

**INTERIM REPORT ON AN ARCHAEOLOGICAL
WATCHING BRIEF NEAR BLACO HILL, MATTERSEY,
NOTTINGHAMSHIRE, ON BEHALF OF TARMAC
QUARRY PRODUCTS LIMITED.
PHASE 1A: NOVEMBER 1996 TO MARCH 1997**

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Authors: Tony Morris and Daryl Garton (T&PAT)

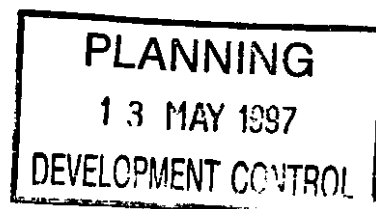
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Trent & Peak Archaeological Trust
University Park
Nottingham NG7 2RD
Tel (0115) 9514821
Fax (0115) 9514824
E-Mail Tony.Morris@nottingham.ac.uk



SUMMARY

- An archaeological watching brief was carried out during preparation of the site, and the initial stages of gravel extraction near Blaco Hill, Mattersey, Nottinghamshire for Tarmac Quarry Products Ltd., between November 1996 and March 1997. This concentrated on archaeological features revealed in the Conveyor Strip and in Cuts 1, 2 and 3 of Phase 1A.
- Limited excavation was carried out on Cropmark ditches I, II & III and on a newly identified east-west ditch, 200m to the north of Cropmark I. Other field-system features were also revealed and recorded.
- Eighteen sub-rectangular gullies were found at the west end of Phase 1A. These may have been soakaways, surrounding temporary buildings or tents. One was cut through by the Cropmark I ditch suggesting that they date from the Late Iron Age or Romano-British periods. Toolmarks at the base of the gullies were identified.
- Stratigraphic evidence was recorded and samples were taken to help reveal the environmental history of this area.
- The benefits of large area topsoil stripping prior to subsoil stripping were clearly demonstrated.

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INTRODUCTION

At the beginning of November, 1996, work started on the new Tarmac Quarry site near Blaco Hill, Mathersey (SK7088). The archaeological discoveries described in this summary were made during watching brief work carried out between November 1996 and March 1997.

The 20m corridor for the conveyor, which runs approximately north-south up the central spine of the quarry, was monitored during topsoil and subsoil stripping (Figure 1). Topsoil was removed to archaeological specifications along a 440m length of the conveyor strip. It was excavated using a 1.8m wide, flat-edged gravel bucket on a back actor, with no trafficking on the exposed subsoil surface until an archaeologist had examined the area. Although none of the cropmarks reached the Conveyor Strip, previous work had revealed that the Cropmark I ditch survived across, and to the east of this line. The work was requested to allow recording of this ditch and to test for the continuation of the Cropmark II, III and IV ditches. It also tested for any archaeological features to the north and south of the cropmarks not previously recorded.

The topsoil stripping in the whole of Cuts 1 and 2, and part of Cut 3 of Phase 1A, was also conducted to archaeological specifications and monitored. Apart from Cropmark ditch I and a stream course also known from cropmarks, no archaeological remains were known within this area.

In order to help our understanding of the general environmental history of the area, intermittent sections up to 7m wide were recorded along the northern quarry face in Cut 1 and linked by EDM survey.

The detail of the monitoring programme is included as the fieldwork diary in Appendix 1.

EXCAVATION METHOD AND RECORDING

All newly-identified, linear, field-system features had a 1m cutting excavated across them, except where they were clearly of Post-Medieval Enclosure origin. They were cleaned, photographed and planned at 1:50 after excavation was complete. At least one section was photographed and drawn at 1:20. Where possible all butt ends were excavated.

Pit, post-hole and more amorphous features were half sectioned along the longer axis to maximise the chances of identifying internal structure in section. Sections were drawn at 1:10 or 1:20 and photographed.

Generally, there was not enough time to excavate in spits or to sieve fills. Features were excavated rapidly by spade, shovel and trowel (trowel alone for small pits and post-holes). Finds were recorded in three dimensions (measurement to a baseline and levelling to a temporary benchmark, TBM) where possible, usually at the final planning stage. Baselines and TBMs were surveyed in using an EDM.

