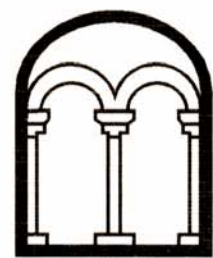


**LAND REAR OF EASTCOTTS ROAD
BEDFORD
(OPEN SPACE)**

ARCHAEOLOGICAL FIELD EVALUATION

Albion
archaeology



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ARCHAEOLOGICAL FIELD EVALUATION

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Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

This report has been prepared by Gareth Shane & Jeremy Oetgen.

Albion Archaeology would like to acknowledge Myk Flitcroft of CgMs Consulting Ltd for commissioning the work on behalf of Morris Homes. We are also grateful to Vanessa Clarke, Senior Archaeological Officer, Bedford Borough Council, for monitoring the fieldwork.

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Key Terms

Throughout this report the following abbreviations are used:

Albion	Albion Archaeology
b.g.l	below ground level
Client	Morris Homes (East Midlands) Ltd
CLG	[Department for] Communities and Local Government
HER	Historic Environment Record
HET	Historic Environment Team (Bedford Borough Council)
IfA	Institute for Archaeologists
LPA	Local Planning Authority
NHLE	National Heritage List for England
NPPF	<i>National Planning Policy Framework</i> (CLG 2012)
OS	Ordnance Survey



Non-Technical Summary

Archaeological trial trenching was undertaken in connection with a proposal for residential development of land to the rear of Eastcotts Road, Bedford. The site subjected to trenching was undeveloped waste ground.

Historical map evidence, aerial photographs and the variation in current ground levels suggest that the site may have been subject to quarrying in the post-war era, but the extent of quarrying and degree of ground reduction could not be confirmed prior to trenching.

Bedford Borough Council's Historic Environment Team (HET) has indicated in view of the extensive, and potentially deep groundworks within the open space area that a programme of mitigation works was required in order to assess the site's potential for preserving earlier archaeological remains and the possible impact of development on any significant heritage assets. On behalf of the developer, Morris Homes, CgMs Consulting Ltd agreed a written scheme of investigation (WSI) for archaeological trial trenching with the HET.

Albion Archaeology was contracted to undertake the trenching as directed by CgMs Consulting Ltd. The fieldwork took place between 17th and 21st February 2014 and was completed to the satisfaction of the HET's Senior Archaeological Officer.

The agreed WSI specified the excavation of eight trial trenches across the development site. However, the strategy was amended due to emerging evidence that the site had been quarried and also constraints encountered during the fieldwork. Seven trenches were excavated; their locations were dictated by site conditions. Only two trenches were excavated to their full length, the others being significantly shortened. All changes were carried out with the agreement of the HET and CgMs Consulting Ltd. The principal objective of the evaluation was to confirm the presence or absence of archaeological remains and the extent of their survival.

Initially, three trenches were excavated to a depth of 1.2m, but no natural ground was encountered. After discussion, machine-dug sondages were excavated within each trench to assess the depth of deposits. Natural ground was found at depths below 2.2m. Subsequent trenches were significantly shortened and machine-excavated to the natural. The deposits in six trenches comprised made ground, consisting of imported soil with brick and tile inclusions. The exception, a trench at the centre of the site, contained finer deposits, probably alluvium. All the trenches showed evidence of significant deliberate ground reduction, likely to be quarrying. No archaeological remains were observed within the trenches.

The results of the evaluation indicate that quarrying is likely to have encompassed the whole of the development site, and that there is no appreciable chance of any earlier archaeological remains surviving. Historical map evidence, aerial photographs and the variation in current ground levels, demonstrate that the site has been subject to quarrying in the period since the Second World War, and the archaeological evaluation has now demonstrated that quarrying extended across the entire site to a depth of at least 2.2m below the pre-extraction land surface. This extraction has certainly destroyed any archaeological remains that might once have existed on the site.



1. INTRODUCTION

1.1 **Planning Background**

Morris Homes (West Midlands) Ltd has obtained planning permission (11/01254/MAF) to develop land to the rear of Eastcotts Road, Bedford.

In accordance with Condition 2 of the planning permission, Bedford Borough Council's Historic Environment Team (HET) has indicated the need for a programme of archaeological mitigation in order to assess the impact of the development on the significance of heritage assets.

