An Iron Age farmstead (GLSMR 060802) was excavated at Goodmayes Hospital, Redbridge. Enclosures, ring ditches, pits and postholes were recorded at Redlands Quarry (GLSMR 06105, 6, 8, 10).

Roman and later

- 1.3.5 Work in the Lower Thames has identified prehistoric and Romano-British occupation at High House Farm, Purfleet (CTRL URN/310/ARC/0029, Interim Report). A Roman farmstead (GLSMR 060082) was found at a similar topographical location in Havering c 2 km to the east of the evaluation area (on the Mucking formation, next to Rainham Creek). The historic settlement of Dagenham is presumed to have its origins in the Saxon period and excavations revealing medieval and post-medieval remains have been carried out in the town.

Recent archaeological work by OA

- 1.3.6 At the time of this evaluation, an excavation preceded by evaluation (Phase I) by OA was in progress to the north of the evaluated area as part of the same programme of engineering works. The excavation (OA 2006, post-excavation assessment, forthcoming) followed on from a prior evaluation of the site, which has been reported (OA 2005b).

Evaluation

- 1.3.7 The Phase I evaluation (OA 2005b) suggested evidence of Middle Iron Age ditch termini or parts of possible structures, perhaps associated with industrial activity and produced a significant quantity of burnt clay (possibly from the base of a kiln, hearth or oven). Ditches aligned east-west were dated to the 1st-2nd centuries AD and were thought to be part of a more extensive Roman field system or an enclosure.

Strip, Map and sample excavation

- 1.3.8 The subsequent excavation revealed a dense concentration of archaeological activity. Early Mesolithic tool production was identified within river sediments on the bank of the flood plain. Twelve flint artefacts were recovered, including a blade, cores and

flakes. Bronze Age activity on the bank of the flood plain comprised a deposit of fire-cracked flint and charcoal, situated adjacent to the water's edge. These ambiguous deposits are usually associated with cooking or ritual saunas and are typically located near watercourses.

- 1.3.9 The earliest Roman activity was focused to the north of the site and was represented by a large 1st century enclosure with an entrance to the east. During the second century the enclosure was reduced in size and some time between the mid-2nd and 3rd centuries the enclosure was divided to form distinct areas of use, characterised by kilns, wells and lightweight structures.
- 1.3.10 The kilns represent the most significant discovery of the excavation. They were constructed on the same site with the second kiln replacing the first. Two Roman wells close to the reservoir bank were broadly contemporary with the use of the kilns, providing gravel-filtered water for industrial and domestic use.
- 1.3.11 A circular structure may represent a small building or may have supported a superstructure for the storage and drying of wood, possibly to fuel the kiln. The excavation also provided further evidence of boundary ditches, forming linear plots across the site, each with access to the water's edge. The most southerly plot contained a significant number of pits filled with industrial and domestic waste.

2 AIMS OF THE INVESTIGATION

- 2.1.1 To determine or confirm the general nature of any remains present and to determine or confirm the approximate date or date range of any remains, by means of artefactual or other evidence.
- 2.1.2 To determine or confirm the approximate extent of any remains and their condition and state of preservation.
- 2.1.3 To determine the degree of complexity of the horizontal and/or vertical stratigraphy present.
- 2.1.4 To determine or confirm the likely range, quality and quantity of any artefactual evidence present.
- 2.1.5 To determine the potential of the site to provide palaeo-environmental and/or economic evidence and the forms in which such evidence may be present.
- 2.1.6 To make available the results of the investigation.

3 SCOPE OF FIELDWORK, METHODS AND RECORDING

- 3.1.1 The evaluation comprised thirteen trenches. Each measured 30 m in length x 1.5 m in width (Fig. 2). This represented a 5% sample of the investigation area. The trenches were positioned to investigate the full potential of the area. Prior to commencing machine excavation, each trench location was CAT scanned for underground services and a visual inspection was conducted for the presence of newts.
- 3.1.2 All mechanical excavation was carried out in such a manner so as to avoid or minimise damage to the archaeological remains. All machinery was of appropriate

nature and power to suit the working situation and fitted with toothless ditching buckets. A suitably experienced archaeologist supervised all machine work. Topsoil and subsoil was stored separately and reinstated in the correct order to prevent mixing; spoil was scanned for artefacts.

- 3.1.3 Sufficient of the features was excavated by hand in order to fulfil the aims of the project, with reference to the general aims and objectives above. Care was taken not to compromise the integrity of archaeological features or deposits, which might be better understood by full excavation.
- 3.1.4 The depth and complexity of the deposits across the whole site was assessed. Written and drawn records were made of the stratigraphy of all trenches, even where no archaeological deposits were been identified. Test pits were excavated at the end of each trench to assess deep stratigraphy. These reached a maximum depth of 3.6m below ground surface and were backfilled immediately.
- 3.1.5 Fieldwork was undertaken in accordance with standard OA practise (OA 1992, Fieldwork Manual). A unique site code was agreed with the Museum of London (BMV 05). The recording system was fully compatible with that most widely used elsewhere in the Borough. Context sheets include all relevant stratigraphic relationships. A separate matrix diagram was produced as necessary. The *Archaeological Guidance Papers* issued by the Greater London Archaeology Advisory Service (English Heritage) was adhered to.
- 3.1.6 A programme of soil sampling to recover palaeobotanical, palaeozoological and pedological evidence was prepared if deemed appropriate. Finds were recovered by hand during the course of the excavation. Finds of special interest were given a unique small find number. A total of three contexts produced finds during the course of the excavation.

4 RESULTS

4.1 Trench descriptions

Trench 8

- 4.1.1 Trench 8 (not illustrated) was aligned NW-SE. Natural gravel (803) was identified approximately 0.4 m below existing ground level (2.7 m OD). This was overlain by a series of gravel-rich sandy silt sub-soils (801 and 802) and a topsoil (800).
- 4.1.2 A single irregularly shaped cut was revealed in the north-west end of the trench (805). This was stratigraphically later than the subsoil and is probably a tree-throw hole.

Trench 9

- 4.1.3 Trench 9 (not illustrated) was aligned NE-SW. Natural gravel (902) was encountered approximately 0.4 m below existing ground level. This sloped down towards the SW (2.6 m to 2.8 m OD). A gravel-rich subsoil (901) and a topsoil (900) overlay this. The trench contained no archaeological deposits.

Trench 10

- 4.1.4 Trench 10 (not illustrated) was aligned NW-SE and natural gravel (1001) was encountered 0.2 m below existing ground level (2.7 to 3 m OD). The subsoil was absent in this trench, the gravel being directly overlain by the topsoil (1000). Linear scouring to the surface of the gravel could indicate an earlier landscaping episode that has removed the subsoil from this area. The trench contained no archaeological deposits.

Trench 11

- 4.1.5 Trench 11 (Fig. 3) was aligned NE-SW and natural gravel (1102) lay approximately 0.4 m below existing ground level (3 m OD). Located at the NE end of this trench was a wide NW-SE aligned shallow hollow (1104). Its SE edge was located approximately 6.5 m from the NE end of the trench, whilst its NW extent lay beyond the excavated area. Its maximum depth was around 0.2 m. Whether this was an archaeological feature or merely reflects changes in the underlying topography was unclear.
- 4.1.6 Within the base of this shallow feature a small similarly aligned ditch was observed (1105). It measured 0.4 m in width and survived to a depth of 0.16 m. The single fill contained no dating evidence. It seems probable that this and 1104 are in some way related, but the function at present remains unclear. They may represent a trackway or field boundary.

Trench 12

- 4.1.7 Trench 12 (Fig. 3) was aligned NE-SW and natural gravel (1202) was found at a depth of approximately 0.4 m below existing ground level. This sloped down towards the SW (2.4 m to 1.3 m OD) crossing a clear break of slope. This was overlain by a subsoil (1201) and topsoil (1200)
- 4.1.8 A large NW-SE aligned ditch (1210) was located at the SW end of the trench. This measured approximately 2 m in width and clearly cut through the subsoil 1201. This feature was also revealed in adjacent trenches 18 and 19 to the SE. In Trench 19 the feature was dated to the post-medieval period. The projected alignment of this ditch would be parallel with the break of slope visible in the existing topography and is likely to represent an earlier flood defence barrier associated with the Wantz Stream. Some evidence was seen of an earlier cut (1210) directly on its NE edge. This was not observed in the other sections through the ditch, so it appears to be localised.
- 4.1.9 Located approximately in the centre of the trench was a second NW-SE aligned ditch (1204). This feature, unlike the previous ditch, appeared to be sealed by the subsoil. The ditch, which survived, to a depth of 0.3 m was 1 m in width. It contained no dating evidence but seems likely to be of some antiquity.

