

TILN NORTH: EVALUATIONS FOR TARMAC CENTRAL LTD

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SUMMARY

Field-evaluation of a proposed quarry area at Tilm North, Nottinghamshire was conducted for Tarmac Central Ltd by T&PAU in May 2003.

The evaluations were designed to elucidate three of the five themes identified in the '*Cultural Heritage Assessment for the Environmental Statement for Tilm North Proposed Quarry Extension*':

- 1) potential for the preservation of palaeoenvironmental information relating to landscape formation and character
- 2) cropmark landscape
- 4) potential for activity on the topographically higher 'islands' within the floodplain and the margins of the floodplain terrace

Twenty-four test-pits were excavated by machine to sand and gravel to assess the depth and quality of peat deposits and the potential for information about landscape formation.

There are at least five locations in which peat deposits of some thickness survives: two lie close to cultural remains (25m to 'burnt mound' deposits and 55m to Romano-British ditches). At the latter location, the peat is interleaved with alluvium.

There is potential for extensive undisturbed areas buried beneath a thin peat cover on the western side of the sandy ridge.

There are colluvial deposits which seal features containing 'burnt mound' deposits on the south-eastern edge of the sandy ridge.

Seven trenches were stripped of ploughsoil, with ditches box-sectioned in each trench.

Pottery dating to the Romano-British period was found in all but two trenches. Roman tile and glass was recovered from one trench indicating a Romanized settlement close by (the focus of which probably lay outside of the proposed quarry area).

The trenches demonstrated that the pattern of ditches on the sandy ridge was much more complex than suggested by the recorded cropmarks. Some of these ditches were well preserved, including the survival of buried soil beneath associated upcast. Gradiometry survey of 0.9ha did not locate these ditches.

There are *in situ* sequences of features and deposits on the south-eastern slope of the sandy ridge, which, taken together with the geophysical survey and fieldwalking evidence, are extensive.

The archaeological remains are assessed as being of Local and Regional Importance.

The proposed quarry will destroy these remains. 'Preservation by record', i.e. an approved programme of prior excavation and recording, should provide the necessary mitigation required by the Planning Authority.

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FIGURES

Fig. 1. Tiln North, location of evaluation trenches (dark blue) and test-pits in relation to cropmarks (black), bore-hole locations containing peat (pale blue cross), and area of geophysics survey (grid in green). Scale 1:10,000.

Fig. 2. Tiln North: sections of test-pits in 08 and 09. Section scale 1:40.

Fig. 3. Tiln North: plans of trenches 01/1 and 03/1 showing configuration of features. Scale 1:500.

Fig. 4. Tiln North: plans of evaluation trenches 04-06, shown against the contours (recorded from spot-heights of artefacts recorded by fieldwalking), the cropmark plot and the area over which geophysical survey was conducted (green grid). Scale 1:500.

Fig. 5. Tiln North: grey scale plot and interpretation of gradiometry survey conducted by EAS. Interpretations A-C do not co-incide with the ditches known from trenches 04/2 and 05 (grid is that printed in green in Fig. 4).

PLATES

Plate 1 TTN 09/1 – the uppermost layer of peat was sampled (ES1,2) immediately below alluvium (base of alluvium was not ploughed). Scale divisions 0.1m.

Plate 2 TTN 08/3 was chosen for sampling the sequence of peat as it was deeper and wetter than the other test-pits (ES3-8) and it was adjacent to test-pit 09/3 which contained the 'burnt-mound' debris. Although the uppermost horizon is missing/damaged by ploughing here, it is sampled in TTN 09/1. Scale divisions 0.1m.

Plate 3 TTN 03/3 two layers of peat, both sealed by alluvium. Although at the base of a hollow, both layers of peat probably formed *in situ* since neither contain significant washes of material nor stones. Sampled as ES12-15. The hollow lies just to the north of a cropmark enclosure of probable Romano-British date (outside of the proposed quarry area). Scale divisions 0.1m.

Plate 4 TTN 09/3 pit filled with 'burnt mound' type material (i.e. charcoal-rich matrix with abundant shattered, burnt pebbles), sealed by alluvium, then colluvium. Note the patchy remains of a peat horizon at base of ploughsoil which could be the same peat horizon sampled to the north (ES9/10). Scale divisions 0.1m.

Plate 5. Plate 5. TTN 03/1 box-section through a pit or butt-end of a ditch (on left) and recut ditch (on right). The peaty infill of the later ditch contained a Roman tile (BEX) and piece of bottle glass (BEA), as well as pot-sherds. Scale divisions 0.1m.

Plate 6. TTN 03/1 box-section through southern-most ditch, showing upcast lumps of silty clay subsoil backfilled into upper part of ditch. Scale divisions 0.1m.

Plate 7. TTN 04/2 ditch recorded by cropmark. The paler, sandier infill on the north-west (left side) shows upcast backfilled from this side. This is confirmed by vestiges of a stony bank/upcast above a buried soil on this side (in Plate 8 below). The dark peat infill (middle right) is overlain with alluvium, which has been ploughed to form the topsoil. Scale divisions 0.1m.

Plate 8. TTN04/2 adjoins the left side of Plate 7 above. The vestiges of a stony horizon at the base of the ploughsoil was interpreted as the last remnants of the bank/upcast from the ditch in Plate 7. This stony horizon overlies a grey, sandy silt loam interpreted as a buried soil developed on the underlying sandy clay loam subsoil. Scale divisions 0.1m

Plate 9. TTN 05 ditch recorded by cropmark. Ditch recut at least once, with spill of upcast/bank material near top of probable earlier ditch (on left) on southwestern side of backfill. Peat infills the top of the probable later ditch (on right), which is sealed by an alluvial topsoil, now ploughed. The very basal fill of this ditch was removed by hand: a single fire-cracked pebble and sherd BAI were recovered. Scale divisions 0.1m.

Plate 10. TTN 05 adjoins the left side of Plate 9 above. The base of the original soil profile is marked by the grey sandy loam, developed on the silty clay subsoil. Scale divisions 0.1m

Plate 11. TTN 05, view of north-western part of trench showing gulley, features including one containing fire-cracked pebbles, and ditch (running down right side) with a patch of darker peaty fill (at top). Ditch section in Plates 9,10. Scale divisions 0.1m.

Plate 12. TTN 06, southwest-facing section through series of ditches which are cut through *in situ* peat overlying a probable soil (on right), and which appear to be associated with buried surfaces (on left). The whole sequence is overlain with c. 0.22m of dark grey colluvium/soils. The base of the largest ditch (with vertical scale) was removed by hand with sherds BBP, BBQ, BBV recovered. (The modern ploughsoil was battered back to keep the trench depth to 1.2m for safety reasons). Scale divisions 0.1m.