Thirteen of the sub-rectangular features were fully excavated. Each of the other five had at least one 1m cutting excavated across it. Eight of the thirteen had their fills sieved

in full through an 8mm mesh, in a concerted attempt to recover datable artefacts. Environmental samples were taken where possible.

RESULTS

The Conveyor Strip (Figure 2)

The bulk of evidence from the conveyor strip came from examining the field-system ditches of Cropmarks I, II and III.

The Cropmark I ditch showed up as line of peat crossing the conveyor strip. This had been recorded in two places during evaluation (TBH/04 & 37). The key information still required from this feature is the frequency of baulks along its base. The upper fills were stripped out by machine in approximately 0.2m deep spits until 0.1 to 0.2m remained. One baulk was found, half way across.

The Cropmark II ditch was located as predicted. Two 1m wide sections across this showed it to be very similar in character to the excavated portion to the west (Area 12 in Fig. 1). It cut a short north-south length of ditch, which was also cut by a ditch with a butt end, just south of the Cropmark II ditch.

The Cropmark III ditch was similar in form and fill to the Cropmark II ditch. It cut two other features, a butt end of a ditch, and a gully which ran north from the cropmark ditch edge.

Two of these three areas revealed features that are earlier than the Brickwork Plan field-system ditches, evidence not previously recovered on this site.

Other features noted within the conveyor strip were also recorded. These included a shallow curvi-linear gully at the southern end of the topsoiled area, a small, isolated, linear feature with flanking post-pits at one end and small irregularly-shaped features that were typical of former tree bases.

Phase 1A, Cuts 1, 2 & 3 (Figure 3)

The archaeological discoveries in the northern part of Phase 1A were concentrated in two areas: the eastern end of Cuts 1 & 2, where a new linear feature was recorded; the western half of Cuts 1, 2 and 3, where previously unsuspected sub-rectangular gullies were found.

A ditch was revealed across the eastern corner of Cut 1 and into the northern part of Cut 2. It had a shallow upper fill of peat overlying a loamy fill. At the east end, just before the conveyor strip, a 1.4m gap was marked by two butt ends. Within this gap was a 1.5 x 0.8m irregularly shaped pit which proved to be a tree-base. The plan suggested either a small entrance gap through the field-boundary with a tree in its centre, or that the ditch was originally aligned using a tree and that the break in the ditch was because of the tree's presence. This ditch ran parallel to Cropmark I, 200m to the north. Its character and orientation suggest that it was part of the field-system represented by Cropmarks I-IV, though these are spaced more closely at about 100m.

In the western parts of Cuts 1 to 3, eighteen sub-rectangular gullies were identified, thirteen of which were fully excavated. Fifteen of these lay within 70m of SK70548853. Fourteen were approximately 6.5m long by 3.5m wide and rectangular in shape, with rounded corners, indicating some consistent measurement for size. Some appeared to be roughly aligned and grouped, for example, 0364 and the two to the west. Some were very neatly dug with steep sides and constant depth (up to 0.4m depending on the degree of truncation by modern ploughing) and width, 0.4 to 0.5m. Others varied in depth and width, with apparent butt ends meeting at different heights. There was no evidence of post-holes or beam-slots within the gullies. The fills were consistent with a gradual silting up of open gullies. Six had openings marked by two butt ends. These varied from 0.3m wide to a complete missing end in two cases. It should be noted that the area cleaned by hand extended to at least 2m beyond the outer edge of each gully and was examined carefully for features. No internal or external post-holes were found.

One of the gullies (0263) was earlier than the Cropmark I ditch. The ditch was dug across the western and southern sides of the gully. On the western side the ditch upcast, which included clay lumps removed from the ditch base, sealed the fill of the gully. This demonstrates that the contemporary land-surface was preserved at this point: such remarkable preservation is extremely rare on modern agricultural land. This feature produced the only datable artefact; two joining sherds of Romano-British Grey Ware which came from its upper fill. A single piece of Samian Ware was recovered from the fill of the Cropmark I ditch.

Six of the gullies had other distinctive qualities.

A gully was started and then filled in. Next, both long sides of another feature cut across this at right angles. This suggests a 90 degree re-orientation of the structure that would indicate the importance of its alignment.