Trench 13

- 4.1.10 Trench 13 (Fig. 4) was aligned NW-SE, and natural gravel (1302) lay 0.6 m below existing ground level (2 m OD). A subsoil (1301) and topsoil (1300) overlay this.

- 4.1.11 Located approximately in the centre of this trench was a small discrete area of burnt bone. Pottery was also noted within a dark grey soil matrix (cut 1304). The pottery was of Roman date and it seems likely that it represents an *in-situ* cremation burial. The feature was planned, photographed and recorded before being covered with protective material prior to the backfilling of the trench.

Trench 14

- 4.1.12 Trench 14 (Fig. 4) was aligned NE-SW and natural gravel (1402) was encountered at a depth of 0.3 m below existing ground level. This sloped towards the SW (3.25 m to 2.8 m) and was overlain by a gravel-rich subsoil (1401) and topsoil (1400).
- 4.1.13 Located at the NE end of this trench was a small circular pit (1407). It measured approximately 0.6 m in diameter and survived to a depth of 0.3 m. The fill contained quantities of burnt flints but no dating evidence. Approximately 3.5 m to the SW of this pit, a second small circular cut was located (1405). This measured 0.5 m in diameter and contained small quantities of burnt bone. This was in close proximity to cremation 1304 in Trench 13, so it appears reasonable to assume that this is also an *in-situ* cremation burial. As with the previous cremation, it was planned, photographed and recorded before being covered with protective material prior to the backfilling of the trench.
- 4.1.14 Crossing the central area of this trench a small N-S aligned cut was excavated (1403). This survived to a depth of 0.15 m. It contained fragments of clay pipe indicative of a post-medieval date.

Trench 15

- 4.1.15 Trench 15 (Fig. 5) was aligned NW-SE, and natural gravel (1502) was found 0.5 m below ground level (3.20 to 3.05 m). This was overlain by a gravel-rich subsoil (1501) and topsoil (1500).
- 4.1.16 A large shallow N-S aligned cut (1503) was identified at the SE end of the trench. It measured approximately 1.8 m in width and survived to a depth of 0.2 m. It was sealed by the subsoil, but contained no artefactual evidence to assist dating. The function of this cut is unclear: it was possibly a shallow field boundary ditch or hedgeline.
- 4.1.17 Approximately 3.5 m to the NW of this feature, a small circular cut was identified (1505). This measured 0.4 m in diameter and survived to a depth of 0.16 m. It contained a single fill with no dating evidence. It was possibly a truncated posthole, although its isolated nature makes any meaningful interpretation difficult.
- 4.1.18 Located within the central area of the trench was a small NE-SW aligned linear cut (1507). The cut survived to a depth of 0.15 m was approximately 1.3 m in length and continued beyond the SW edge of the trench. It contained a single fill but no artefactual material to assist in dating.
- 4.1.19 The final feature to be seen within this trench was located at its NW end. The cut (1509) was aligned NE-SW and ran for approximately 1 m from the NE edge of the trench to the trench centre. It survived to a depth of 0.25 m but contained no dating evidence. The function of the cut is unclear, although a ditch terminus for agricultural land division seems the most likely.

Trench 16

- 4.1.20 Trench 16 (not illustrated) was aligned NE-SW. Natural gravel (1605) was encountered at a depth of 0.55 m below existing ground level (2.85 m OD). This was overlain by a subsoil (1602), a possible built up ground level (1601) and then topsoil (1600).
- 4.1.21 Located at the SW end of the trench was a small oval shaped cut (1604) measuring 0.6 m x 0.4 m x 0.15 m deep. It contained a single fill but no dating evidence. The function of this cut is uncertain but most likely to be tree-throw hole.

Trench 17

- 4.1.22 Trench 17 (Fig. 5) was aligned NE-SW and natural gravel (1701) was encountered at depth of 0.25 m below existing ground surface (2.9 to 2.5 m OD). This was directly overlain by topsoil (1700).
- 4.1.23 Located at the SE end of the trench was a small circular cut (1707) partly revealed within the trench. It measured 0.4 m in width x 0.12 m depth. Feature 1710, which was located centrally within the trench, measured 0.5 m in diameter x 0.25 m depth. It seems probable that because of their proximity and similar profiles that both of these cuts are in some way related. They possibly represent the truncated remnants of an unidentified structure, although a fence-line is also a possibility.
- 4.1.24 At the NE end of the trench a shallow irregular shaped cut was identified (1703). This cut was only partly revealed within the trench. It measured 1.3 m x 1 m and survived to a depth of 0.2 m. It contained a single fill with no artefactual evidence. This cut seems most likely to represent a tree-throw hole.

Trench 18

- 4.1.25 Trench 18 (Fig. 6) was aligned NE-SW. Natural gravel (1802) lay 0.45 m below existing ground level. This sloped towards the SW crossing a clear break of slope (2.6 m to 0.8 m OD). Overlying the gravel at the extreme SW end of the trench a deposit of dark orange-grey silty clay was identified (1803). This deposit is clearly an alluvial sediment associated with the adjacent Wantz Stream. No artefacts were recovered from this deposit to assist in its dating. This was overlain by a gravel rich subsoil (1801) and a topsoil (1800).
- 4.1.26 Approximately 12 m from the SW end of this trench a large NE-SW aligned ditch (1804) was identified. The ditch clearly cut through the subsoil and measured 1.6 m in width x 0.8 m depth. It contained three fills, the earliest two being formed through natural processes, while the final deposit appears to represent a deliberate in-filling, possibly of recent date.
- 4.1.27 This ditch represents the continuation of ditch 1207 in Trench 12, which is located to the NE and it continues to the SW as ditch 1905, where it was dated to the post-medieval period. The alignment of this cut runs parallel with the course of the Wantz Stream, which lies approximately 50 m to the SW and is likely to be associated with flood management.

Trench 19

- 4.1.28 Trench 19 (Fig. 6) was aligned NW-SE, and natural gravel (1902) was located at a depth of 0.5 m below existing ground level (1.45 to 1.75 m OD). This was overlain by a subsoil (1901) and a topsoil (1900). The trench was positioned along a clear break of slope which runs down towards the Wantz Stream, located approximately 60 m to the SW.
- 4.1.29 Running across the trench at a very oblique angle (WNW-ESE) was a large ditch (1905) which was seen for a total length of 13.5 m. The total width of 1.8 m was only revealed in a small NE-SW machine sondage cut into the NE facing section for this purpose. The cut, which survived to a depth of 0.8 m, contained a similar fill sequence to that seen in Trench 18 (1804). The first fill was a naturally derived erosion deposit (1904) which contained post-medieval pottery, and was overlain by a deliberate infilling deposit (1903). The clear break of slope visible in the existing topography is likely to indicate the line of this post-medieval ditch.

Trench 20

- 4.1.30 Trench 20 was aligned NW-SE and natural gravel (2002) was located at a depth of 0.6 m below existing ground surface (2.75 to 2.5 m OD). This was overlain by a subsoil (2001) and a topsoil (2000). This trench contained three modern intrusions, which were planned but otherwise left unrecorded. No archaeological features were seen in the trench.

4.2 The Finds

Pottery by Dan Stansbie (OA)

- 4.2.1 Two contexts contained pottery: 1304 and 1904. Context 1304 was a cremation burial that was left undisturbed except for a small pottery sample (three sherds weighing 4g). This was a locally produced sandy oxidised ware of type dating from the mid-1st to the late 4th centuries. The pottery from context 1904 (two sherds weighing 47g) was of post-medieval date.

Unworked Flint by Rebecca Devaney (OA)

- 4.2.2 Only a single context contained burnt flint - 1409, the fill of a pit. This contained 86 pieces, which weighed a total of 401g.

5 GENERAL SUMMARY BY PERIOD

Topography

- 5.1.1 The site lies on the western side of a gravel promontory consisting of Mucking Gravels, which extends to the south between the Beam River and the River Wantz. The ground slopes gently down towards the south and west into the lower lying flood relief area.

Roman

- 5.1.2 The only feature to be securely dated to the Roman period was a cremation burial (1304) This contained a large fragment of sandy oxidised ware. A loose sherd was retained for spot dating, which broadly dated to the Roman period. The remainder was left *in-situ*. However it is possible that feature 1405, which also contained cremated bone, could be of a similar date.