On behalf of the applicant, CgMs Consulting Ltd has agreed a strategy for archaeological trial trenching with the HET, with the aim of evaluating the archaeological potential of the site to establish the need for and extent of any further archaeological investigation. The strategy is set out in a written scheme of investigation (WSI)¹.

Albion Archaeology was contracted to undertake the trenching as directed by CgMs Consulting Ltd.

1.2 **Site Location and Description**

The site is located on the south-east edge of Bedford and lies between residential properties on Eastcotts Road, to the west of the site, and industrial units on Arkwright Road, to the east (Figure 1). It is surrounded by a chain-link security fence on concrete posts. The site is centred on OS grid reference TL 0708 4817. The geology of the area is Oxford Clay overlain by river terrace gravels and sands. The ground surface at the south is fairly flat at a height of c. 26.5m OD, becoming significantly higher (up to c. 30m OD) and undulating in the northwest, before falling to c 27.8m OD near the northern boundary. The land currently is undeveloped wasteland.

1.3 **Archaeological Background**

There are no known heritage assets on the site and no record in the HER of any previous archaeological investigations. However, archaeological investigations of nearby sites, particularly land to the south of Cambridge Road, indicate that there is a possibility that remains dating from the prehistoric and Roman periods may exist on the site.

The Bedford Borough Historic Environment Record (HER) shows that the proposed development site is situated on terrace sand and gravels of the River Great Ouse Valley, which are generally rich archaeological evidence of past human settlement.

In the immediate vicinity of the site, prior to housing development at Alburgh Close to the west, two ring ditches (probable ploughed out Bronze Age burial mounds) and later Iron Age or Roman field boundaries were recorded by aerial

¹ CgMs, 2014, *Scheme for Archaeological Trial Trenching: Land Rear of Eastcotts Road, Bedford Land Rear of Eastcotts Road, Bedford (Open Space): Archaeological Field Evaluation*



photography (HER 9876). Two Bronze Age burials with grave goods (HER 277) were found during gravel extraction to the east of the proposed development site under the Arkwright Road Industrial Estate. A Bronze Age cremation burial has been recorded close to the southern site boundary (HER 278). To the south of Cambridge Road, recorded cropmarks include a late Bronze Age/early Iron Age triple-ditched boundary running between the Elstow Brook and the River Ouse, a sub-rectangular enclosure and several more ring ditches. Intensive Roman settlement alongside the Elstow Brook was revealed during sewer construction in 1977, the construction of the A421 Bedford Bypass in the early 1990s, and 2010 during an excavation ahead of the Eastcotts Flood Compensation works (HER 1623). There is now known to have been a planned Roman settlement in that area.

Historical maps and aerial photographs record the more recent land use of the site. The 1971 map shows quarrying on the land immediately east of the site, even though the full extent has not been mapped. This map may be compared with aerial photographs, which arguably show quarrying to a much greater extent.

1.4 Objectives and Scope of the Evaluation

The purpose of the evaluation was to ascertain the presence or absence of surviving archaeological remains, and determine whether the open space area had been quarried and if so to what extent.



2. TRIAL EXCAVATION

2.1 Introduction

The fieldwork took place between 17th and 21st February 2014. The WSI specified the excavation of eight trial trenches across the development site. However, one trench was omitted because aerial photographic evidence emerged to demonstrate that the southern part of the site had been quarried in the 1940s.

The trenches were located across the development area (Figure 2), as close as possible to the positions agreed by CgMs Consulting Ltd and the HET, in order to best assess the character and extent of any archaeological remains present on site and to ascertain whether quarrying on the south of site had indeed affected the northern area.

The site topography as well as extensive undergrowth meant that the actual locations of the trenches were dictated by site conditions and only two trenches were excavated to their full length, the others being significantly shortened. Furthermore, the realisation that there was a significant depth of made ground prompted a change of strategy from trenches to machine-dug sondages. These changes were implemented with the agreement of CgMs Consulting Ltd and the HET.

2.2 Method Statement

Throughout the project the standards set in the *IfA Standard and Guidance for Field Evaluation* have been adhered to. Also those standards outlined in Albion Archaeology's *Procedures Manual for Archaeological Fieldwork and the Analysis of Fieldwork Records* (2nd edn, 2001), the IFA Code of Conduct and English Heritage's *MoRPHE Managers Guide* (2006) were adhered to.

