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## SUMMARY

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A watching brief was undertaken by Oxford Archaeology North (OA North) in January 2003 at the Waste-water Treatment Works (WwTW), Greenberfield Lane, Barnoldswick, Lancashire (centred SD 8768 4778). The work was commissioned by United Utilities following proposals to add a tertiary treatment stage to existing waste-water treatment works, with the consequent construction of a temporary access road, the provision of a temporary passing place and works to widen the junction between Greenberfield Lane and Gisburn Road.

The proposed development area is within the immediate vicinity of a known Roman Road, Margary 72a (Margary 1957), which runs from Ribchester in the west to Ilkley in the east, via the Roman fort at Elslack. The exact course of the Roman road is not known in this precise vicinity, but it was thought that the excavations may impact upon the surviving remains of the road. The watching brief was undertaken in a series of phases corresponding to those areas of the site which were exposed per day.

The greater part of the excavations comprised the removal of topsoil along the proposed route of a temporary access road. An average of 0.25m of topsoil was stripped from an area covering approximately 110m x 3.50m. Removal of the topsoil showed that it lay directly on the natural geology and, although close examination of the exposed ground along the whole length of the strip was made, no structures, features or finds of archaeological significance were observed.

There was no archaeological presence during the excavations of the north side of the junction, but examinations during the widening of the south side revealed similar stratigraphy with topsoil directly over natural. Part of this trench had been disturbed at the time the road was originally built, but undisturbed ground was still exposed along its length and no archaeology was observed within the trench relating to the Roman Road or otherwise.

Excavations for the provision of a passing place had also been effected in the absence of archaeological supervision. However, the east-facing section was still exposed and inspection showed similar stratigraphy and no evidence that archaeology was present or had been disturbed during its construction, at least at this precise point. In general, no features of archaeological significance were encountered during the course of the watching brief.

It was originally proposed in the Project Design (*Appendix 1*) that a watching brief also be undertaken in an area within the perimeter of the south WwTW. However, it is understood that no works are now proposed for that area and, therefore, no such undertaking is required.

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## ACKNOWLEDGEMENTS

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Thanks are due to Mrs L Dymond of United Utilities for commissioning the work, and to Steve Martin of the HMB Alliance and his colleagues for their help on site.

The watching brief was undertaken by David Tonks, who also wrote the report. The final drawings were prepared by Emma Carter and the report was edited by Alison Plummer and Emily Mercer. The project was managed by Alison Plummer.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 In order to improve the quality of discharges and to meet new discharge consents United Utilities is proposing to add a tertiary treatment stage to the existing wastewater treatment works (WwTW) at Greenberfield Lane, Barnoldswick. This will involve the construction of a new treatment unit in the northern part of the site, along with associated tanks, pipes, pumping stations and chambers. Works to improve access to the site include a temporary access road to the southern part of the site, widening of the WwTW access onto Greenberfield Lane, the provision of a temporary passing place and works to widen the junction between Greenberfield Lane and Gisburn Road.
- 1.1.2 An appraisal of the site using the Lancashire Sites and Monuments Record (SMR) showed that the works to Greenberfield Lane and the proposed temporary access route had a potential to impact on the line of a Roman road.
- 1.1.3 Following a discussion between the Lancashire County Archaeology Service (LCAS) and United Utilities a scheme of impact mitigation was agreed. This work comprises a watching brief during the ground disturbance at the construction of a temporary access road, the widening of the junction of Greenberfield Lane and Gisburn Road, and the insertion of a passing place on Greenberfield Lane.

