# ARCHAEOLOGICAL DESK-BASED ASSESSMENT OF LAND AT MORETON-ON-LUGG, HEREFORDSHIRE

Darren Miller and Robin Jackson

Illustrations by Carolyn Hunt

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Historic Environment and Archaeology Service, Worcestershire County Council, Woodbury, University of Worcester, Henwick Grove, Worcester WR2 6AJ

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## Contents

## Part 1 Project summary

## Part 2 Detailed report

| 1. Background                           | 3  |
|---|----|
| 1.1 Reasons for the project             |    |
| 1.2 Project parameters                  | 3  |
| 1.3 Aims                                | 3  |
| 2. Methods                              | 3  |
| 2.1 Desk-based research                 | 3  |
| 2.2 Walkover survey                     | 4  |
| 3. <b>Results</b>                       | 4  |
| 3.1 Topography                          | 8  |
| 3.2 Archaeology                         | 9  |
| 3.2.1 Prehistoric                       | 9  |
| 3.2.2 Roman                             | 10 |
| 3.2.3 Anglo-Saxon                       | 10 |
| 3.2.4 Medieval                          | 10 |
| 3.2.5 Post-medieval                     | 11 |
| 3.2.6 Modern                            | 11 |
| 3.3 Landscape character                 | 11 |
| 4. Impact assessment                    | 12 |
| 5. Further investigation and mitigation | 12 |
| 6. Publication summary                  | 12 |
| 7. Acknowledgements                     |    |
| 8. Personnel                            | 13 |
| 9. Bibliography                         | 13 |

1

## Archaeological desk-based assessment of land at Moreton-on-Lugg, Herefordshire

## Darren Miller and Robin Jackson

## **Part 1: Project summary**

This assessment addresses the archaeology and landscape character of an area of land at Moreton-on-Lugg in Herefordshire (centred on NGR SO 5065 4657). The land has been proposed for sand and gravel extraction by Tarmac Western Limited, as an extension to ongoing working of permitted areas at Wellington Quarry, Herefordshire. The report is intended to form part of an Environmental Impact Assessment, which in turn will form part of a planning application to Herefordshire County Council.

The report is based on sources held by Herefordshire County Council, reports and unpublished information on fieldwork undertaken by the Worcestershire Historic Environment and Archaeology Service (WHEAS), and information supplied by Tarmac. It is also informed by a walkover survey.

The results of the assessment can be summarised as follows. Based upon the results of previous archaeological investigations at Wellington Quarry, and of other work in the vicinity, it is virtually certain that significant archaeological remains lie beneath the surface within the proposed extension area. Remains of prehistoric seasonal occupation and activity are especially likely in the north of the proposed extension and may extend to the south, while remains of Late Iron Age and Roman settlement and/or land-use are also likely to be present. There is a lesser likelihood of Anglo-Saxon and medieval settlement remains. However, there is a strong potential for the extension of a former watercourse and significant associated Anglo-Saxon period activity into the proposed new extraction area from the east.

The survival of remains of all periods is likely to be good overall, and exceptional in places, due to long term waterlogging and alluviation of the Lugg Valley floodplain, and a long history of non-intensive land-use. These are liable to include palaeoenvironmental remains associated with former channels of River Lugg, its tributary the Wellington Brook, and artificial drainage channels. Such remains would be regarded as significant in their own right, and by association with known sites and finds in the vicinity.

The landscape character of the proposed extension reflects its location on the floodplain of the River Lugg and successive phases of pastoral land-use. In the post-medieval period, this formed part of an extensive watermeadow using water channelled from the Wellington Brook. This phase of land-use is clearly reflected in the present landscape, which retains the field pattern associated with the watermeadow and contains numerous relict channels. In the late 18<sup>th</sup> or early 19<sup>th</sup> century, this system went out of use, although the area continued to be managed as pasture and was provided with new hedges and hedgerow trees. Many of these hedges and trees survive, although they are generally in poor condition. In the last century, the historic character of the landscape has been eroded further by a move away from traditional farming practices.

In conclusion, the archaeological significance of the proposed extension centres on the likely presence of well preserved and important buried remains of the prehistoric, Roman and Anglo-Saxon periods. These are liable to be of both local and regional archaeological importance and in some instances may be of national significance. Appropriate steps should therefore be taken to investigate and assess the nature of this resource in more detail, before devising a formal mitigation response to the proposed extension. The visible and buried features associated with the post-medieval watermeadow are also significant, as they represent a regionally distinctive but poorly documented and under-researched form of land-use. They will also require further investigation, either before, or as part of any mitigation response.

## **Part 2: Detailed report**

## 1. Background

#### **Reasons for the project**

The project was commissioned by Tarmac Western Limited, in order to contribute to an Environmental Impact Assessment being produced by SLR Consulting Limited for a proposed southwards extension to Wellington Quarry.

#### 1.2 **Project parameters**

The project conforms to requirements set out in an Advanced Scoping Opinion sought by Tarmac from Herefordshire County Council. These state the need for an assessment of the archaeology and landscape character of the proposed extension.

The project also conforms to a proposal prepared by the Service (WHEAS 2006), and to the Institute of Field Archaeologists' *Standard and guidance for archaeological desk-based assessment* (IFA 2001).

#### 1.3 Aims

The aims of the project were to allow the Environmental Impact Assessment to meet he requirements of Herefordshire Council's Adopted Scoring Opinion.

More specifically, the project aimed to:

- collect relevant information relating to the archaeological potential and historic landscape character of the proposed development area;
- assess the potential significance of any archaeological remains;
- assess the impact of the proposed development on these archaeological remains;
- support the production of a mitigation strategy to offset any detrimental effects of the development; or
- support the formulation of a strategy for further investigation where the character and value of the resource has not been sufficiently defined to permit a mitigation strategy or other response to be designed.

## 2. **Methods**

#### 2.1 **Desk-based research**

The main sources of information were records, maps, and aerial photographs held in the Herefordshire Sites and Monuments Record (SMR), and reports on fieldwork undertaken in the area by the Service over the last 18 years.

The SMR records are summarised in Table 1, and illustrated on Figure 2. Other sources are listed below by type.

Cartographic sources

- Anon, 1843 Wellington tithe map (transcribed by G Gwatkin, 1988);
- Anon, 1845 Moreton-on-Lugg tithe map (transcribed by G Gwatkin, 1999);
- Ordnance Survey 1890, *Herefordshire, sheet 26 NE*;
- Tarmac Western Limited, 2005 (Topographical surveys of Wellington Quarry and proposed extension).