Plate 13. TTN 06 north-west end in plan showing the gulley (centre left) recorded in section in Plate 14. South-east of this point, the whole area of trench exposed comprised dark grey deposits similar to those infilling the features in this photograph. Scale divisions 0.1m.

Plate 14. Gulley excavated at north-west end of TTN 06, with a possible post-setting on its edge. The basal fill of this gulley contained 'ashy' debris and was sampled for assessment of the charred remains. A thin ?unploughed horizon is visible at the base of the modern ploughsoil which was also present overlying the possible post-setting (see Plate 13). Scale divisions 0.1m.

TILN NORTH: EVALUATIONS FOR TARMAC CENTRAL LTD, MAY 2003

1. INTRODUCTION

The evaluations were conducted as set out in the specifications titled '*An archaeological evaluation strategy for Tiln North proposed quarry extension for Tarmac Central Ltd*' dated Jan 2003, with the locations of two trenches determined upon the results of the fieldwalking reported in the document '*An interim report on the fieldwalking at Tiln North, Nottinghamshire & Revision to the Evaluation Design*' dated March 2003.

The evaluations were designed to elucidate three of the five themes identified in the '*Cultural Heritage Assessment for the Environmental Statement for Tiln North Proposed Quarry Extension*' identified five themes of archaeological importance:

- 1) potential for the preservation of palaeoenvironmental information relating to landscape formation and character
- 2) cropmark landscape
- 4) potential for activity on the topographically higher 'islands' within the floodplain and the margins of the floodplain terrace

with the remaining themes to be implemented in the final scheme of treatment

- 3) artefacts from the river
- 5) survival of elements of the medieval and post-medieval landscape.

The areas for evaluation were lettered A-J in the proposal: however, on excavation the test-pits/trenches were allocated two figure numbers in accord with the TPAU recording system (01-11). Where there was a transect of test-pits (or test-pits and trenches) these were given one overall number to group them together, with individual pits allocated a suffix (e.g. 03/1, 03/2, 03/3-4).

This report deals with the results of the field evaluation prior to the receipt of the specialist reports on the pottery and samples taken for palaeoenvironmental assessment.

2. FIELD RESULTS

1) potential for the preservation of palaeoenvironmental information relating to landscape formation and character

The deposit model determined the locations of machine test-pits to examine the potential for waterlogged organic deposits. These included the central area of deeper peats (08 and 09, 07, 10) and the hollow to the north of the cropmark enclosure (03) located in Fig.1. In addition, the potential for interleaved sediments along the edge of the sandy ridge (09, 06, 05), and for waterlogged deposits in the cropmark ditches (01/1, 02, 03/1), were investigated.

The ditches in 01-03/1 ranged from 0.70-1.12m in depth below the ground surface. The fills of the ditches within 01 and 03/1 included humified peaty fills (Plate 5), but none had obvious field-identifiable wood, plant or beetle remains.

Peat was recovered in test-pits in 03/3-4 (Plate 3), 08 (Plate 2), 09 (Fig. 2), 07 and 10/1-2. In 07 and 03 the peat was evident from the surface to the underlying sand and gravel. In 09/1 (Plate 1), 03/3-4 (Plate 3), and 10 it was buried below layers of undisturbed alluvium (and beneath alluvial ploughsoils in the other test-pits in these series). In all cases the peat was dry and friable at the surface or immediately below the ploughsoil, and got increasingly moister with depth. Only the deepest peats were still wet and spongy, with obvious wood and plant fragments. Six samples have been submitted for assessment of the quality of preservation of beetles, plant macros and pollen. These include a sequence comprising the full depth of peat deposits in 08/3 and 09/1 (Fig. 2) and samples above and below an alluvial layer in 03/3 (Plate 3).

A thin layer of peat (max 0.10m) was located immediately below a ploughed alluvial soil in 04 and 09/2-5 and 08/4-5 (Fig. 2). This peat, though now dry and friable, was also sampled.

<i>Area</i>	<i>Max depth of peat below ground surface</i>	<i>Max thickness of undisturbed peat</i>	<i>Sample taken for assessment</i>	<i>Peat overlain by alluvium?</i>	<i>Plate</i>
01	0.90	0.54	No	In places	
03	0.96	0.16	2	Yes	3
04	0.30	0.14	1	Yes	
06	0.44	0.22	No	No	12
07	0.90	0.60	No	No	
08	1.26	0.94	3	In places	2
09	1.45	0.98	1	In places	1,4
10	1.28	0.70	No	Yes	
11	-	Peaty topsoil, none undisturbed	-	-	

2) cropmark landscape

The cropmarks across the sandy ridge (04, 06, 05 in Fig. 1) and just on (02, 03) and off the terrace (01) were evaluated. The results of trenching across the sandy ridge prompted a trial geophysical survey from the contingency budget, reported in detail by Brooks 2003, and summarized below (Fig. 5).

Cropmarks on and adjacent to the terrace

Trench 01

The trench was stripped of ploughsoil, then a spread of colluvium box-sectioned. The cropmark ditch in 01 was shallow and lay on the downslope side of a spread of colluvium (Fig. 3). The ditch was infilled with humic silts overlain by a spread of colluvium. The ditch is positioned roughly along the terrace edge and probably formerly formed a slight ditch along a boundary similar to that which survives as a lynchet to the south-west (Fig. 1). A single feature was partly revealed within the trench (Fig. 3).

A single flint was located on the stripped surface away from any obvious features.

A single pot-herd was located on the ploughsoil surface to the south of the trench.

Trenches 02 and 03

These trenches were stripped of ploughsoil then the ditches box-sectioned. A single ditch was evident in 02, with at least five ditches and gulleys and two linear subsoil variations, as well as discrete pit-like features in 03 (Fig. 3). The ditch in 02 was clearly that represented as a cropmark. The deepest ditches in 03 may also be represented by cropmarks, though the deepest, northerly ditch was not on the plotted line. However, examination of the cropmark plot in Fig. 1 shows a disjunction between the two sections of double ditch: perhaps there is an error in this part of the plot.

The ditch in 02 was 1.14m deep from the soil surface, infilled with a series of sandy clay fills, with no evidence of organic preservation.

The southern-most ditch investigated in 03 was 0.8m deep with the uppermost fill being distinctly comprised of upcast (Plate 6). A pit or butt-end of a ditch some 0.88m deep (left in Plate 5) had been left open sufficiently long to have a series of sand lenses inwashed from the south-east in its primary fill. The northernmost, largest ditch, some 1.12m deep, had been recut at least once: its latest fill was peaty (right in Plate 5). There was no inter-relationship between these two features: this may be discernable in the undug deposits to the west. No clear weathering cones were identified on any of these ditches suggesting that they are the truncated remains of originally deeper features.