Post-medieval

- 5.1.3 The large NE-SW ditch seen in Trenches 12, 18 and 19 is likely to be of post-medieval date, aside from the post-medieval ceramics from its fill deposits, it also clearly cut the existing subsoil and its projected alignment is reflected in the existing topography. The shallow gully (1403) contained fragments of clay pipe and is therefore likely to be a post-medieval feature.

Undated features

- 5.1.4 The majority of the features located within this evaluation remain undated. These generally consist of irregular shaped features thought to be tree-throw holes and small circular cuts that could represent truncated postholes.
- 5.1.5 The shallow ditch revealed in the centre of Trench 12 (although undated) does appear to follow the alignment of the large post-medieval ditch located approximately 10 m to the south-west. However, unlike the post-medieval ditch, this feature appears to be sealed by a soil layer, which must indicate greater antiquity. The large shallow feature seen within Trench 11 and its corresponding shallow gully, both of which were undated, are also sealed by a soil layer. This again could suggest some antiquity. The linear cuts seen within Trench 15 could also fall into this same category, undated but sealed by a soil horizon.

6 THE GEOPHYSICAL SURVEY

- 6.1.1 Upon completion of the evaluation, *Stratascan* was commissioned by OA to undertake a Geophysical Survey of the evaluation area (*Stratascan*, December 2005). This was undertaken over a period of 8 days (5th-9th and 11th-13th December 2005) where weather conditions allowed.
- 6.1.2 Detailed magnetic survey (gradiometry) and detailed resistance survey techniques were used to prepare an overall plot of the resistance anomalies across the site (Fig. 7) in relation to the excavated features and soil-marks revealed within the evaluation trenches (see also Fig.8, original *Stratascan* illustration). The full report is held with the project archive - a summary of the report prepared by Hannah Heard of *Stratascan* is reproduced here, with additions.
- 6.1.3 The survey area was smaller than that of the overall evaluation area - the area of Trenches 8 and 9 to the north-west was not included in the survey. Several north-south aligned anomalies represent the locations of the infilled trenches excavated by OA (Figs. 7 and 8).
- 6.1.4 The gradiometry survey was of limited success due to the high levels of magnetic debris in and around the survey area. The resistivity data is dominated by a series of

low resistance linear anomalies. These anomalies may indicate cut features of archaeological origin across the site.

- 6.1.5 Anomaly **8** may relate to a wide shallow ditch, 1105, identified within the northern section of Trench 11. Anomaly **27** may represent the continuation of cut feature 1509 identified within Trench 15. Anomaly **10** is situated towards the east of the survey area, indicating a possible linear cut feature with a north-east to south-west orientation. This anomaly may relate to a truncated cut feature 1703 identified within Trench 17. Anomaly **11** may also represent a cut feature of archaeological origin. Although no direct relationship can be identified within the trial trenches, this anomaly does appear to run parallel to a post-medieval cut feature 1403 identified within Trench 14 and so may be associated with to this feature.
- 6.1.6 Anomalies situated in the south of the survey area (Nos. **18, 28, 29**) are likely to relate to the continuation of the post-medieval possible flood defences identified in the previous archaeological investigations to the west of the survey area. These anomalies equate well with cut features 1210 in Trench 12 and 1905 in Trench 19, but was not identified in Trench 18 where it should cross the trench at it's southern end. Additional features may well be present here, not necessarily showing in the evaluation trenches.
- 6.1.7 The resistivity data appears to correspond well with a number of archaeological features identified within the Oxford Archaeology trial trenches, however the low resistance anomalies (Nos. **5, 6** and **7**) appear not to have been identified within the evaluation trenches.
- 6.1.8 These anomalies may represent cut features of archaeological origin at depth; however as the natural gravels have been identified within all trial trenches, this is unlikely. These anomalies may represent shallow modern activity or be of geological origin.

7 DISCUSSION

7.1 Overall interpretation

Prehistoric

- 7.1.1 Although limited Iron Age, and Mesolithic activity was found in the adjacent Phase 1 area no certain prehistoric features were identified in this evaluation. Undated postholes and other features including tree-throw holes could date to this period.

Roman

- 7.1.2 Evidence for Roman activity within this evaluation area appears sparse in comparison to the recently identified prehistoric and Roman activity/occupation to the north. The lack of visible land divisions/ditched boundaries could indicate that this area was an uncultivated or lightly cultivated area of land, possibly pasture.
- 7.1.3 It is also possible that the area represents managed woodland, which among other uses could have provided fuel for the industrial processes carried out nearby. Several tree-throw holes were located within the evaluation trenches, with the possibility of

more being present outside the trenches, so an area of lightly wooded land is another possibility.

- 7.1.4 The presence of an *in-situ* cremation vessel in the evaluation area is notable (another was undated, but is probably also Roman). In the Roman period, burials were typically located away from settlements and cremation was typical of 1st-2nd century burial practise.
- 7.1.5 The implication therefore is that there is likely to be a settlement of some description in the vicinity, to which the industrial features in the area to the north are associated.

Post-medieval

- 7.1.6 The post-medieval ditch is clearly associated to the adjacent Wantz Stream channel and as their courses are parallel. A flood defence appears to be the most logical explanation.

7.2 Archaeological potential

- 7.2.1 The trenching thus far undertaken in this area of the development area comprises a 5% area of the total. The presence of two cremations should therefore be noted, as there is the distinct possibility of further cremations lying outside the trenches that were opened.
- 7.2.2 The possibility of conventional burials likewise should not entirely be discounted. The overall implication of the cremations is that there is likely to be settlement nearby (as well as the industrial activity noted to the north) thus far undiscovered in the evaluation/excavation works to date.
- 7.2.3 Overall, the geophysical survey appears to demonstrate a continuation of archaeological activity as seen in the excavation area to the north-west. The density of anomalies appears greater than that revealed in the evaluation trenches, though many of these anomalies may prove to be geological/modern.
- 7.2.4 Nonetheless, the possibility of more extensive archaeological activity outside of the trenches, as indicated by the plotted anomalies, is a possibility.

APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

<i>Ctx No</i>	<i>Type</i>	<i>Thickness Depth</i>	<i>Comment</i>	<i>Date and finds</i>
Trench 8 (30x1.5m)				
800	Layer	0.25m	Topsoil	Modern
801	Layer	0.15m	Sub-soil	-
802	layer	0.15m	Sub-soil	-
803	Deposit		Mucking gravel	-
804	Fill	0.40m	Fill of 805	Undated
805	Cut	0.55m	Tree throw	Undated
806	Fill	0.15m	Fill of 805	Undated
Trench 9 (30x1.5m)				
900	Layer	0.20m	Topsoil	Modern
901	Layer	0.20m	Sub-soil	-
903	Deposit		Mucking gravel	-
Trench 10 (30x1.5m)				
1000	Layer	0.25m	Topsoil	Modern
1001	Deposit		Mucking gravel	-
Trench 11 (30x1.5m)				
1100	Layer	0.30m	Topsoil	Modern
1101	Layer	0.30m	Sub-soil	-
1102	Deposit		Mucking gravel	-
1103	Fill	0.22m	Fill of 1104	Undated
1104	Cut	0.22m	Ditch\ trackway	Undated
1105	Cut	0.10m	Gully	Undated
1106	Fill	0,10m	Fill of 1105	Undated
Trench 12 (30x1.5m)				
1200	Layer	0.34m	Topsoil	Modern
1201	Layer	0.30m	Sub-soil	-
1202	Deposit		Mucking gravel	-
1203	Fill	0.18m	Fill of 1205	Undated
1204	Fill	0.12m	Fill of 1205	Undated
1205	Cut	0.30m	Ditch	Undated
1206	Fill	0.40m	Fill of 1207	Undated
1207	Cut	0.40m	Ditch cut	Undated
1208	Fill	0.34m	Fill of 1210	Post-medieval
1209	Fill	0.35m	Fill of 1210	Post-medieval
1210	Cut	-	Ditch	Post-medieval
1211	Fill	0.08m	Fill of 1210	Post-medieval
Trench 13 (30x1.5m)				
1300	Layer	0.28m	Topsoil	Modern
1301	Layer	0.28m	Sub-soil	-
1302	Deposit		Mucking gravel	-
1303	Cut	-	Unexcavated cremation	Roman
1304	Fill	-	Fill of 1303	Roman
Trench 14 (30x1.5m)				
1400	Layer	0.22m	Topsoil	Modern
1401	Layer	0.22m	Subsoil	-
1402	Deposit		Mucking gravel	-
1403	Cut	0.08m	Gully	Post-medieval
1404	Fill	0.08m	Fill of 1403	Post-medieval
1405	Cut	-	Unexcavated cremation	Undated/Roman
1406	Fill	-	Fill of 1405	Undated/Roman
1407	Cut	0.32m	Pit \ Posthole	Undated
1408	Fill	0.22m	Fill of 1407	Undated
1409	Fill	0.19m	Fill of 1407	Undated
Trench 15 (30x1.5m)				
1500	Layer	0.25m	Topsoil	Modern