Aerial photographs (held in SMR)

- Vertical photographs 1968/166 frames 835 and 836;
- Oblique photographs in ring-binders for SO 54.

#### Documentary sources

Griffin, S and Jackson, R, 2003 *Evaluation at Moreton-on-Lugg, Herefordshire*, Archaeological Service, Worcestershire County Council, report **1142** 

Jackson, R, and Miller, D, 2004 *Wellington quarry, Herefordshire: investigations of a landscape in the lower Lugg valley*, Historic Environment and Archaeology Service, Worcestershire County Council, report **1230** 

Jackson, R, Hurst, D, Jones, L, and Pearson, P, 2000 Evaluation of the proposed environmental recycling area at Wellington Quarry, Wellington, Herefordshire, WCC Archaeological Service, report 843

Miller, D, 2003 Programme of archaeological work at Moreton-on-Lugg rail loading facility, Herefordshire, Historic Environment and Archaeological Service, Worcestershire County Council, report **1195** 

Miller, D and Griffin, L, 2002 *Archaeological evaluation at Moreton-on-Lugg, Herefordshire*, Archaeological Service, Worcestershire County Council, report **950** 

#### 2.2 Walkover survey

A visit to the area was necessary in order to gain a first-hand impression of the landscape, and to identify any unrecorded but visible archaeological features which were present. The visit (on 28<sup>th</sup> February 2006) took the form of a rapid "walkover" survey. Notes on land-use, field boundaries, and other features were made on a large-scale Ordnance Survey map, and photographs were taken of selected features.

## 3. **Results**

The results of the assessment are presented below, in text and figures. The SMR records are tabulated in Table 1, and illustrated on Figures 2, while Figure 3 summarises the results of evaluation and salvage recording across the already quarried and permitted areas of the quarry. Various aspects of the topography of the area are shown on Figures 4-6.

| Reference<br>number | Site name   | Grid<br>reference | Description  | Date                                     |
|---------------------|---|-------------------|--|--|
| HSM 5522            | Wellington Quarry   | SO 5080<br>4790   | Reference number for fieldwork<br>1989-2005. Successive evaluations<br>and programmes of salvage<br>recording have identified<br>significant remains of Neolithic,<br>Bronze Age, Late Iron Age,<br>Roman, Anglo-Saxon, medieval,<br>and post-medieval activity. | Multi-<br>period                         |
| HSM 6543            | "Hill Crest", Marden  | SO 5100<br>4700   | Unquantified collection of pottery   | Roman                                    |
| HSM 6546            | St Mary's Church,<br>Marden                                     | SO 5110<br>4700   | Iron bell found during pond-<br>cleaning near church <i>c</i> 1848   | Medieval                                 |
| HSM 6651            | Church House Farm   | SO 5040<br>4554   | Moat shown on 19 <sup>th</sup> century maps and represented by earthworks  | Medieval                                 |
| HSM 6552            | Dinmore Fruit Farm,<br>Wellington                               | SO 5000<br>4900   | Chance find of stone axe   | Late<br>Neolithic                        |
| HSM 6900            | St Mary's Church,<br>Marden                                     | SO 5117<br>4706   | Church with tower and spire  | Medieval                                 |
| HSM 8429            | Moreton-on-Lugg   | SO 5000<br>4500   | Stone axe reportedly found in gravel heap  | Neolithic                                |
| HSM 8460            | Marden  | SO 5200<br>4700   | Flint knife  | Neolithic<br>/early<br>Bronze<br>Age     |
| HSM 8508            | Moreton Bridge,<br>Moreton-on-Lugg                              | SO 5130<br>4590   | Stone bridge with three arches   | 16 <sup>th</sup><br>century<br>and later |
| HSM 8524            | St Andrews Church,<br>Moreton-on-Lugg                           | SO 5043<br>4567   | Church with tower and spire  | Medieval<br>and<br>Modern                |
| HSM 8525            | Marden  | SO 5180<br>4720   | Cropmarks of field boundaries etc<br>in field south of Marden church   | Undated                                  |
| HSM 8532            | Marden  | SO 5140<br>4710   | Earthworks of buildings shown on map of $c1720$  | Medieval                                 |
| HSM 8968            | Site of cottages, NW<br>of Upper House Farm,<br>Moreton-on-Lugg | SO 5034<br>4568   | Cottages shown on 1843 Tithe map.  | Post-<br>medieval<br>/Modern             |

| Reference<br>number              | Site name  | Grid<br>reference | Description   | Date                              |
|----------------------------------|--|-------------------|---|-----------------------------------|
| HSM 9099                         | Laystone (formerly<br>Wisteston) Bridge,<br>Marden | SO 5180<br>4770   | Stone bridge with four arches   | Post-<br>medieval                 |
| HSM 9227                         | Marden   | SO 5195<br>4740   | Earthworks and pond, possibly indicating abandoned tenements  | Undated                           |
| HSM 10160                        | Wellington/Marden                                  | SO 5112<br>4706   | Spring and well   | Undated                           |
| HSM 10162                        | Marden   | SO 5188<br>4584   | Fishponds associated with Freens<br>Court   | Medieval<br>and post-<br>medieval |
| HSM 10374                        | Wellington   | SO 5000<br>4900   | Cropmark of large single-ditched<br>enclosure; rectangular, with<br>rounded corners                 | Iron Age/<br>Roman                |
| HSM 10375                        | Brookhouse Farm,<br>Moreton-on-Lugg                | SO 4990<br>4630   | Cropmark of double ditched, D-<br>shaped enclosure  | Roman?                            |
| HSM 23295                        | Marden   | SO 5120<br>4720   | Site of Catchpole's weir, documented in 1658  | Post-<br>medieval                 |
| HSM 23296                        | Marden   | SO 5135<br>4730   | Site of fishery, documented in 1658   | Post-<br>medieval                 |
| HSM 23299                        | Marden   | SO 5125<br>4620   | Site of Kings Mill, documented in<br>1717 and identified with mill<br>documented in Domesday survey | Medieval<br>and post-<br>medieval |
| HSM 24559                        | Moreton-on-Lugg                                    | SO 5070<br>4580   | Park identified from 19 <sup>th</sup> century maps  | Post-<br>medieval                 |
| HSM 25784                        | Moreton-on-Lugg                                    | SO 5050<br>4560   | Manor of Moreton-on-Lugg,<br>represented by Domesday Book<br>entry                                  | Medieval                          |
| HSM 25361                        | Moreton-on-Lugg                                    | SO 5050<br>4570   | Hopkiln   | Post-<br>medieval                 |
| HSM 25362                        | Brookhouse Farm,<br>Moreton-on-Lugg                | SO 4990<br>4630   | Hopkiln   | Post-<br>medieval                 |
| HSM 25888                        | Wellington   | SO 4900<br>4800   | Manor of Wellington, represented<br>by Domesday Book entry  | Medieval                          |
| HSM 27089,<br>27629 and<br>27630 | Moreton-on-Lugg                                    | SO 5007<br>4648   | Military depot, documented and represented by standing buildings                                    | 1942-<br>1996                     |
| HSM 30837                        | Moreton-on-Lugg                                    | SO 5104<br>4680   | Railway junction associated with military depot   | c1942-<br>1996                    |