Nineteen pot-herds were recovered from the ditch and gully fills evident at the stripped surface of trench 03 (Fig. 3) with another fourteen pot-herds recovered from the middle and lower fills of the ditches when the sections were cleaned and straightened. They included a piece of Roman tile and bottle glass from the upper and middle fills of the later re-cut (see caption Plate 5).

Cropmarks across the sandy ridge

Trench 06

This trench was intended to sample the relationship of the artefact scatter to the swale, and whether there was any indication of a continuation of the cropmark ditch running off to the north (Fig. 1). The trench was located some 11m to the south-east of that in the original design (but on the same alignment), so that it ran to the base of the slope deposits (Fig. 4).

On removing the topsoil from trench 06 there was only one small patch of subsoil showing: the rest of the area was completely filled by features, which included at least one discrete cluster of fire-cracked pebbles (black area in Fig. 4). A box was taken through the south-eastern (downslope) part of these deposits. This showed a sequence of at least three features, the latest two of which were cut through a 0.20m depth of peat developed upon a probable soil horizon (Plate 12). The earliest feature in the sequence appeared to have an associated soil/ground surface and weathering cone present. All the deposits were overlaid by 0.22m of dark, humic 'soil'/colluvium (Plate 12). The basal fill of the earliest, deepest ditch (up to 1.6m deep – sectioned battered for safety purposes) was removed by hand retrieving three pot-sherds (BBP,Q,V) and two fire-cracked pebbles.

In trench 06 a second ditch was sampled by hand-excavation at the upslope end of the trench where subsoil was present (Plate 13). Sealing this ditch fill, and distinguished from the ploughsoil by its colour, was a deposit some 0.08m thick (Plates 13, 14). The basal fill of the ditch included a lense of charcoal and ash-rich soils, which could be loosely characterised as 'domestic' debris, and which was sampled and submitted for assessment.

Twenty-five pot-sherds (plus 19 unstratified), together with fire-cracked pebbles and two fragments of burnt bone were recovered from the stripped surface of trench 06 (a saddle quern was also recovered from the spoil heap): these will be from the 'soil'/colluvium and feature fills. Given their density in this robust excavation, and that the deposits are being truncated by ploughing, the cluster of pot-sherds recovered by fieldwalking hereabouts is not surprising. The clusters of pottery identified by fieldwalking suggest that such deposits will be over 200m across.

The derivation of the uppermost dark, humic, deposits is not entirely clear. The slope location suggests that it may partly result from colluviation, though the intercutting and sequences of features also suggests a build up of deposits reminiscent of a site recently excavated at Rampton, similarly located on the floodplain margin, but in the Trent Valley.

With so many features present in trench 06, it is not possible to ascertain whether any represent the extension to the particular cropmark ditch which was the objective for this trench. It is clear, however, that these features, along with those in trench 05 described below, are later than the swale.

Trench 05

This trench was intended to check whether a cropmark ditch continued southwards into the area of the artefact scatter located by fieldwalking. Trench 05 was stripped of ploughsoil, then widened into a 'T' shape to section the ditches at its north-western end.

There is a feature which might represent the cropmark ditch running to the north in trench 05: if so, it is cut by another ditch that ran the length of the trench which would appear to extend a cropmark located to the north-west (Fig. 4). However, neither of the two intercutting ditches recorded in the box-section at the northern end of the trench were recorded as cropmarks. The bottom 0.20m of the deepest ditch (1.48m deep from the ground surface) was removed by hand, retrieving one pot sherd (BAI) and one fire-cracked pebble. The final fill of the ditches was upcast that had been backfilled or slumped into the ditch hollow prior to peat forming (Plate 9). The peat was overlain by a silty, ploughed, alluvium. The weathering cone of the ditch, and the base of the soil forming the ground surface survived (Plate 10), demonstrating excellent preservation within this area. Neither of these ditches was observed as a cropmark.

Other features included gulleys, and small pits/post-holes, at least one containing fire-cracked pebbles (Plate 11). Seven pot-sherds were recovered from the stripped surface.

Trench 04

This trench was intended to investigate the relationship of the cropmarks to the clayey alluvium deposited between the ridge and current river. In the event, trench 04 was not located as had originally been intended. Trench 05 had been machined first, and since it had run along a ditch which was headed for 04, the precaution was taken of machining a trench at approximate right-angles to establish the precise location of the ditch, with the intention of a second parallel trench to check that it did not continue into the area intended for trench 04. However, instead of the predicted single ditch, two ditches were located, running at such an angle that they would have intersected acutely within the intended trench 04: such a trench would not have been useful, so the strategy was revised to two trenches (04/1 and 04/2) located at either end of the intended single trench.

A ditch, with a double profile indicating two separate cuts, was duly located in trench 04/1. The uppermost fill of the ditch merged into a 'soil' which lay to either side for at least 1m. Overlying this 'soil' was 0.10m of peat which itself lay below the silty, ploughed alluvium. Hence this ditch, and its associated land-surface, would appear to be preserved below a thin peat growth. There was no obvious upcast/bank associated with this ditch and no other features were observed, but this is perhaps not surprising since the topsoil and peat was removed by machine, but not the soil horizon which would probably have sealed any features.

In trench 04/2, one of the ditches located (nominally that showing as a cropmark) was box-sectioned. The infills of this ditch indicated infilling from a bank/upcast to its north-east (Plate 7). Above these fills was a thin peat band, then undisturbed alluvium below the ploughed alluvial topsoil. The weathering cone of the ditch, and the base of a soil, and perhaps the remnants of the upcast/bank represented by a stony horizon, were present to the north-east of the ditch (Plate 8). This suggests that the features within this area, whilst not sealed, are non-the-less well preserved.

Whilst the sectioned ditch in trench 04/2 was that which formed the cropmark, a second wider ditch was also located which did not register as a cropmark (Fig. 4).

No artefacts were located in either trench.

Geophysical survey

It was obvious that there were ditches located within trenches 04/1, 04/2, 05 and 06 that had not been observed as cropmarks. Given the depth of the sectioned ditches, their obviously contrasting fills with the surrounding subsoils, and the reasonable quantity of pottery and other debris, it was considered that such features, might be responsive to gradiometer survey. Hence, some of the contingency monies were used to conduct 0.9ha of survey by Engineering Archaeological Services Ltd. The area surveyed was located between trenches 04/1-2 and 05 and 06, in an area where ditches seen in box-sections could be confidently predicted to continue (Fig. 4). Survey was conducted using a Geoscan FM36 Fluxgate gradiometer with readings taken at 0.5m intervals and transects taken 1m apart (Brooks 2003).

None of the predicted lines of the ditches could be identified in the grey-scale plots (Fig. 5), though the predicted area of intense activity south-west of trench 06 did produce slightly higher magnetic readings (Fig. 5).