<i>Ctx No</i>	<i>Type</i>	<i>Thickness Depth</i>	<i>Comment</i>	<i>Date and finds</i>
1501	Layer	0.35m	Subsoil	-
1502	Deposit		Mucking gravel	-
1503	Cut	0.28m	Ditch	Undated
1504	Fill	0.28m	Fill of 1503	Undated
1505	Cut	0.16m	Posthole	Undated
1506	Fill	0.16m	Fill of 1505	Undated
1507	Cut	0.16m	Gully	Undated
1508	Fill	0.16m	Fill of 1507	Undated
1509	Cut	0.24m	Ditch	Undated
1510	Fill	0.24m	Fill of 1509	Undated
Trench 16 (30x1.5m)				
1600	Layer	0.20m	Topsoil	Modern
1601	Layer	0.18m	Levelling deposit	Modern
1602	Layer	0.20m	Sub-soil	-
1603	Fill	0.16m	Fill of 1604	Undated
1604	Cut	0.16m	Root bole	Undated
1605	Deposit		Mucking gravel	-
Trench 17 (30x1.5m)				
1700	Layer	0.25m	Topsoil	Modern
1701	Deposit		Mucking gravel	-
1702	Fill	0.20m	Fill of 1703	Undated
1703	Cut	0.20m	Tree bowl	Undated
1704	Fill	0.25m	Fill of 1705	Modern
1705	Cut	0.25m	Modern linear	Modern
1706	Fill	0.12m	Fill of 1707	Undated
1707	Cut	0.12m	Posthole	Undated
1708	Fill	0.09m	Fill of 1710	Undated
1709	Fill	0.25m	Fill of 1710	Undated
1710	Cut	0.25m	Posthole	Undated
Trench 18 (30x1.5m)				
1800	Layer	0.28m	Topsoil	Modern
1801	Layer	0.28m	Sub-soil	-
1802	Deposit		Mucking gravel	-
1803	Layer	0.11m	Alluvium	-
1804	Cut	0.75m	Ditch	Post-medieval
1805	Fill	0.48m	Fill of 1804	Post-medieval
1806	Fill	0.40m	Fill of 1804	Post-medieval
1807	Fill	0.30m	Fill of 1804	Post-medieval
Trench 9 (30x1.5m)				
1900	Layer	0.22m	Topsoil	Modern
1901	Layer	0.22m	Sub-soil	-
1902	Deposit		Mucking gravel	-
1903	Fill	0.20m	Fill of 1905	Post-medieval
1904	Fill	0.60m	Fill of 1905	Post-medieval
1905	Cut	0.80m	Ditch	Post-medieval
Trench 20 (30mx1.5m)				
2000	Layer	0.30m	Topsoil	Modern
2001	Layer	0.30m	Subsoil	-
2002	Deposit		Mucking gravel	-
2003	Fill	0.58m	Fill of 2004	Modern
2004	Cut	0.58m	Modern cut	Modern

APPENDIX 2 BIBLIOGRAPHY

CTRL (URN/310/ARC/0029) Interim Statement No1

OA 1992 *Fieldwork Manual* (ed. D Wilkinson)

OA 2005a *Beam Washlands, Dagenham. Written Scheme of Investigation for an Archaeological Evaluation*. Unpublished client report.

OA 2005b *Beam Washlands Dagenham. Archaeological Evaluation Report*. Unpublished client report.

OA 2006 *Beam Washlands Dagenham. Post-excavation assessment and publication proposal*. Oxford Archaeology, forthcoming.

OA, forthcoming *A13/A117 DBFO Road Scheme, Post-Excavation Project Design*, Oxford Archaeology

Stratascan 2005 *Geophysical Survey Report, Beam Washlands Dagenham, Essex. J2093. December 2005* - for Oxford Archaeology.

APPENDIX 3 GLSMR/RCHME NMR ARCHAEOLOGICAL REPORT FORM

1) TYPE OF RECORDING

Evaluation

2) LOCATION

Borough: **Dagenham**Site address: **Beam Washlands**Site Name: **Beam Washlands**Site Code: **BMV 05**Nat. grid Ref: **NGR TQ 502 836**

3) ORGANISATION

Name of archaeological unit/company/society: **Oxford Archaeology****Address: Janus House, Osney Mead, Oxford OX2 OES**Site director/supervisor: **Paul Murray**Project manager: **Ben Ford**Funded by: **Halcrow Group Limited on behalf of the Environment Agency**

4) DURATION

Date fieldwork started: **3/05/05**Date finished: **6/05/05**

Fieldwork previously notified?

YES

Fieldwork will continue?

YES

5) PERIODS REPRESENTED

Roman, post-medieval, modern; undated features.

6) PERIOD SUMMARIES

Roman Period: One cremation burial of Roman date and another likely to be contemporary.**Undated: Postholes were undated as were a number of ditches.****Post-medieval: A large ditch of post-medieval date, likely to represent a continuation of a ditch seen in the excavation area to the north-west - probably forming an early flood defence barrier.**

7) NATURAL

Type: **Mucking gravel**

Height above Ordnance Datum: **Average 2.8 m OD**

8) LOCATION OF ARCHIVES

- a) Please provide an estimate of the quantity of material in your possession for the following categories:

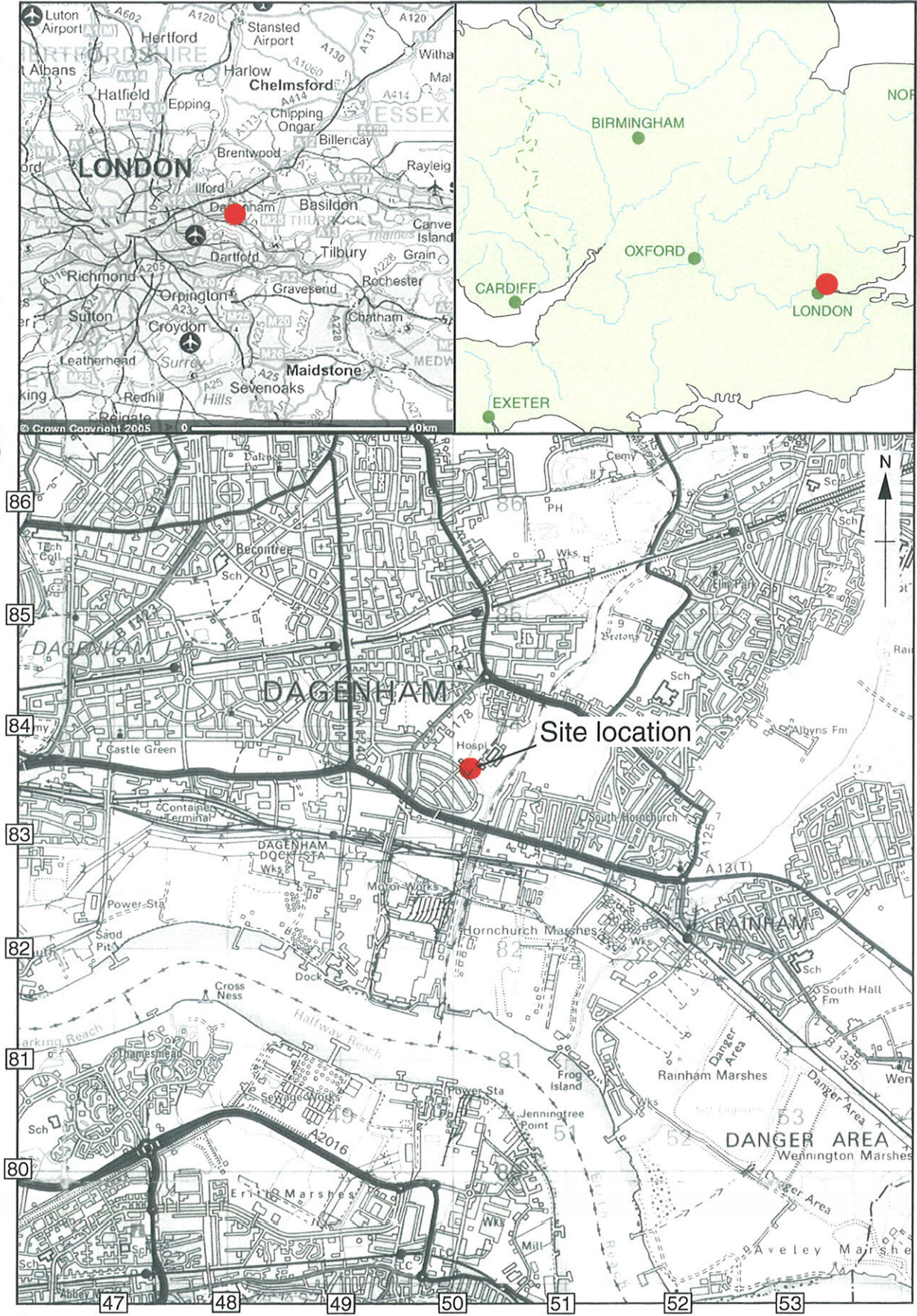
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SLides	x110	Correspondence	0	MScripts (unpub reports, etc)	0		
BUIk finds	1 box	SMall finds	0	SOil samples	0		
OTHer	0						