### 1.2 TOPOGRAPHY AND GEOLOGY

- 1.2.1 The WwTW is situated at the northern edges of Barnoldswick, centred on SD 8768 4778 (Fig 1). Barnoldswick itself is located on the northern fringes of an area defined by the Countryside Agency as the Lancashire Valleys (Countryside Commission 1998) with numerous tributaries eventually becoming part of the River Calder. The region is also characterised by several reservoirs, which in the past have provided water sources for transportation and industrial activity. The large millstone grit outcrop known as Pendle Hill, situated to the west, dominates the skyline. The land is typically 200m OD (*ibid*).
- 1.2.2 The solid geology of the region comprises mostly sedimentary rocks of the Pendle, Warley Wise, Kinderscout and Gorpley or Revidge Grits. These are predominantly sandstones and, other resources, such as limestone, are found to the north-west. The overlying drift geology is essentially post-glacial deposits, predominantly boulder clay with some areas of sands or gravels (Countryside Commission 1998) and, in the broader valley area to the north-east, alluvium and peat deposits are relatively extensive. The soils, as mapped by the Ordnance Survey Soil Survey of England and Wales (1983), are predominantly of the Brickfield 3 series, which are cambic stagnogley soils, deriving from the underlying geology. In addition, there are small areas of the Fladbury 3 series, a pelo alluvial gley, essentially alluvial in nature, and the Blackwood series, which is a typical sandy gley soil.

### 1.3 HISTORICAL BACKGROUND

- 1.3.1 **Introduction:** this historical background is compiled from secondary sources, and is intended only as a summary of the history of the general area.
- 1.3.2 **Prehistory:** there is some evidence of man's activity in Lancashire during the Mesolithic and Neolithic periods, comprising mostly lithic finds and evidence from pollen data, which seems to show activity around the lowlands and in a riverine environment (Middleton 1996). Boulsworth, near Trawden (to the south-east of the study area), appears to have been a Mesolithic camp site, with finds of flints and hazel nuts implying sufficient time spent there to forage and eat (Harrison 1988, 4).
- 1.3.3 Bronze Age sites, identified from evidence such as metal finds, also show a lowland and riverine distribution but the lithic finds from this period have mostly been casual finds and are generally not well located (Middleton 1996). The adjacent upland landscapes also reflect Bronze Age activity, as demonstrated by such sites as the cairnfield at Nicky Nook, on the western edge of the Forest of Bowland (OA North, 2002). Barrows and burial cairns appear to be associated with upland locations, such as Astley Hall and Parlick summit, in the Forest of Bowland, or the round barrow at Brink Ends in Trawden (Harrison 1988). 'Flat' or eroded burial sites are suggested at sites such as Walmesley and Haulgh Hall, Bolton (Middleton 1996). There is a concentration of earthworks and other features north of Swinden Reservoir (SD 890 340) again showing the close proximity of activity in this period to the study area.
- 1.3.4 In the Iron Age, the area seems to have come under the aegis of the Brigantes tribe (Cunliffe 1991). There are no known remains of the Iron Age within the environs of the study area but it is notoriously difficult to identify such sites, in part due to a lack of distinct material culture (Haselgrove 1996, 64). In addition, hillforts, which are typically attributed to this period, are a relatively uncommon form of settlement in the North West (Hartley and Fitts 1988, 5-6). Iron Age evidence from the Pennines consists almost exclusively of earthworks, both defensive and agricultural. Castercliffe Hill Fort is a defensive site located to the north-east of Nelson, although it is thought possibly to originate in the late Bronze Age (Challis and Harding 1975; Haselgrove 1996, 61). Pollen data from the various wetland areas show widespread forest clearance, which seems to indicate a possible increase in arable activity during this period, and the expansion into wider areas of land, both lowland and upland (Middleton *et al* 1995).
- 1.3.5 **Roman:** a Roman presence in the region is clearly attested by the nearby forts at Elslack (known as Burwen Castle) to the north-west of the study area and, further afield, by the forts of Slack and Ilkley. Elslack fort dates from the first century, after which it was rebuilt in stone and, in the fourth century, it was enlarged and effectively re-fortified, in order to provide better defence against raiders from the coast utilising the Aire gap (Garlick 1988, 27). It was excavated in the early part of the twentieth century but prior to that was disturbed by the positioning of the railway line through the fort. The fort at