The opportunity was taken to test whether the 'burnt mound' deposits fortuitously located in test-pit 09/3 (see below) could be located by such gradiometry survey. However, even when the 'burnt mound' type deposits were exposed, or covered by a maximum of 0.1m of colluvium, they only registered as 1-2nT above the background readings – insufficient to use this technique to locate such deposits, particularly when covered by greater depths of sealing deposits.

This survey did not contribute, as hoped, to demonstrating the pattern or extent of ditches, so no further geophysical survey was conducted. However, the survey did indicate higher magnetic activity on the south-eastern slope of the sandy ridge at least as extensive as the cluster of pottery located by fieldwalking.

4) potential for activity on the topographically higher 'islands' within the floodplain and the margins of the floodplain terrace

Fieldwalking of the sandy ridge showed two clusters of Romano-British pottery and a scatter of firecracked pebbles which seemed to co-incide broadly with the field-systems identified by cropmarks. The evaluation trenching (particularly 06) has shown that at least one cluster of Romano-British pottery is associated with the potential for sequences of deposits along the margins of the sandy ridge. It is possible that the fire-cracked pebbles are associated with this Roman activity, though other origins cannot be discounted as discussed below.

By chance, one of the test-pits (09/3) which lay on the edge of the sandy ridge, sectioned a pit filled with fire-cracked pebbles and charcoal reminiscent of 'burnt mound' material

(Fig. 2, Plate 4 and cover). Such deposits seem to be associated with floodplains and be dated predominantly to the 2nd millennium BC. The pit in 09/3 was associated with a surface which also had other features infilled with pebbles and charcoal. It was overlain by c. 0.20m of sandy colluvium, below a very thin patchy peat (max 0.08m thick), below a ploughed alluvial topsoil (Fig. 2, Plate 4). Though unproven, it is tempting to suggest the peat below the ploughsoil here is of a similar derivation to that recorded immediately below the alluvial topsoil in trench 04/1. If so, the colluvium could be of 1st millennium BC/Romano-British date. However, what it does show is the potential of probable prehistoric activity on and around the margins of the sandy ridge – which because it is sealed by colluvium, may be relatively well preserved. The proximity of these 'burnt mound' deposits to the deeper peat deposits in 08/3 (Fig. 2) make this especially significant, since the impact of the activities may be recorded in the peat sequences.

3. CONCLUSIONS

This evaluation was designed to determine the parameters of three major issues; the main results, and the potential for future investigation, are summarized below. The final part of each section assesses the importance of the deposits as graded in Annex 4 of PPG16 (as described in the '*Cultural Heritage Assessment*' section 8).

1) the preservation of palaeoenvironmental information relating to landscape formation and character

Results

There is at least one location where there are interleaved deposits of peat and alluvium.

There are at least five locations in which peat deposits of some thickness survive: at least two lie close to cultural remains (55m to Romano-British ditches and 25m to 'burnt mound' deposits).

There are colluvial deposits which seal features on the south-eastern edge of the sandy ridge.

There is potential for a stratified sequence of deposits/features, as follows:

- Alluvium
- Peat
- Romano-British features
- Colluvium
- 'burnt mound' features

Importance

Pending the results of the assessment of the samples submitted for palaeoenvironmental analysis, it seems clear that there is better preservation than seemed to be indicated by the assessment of the borehole records and hydrological regime for the Cultural Heritage Assessment for the Environmental Statement. At this stage the peat deposits can only be related to general landscape features, but, if, in the future, any parts of those sequences can be demonstrated to be directly associated with cultural activities, they would be of Regional Importance.

2) the cropmark landscape

Results

The cropmarks on the sandy ridge represent a small proportion of the ditches present.

Features indicative of settlement activity were located, together with pottery, in trenches 01, 03, 04, 05, and 06.

Artefacts from 03 suggest a Romanized establishment close by: it would seem likely that these may be derived from a settlement represented by the cropmark complex just to the south, outside of the quarry area (SMR4967). Such a level of Romanization seems relatively uncommon within the field-systems of North Notts, though the cropmark settlements within the Idle Valley do seem to have richer assemblages than those located

on the Sherwood Sandstones to the west. This spread of activity may also be unusual, since domestic debris seems rarely to be found in any quantity away from the cropmark enclosure.

Importance

Extensive excavation of a settlement focus, like that on the sandy ridge, particularly with sequences of features and therefore stratified artefact groups, would make it of Regional Importance.

The cropmark ditches on and just off the terrace will probably relate to past agricultural land-use, and would be of Local Importance.

The establishment of the range of features and spread of artefacts around 03 would indicate the spread of activity around an enclosure focus. Such information would be of Local Importance.

4) activity on the topographically higher 'islands' within the floodplain and the margins of the floodplain terrace

Results

There are well preserved ditches, including the survival of buried soil beneath upcast, associated with those ditches.

There are *in situ* sequences of features and deposits on the south-eastern slope of the sandy ridge, which, taken together with the geophysical survey and fieldwalking evidence, are extensive.

There is potential for extensive undisturbed areas buried beneath a thin peat cover on the western side of the sandy ridge.

There is potential for the survival of activities associated with the 'burnt mound' deposits sealed below colluvium, but not themselves producing such easily recognised, distinctive debris.

Importance

If the potential of any of these elements is realised, it would constitute at least Regional Importance.

Comment

The proposed quarry will destroy all these archaeological remains. 'Preservation by record', i.e. an approved programme of prior excavation and recording, in tandem with the proposed quarry works, should provide the necessary mitigation required by the Planning Authority.

4. APPENDICES

4.1 THE STONE

Bar fire-cracked pebbles, the only item of worked stone (not flint) was a complete sandstone saddle quern (unstratified, from the uppermost surface of trench 06). It was formed from a weathered boulder, with the grinding surface running across the bedding at approximate right-angles. The surface is concave, with the edges slightly bevelled. The middle of the grinding surface had also been used as an anvil, but since the edges are smoothed, used again for grinding. Iron pan deposition shows that its edge had been partly chipped/reshaped prior to deposition. Saddle querns are prehistoric in date.

Flint

Two translucent brown flints were recovered: BJA from the stripped surface of trench 01/1 and BJB from the ploughsoil surface just to the south of the trench. BJA is a thermal flake, but is off a core with two platforms, and is therefore humanly modified. BJB is a flake struck from a core possibly with a faceted butt and has inverse edge-damage perhaps suggesting us of the right, distal side. The size and technology of both pieces could belong in the Neolithic to Early Bronze Age.

The lack of flintwork from the trenches on the sandy ridge is consistent with the fieldwalking evidence.

4.2 THE BONE

Two fragments of burnt bone came from the stripped surface of trench 06, with another three fragments (of which two burnt), and a tooth (possibly pig), from gully 0022.

A large herbivore tooth came from the surface of ditch 0034 in trench 03.