The main points with regard to the trial excavation methodology were as follows:

- Trenches were located as accurately as possible with measuring tapes, and the trenches were subsequently surveyed with a differential GPS apparatus operated by a trained technician. Ordnance datum heights referred to in this report were determined using GPS data.
- All machine excavation was supervised by experienced archaeologists and was undertaken using a mechanical excavator fitted with a toothless bucket.
- The spoil heaps were visually scanned for artefacts.
- Archaeological deposits where found were assigned context numbers.
- A photographic record of the trenches and deposits was maintained and contexts were described on pro-forma trench recording sheets.
- The HET was invited to inspect the trenches, prior to backfilling. Having received photographic evidence, the Senior Archaeological Officer determined that an inspection visit was unnecessary.



2.3 Results of the Trial Excavation

Trenches 2 and 3 were excavated to the proposed length of 30m. Trench 7 was limited to 22.5m to avoid existing trees and due to site topography. Initially, these trenches were excavated to 1.2m, but no natural ground was encountered. Sondages were mechanically excavated at one end of each trench to assess the depth of deposits and locate the top of the natural geology. Natural ground was found at depths below 2.2m. Subsequent trenches (Trenches 1, 4, 5 and 6) were significantly reduced in length and dug by machine to locate the top of the natural.

No true topsoil or subsoil horizons survived across the site and all the trenches displayed clear evidence of extensive quarrying (with the exception of Trench 7), though distinct phases were not identifiable. All the trenches were assigned a cut number for the quarrying, although only the base of cut was perceptible within the confines of the trenches.

2.3.1 Trench 1

Trench 1 (pl.1) was aligned north to south, 5m long, 2m wide and excavated to a depth of 3.3m (24.65m OD). The deposits existed to a depth of 3.2m and comprised:

- (100) Mixed light grey and black clay with lenses of gravel to a maximum thickness of 3.2m, quarry backfill.
- [102] Quarry cut, to a depth of 3.2m below ground level (24.75m OD)
- (101) Mid brown-orange sandy gravel. Natural geological deposit.

2.3.2 Trench 2

Trench 2 (pl.2, 3) was aligned east to west, 30m long, 2m wide and initially excavated to a depth of 1.2m (26.58 m OD) without reaching natural. A sondage was excavated at the south end and was 3m in length and machined to a depth of 2.2m where natural was identified. Quarry backfill existed to a depth of 2.2m and the trench comprised:

- (200) Mixed mid grey/ blue clay with gravel lenses and occasional brick and tile rubble inclusions. Quarry backfill
- [202] Quarry cut, to a depth of 2.2m (24.58m OD)
- (201) Mid orange sandy silty firm clay. Natural geological deposit

2.3.3 Trench 3

Trench 3 (pl. 4, 5) was aligned north to south, 30m long, 2m wide and, initially excavated to a depth of 1.2m (27.12m OD) without reaching natural. A sondage was excavated at the east end and was 4m in length and machined to a depth of 2.7m where natural was identified. Quarry backfill existed to a depth of 2.7m and the trench comprised:

- (300) Mixed mid grey/ blue clay with gravel lenses and occasional brick and tile rubble inclusions. Quarry backfill
- [302] Quarry cut, to a depth of 2.7m (25.62m OD)
- (301) Mid orange sandy silty firm clay (as Trench 2). Natural geological deposit



2.3.4 Trench 4

Trench 4 (pl. 6) was aligned north-west to south-east, 4.5m long, 2m wide and excavated to a depth of 2.5m (25.80m OD). Quarry backfill existed to a depth of 2.4m and the trench comprised:

- (400) Mixed mid grey/ blue clay with gravel lenses and occasional brick and tile rubble inclusions. Quarry backfill
- [402] Quarry cut, to depth of 2.4m (25.90m OD)
- (401) Mid orange sandy silty firm clay (as Trench 2). Natural geological deposit.

2.3.5 Trench 5

Trench 5 (pls.7, 8) was aligned north-east to south-west, 12m long, 2m wide. A sondage was dug from the northeast end and was 5m long and 2.7m deep (25.96m OD). Quarry backfill existed to a depth of 2.4m and the trench comprised:

- (500) Mixed mid grey/ blue clay with gravel lenses and occasional brick and tile rubble inclusions. Quarry backfill
- [502] Quarry cut, to a depth of 2.4m (26.26m OD)
- (501) Mid orange sandy silty firm clay (as Trench 2). Natural geological deposit.