Slack lies to the south-east of the study area and its development parallels that at Elslack, with an earlier fort being rebuilt in stone during the Trajanic to Hadrian period, but this apparently went out of use about AD 140 (*op cit*, 28). The fort at Ilkley is 30km away to the north-east and had a more complex history, again built in the first century but not in use during the Hadrianic period, re-occupied in the mid second century and destroyed in *c* AD 197, before a new fort was built of stone in the third century (*op cit*, 26). Linking these forts was a road system, instigated during the Roman period but intermittently made use of in the periods following. A south-west/north-east road ran from Ribchester to Elslack, the projected line of which may be directly affected by the groundworks, and this joined the south-east/north-west road from Ilkley to Long Preston. In addition, there is a conjectured road running south-east from Elslack towards Leeds. The routes are outlined by Margary (1957), referred to by him as 72a, 722 and 721 respectively. Various antiquarians (eg Baines 1824, 617) have traced other routes and there is some suggestion that Colne may have been near a Roman route (Harrison 1988, 7).

- 1.3.6 The general area has produced a significant number of Roman coins. Several hoards and single find spots are known, including those at Wheatley Lane, Catlow, Emmett, Barrowford and in general in the Colne, Whalley, and Burnley areas (Shotter 1990). Within this region there is also evidence for settled domestic activity, as seen by the presence of the putative 'villa' site, a type of site unusual in this region, at Kirk Sink, Gargrave, located to the north-west of the study area. The finds show it to be a fully functional farmstead, complete with bath house, in use until the late fourth century (Garlick 1988, 45).
- 1.3.7 **Early Medieval:** as is the case throughout the North West, evidence for early medieval activity is limited. From the early-mid seventh century onwards, Lancashire became part of the kingdom of Northumbria, the southern extent of which was probably on the Mersey (Colgrave and Mynors 1940). Place-name evidence gives some indications of areas influenced by Anglian lordship but there is little other evidence for this (Kenyon 1991).
- 1.3.8 By the later ninth and tenth centuries, Scandinavian/Hiberno-Norse cultural and political influences influenced the area and there is some indication of Christian activity in the region from the stone sculptures known from Whalley parish (Newman, RM 1996). A plain cross dating to this Anglo-Scandinavian period is known from Foulridge; although not found in a religious context, it may represent an indication of the extent of Whalley parish (Kenyon 1991, 102).
- 1.3.9 The area was also affected by the expansion of the nascent kingdom of England in the tenth century. The Battle of Brunanburgh, fought by Athelstan of Wessex against a combined Pictish, Scottish, Welsh and Danish army, was a significant victory for the English. The resulting treaty was said to have been established while at Eamot, which seems to equate with Emmott, near Colne (Harrison 1988, 7).

- 1.3.10 **Medieval:** the name Barnoldswick derives from a combination of Old Scandinavian and Old English meaning “dwelling or (dairy) farm of a man named Beornwulf or Bjornulfr” (Mills, 1998). It is first referred to as Bernulfesuuic in the Domesday Book and, therefore, has its origins as a settlement before 1088. The area in general became to be associated with textile manufacture and the earliest evidence of a mill is a fulling mill in Colne dating to about 1300 (Harrison 1988, 16).
- 1.3.11 Medieval townships in the uplands were often composed of a scatter of hamlets or isolated farmsteads and associated field systems. The overall pattern was rather dispersed although an increased density of occupation would be associated with more desirable land and resources, such as at the lowland to upland interface. During the medieval period, the Lancashire Valleys would have comprised hamlets or farmsteads surrounded by small enclosed fields, of which Barnoldswick was presumably one. At the lowland to upland interface, where there was access to upland moors, there would have been the more isolated farmsteads used as vaccaries (Newman R, 1996). To a certain degree this pattern can still be seen in the landscape to the present day.
- 1.3.12 **Post-Medieval:** by the nineteenth century, the majority of the population in the towns of the region were engaged largely in the processing, manufacture, and distribution of textiles, initially woollens (Walton 1987) and, subsequently, cotton. Woollen mills predominated the area until the early nineteenth century, when cotton became more common and several of the mills were converted to this use. For example, by 1824 there were only three woollen mills and 22 cotton mills in Colne, the latter producing 12,600 pieces of calico a week for use by printers in Manchester (Baines 1824, 618); this figure is comparable with the other levels of production in nearby towns. The processing and manufacture of woollen goods in the early period was carried out at a smaller, often domestic, scale. With the advent of technological progress in the form of the Spinning Jenny (late 1700s) and the steam power looms, it became more economical and efficient to carry out all the activities at one central place and attract a work force to it. This resulted in larger mills being built or added to, the setting up of weaving sheds, and the construction of the classic terraced houses for mill workers and the overall expansion of urban areas (Walton 1987). These characteristics still dominate the townscapes of the region today.
- 1.3.13 In order to serve the industries in the area, the transport network developed into a complex system, connecting various modes of transport and serving many locations. Thus it had a significant impact on the landscape of the Lancashire Valleys. The turnpike road network was well established by the mid-eighteenth century with initial plans of that date carried out in the early nineteenth century. Such roads are found centred around Colne, and running to Skipton, Haworth, Blackburn and Broughton, but around 1873 the system of tolls went out of use (Harrison 1988, 80).
- 1.3.14 Barnoldswick lies just to the east of the Leeds and Liverpool canal. The canal was originally for transporting raw materials and was related to the expansion of heavy and extractive industries, such as slate, lime and coal. The canals were eventually superseded by the railways, which developed rapidly during