Bone was not plentiful, and the unburnt bone was degraded. All the pieces recovered were those that survive well in acidic soils. Unless permanently waterlogged deposits are located (which seems unlikely because of the levels of the water-table – see discussion in section 4.2.3 of the '*Cultural Heritage Assessment*') good bone assemblages are unlikely from this site.

4.3 THE SLAG

Two pieces of slag were recovered from the surface of ditch 0033 in trench 03.

5. ACKNOWLEDGMENTS

Thanks to Tarmac Central Ltd, particularly Neil Beards for commissioning the project, and Peter Butterworth for his help on site. The geophysical survey was conducted by Ian Brooks for Engineering Archaeological Services at very short notice. The finds processing was conducted by Jenny Brown and Alison Wilson (T&PAU), with the pottery assessed by Ruth Leary (T&PAU). The samples for beetles and plant macro remains were assessed by David Smith and Wendy Smith (University of Birmingham), and the pollen and diatoms assessed by Chris Hunt and Gary Rushworth (University of Huddersfield). Parts of the report text were commented on by Graeme Guilbert. The field survey was conducted by Doug Gilbert, with the field team of Paul Cauldwell, Katherine Martin, Alistair MacKintosh and Lawrence Platt managed by Daryl Garton and assisted by Matt Hurford (all T&PAU).

6. BIBLIOGRAPHY






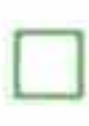
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LOUND QUARRY TILN NORTH

-  planning application area
-  terrace and sandy ridge: high chance of surface features
-  swale
-  borehole containing peat
-  trench/test-pit
-  geophysical survey grid

ARCHAEOLOGICAL EVALUATION May 2003

1:10,000
TTN-EVALSTRAT
based on T8 -10

Provided by GEOPLAN LIMITED
Geological, Planning and Development Consultants
60 Bank Road, Matlock, Derbyshire DE4 3GL
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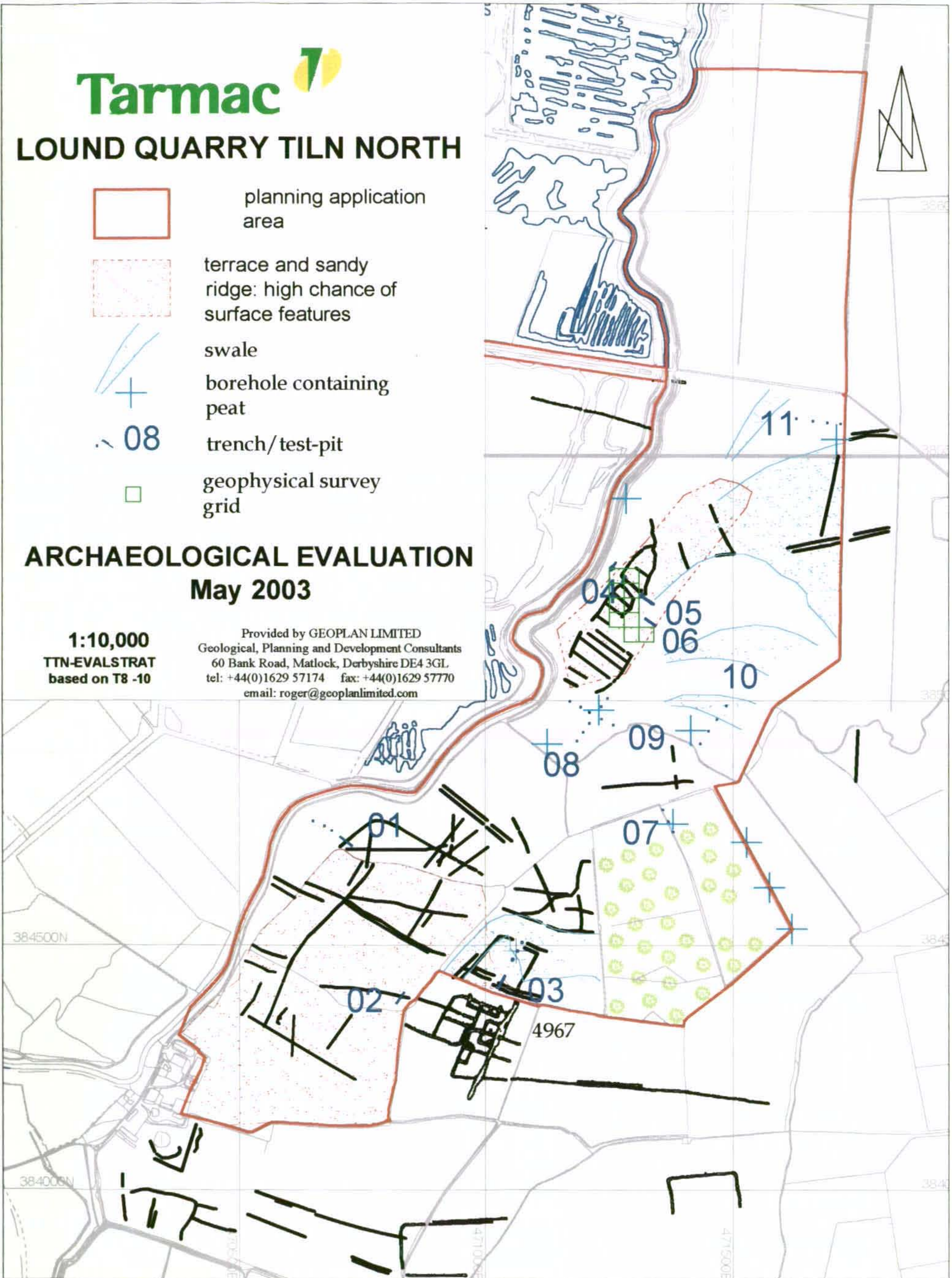
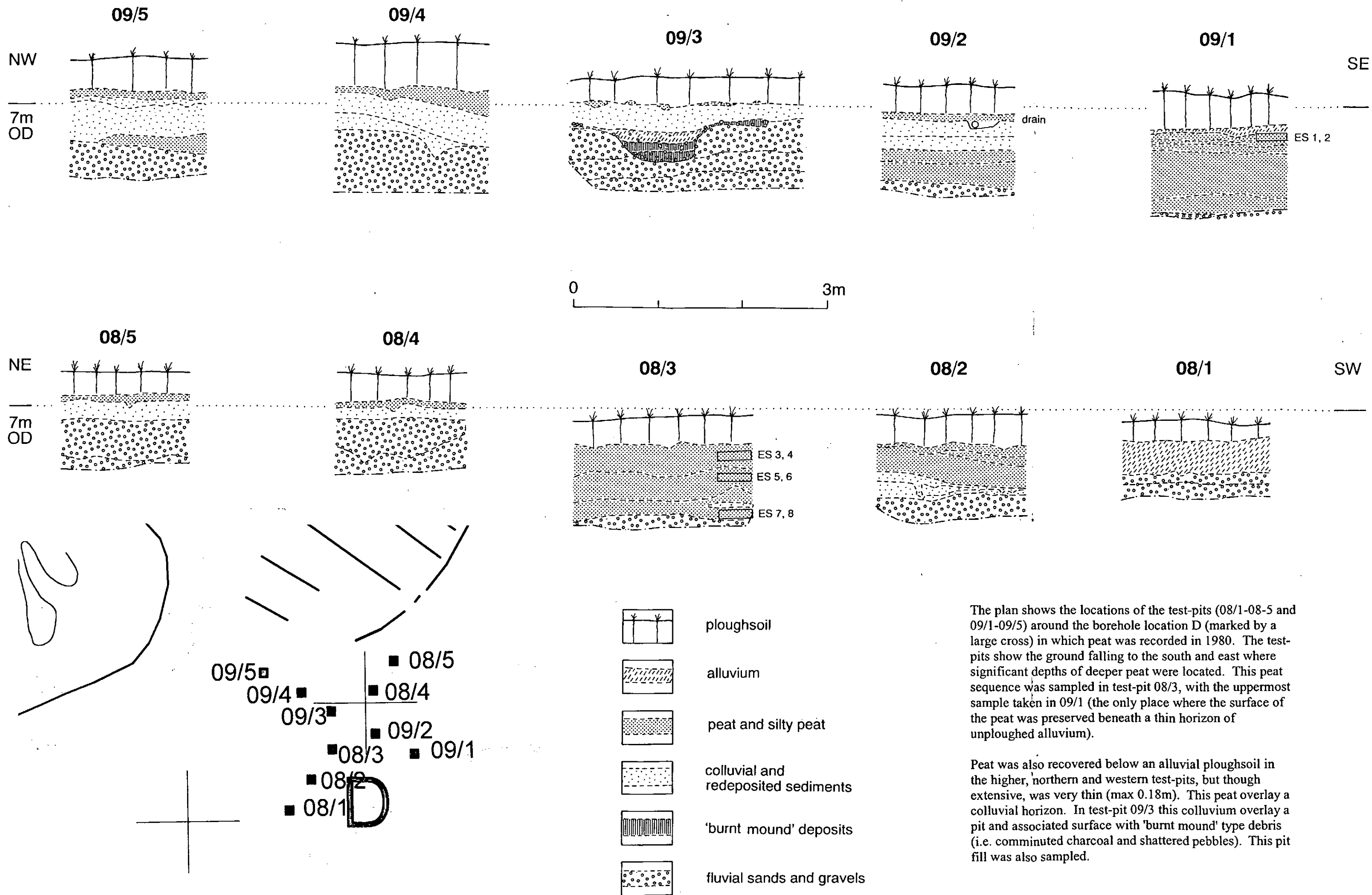