2.3.6 Trench 6

Trench 6 (pl. 9) was aligned north-east to south-west aligned, 5m long, 2m wide and excavated to a depth of 2.9m (25.60m OD). Quarry backfill existed to a depth of 2.8m and the deposits comprised:

- (600) Mixed mid grey/ blue clay with gravel lenses and occasional brick and tile rubble inclusions. Quarry backfill
- [602] Quarry cut, to depth of 2.8m (25.70m OD)
- (601) Mid orange sandy silty firm clay (as Trench 2). Natural geological deposit.

2.3.7 Trench 7

Trench 7 (pl.10) was aligned north to south, 22.5m long, 2m wide and was initially dug to a depth of 1.2m. A sondage was dug from the north end and was 5.5m in length and 3m deep (24.18m OD). Deposits existed to a depth of 1.75m and comprised:

- (700) Mid brownish grey gravel with frequent brick and tile rubble inclusions. Made ground/ quarry backfill to depth of 0.9m (26.28m OD)
- (701) Light brown orange silty clay. Alluvial layer. Maximum thickness of 0.55m (25.63m OD)
- (702) Dark brownish grey silty sand with moderate small stones. Alluvial layer. Maximum thickness 0.3m (25.33m OD)
- (703) Mid grey brown firm clay silt. Alluvial layer, not fully excavated.

These silty deposits are interpreted as palaeochannel alluvium that was left *in situ* during quarrying. However, it is possible that they comprised a secondary deposit of natural material created during the quarry operations.



No archaeological features or artefacts were observed or recovered from any of the trenches.



3. ASSESSMENT OF SIGNIFICANCE

3.1 Discussion

Prior to the present evaluation, the evidence for quarrying on the site was derived from historical maps and aerial photographs. The Ordnance Survey 1:10,000 scale map published in 1971 depicts the majority of the site within a large expanse of open land with localised amorphous water bodies that are suggestive of water-filled quarries. However, aerial photographs from 1949² and 1969³ give a better record of the extent of extraction. In 1949 the south end of the site is clearly being quarried and, by 1969 a mass of scrub and disturbed ground covers most of the site. It should be noted that in 1969 the western edge of the site still lies within a separate land parcel and has not been quarried. This land parcel is depicted on the 1971 map edition, and the site boundary as it now exists is first shown on the 1978 edition of the 1:10,000 map.

The site topography suggested some tipping might have occurred. There appeared to be a raised area of undulating ground at the northern end of site (pls. 11, 12) which showed clear disturbance prior to machining. The lower, flatter area at the south end of the site appeared to be undisturbed ground. However, it was noted during the evaluation that there was a distinct scarp along the west boundary of the site and that the land beyond the western boundary was up to c. 0.75m higher. This suggests that reinstatement after quarrying had not restored the southern part to its pre-extraction height. Consequently, the disturbed ground at the north end of the site suggests not 'positive' dumping, but backfilling of a quarry void. The steep scarp along the western boundary is therefore likely to indicate the edge of the quarry, indicating that quarrying was extended westwards after the laying out of the present site boundary.

The evidence from the trial trenches supports this interpretation.

Trenches 2 and 3

Trenches 2 and 3 each demonstrated made ground consistently along their full length (30m) and to a depth of 2.2m b.g.l (25.60m OD) and 2.7m b.g.l (25.62m OD) respectively. The depth of made ground (Table 1) in these trenches as well as the composition of the soils gave clear evidence of significant ground reduction. No archaeological features or artefacts survived within the trenches due to the significant truncation of the natural by quarrying.

Trenches 1, 4, 5 and 6

Although reduced in length, these trenches corroborated the findings in Trenches 2 and 3, with similar depths of made ground (Table.1 below) of similar composition. They confirmed that aggregate extraction had taken place across the entire northern section of the site. Trench 1 is particularly important, because it demonstrates that quarrying extended to the western boundary.

² 106G UK 1562 Y JUN 6 4125

³ HLS UK BED 69 859-08-04-RUN 10-7460



Trench 7

The successive layers of alluvium in this trench could be evidence of silting of an old river channel. Tentative evidence in support of this is found on the 1:10,000 OS map. Approximately 600m east of the site, there is a marked inflection of the 25m contour may indicate the dry valley of a palaeochannel on a course between the Rover Great Ouse and the Elstow brook. Alternatively layers (701)–(703) could be silt washed in or redeposited after quarrying. The depth of deposits at the north-west end of Trench 7 would seem to indicate that the quarrying had extended at least this far south on site.