| Reference<br>number    | Site name            | Grid<br>reference | Description  | Date                            |
|------------------------|----------------------|-------------------|--|---------------------------------|
| HSM 30838              | Moreton-on-Lugg      | SO 5123<br>4585   | Railway station with two platforms, redeveloped as industrial estate   | Modern                          |
| HSM 31033              | Marden               | SO 5200<br>46900  | Cropmarks of rectangular ?building platforms   | Undated                         |
| HSM 31184              | Marden               | SO 5130<br>4710   | Landscape park associated with Marden Court  | Post-<br>medieval               |
| HSM 31621              | Wellington           | SO 4900<br>4800   | Cropmark of ditch running parallel<br>to Wellington Brook  | Undated                         |
| HSM 31652              | Auberrow, Wellington | SO 4365<br>4445   | Fragment of human skull and pottery sherds found during roadworks in 2001  | Undated                         |
| HSM 31835              | Moreton Park         | SO 5048<br>4734   | Reference number for field<br>evaluation in 2001 of north-east<br>part of ex-military depot. Slight<br>evidence of Roman and post-<br>medieval land-use recovered  | Roman<br>and post-<br>medieval  |
| HSM 32267              | Wellington Quarry    | SO 5080<br>4750   | Reference number for phase of<br>salvage recording in southern part<br>of Wellington quarry, 2003 to<br>2005. Recovered evidence of<br>Neolithic and Beaker period pits,<br>Roman field boundaries and an<br>Anglo-Saxon mill      | Neolithic<br>to Anglo-<br>Saxon |
| HSM 32268<br>and 39316 | Moreton-on-Lugg      | SO 5030<br>4730   | Reference number for field<br>evaluation in 2002 of north part of<br>ex-military depot and farmland to<br>west. Sample trenching identified<br>evidence for six phases of human<br>activity and associated<br>environmental change | Pre-<br>historic-<br>modern     |
| HSM 33759              | Wellington           | SO 4900<br>4800   | Line of road inferred from maps  | Roman                           |
| HSM 35683              | Moreton-on-Lugg      | SO 5018<br>4601   | Prisoner of War camp on site of military depot   | 1945-48?                        |
| HSM 36591              | Moreton Park         | SO 5050<br>4832   | Reference number for watching<br>brief in 2003 on north-west part of<br>ex-military depot (same site as<br>HSM 31835. Recovered slight<br>evidence for post-medieval<br>drainage   | Post-<br>medieval               |

| Reference<br>number | Site name                      | Grid<br>reference | Description   | Date                           |
|---------------------|--------------------------------|-------------------|---|--------------------------------|
| HSM 37139           | Moreton Park                   | SO 5020<br>4560   | Reference number for evaluation of<br>south part of ex-military depot.<br>Recovered evidence for partly-<br>truncated alluvial profiles   | Undated                        |
| HSM 37849           | Moreton-on-Lugg                | SO 5020<br>4590   | Toll House shown on 19 <sup>th</sup> century maps   | Post-<br>medieval              |
| HSM 38462           | Marden                         | SO 5165<br>4680   | Site of old school house documented in 1610 and shown on map of $c1720$   | Post-<br>medieval              |
| HSM 38463           | Marden                         | SO 5140<br>4681   | Ridge and furrow earthworks   | Medieval<br>/post-<br>medieval |
| HSM 38669           | Moreton-on-Lugg                | SO 5133<br>4620   | Black poplar  | Post-<br>medieval              |
| HSM 38670           | Moreton-on-Lugg                | SO 5133<br>4620   | Black poplar  | Post-<br>medieval              |
| HSM 38671           | Moreton-on-Lugg                | SO 5131<br>4625   | Black poplar  | Post-<br>medieval              |
| HSM 38737           | Moreton-on-Lugg                | SO 5031<br>4679   | Black poplar  | Post-<br>medieval              |
| HSM 38738           | Moreton-on-Lugg                | SO 5027<br>6478   | Black poplar  | Post-<br>medieval              |
| HSM 38865           | Upper Paradise Farm,<br>Marden | SO 5200<br>4740   | Timber-framed farmhouse with brick extension, dating from <i>c</i> 1620   | Post-<br>medieval              |
| HSM 43223           | Moreton Park                   | SO 5020<br>4760   | Reference number for ongoing<br>watching brief in north part of ex-<br>military compound. A length of<br>Roman road, and post-Roman<br>building foundations have been<br>found to date. | Roman<br>and post-<br>Roman    |

Table 1: Summary of SMR records relating to the study area

## 3.1 **Topography**

The proposed extension is shown in its local context on Fig. 1, and in more detail on Fig 2 Further details are shown on Figs 4-6, and on Plates 1-5.

As is evident from the figures, the proposed extension lies on the floodplain of the River Lugg. The land slopes gently from west to east, although this is barely perceptible on the ground. As shown on Fig 6 and Plates 1-5, the area is currently farmland, divided into seven fields by hedges and fences.

#### 3.2 Archaeology

There is a considerable amount of archaeological evidence from the area around the proposed extension (Table 1; Figs 2 and 3). Taken together with the topographical data, this provides a reasonable basis for inferring the character of archaeological remains within the proposed extension and the position of the area within changing patterns of settlement and land-use. These issues are best considered on a period-by-period basis.