One of the sub-rectangular gullies was double the length of the standard type, with a gap in one of the long sides. All gaps in other gullies were at the short ends, except where truncation of a feature had caused an artificial break in plan.

Two gullies were linked on one side, forming a T-shape in plan (0336). Excavation of the intersection showed that the eastern one had already silted up when the other was dug.

One, with a standard shape and size, also had an internal linear division that divided it into two-thirds/one-third. It shared its south side with an ovoid gully, 5m long by 4m wide, notably different from the general type.

Apart from the pottery noted above, a rotary quern fragment, two other pieces of Millstone grit, a few fire-cracked pebbles and a probable sheep's tooth and limb bone, were recovered from the gully fills. The quern fragment and the pieces of Millstone Grit were all hand-sized and appear to have been used as hone-stones.

Some evidence for toolmarks was found in most of the gullies. In one, parallel and slightly overlapping marks were recorded. These suggested the use of a 0.16m wide spade-like tool with the digger standing on the west side and working along in two widths. The clean cut and more vertical side of each tool cut is to the west, with the broken, shallower side to the east. The tool was forced down in and levered to loosen

the soil. The preservation of these toolmarks suggests fairly rapid infilling of the gully base.

In summary, the eighteen sub-rectangular gullies appear to form a localised group as they were not observed in the eastern part of Cuts 1 and 2. Orientation, size and shape were important and they were not necessarily contemporary with each other. One was clearly dug before the Cropmark I ditch. As open gullies, they would have acted as soakaways, keeping the central platform dryer than usual. This suggests two possible functions. An agricultural use such as drainage around a straw or hay stack is a possibility. However, this doesn't explain the importance of size or orientation. The second is as a drain around a temporary structure such as a tent or a prefabricated, free-standing, wooden building, possibly a seasonal shelter for a herdsman or for animals.

Other evidence from the west end and central areas of Cuts 1 to 3 included stream lines that post-date the Enclosure field-boundaries.

There was some evidence for activity related to the field-system ditches. Three tree boles in a line lay adjacent, and at right-angles, to the Cropmark I ditch. This may have been the remains of a hedgeline. A short stretch of ditch with the remains of tree bole may have been a northern continuation of this hedgeline. Another short stretch of former hedgerow at right angles to the Cropmark I ditch was identified near the west edge of the quarry. A shallow hollow to the west of this may have been a pond. Finally, in the most westerly corner of Cut 1, a stretch of field-system ditch runs north-south, with another possible hollow alongside it.

The Stratigraphy Recorded in the Quarry Face

The northern quarry face in Cut 1 was recorded to help elucidate the environmental history of the area. The uppermost parts of the stratigraphic sequence were best preserved at the eastern end of the section below the built-up Horsen Bank trackway. Unfortunately, this 4 to 5m high section was too dangerous to work under. Cleaning and recording was not possible except by photography, but advantage will be taken during Phase 3B stripping to recover a detailed record.

In brief, the stratigraphy comprised:

<i>Horizon</i>	<i>Thickness</i>	<i>Location/Preliminary Interpretation</i>
Ploughsoil	0.3m	
Peat	0 to 0.2m	Eastern end of Phase 1A. Thickest beneath Horsen Bank.
Alluvium	0 to 0.1m	Eastern end of Phase 1A. Deeper in scour channels.
Reworked Sand	0 to 0.3m	Grey-white sand reworked by wind, water and colluvial movement down into the valley.
Post-Glacial Sand	0 to 0.5m	Orange-brown sand, probably deposited soon after final deglaciation.
Clay	0.3 to 0.4m	Reddish-pink or grey-green. Layer of fairly uniform thickness. Sterile and unstructured. Probable Late-Glacial lake mud.
Sand and gravel	Up to c.3m	

In the simplest case, topsoil rested directly upon the clay layer. The orange-brown sand was usually present, especially in dips and hollows in the clay surface. The grey-white sand survived in thin spreads. Alluvial silts and areas of peat were only noted in the east, near the river or in the upper hollows of cut features such as ditches or stream lines.