3.2 Conclusion

The results of the evaluation indicate that the quarrying within the development site is likely to have encompassed the whole area, and that there is no appreciable chance of any earlier archaeological remains surviving. Historical map evidence, aerial photographs and the variation in current ground levels, demonstrate that the site has been subject to quarrying in the period since the Second World War, and the archaeological evaluation has now demonstrated that quarrying extended across the entire site to a depth of at least 2.2m below the pre-extraction land surface. This extraction has certainly destroyed any archaeological remains that might once have existed on the site.

Trench number	1	2	3	4	5	6	7
Current ground level	27.95	27.68	28.32	28.30	28.66	28.55	27.18
Top of natural	24.75	25.48	25.62	25.90	26.26	25.75	n/a*
Base of trench	24.65	25.48	25.62	25.80	25.96	25.65	24.18
* top of deposit interpreted as natural alluvium							

Table 1: Deposit model related to Ordnance Datum heights

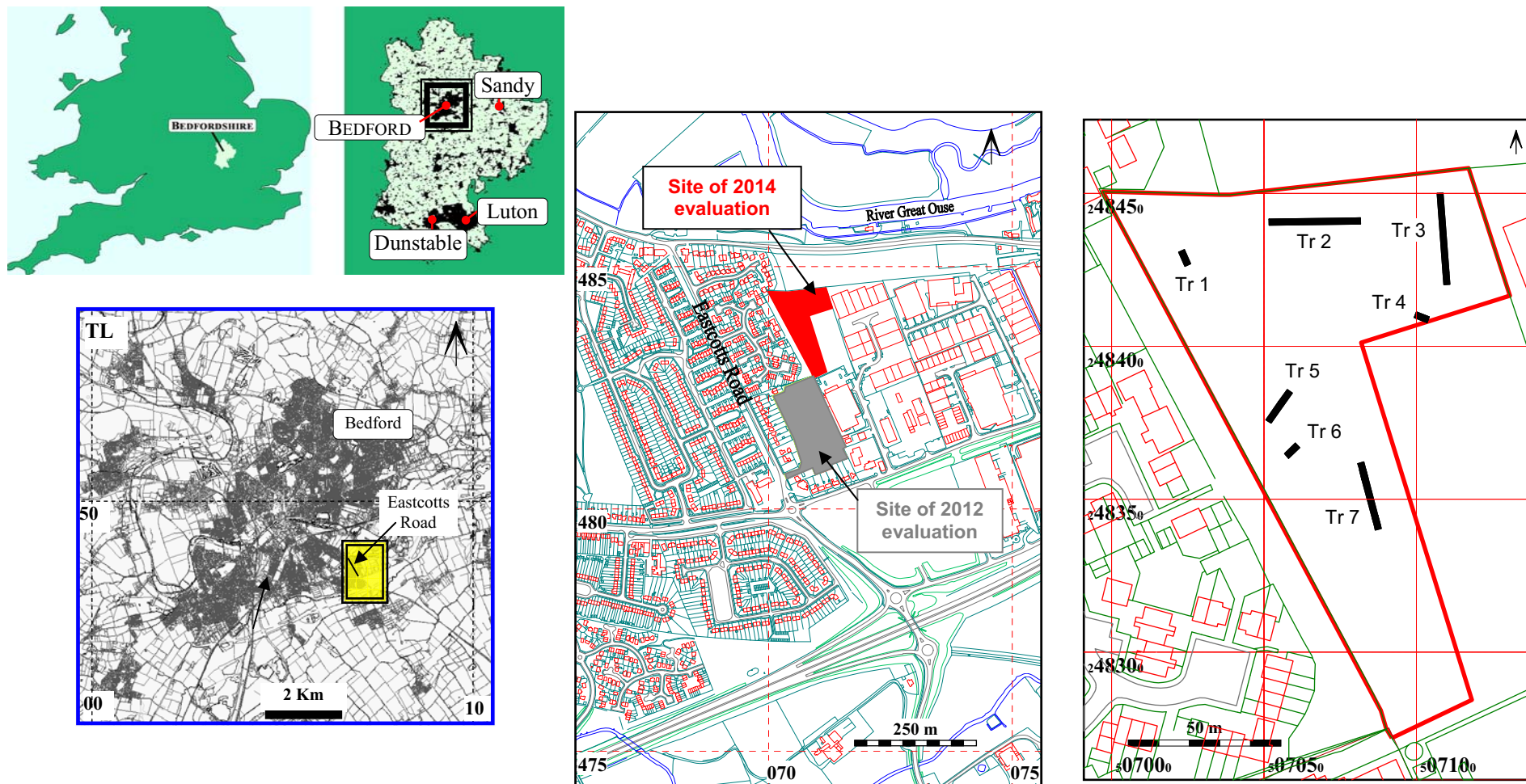


Figure 1: Site location.