#### 3.2.1 **Prehistoric**

Prehistoric activity is well-represented in the Wellington/Morton-on-Lugg area. Indeed, the evidence for prehistoric activity in this area is some of the most extensive and significant in the Midlands. This situation reflects utilisation of the area from at least the Neolithic period onwards and also in part the opportunities for discovery afforded by quarrying and other developments. However, although there is a relative abundance of local evidence for prehistoric activity, it is still insufficient to allow patterns of settlement and land-use to be reconstructed in any detail. For this reason, it is difficult to assess the potential for, or likely location of, any prehistoric remains in the proposed extension with any certainty. Nevertheless, it is possible to make some reasonable inferences.

In the first place, it is likely that remains of Neolithic and Beaker period activity are present within the proposed extension. In the evaluation of the northern part of the ex-military depot in 2002, a single pit, of early Neolithic date, was located close to the northern boundary of field 2 on Fig 6 (Griffin and Jackson 2003; see also Fig 3). Neolithic and Beaker period remains have been regularly found in discrete clusters in Wellington Quarry to the north-east (Jackson and Miller 2004, 70-76; Fig 3). Taken together, the evidence suggests a pattern of repeated visits to, and exploitation of, the same locality over several thousand years. The extents of the locality being exploited are unknown, but on present evidence, there is no reason to suppose that it did not include the proposed extension. One or more clusters of Neolithic and/or Beaker period features can therefore be inferred.

Secondly, it is reasonable to infer that evidence of Bronze Age activity survives beneath alluvium in the north of the area and possibly beyond. In the same piece of fieldwork mentioned above, Bronze Age pottery was recorded in a trench only 50m from the west boundary of field 1 on Figure 3 (Griffin and Jackson 2003, 10-11; see also Fig 3). Further significant evidence for Bronze Age activity was found 450m to the north-west (Griffin and Jackson 2003, 9-10). This evidence suggests that remains of this period occur over a wide area, and are likely to found in the fields numbered 1-3 on Figure 6.

The potential for Iron Age remains is less easy to assess. There is some evidence for Iron Age activity from the Wellington/Moreton-on-Lugg area, but not enough to establish patterns of settlement and land-use. Nevertheless, the possibility that Iron Age remains are present cannot be ruled out. Judging by the evidence from Wellington Quarry, such remains are likely to be relate to ritual activity around watercourses, or perhaps to farming, if the field ditches containing Roman pottery were laid out at an earlier date (Jackson and Miller 2004, 77-86).

Apart from the potential for evidence of prehistoric activity, there is also strong potential for the survival of plant and animal remains representing aspects of prehistoric environments. Such remains have been found in waterlogged deposits at Wellington Quarry and Moreton Park, both within archaeological features relating to specific periods of human activity and within former watercourses crossing the quarried area (Jackson and Miller 2004, 31-38 and 67-70; Griffin and Jackson 2003, 16-21). The topography of the proposed extension area suggests that similar remains might be present, especially if the two palaeochannels identified at Moreton Park continue on their apparent alignments (Fig 3). Moreover, the area will certainly contain alluvial deposits with the potential to provide information on prehistoric environments (Jackson and Miller 2004, 24-30).

#### 3.2.2 **Roman**

Roman activity is well-represented in the Wellington/Moreton-on-Lugg area, mainly by the evidence from Wellington Quarry, but also through contemporary deposits at Moreton Park, and pottery found at Marden (HSM 6543). It is also likely that most of the cropmarks in the area are of Roman date. On this basis, it is reasonable to infer that some evidence of Roman activity will be present in the proposed extension. It should be noted in this connection that there are cropmark enclosures near the north, south, and south-east boundaries of the proposed extension (Fig 2). If these are indeed Roman (though not necessarily contemporary), they suggest a high density of settlement in the area. On this basis, it is possible that the proposed extension was settled in some form during the Roman period. If so, the remains might include enclosure ditches, building foundations, and a range of artefacts. At all events, it is likely that the area was farmed, and remains of this activity, in the form of field ditches and pottery scatters, can be expected.

#### 3.2.3 Anglo-Saxon

The Wellington/Moreton-on-Lugg area has produced what is probably the most important evidence of Anglo-Saxon period activity in Herefordshire. Two watermills and a bone comb of this period have been found at Wellington Quarry. In addition, plant and animal remains of post-Roman and Anglo-Saxon date were found in the 2002 evaluation at Moreton Park (Jackson and Griffin 2003, 24). Further to the west, late Anglo-Saxon features have been excavated at Freens Court (HSM 30511). There is also a good documentary and toponymic context for settlement in the area from the late 7<sup>th</sup> century onwards (Sheppard 1979; Pretty 1989).

In this light of this evidence, it is possible that Anglo-Saxon remains might be present in the proposed extension. However, the possibility of finding settlement remains of this period seems remote. The topography of the proposed extension and the evidence from Wellington and Moreton Park suggests that it was wetland in the post-Roman centuries. Moreover, the historical and place-name evidence suggest that Anglo-Saxon settlements were located on the valley sides and interfluves. If any remains of this period exist within the proposed extension, they are likely to relate to water-management (including the potential for further watermills), or to site-specific and local alluvial environments.

#### 3.2.4 Medieval

Evidence for medieval agriculture has been found across the Wellington/Moreton-on-Lugg area. At Wellington Quarry, the evidence included buried ridge and furrow earthworks, pottery scatters introduced with manure, and (unusually) two field ovens for parching grain (Jackson and Miller 2004, 111-113). At Moreton Park, ephemeral linear features were tentatively interpreted as medieval field boundaries (Griffin and Jackson 2003, 11). Medieval or later agriculture is also represented in large parts of the area by the ploughed-out remains of ridge and furrow earthworks identified from the air (Miller 2003, fig 4). All this provides a context for similar remains being present in the proposed extension. However, there are grounds for believing that remains of this period are likely to be scarce and ephemeral. As in the Anglo-Saxon period, the proposed extension is likely to have been primarily uncultivated wetland. This suggestion is supported by the lack of ridge and furrow cropmarks within its boundaries, and by the field patterns and field names around the medieval village of Moreton-on-Lugg, which suggest that most of the village's arable land lay in fields to the west and south (Anon 1845). At most, medieval remains are likely to consist of field ditches (perhaps associated with waterlogged plant and animal remains), and occasional lost or broken artefacts.