COMMENTS

The watching brief on the first phase of the quarry has revealed a wealth of archaeological information. A whole group of features of unknown function has been discovered, excavated and recorded before destruction. It is possible that they are sites for temporary structures in the Late Iron Age/Romano-British period and that more will be found to the south and west. More information has been gained about the Brickwork-plan field-system. The environmental history of the floodplain and its relationship to the archaeology is now better understood. The benefits of looking at large areas stripped of topsoil have proved enormous: it is very doubtful whether so much archaeology could have been identified with a more limited and localised topsoil removal strategy.

APPENDIX 1: FIELDWORK DIARY

An area on the north side of the Wildgoose Cottage junction (SK703878, OS Field Number 5200) was stripped of topsoil, to be used for future topsoil and subsoil dumping. No archaeological features were noted here though observation conditions were very poor.

The next topsoil and subsoil stripping took place along the line of the conveyor route, a 16m wide north-south corridor that runs up the central spine of the quarry. This was later widened to 20m to accommodate a drainage trench along the west side. Evaluations in July 1995 had identified an eastern end to Cropmark I. It turned south and appeared to continue in that direction, running parallel to Cropmark VI (Figure 1). The position of this corner, some 50m east of the conveyor strip, was marked with a wooden peg, as were the projected sites of the junctions between this new north-south boundary and Cropmarks II & III. Fencing was put in 20m either side of the line formed by these pegs. It was linked at its north and south ends, 20m beyond the end peg. This fencing protects the area from damage by vehicles running to and from the soil dumping areas nearby. The conveyor line had to be stripped down to gravel before conveyor construction. This was started 60m to the north of Cropmark I. Topsoil was stripped first, continuing south to a point 165m south of the Cropmark III projected line. This allowed a search for a ditch on the projected line of Cropmark IV. Another 120m of topsoil was stripped to the north of the start point. No cropmark is known to the north of Cropmark I, but this may have been the result of localised ground conditions and a visual check was necessary. Field-system ditches were revealed on the lines of Cropmarks I, II & III, but not Cropmark VI. No east-west ditch was identified to the north. A number of other features were noted within the line of the Conveyor strip. The subsoil was removed within the top-soiled area and to the south. Weather conditions worsened dramatically, which combined with the low peaty area at the north end of the stripped area made further work impossible. The conveyor strip was part back-filled leaving a ramp and the conveyor was laid on the topsoil for the final 180m north to the middle of Area 1A Cut 1.

The rest of the watching brief area summarised here covers Phase 1A, Cuts 1, 2 & 3.

Stripping prior to gravel extraction started with the topsoil at the east end of Cut 1. Subsoil and gravel was removed from the east end of the northern Cut 1 strip, an area that included Horsen Bank (the line of the main north-south farm track). A new east-west linear feature was noted running across the north-east corner of Phase 1A. An alluvial spread and overlying peat were identified beneath and to the east of Horsen Bank. A stream line filled with a more recent alluvial silt ran north-south across the whole of Cut 1.

Topsoil stripping continued across the east end and centre of the northern part of Cut 2 and continued in Cut 1 as far as the modern field boundary dividing off the western third. This area revealed two linear features, aligned with the modern field-system.

Subsoiling in Cut 1, the north side, continued west to the modern boundary to allow gravel extraction to continue by drag-line.

When topsoil was stripped from the rest of Cuts 1 and 2, the following were identified: a number of unusual sub-rectangular features; a linear feature cut across the extreme

north-west corner of Cut 1; the Cropmark I ditch with a broken linear feature at right angles to it; an alluvial-silt filled stream line previously recorded in Area 4 in Fig. 1.

Subsoil was stripped from the west end of the north side of Cut 1, leaving a small triangle untouched in the north-west corner, protecting the north-south, field-system, cropmark feature. Cut 3, between the soil quality boundary fence and the conveyor side topsoil heap, was topsoil stripped revealing three more sub-rectangular features, more of the Cropmark I ditch and two curvilinear features that cut across Cropmark I. The Cropmark I ditch cut one of the sub-rectangular features.

The south side of Cut 1 and the north side of Cut 2 were subsoil stripped.