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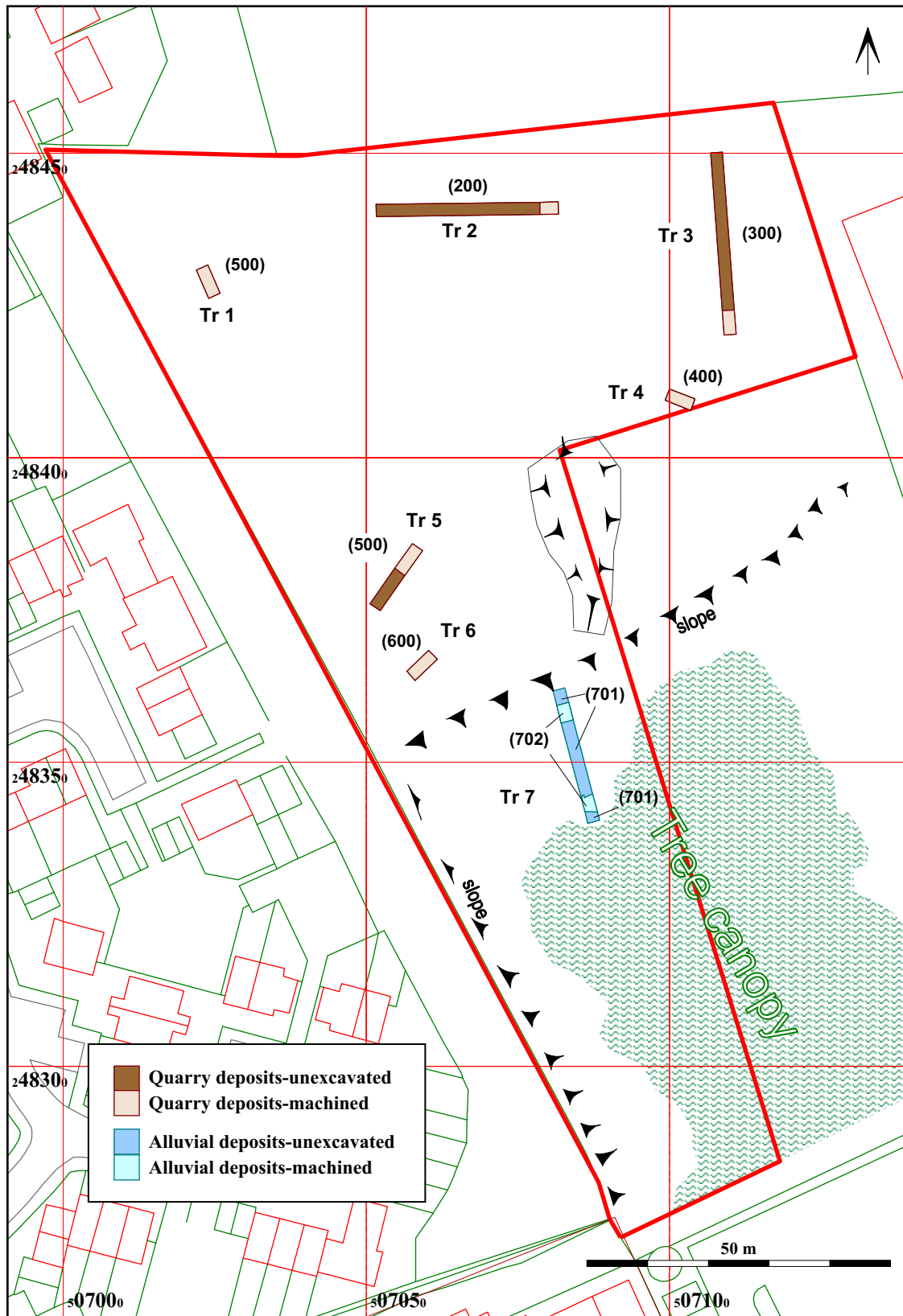