#### 3.2.5 **Post-medieval**

For the post-medieval period, there is direct evidence bearing on the proposed extension itself. The most important evidence comes from the present landscape, recent aerial photographs, and the 1845 tithe map of Moreton-on-Lugg. From these sources, it is possible to infer that sometime during the post-medieval period, the proposed extension was converted into a watermeadow. The evidence for the watermeadow is visible on the ground and from the air in the form of field drains and relict channels. The system seems to have operated by taking water from the Wellington Brook (probably at a point around SO 5060 4770), channelling it into north-south carriers and from these into roughly evenly spaced east-west channels. The water was then taken off the fields and channelled into two tail drains emptying into the brook above Moreton-on-Lugg. It is uncertain when this system came into being, and when it was abandoned. However, recent (unpublished) research on Worcestershire watermeadows suggests that most were created in the period from c1650 to 1700, and that most were abandoned before the last quarter of the 19<sup>th</sup> century (Vanda Bartoszuk, pers comm). The field names on the 1845 tithe map suggest that the two northern fields had been wet grassland for some time, which may indicate that the watermeadow was defunct. At all events, the condition of the relict channels suggest that they have been unused for at least a century (Plate 5). The most likely date range for the watermeadow is therefore between *c*1650 and 1800.

#### 3.2.6 Modern

Throughout the 19<sup>th</sup> century, and for most of the 20<sup>th</sup> century, the land within the proposed extension seems to have been managed as pasture. It is likely that most of the present hedgerows and hedgerow trees date from the earlier part of this period. At all events, most of the hedgerow trees appear to be less than 150 years old, and a similar date can be suggested for the overgrown and leggy thorns in the hedgerows themselves (Plate 2). There is clear evidence on the ground for the recent introduction of new ditches and field drains. There is also indirect evidence that parts of the area have been ploughed in recent times, probably for reseeding grass. More specifically, the lack of earthworks associated with the watermeadow in the eastern fields suggests one or more episodes of ploughing. The latest changes to record in the area are the conversion of one field to arable land (field 5 on Fig 6), and the reinforcement of traditional hedges with post-and wire or wooden fences.

#### 3.3 Landscape character

According to Herefordshire Council's Landscape Character Assessment (LCA), the proposed extension lies in an area of riverside meadows (Hereford Council 2004, 58-9). As the terms suggests, riverside meadows are associated with alluvial floodplains. In the LCA, they are defined by the following characteristics:

Primary characteristics

- Pastoral land-use
- Well-defined linear patterns of willow and alder
- Tree cover represented by streamside and hedgerow trees
- Unsettled landscape

Secondary characteristics

- Wetland habitat
- River channel

• Hedge and ditch boundaries

Although this designation was arrived at by a broad-brush county-wide assessment, it is clearly appropriate to the proposed extension which has most of the primary and secondary characteristics. It should be noted, however, that the proposed extension has fewer trees than the designation implies, and only small pockets of wetland habitats (such as the pond in the north east corner of field 2 on Fig 6). As noted above, it also includes some arable land (field 5 on Fig 6), and a small parcel of woodland (in the north-east corner of field 3 on Fig 6). The lack of trees might reflect the previous management of the land as a watermeadow (trees are incompatible with this form of land-use), while the arable land and woodland can be seen as recent departures from traditional farming systems brought about by private initiatives and wider market forces. The landscape of the proposed assessment can therefore be characterised more precisely as a former watermeadow converted to pasture and partly to other forms of land-use.

## 4. **Impact assessment**

Quarrying in the proposed extension would obviously remove all archaeological remains and transform its landscape character. Something approaching the former landscape character of the area might be effected by restoration, although this is not the preferred option at present (SLC Consulting 2005, 3).

## 5. **Further investigation and mitigation**

In view of the high potential for significant archaeological remains existing within the proposed extension, further investigation is considered appropriate to better establish their potential extents, location, character, date, and significance. This would be with the specific aim of supporting determination of appropriate mitigation strategies for the proposed development area in the event of permission being granted for mineral extraction.

The scope of any such further investigation and mitigation should be determined by Herefordshire Council in consultation with Tarmac Limited, Worcestershire Historic Environment and Archaeology Service and SLR Consulting Limited.

## 6. **Publication summary**

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, and unless directed otherwise, the following summary will be used as the basis for publication in appropriate local or national journals.

A desk-based assessment of land at Moreton-on-Lugg in Herefordshire (NGR SO 5065 4657) was undertaken on behalf of Tarmac Western Limited. The land has been proposed for sand and gravel extraction as part of an extension to operations at Wellington Quarry. The assessment was concerned with the archaeology and landscape character of the proposed extension. It was based on a wide range of sources and informed by a walkover survey.

The results of the assessment can be summarised as follows. Based upon evidence from salvage recording within Wellington Quarry and other archaeological evidence from the surrounding area, it is virtually certain that significant buried archaeological remains lie within the proposed extension area. Remains of prehistoric activity are especially likely in the north of the area but may extend across the whole of the proposed extension, while remains of Iron Age and Roman settlement and/or land-use are also likely to be present. Although there is a lesser likelihood of Anglo-Saxon and medieval settlement remains, there is the potential for significant Anglo-Saxon remains to survive along a former watercourse which is believed to extend into the proposed extension area.

The survival of remains is likely to be good overall, and exceptional in places, due to ancient waterlogging and alluviation, and a long history of non-intensive land-use. These are liable to include palaeoenvironmental remains associated with former channels of River Lugg, its tributary the Wellington Brook, and other drainage channel running from the west into the Lugg. Such remains would be regarded as significant in their own right, and by association with known sites and finds in the vicinity.

The landscape character of the proposed extension reflects its location on the floodplain of the River Lugg and successive phases of pastoral land-use. In the post-medieval period, the area formed part of an extensive water meadow using water channelled from the Wellington Brook. This phase of land-use is still clearly reflected in the present landscape, which retains the field pattern associated with the watermeadow and contains numerous relict channels. In the late 18<sup>th</sup> or early 19<sup>th</sup> century, this system went out of use, although the area continued to be managed as pasture and was provided with new hedges and hedgerow trees. Many of these hedges and trees survive, although they are generally in poor condition. In the last century, the historic character of the landscape has been eroded further by a move away from traditional farming practices.

In conclusion, the archaeological significance of the proposed extension centres on a high potential for the presence of buried remains of the prehistoric, Roman and Anglo-Saxon periods. The visible and buried features associated with the post-medieval watermeadow are also significant, as they represent a regionally distinctive but poorly documented and underresearched form of land-use. Both aspects of the proposed extension should be investigated further to inform any mitigation strategy that may be required.