Archaeological work was completed in front of subsoil stripping and with the helpful and flexible working relationship established between Tarmac, T&PAT and Powerplant preventing any delays developing. This was greatly helped by the stripping of large areas of topsoil ahead of subsoil removal. All topsoil and subsoil stripping was by back-actor with 1.8m, flat-edged, gravel bucket, except for the area around Cropmark I in the southern half of Cut II, that was stripped more carefully by JCB back actor with 1.8m ditching bucket, under direct archaeological supervision.

ACKNOWLEDGMENTS

The large amount of archaeological evidence gathered is largely a result of the help and flexibility of approach given by Peter Rust the Tarmac Quarry Manager and Steve Clear the Powerplant Foreman and his team. The fieldwork was supervised by Tony Morris and the project directed by Daryl Garton. Members of the Trent & Peak Archaeological Trust who worked hard in winter conditions to complete the work were, Paul Caldwell, Howard Jones, Steve Malone, Vicki Priest, Mark Southgate, Adrian Turner, Dave Walker and Caroline Wickham. Thanks for their help with the fieldwork go to Jen Eccles, Rob Sussum and Val Disney. Caroline Wickham produced the Figures and assembled and bound the document.

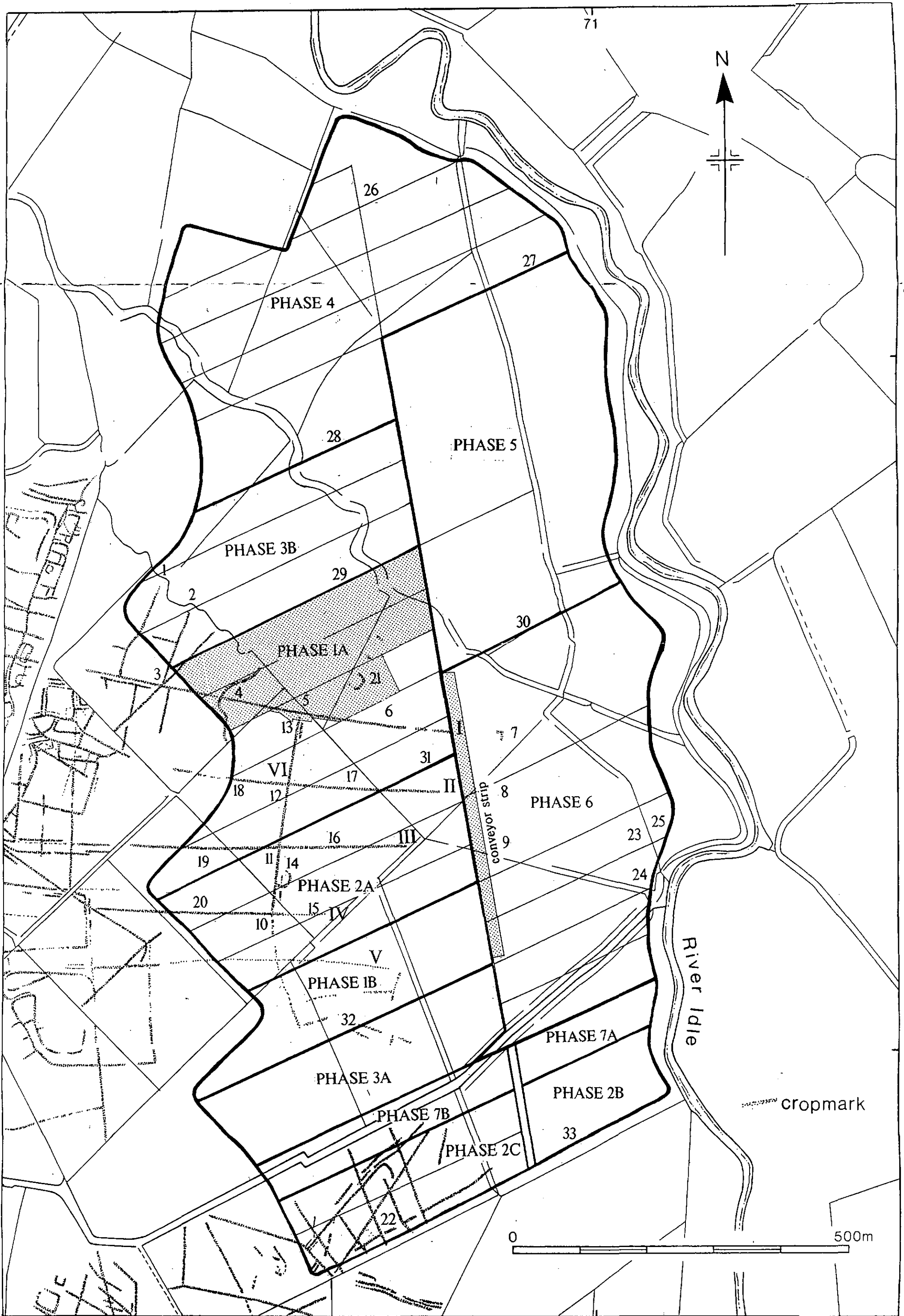


Figure 1. The conveyor strip and the extent of Phase 1A covered by the Watching Brief between November 1996 and February 1997 (stippled areas).

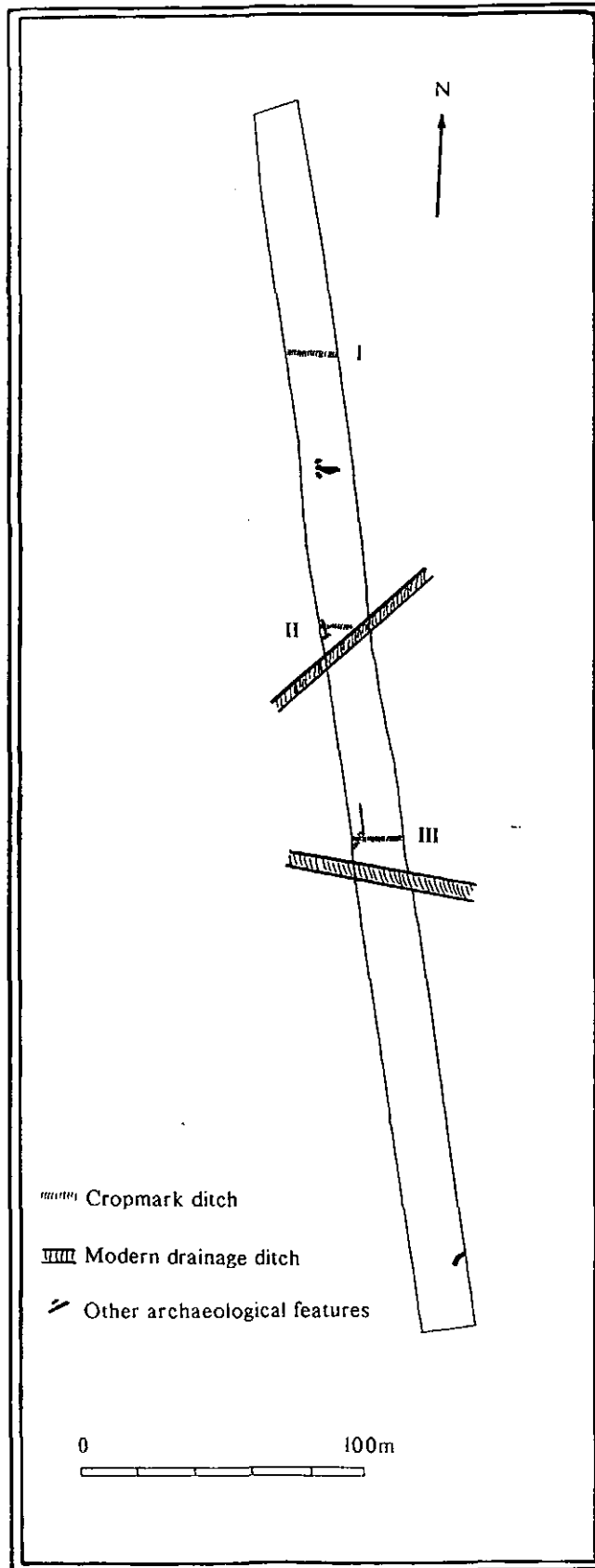


Figure 2. Archaeological features within conveyor strip. Location stippled in Fig.1. Scale 1:2500.