- b) The archive has been prepared and stored in accordance with MGC standards and will be deposited in the following location: **Museum of London**
- c) Has a security copy of the archive been made: **Yes**

SIGNED:

DATE:

NAME :



Scale 1:50,000

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Figure 1: Site location

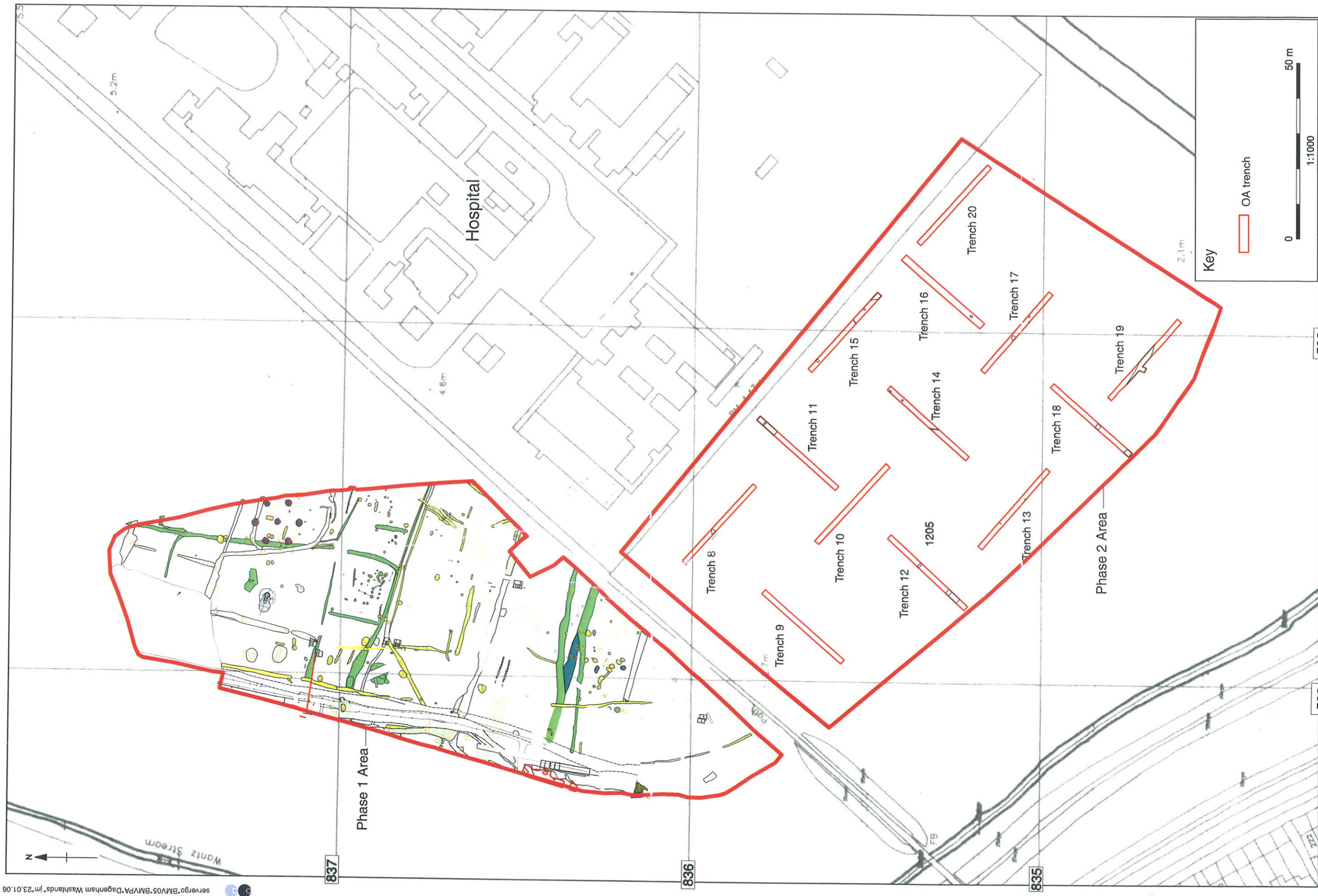
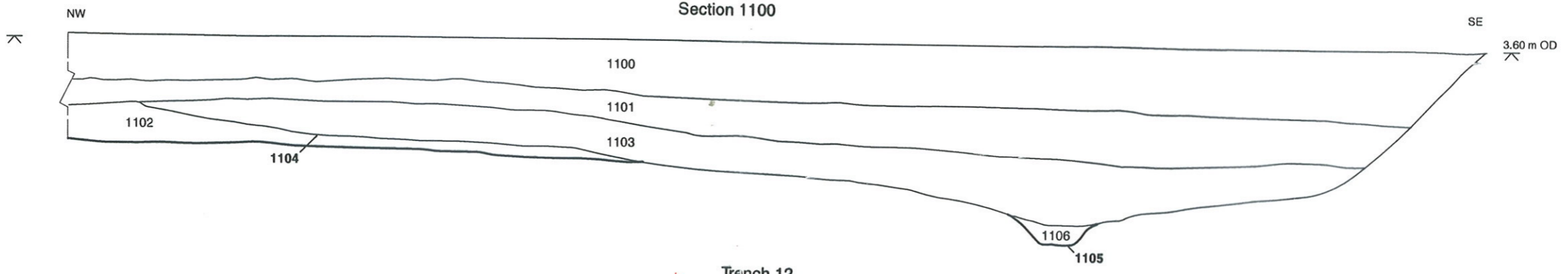
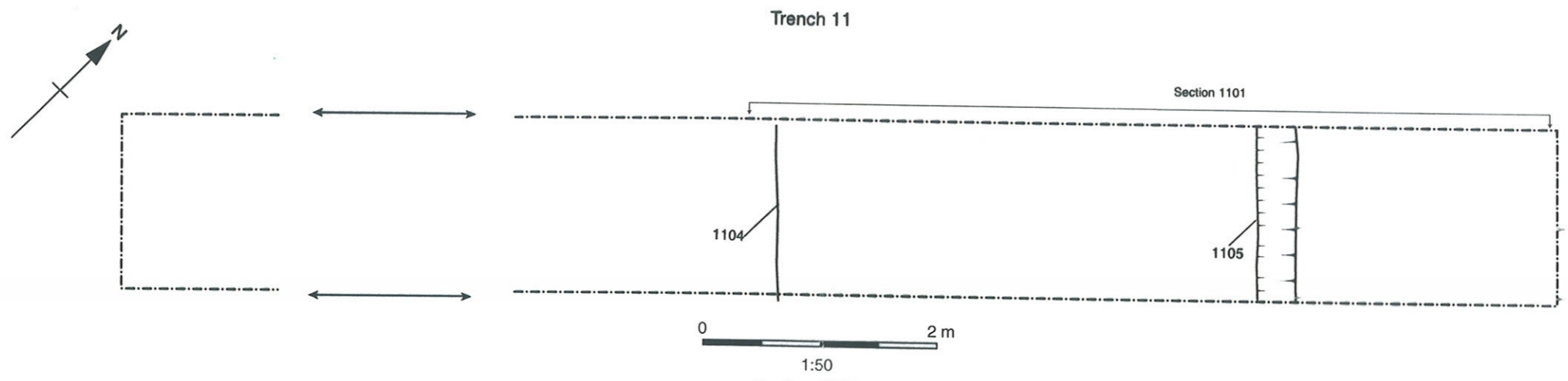