Fig. 1. Tiln North, location of evaluation trenches (dark blue) and test-pits in relation to cropmarks (black), bore-hole locations containing peat (pale blue cross), and area of geophysics survey (grid in green). Scale 1:10,000.



The plan shows the locations of the test-pits (08/1-08/5 and 09/1-09/5) around the borehole location D (marked by a large cross) in which peat was recorded in 1980. The test-pits show the ground falling to the south and east where significant depths of deeper peat were located. This peat sequence was sampled in test-pit 08/3, with the uppermost sample taken in 09/1 (the only place where the surface of the peat was preserved beneath a thin horizon of unploughed alluvium).

Peat was also recovered below an alluvial ploughsoil in the higher, northern and western test-pits, but though extensive, was very thin (max 0.18m). This peat overlay a colluvial horizon. In test-pit 09/3 this colluvium overlay a pit and associated surface with 'burnt mound' type debris (i.e. comminuted charcoal and shattered pebbles). This pit fill was also sampled.

Fig. 2. Tilt North: sections of test-pits in 08 and 09. Section scale 1:40

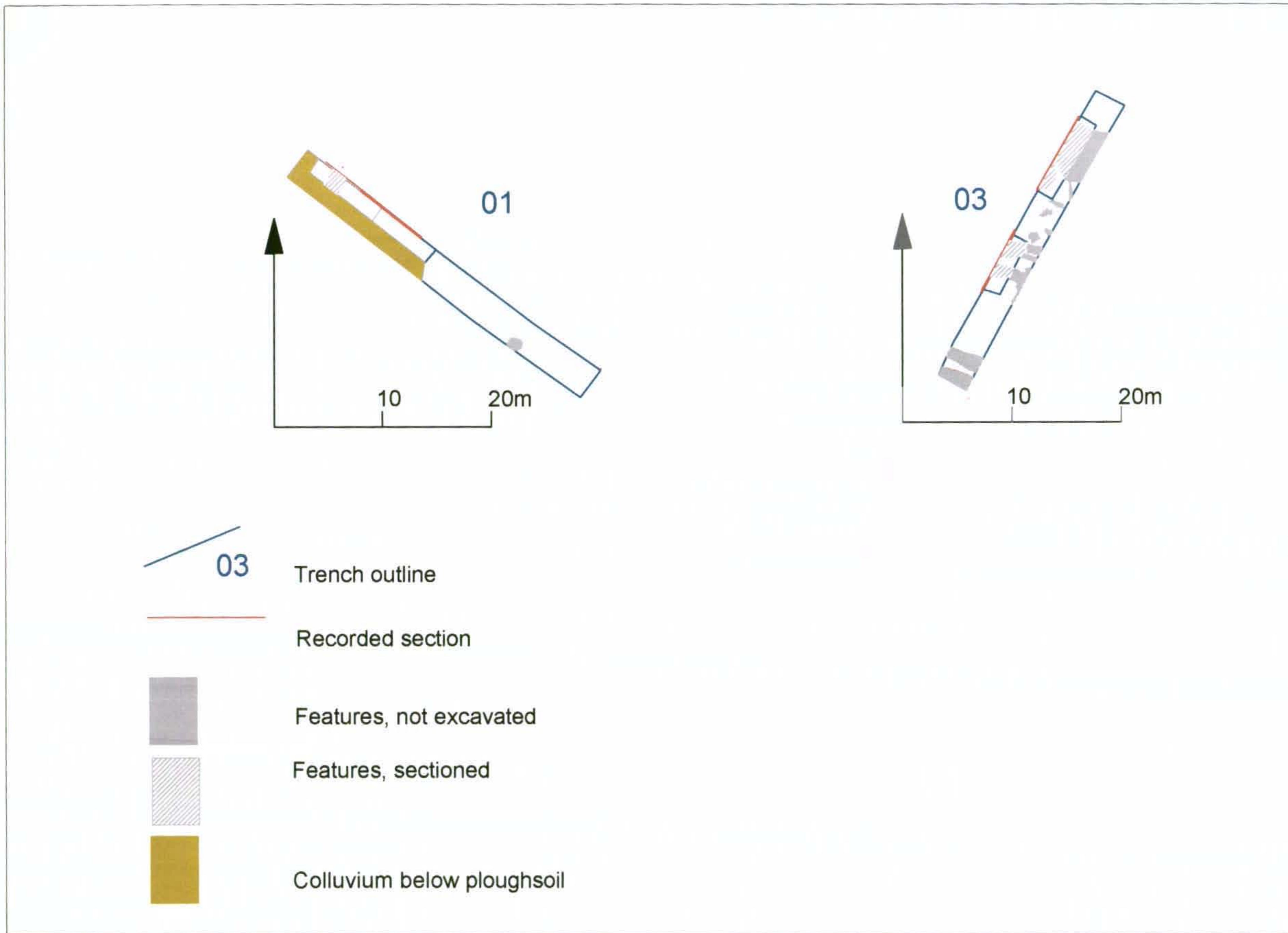


Fig. 3. Tiln North: plans of trenches 01/1 and 03/1 showing configuration of features. Scale 1:500.

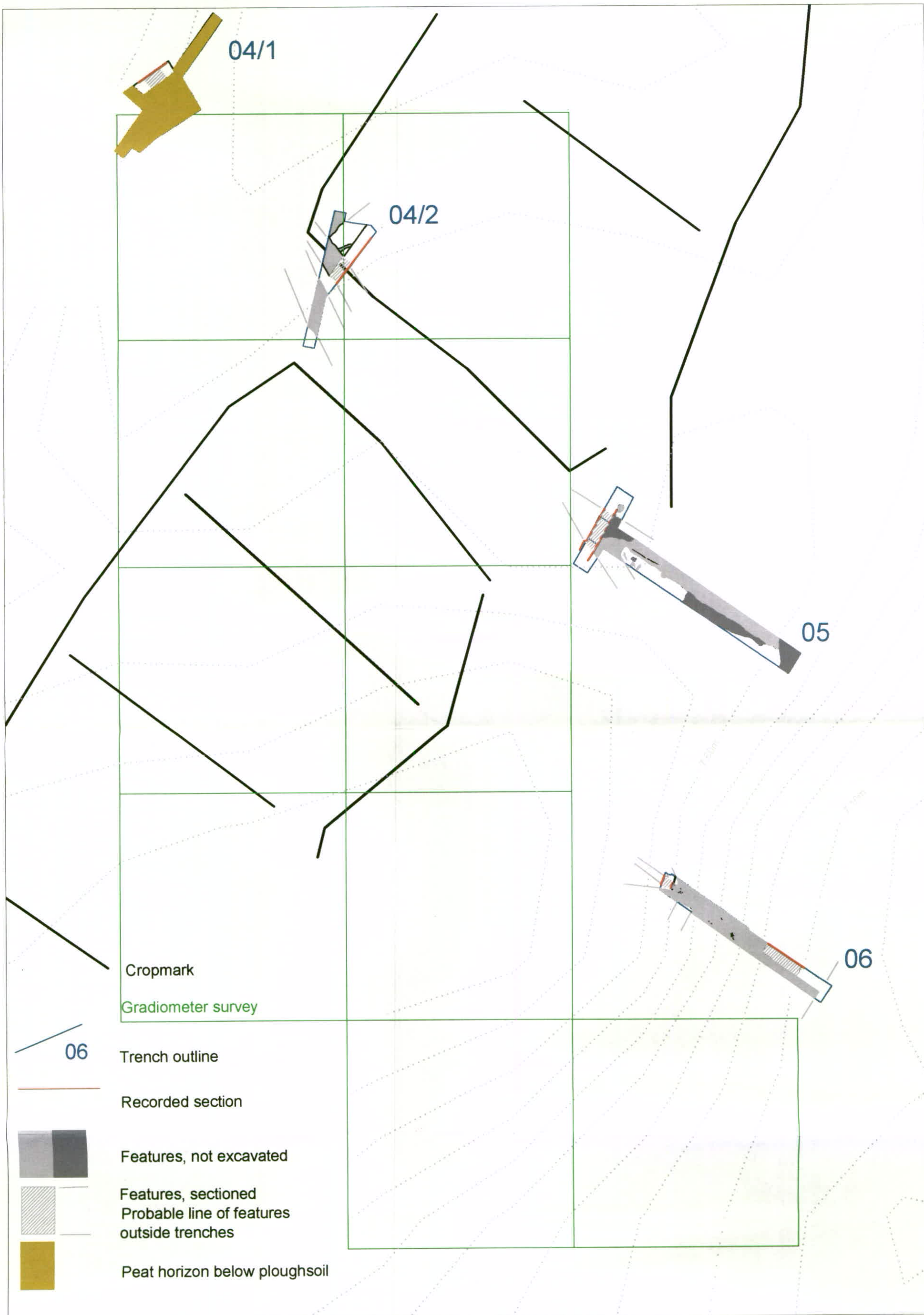


Fig. 4. Tilm North: plans of evaluation trenches 04-06, shown against the contours (recorded from spot-heights of artefacts recorded by fieldwalking), the cropmark plot, and the area over which geophysical survey was conducted (green grid). Scale 1:500