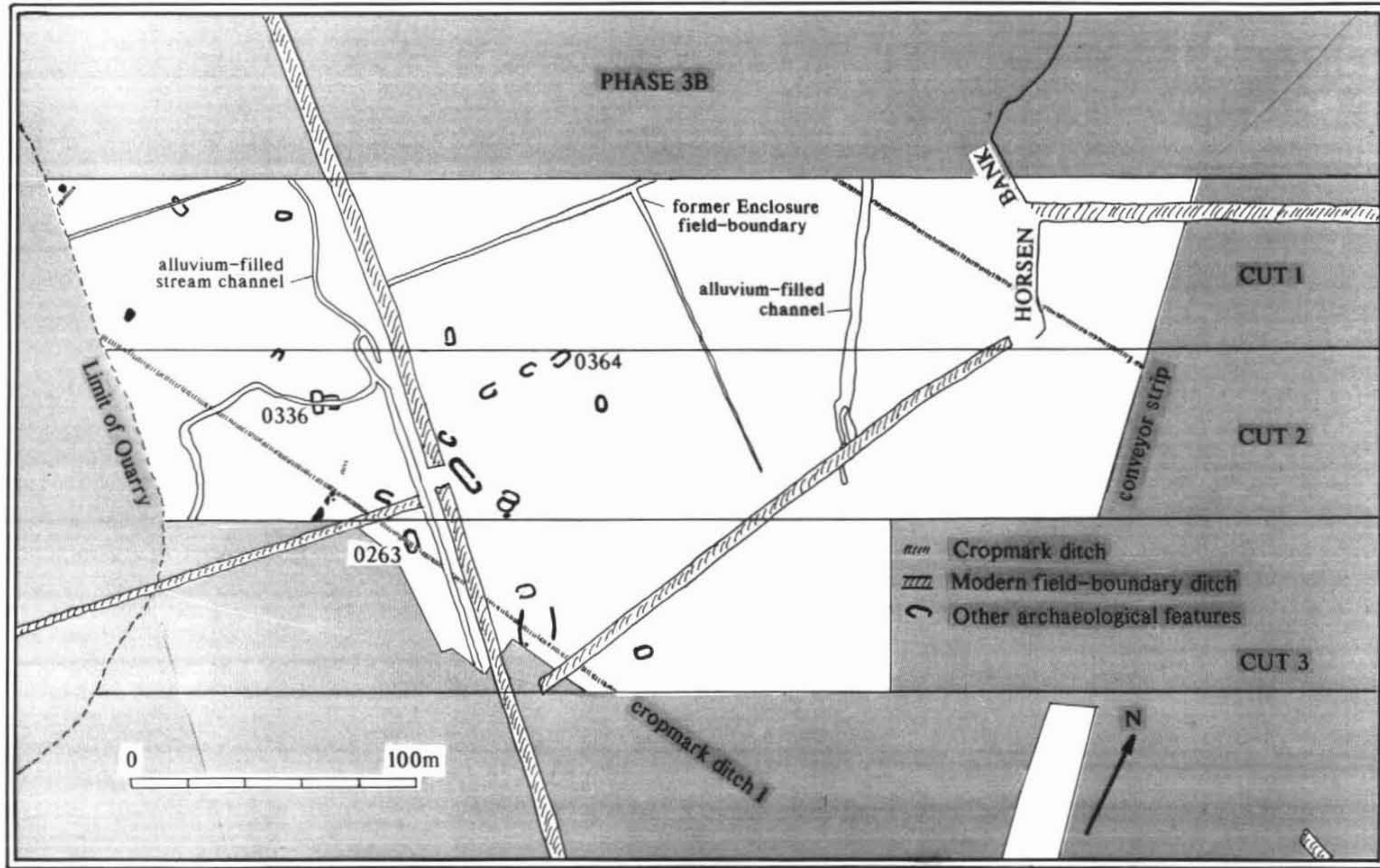


Figure 3. Archaeological features within area of Watching Brief in Cuts 1-3 of Phase 1A. Location stippled in Fig. 1. Scale: 1:2500.