Figure 2: Trench location plan



Trench 12

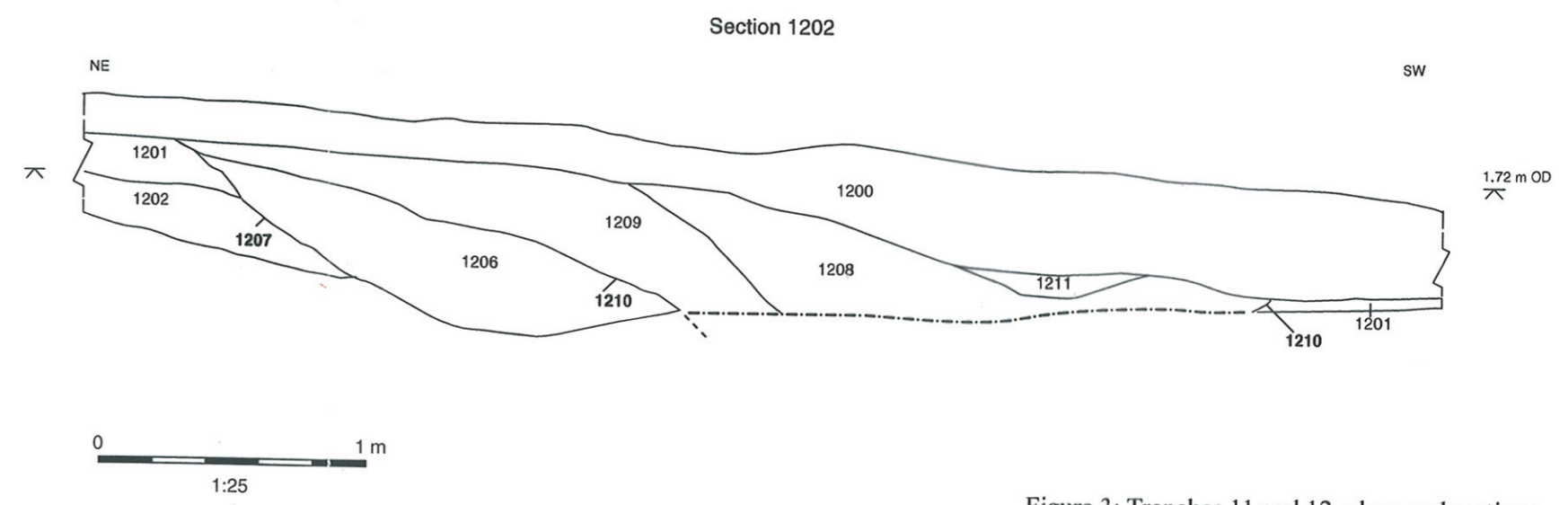
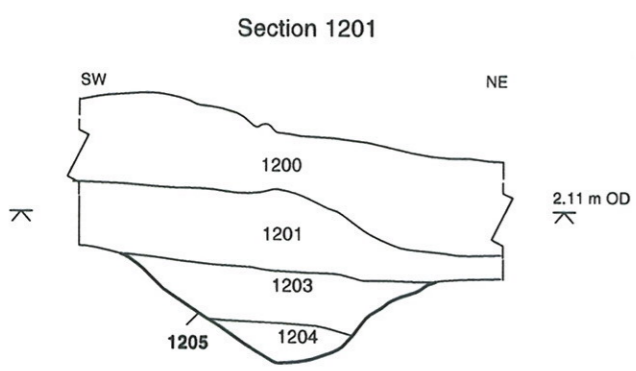
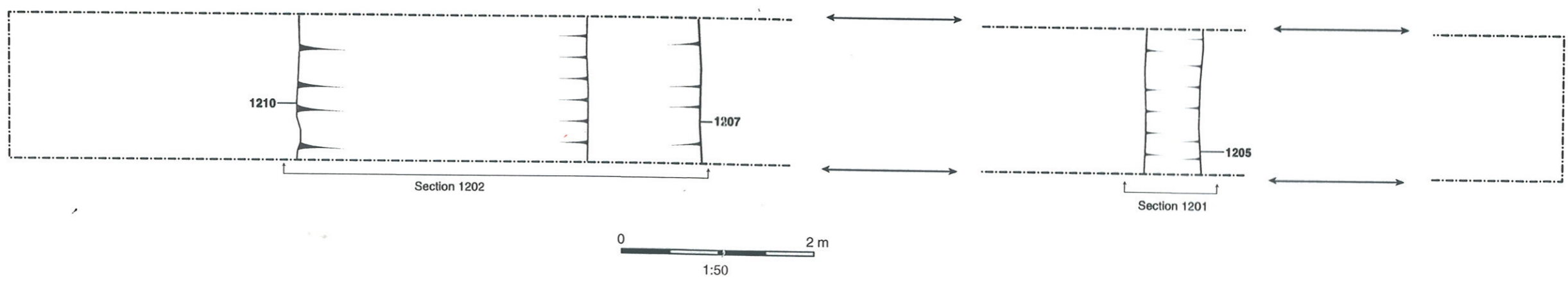
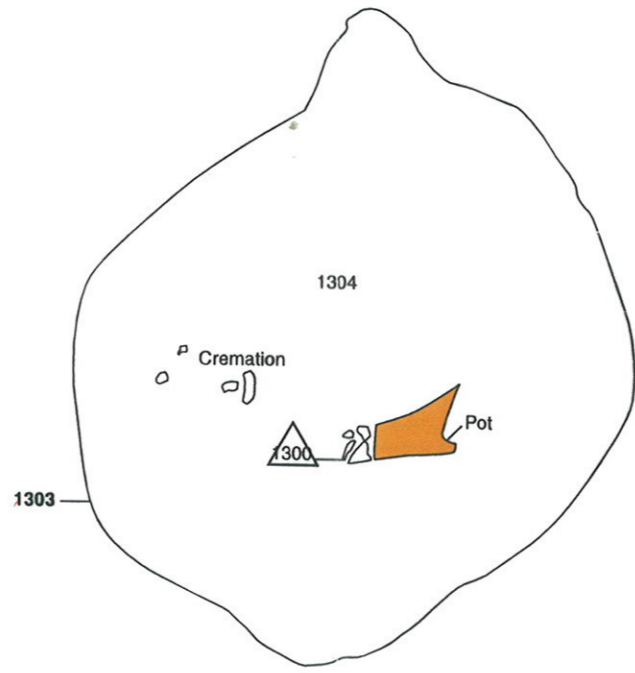