## 7. Acknowledgements

The Service would like to acknowledge the assistance of Malcolm Lawer and Jim Whitney of Tarmac Western Limited, and Jane Patton and Melissa Seddon of Herefordshire Council.

### 8. **Personnel**

The assessment was undertaken by Darren Miller. The report was written by Darren Miller and Robin Jackson, and the illustrations were drawn by Carolyn Hunt. The project manager was Robin Jackson.

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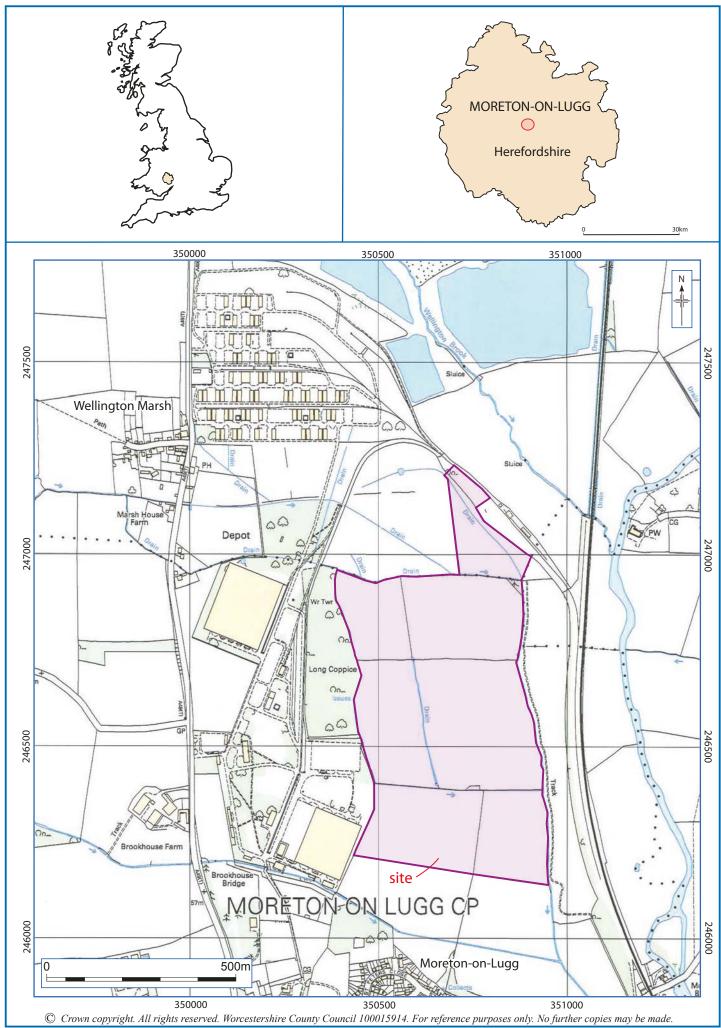
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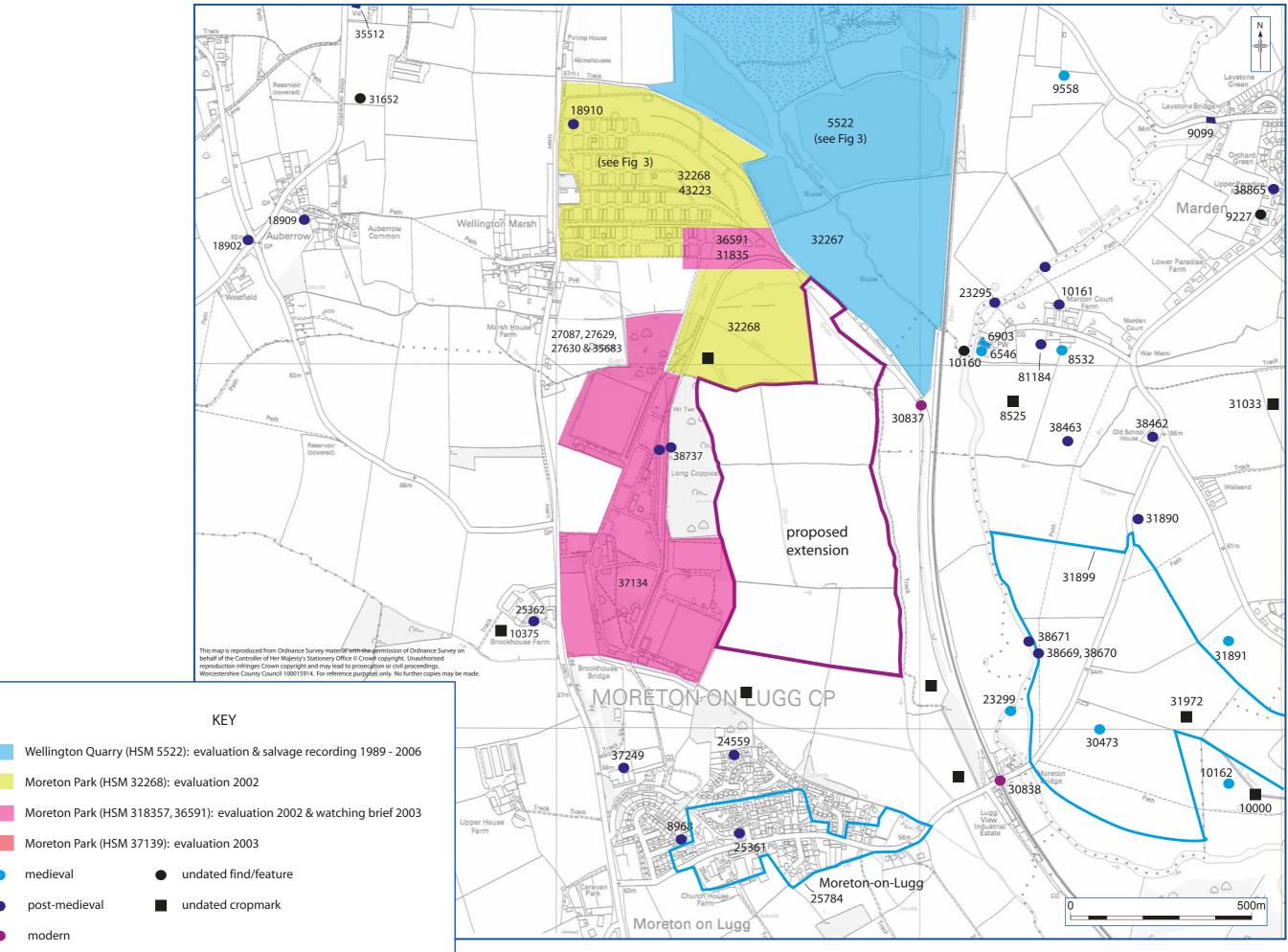
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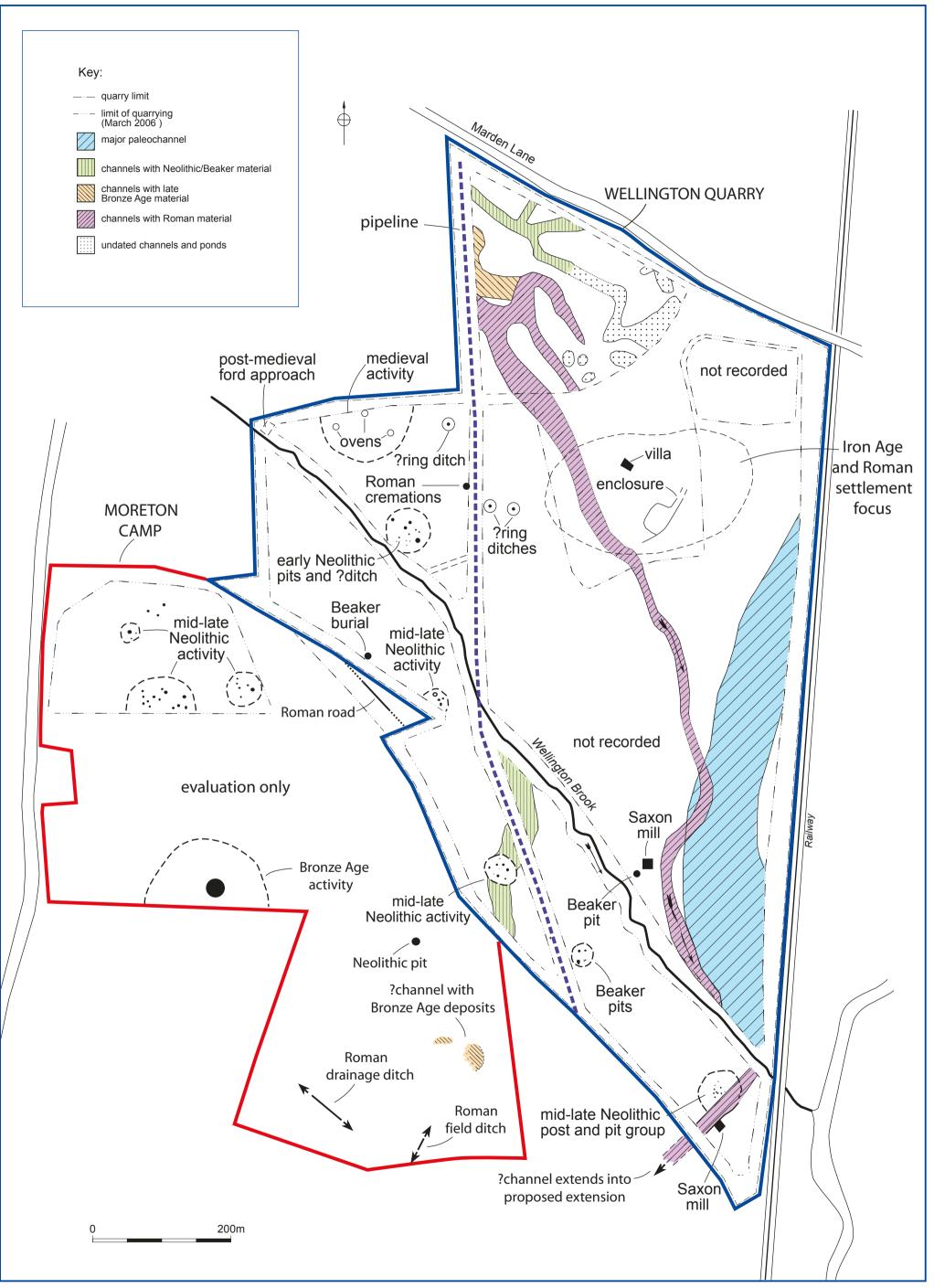
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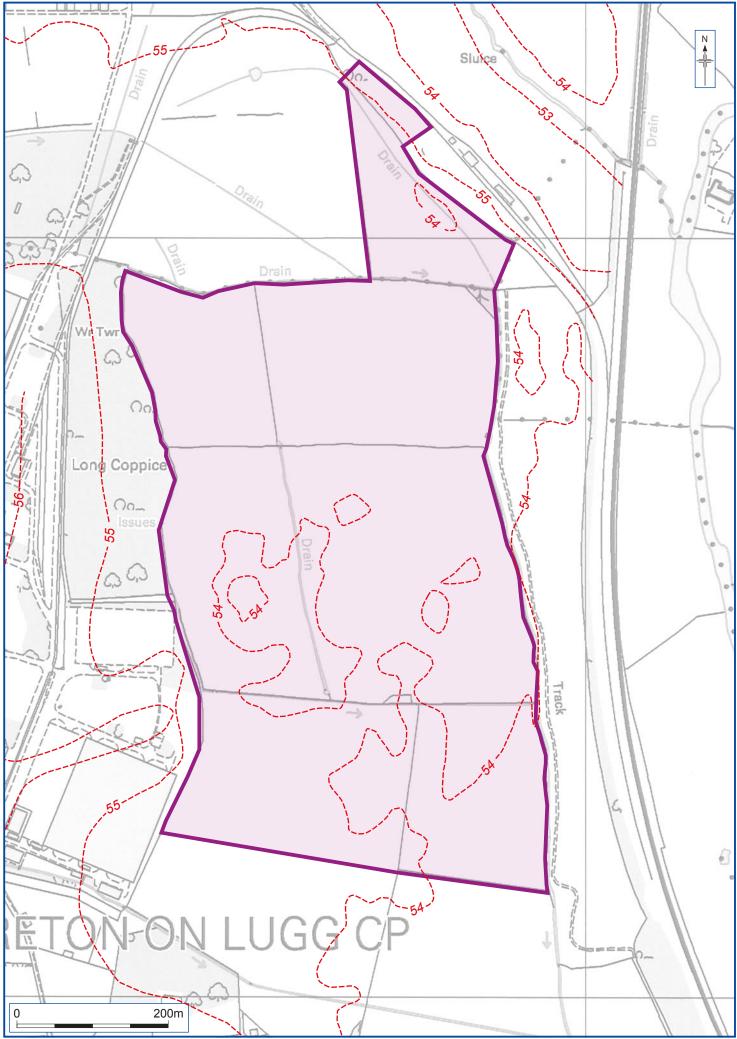
Location of nearby undated and historic sites (for Prehistoric, Roman and Anglo-Saxon period, see Fig 3)