Figure 2: All features

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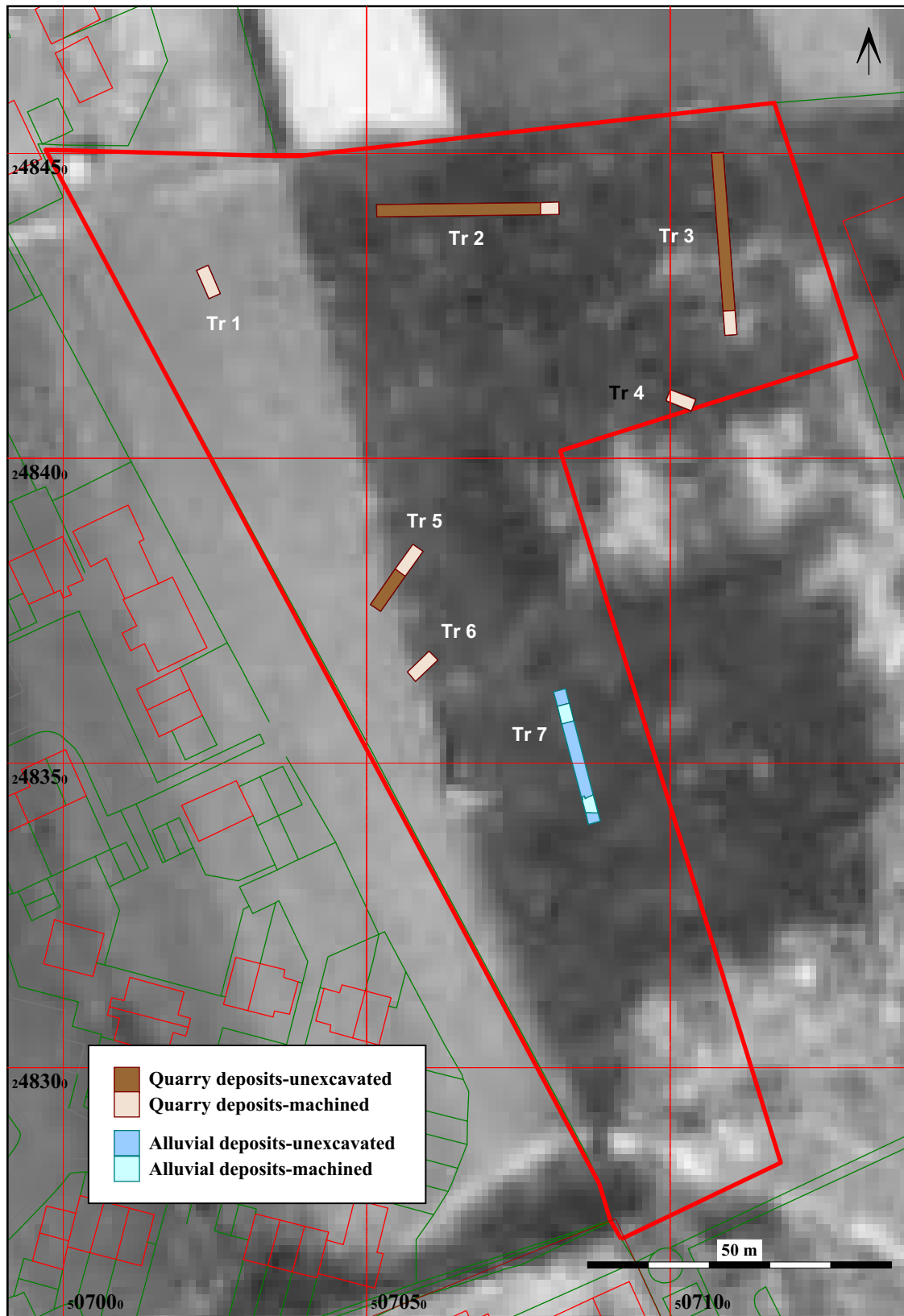


Figure 3: All features overlaid onto 1969 aerial photograph

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Plate 1: Trench 1



Plate 2: Trench 2



Plate 3: Trench 2



Plate 4: Trench 3



Plate 5: Trench 3



Plate 6: Trench 4



Plate 7: Trench 15



Plate 8: Trench 5



Plate 9: Trench 6



Plate 10: Trench 7



Plate 11: The site, looking north-west



Plate 12: The site, looking north-east

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