Figure 3: Trenches 11 and 12, plans and sections

Trench 13



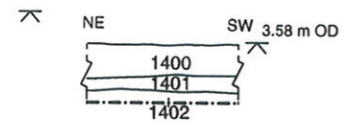
Plan 1300



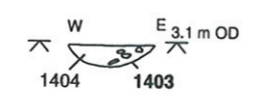
Trench 14



Section 1400



Section 1401



Section 1402

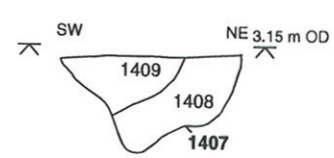


Figure 4: Trench 13, plan and cremation plan, Trench 14, plan and sections

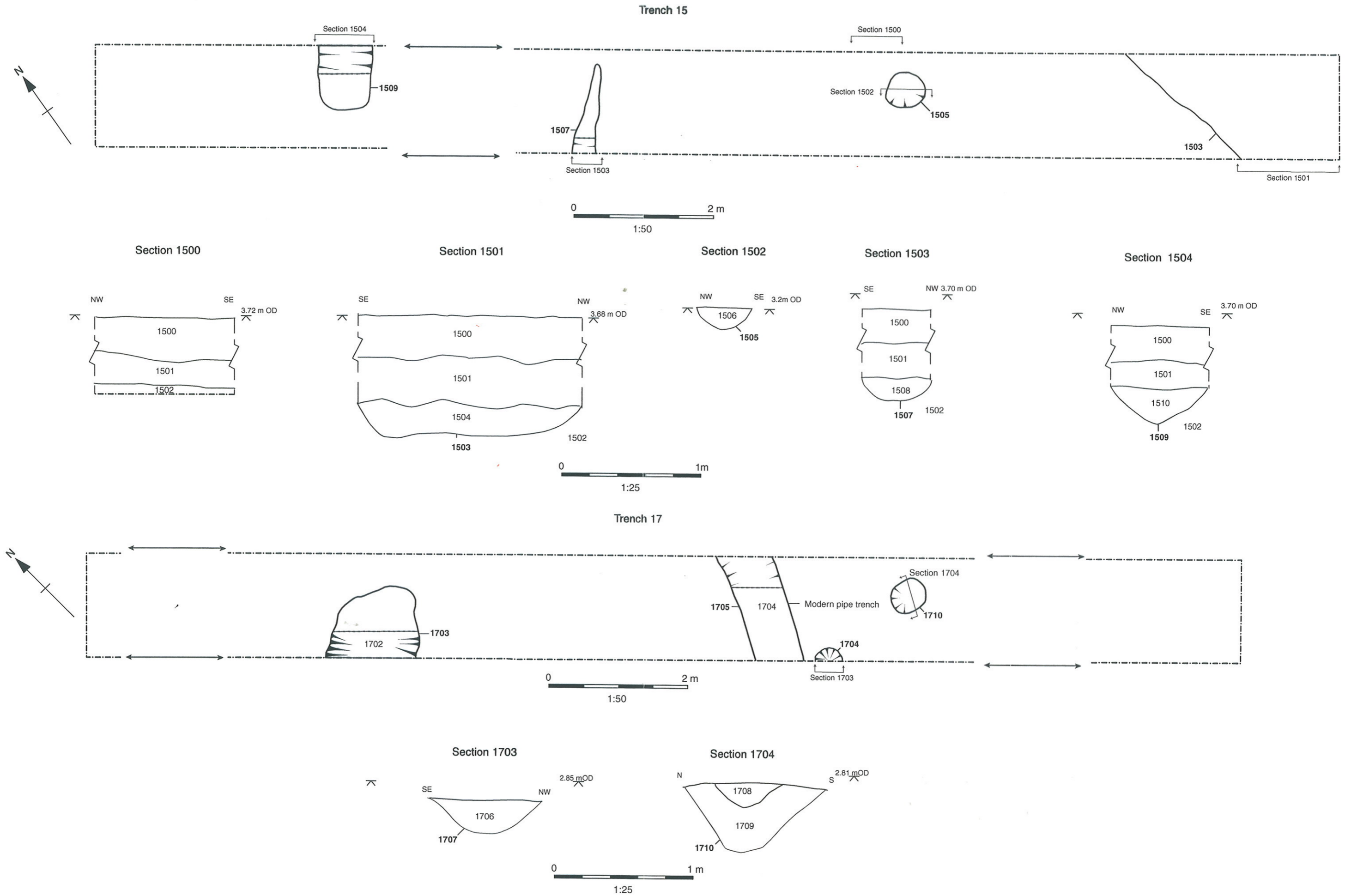


Figure 5: Trenches 15 and 17, plans and sections

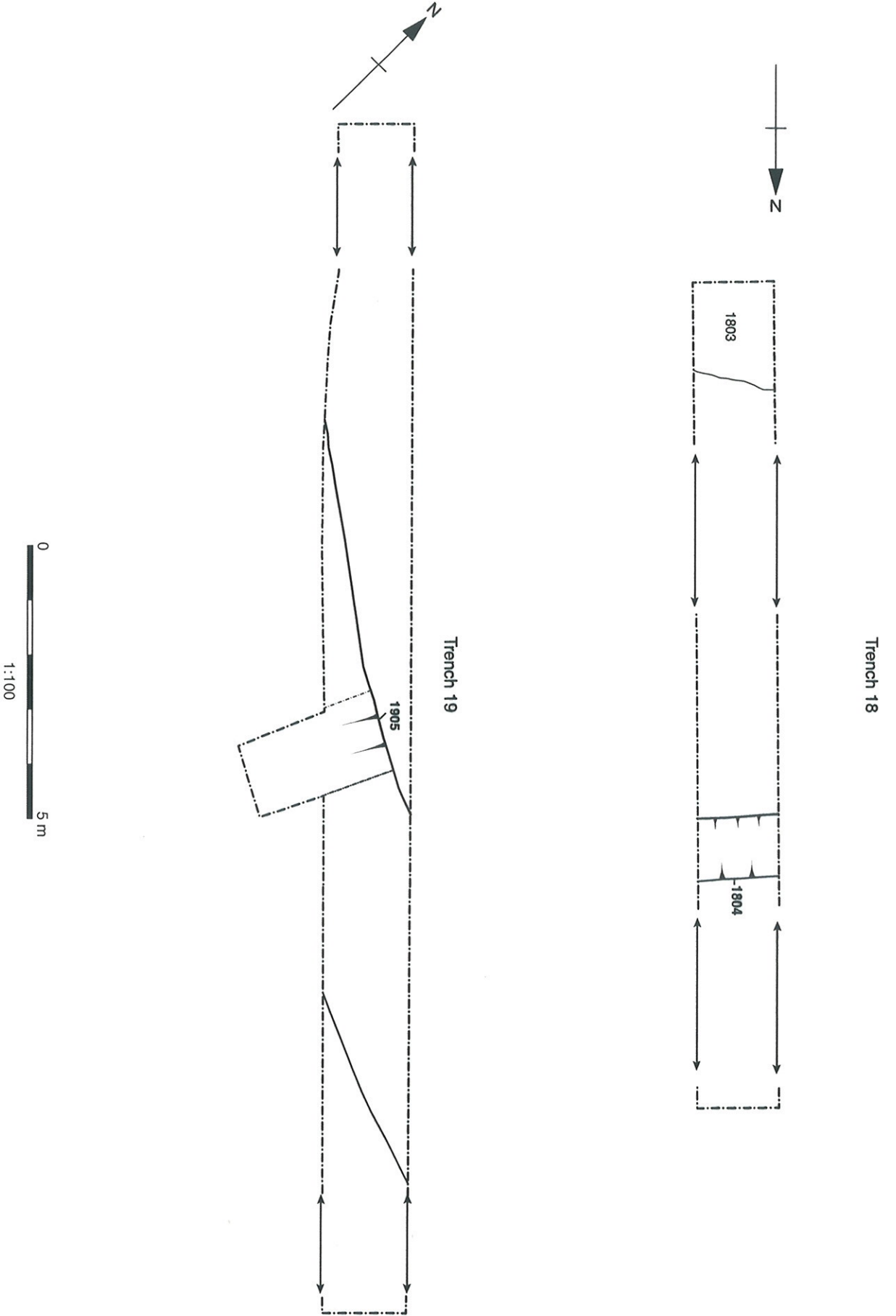
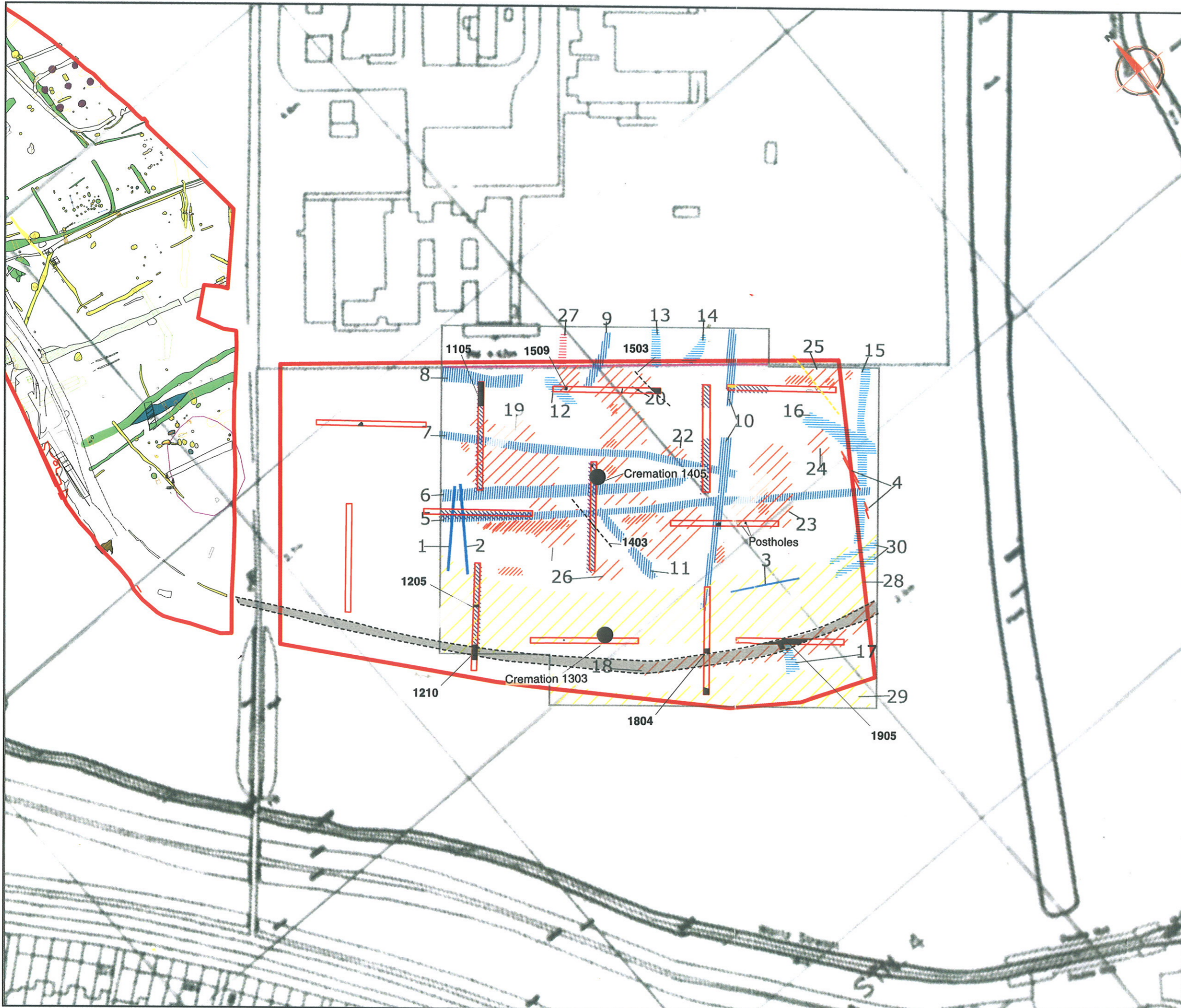