Figure 2

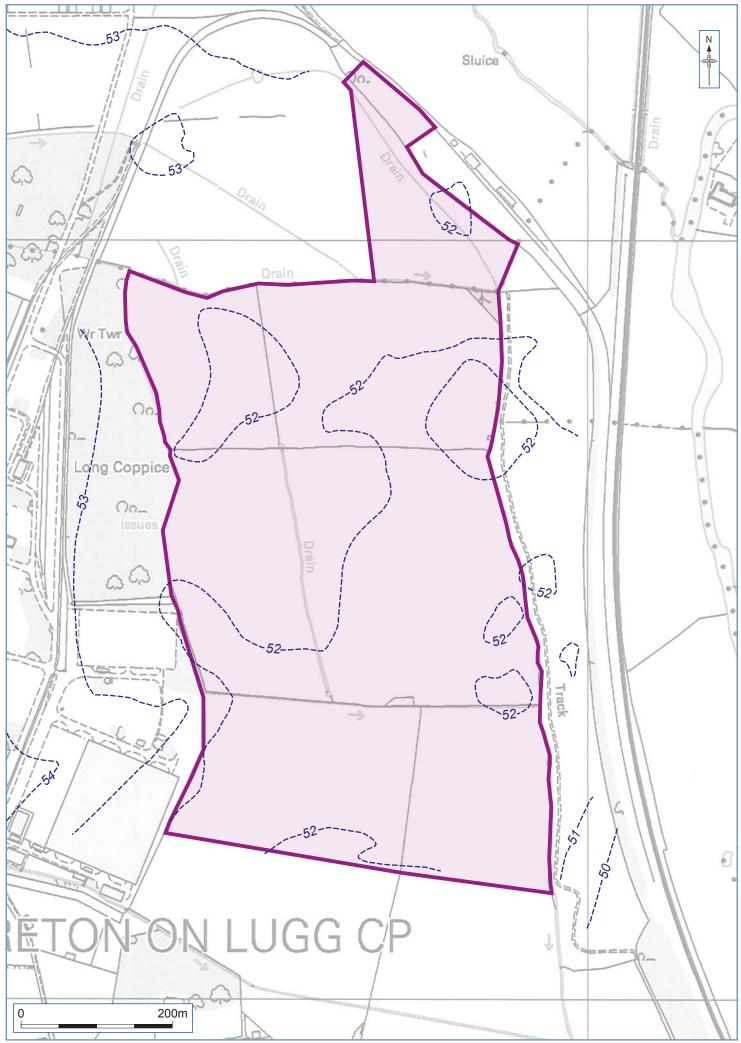


Summary of results from main quarry

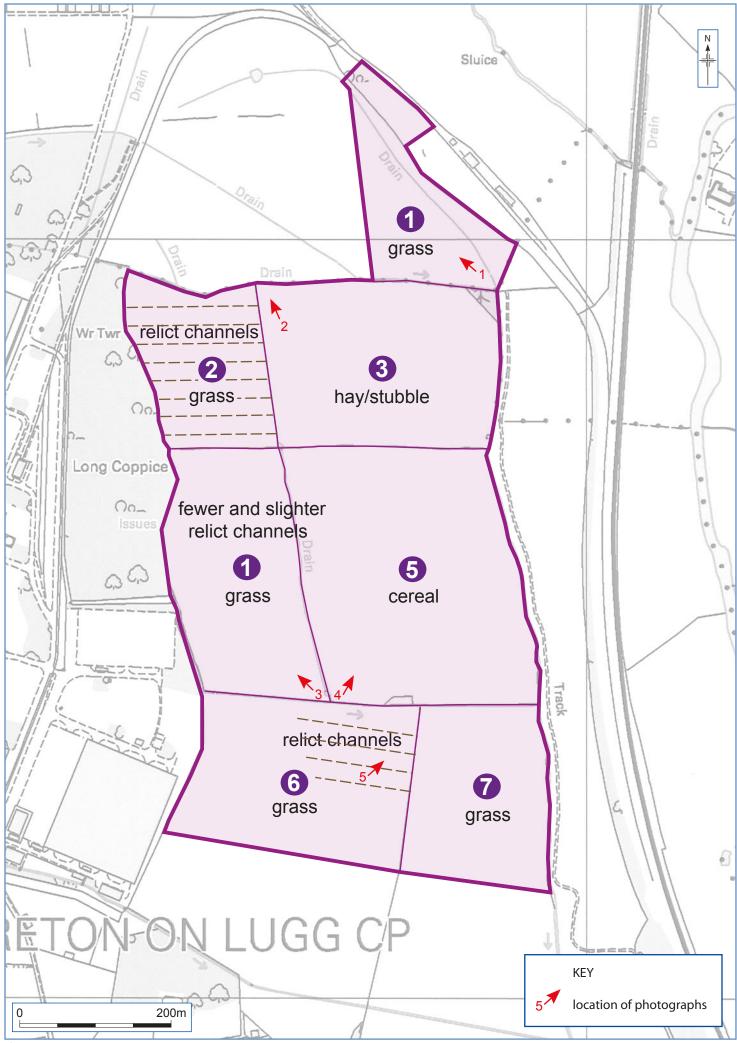
Figure 3



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© Crown copyright. All rights reserved. Worcestershire County Council 100015914. For reference purposes only. No further copies may be made. Surface model of gravels in proposed extension (using borehole data)



© Crown copyright. All rights reserved. Worcestershire County Council 100015914. For reference purposes only. No further copies may be made. Observations made during walkover survey



Plate 1: Field 1, facing north-east



Plate 2: Typical overgrown thorn hedge and pollard (field 2, facing north-west)



Plate 3: Field 4, facing north-west



Plate 4: Field 5, facing north-east



Plate 5: Relict channels of watermeadow (field 6, facing north-east)