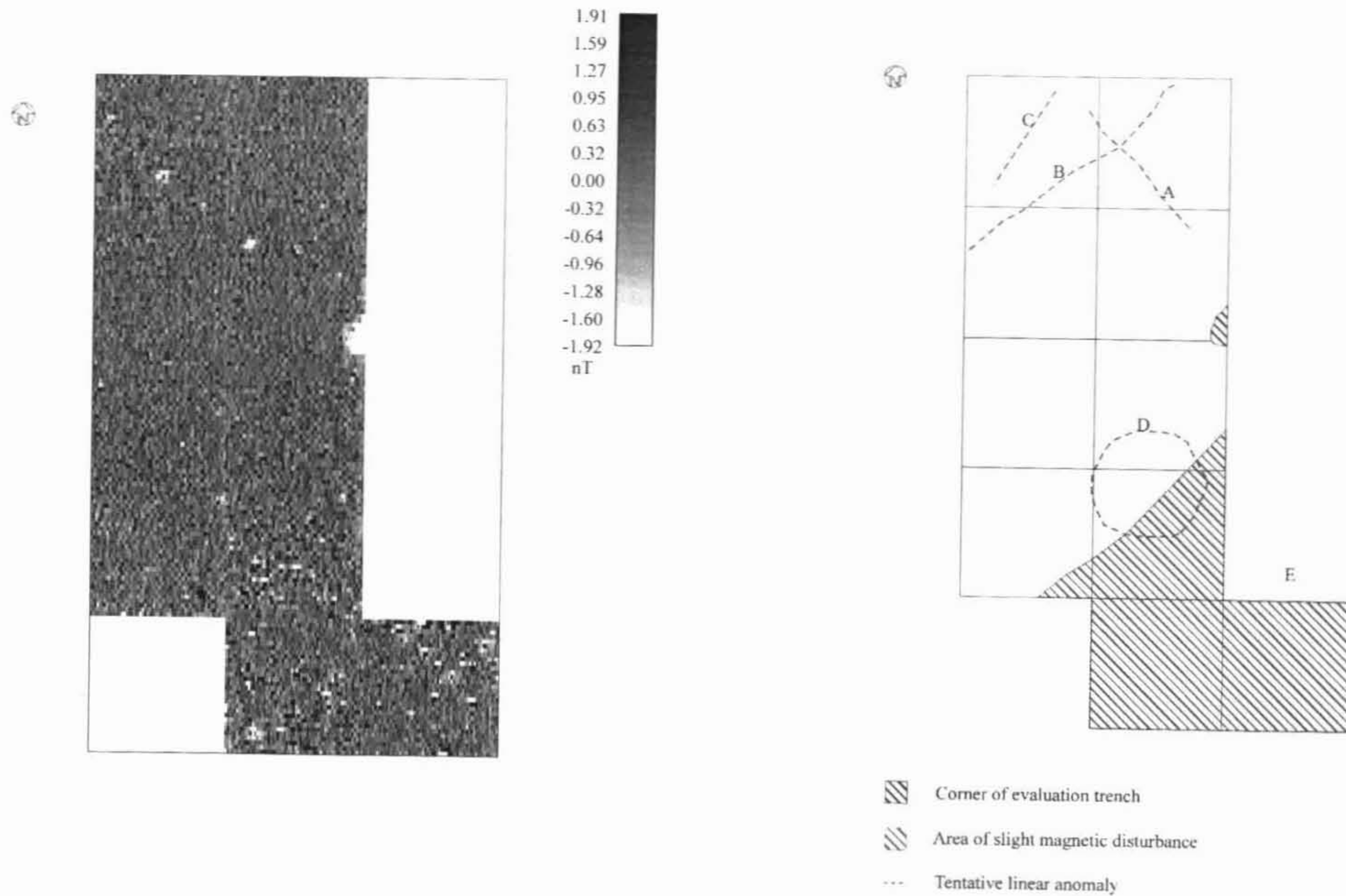


Fig. 5. Tilt North: grey scale plot and interpretation of gradiometry survey conducted by Engineering Archaeological Services. Interpretations A-C do not co-incide with the ditches known from trenches 04/2 and 05 (grid is that printed in green in Fig. 4).



Plate 1 TTN 09/1 – the uppermost layer of peat was sampled (ES1,2) immediately below alluvium (base of alluvium was not ploughed). Scale divisions 0.1m.



Plate 2 TTN 08/3 was chosen for sampling the sequence of peat as it was deeper and wetter than the other test-pits (ES3-8) and it was adjacent to test-pit 09/3 which contained the 'burnt-mound' debris. Although the uppermost horizon is missing/damaged by ploughing here, it is sampled in TTN 09/1. Scale divisions 0.1m.



Plate 3 TTN 03/3 two layers of peat, both sealed by alluvium. Although at the base of a hollow, both layers of peat probably formed *in situ* since neither contain significant washes of material nor stones. Sampled as ES12-15. The hollow lies just to the north of a cropmark enclosure of probable Romano-British date (outside of the proposed quarry area). Scale divisions 0.1m.



Plate 4 TTN 09/3 pit filled with 'burnt mound' type material (i.e. charcoal-rich matrix with abundant shattered, burnt pebbles), sealed by alluvium, then colluvium. Note the patchy remains of a peat horizon at base of ploughsoil which could be the same peat horizon sampled to the north (ES9/10). Scale divisions 0.1m.



Plate 5. TTN 03/1 box-section through a pit or butt-end of a ditch (on left) and recut ditch (on right). The peaty infill of the later ditch contained a Roman tile (BEX) and piece of bottle glass (BEA), as well as pot-sherds. Scale divisions 0.1m.



Plate 6. TTN 03/1 box-section through southern-most ditch, showing upcast lumps of silty clay subsoil backfilled into upper part of ditch. Scale divisions 0.1m.



Plate 7. TTN 04/2 ditch recorded by cropmark. The paler, sandier infill on the north-west (left side) shows upcast backfilled from this side. This is confirmed by vestiges of a stony bank/upcast above a buried soil on this side (in Plate 8 below). The dark peat infill (middle right) is overlain with alluvium, which has been ploughed to form the topsoil. Scale divisions 0.1m.



Plate 8. TTN04/2 adjoins the left side of Plate 7 above. The vestiges of a stony horizon at the base of the ploughsoil was interpreted as the last remnants of the bank/upcast from the ditch in Plate 7. This stony horizon overlies a grey, sandy silt loam interpreted as a buried soil developed on the underlying sandy clay loam subsoil. Scale divisions 0.1m



Plate 9. TTN 05 ditch recorded by cropmark. Ditch recut at least once, with spill of upcast/bank material near top of probable earlier ditch (on left) on southwestern side of backfill. Peat infills the top of the probable later ditch (on right), which is sealed by an alluvial topsoil, now ploughed. The very basal fill of this ditch was removed by hand: a single fire-cracked pebble and sherd BAI were recovered. Scale divisions 0.1m.



Plate 10. TTN 05 adjoins the left side of Plate 9 above. The base of the original soil profile is marked by the grey sandy loam, developed on the silty clay subsoil. Scale divisions 0.1m



Plate 11. TTN 05, view of north-western part of trench showing gully, features including one containing fire-cracked pebbles, and ditch (running down right side) with a patch of darker peaty fill (at top). Ditch section in Plates 9,10. Scale divisions 0.1m.



Plate 12. TTN 06, southwest-facing section through series of ditches which are cut through *in situ* peat overlying a probable soil (on right), and which appear to be associated with buried surfaces (on left). The whole sequence is overlain with c. 0.22m of dark grey colluvium/soils. The base of the largest ditch (with vertical scale) was removed by hand with sherds BBP, BBQ, BBV recovered. (The modern ploughsoil was battered back to keep the trench depth to 1.2m for safety reasons). Scale divisions 0.1m.



Plate 13. TTN 06 north-west end in plan showing the gully (centre left) recorded in section in Plate 14. South-east of this point, the whole area of trench exposed comprised dark grey deposits similar to those infilling the features in this photograph. Scale divisions 0.1m.



Plate 14. Gully excavated at north-west end of TTN 06, with a possible post-setting on its edge. The basal fill of this gully contained 'ashy' debris and was sampled for assessment of the charred remains. A thin ?unploughed horizon is visible at the base of the modern ploughsoil which was also present overlying the possible post-setting (see Plate 13). Scale divisions 0.1m.