Figure 6: Trenches 18 and 19, plans



Amendments		
Issue No.	Date	Description

- OA trench
- Cremation
- Archaeological features
- Modern features

KEY

- Linear anomaly - previous hospital boundary
- Low resistance linear anomaly - cut feature of possible archaeological origin
- High resistance linear anomaly - possible structural remains of archarological origin
- Low resistance area anomaly - cut feature of possible archaeological origin
- Moderate low resistance area anomaly - cut feature of possible archaeological origin
- Low resistance linear anomaly - associated with OA evaluation trench
- High resistance area anomaly - structural debris of possible archaeological origin
- Discrete high resistance area anomaly - structural remains of possible archaeological origin
- Moderate high resistance area anomaly - structural remains of possible archaeological origin
- Low resistance area anomaly - possible archaeological/pedological origin

2 Anomaly number

Client
OXFORD ARCHAEOLOGY

Project Title **GEOPHYSICAL SURVEY - BEAM WASHLANDS, DAGENHAM ESSEX** Job No. 2093

Subject
ABSTRACTION AND INTERPRETATION OF RESISTANCE ANOMALIES

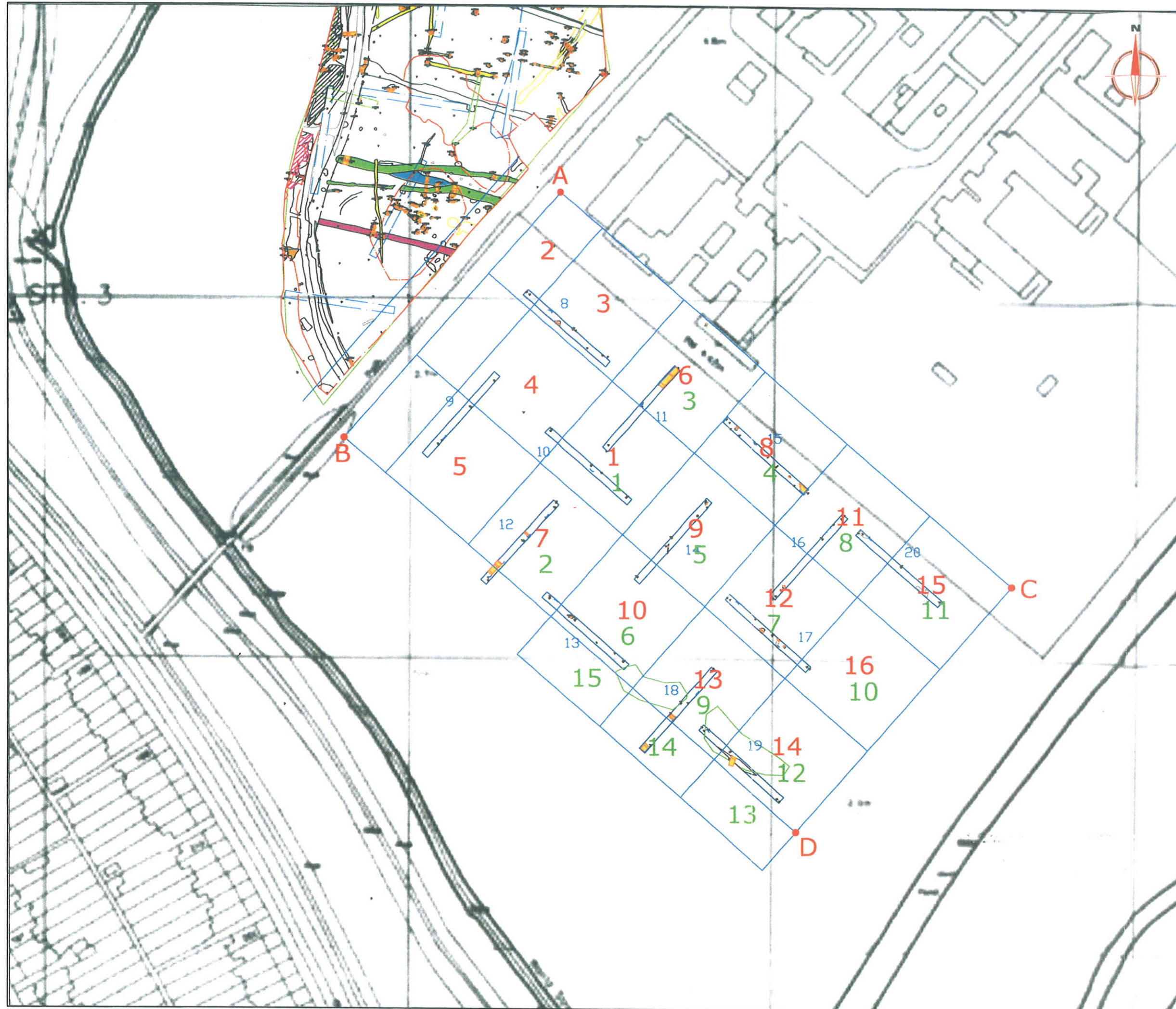
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IFA

Scale **1:1000**
0m 10 20 30 40 50

Plot A3	Checked by SAS	Issue No. 01
Survey date DEC 05	Drawn by HH	Figure No. 10

Figure 7: OA Trenches over abstraction and interpretation of resistance anomalies




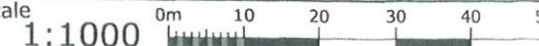
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C	550365.52, 183521.00	
D	550306.39, 183453.15	
2	Resistivity grid number	
2	Gradiometry grid number	
Client		
OXFORD ARCHAEOLOGY		
Project Title		Job No. 2093
GEOPHYSICAL SURVEY - BEAM WASHLANDS, DAGENHAM ESSEX		
Subject		
SITE PLAN SHOWING LOCATION OF SURVEY GRIDS AND REFERENCING		
 <p>STRATASCAN™ GEOPHYSICS FOR ARCHAEOLOGY AND ENGINEERING VINEYARD HOUSE UPPER HOOK ROAD UPTON UPON SEVERN UK WR8 0SA T: +44 (0)1684 592266 F: +44 (0)1684 594142 E: info@stratascan.co.uk www.stratascan.co.uk</p>		
Scale		
1:1000 		
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A3	SAS	01
Survey date	Drawn by	Figure No.
DEC 05	HH	02

Figure 8: Site plan showing location of survey grids and referencing



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