the mid-nineteenth century. In recent years, the railways have largely been superseded by roads, and the road system has seen major modifications, with the M65 extension eastwards, which now passes to the south. With such a communication system throughout the county there has been continued development of the economy, moving away from primary industrial processing towards secondary forms of manufacturing, distribution and retailing.

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## 2. METHODOLOGY

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### 2.1 WATCHING BRIEF

- 2.1.1 The work undertaken by OA North complied with current legislation and accepted best practice, including the Code of Conduct and the relevant professional standards of the Institute of Field Archaeologists (IFA). Close liaison was maintained between the OA North representative and the site contractors at all times. A watching brief was maintained for the duration of the groundworks associated with the removal of topsoil along the route of the temporary access road and the widening of the junction of Greenberfield Lane and Gisburn Road.
- 2.1.2 A programme of field observation accurately recorded the location, extent, and character of any surviving archaeological features within the groundworks. This work comprised observation during the groundworks, the systematic examination of any subsoil horizons exposed, and the accurate recording of any archaeological features, horizons and artefacts identified or recovered during observation. The topsoil stripping exercise along the route of the proposed access road was effected by a tracked mechanical excavator using a 1.8m toothless ditching bucket, and the excavations at the junction of Greenberfield Lane and Gisburn road were effected by a mechanical excavator using a toothless bucket.
- 2.1.3 The recording comprised a full description and preliminary classification of features or materials revealed, on OANorth *pro-forma* sheets, and their accurate location, either on plan and/or section. Records were kept of all the sections of the watching brief even if the results were negative. Plans were produced of the areas of groundworks showing the location and extent of the ground disturbance (Fig 2). All areas of archaeological interest were fully photographed both in general terms and in specific details.
- 2.1.4 No watching brief was undertaken at the site of proposed works to the inlet screens, hardstanding or proposed kiosk located within the perimeter of the southern WwTW and described in the Project Design (*Appendix 2*). The OA North representative was advised by the main contractor that no such works were now to be carried out. Other groundworks were only to be undertaken within the northern site of the WwTW in areas which did not require an archaeological presence.

### 2.2 ARCHIVE

- 2.2.1 The results of all archaeological work carried out forms the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (English Heritage 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. OA North conforms to best practice in the preparation of project archives for long-term storage. The paper archive, which will be deposited with the Lancashire Record Office, Preston, consists of field recording sheets, a photographic archive and this report.

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### 3. WATCHING BRIEF RESULTS

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#### 3.1 ACCESS ROAD, JUNCTION WIDENING AND PASSING PLACE

- 3.1.1 Two phases of work only were observed. These were the topsoil stripping along the route of the temporary access road (Fig 2) and the excavations to widen the south side of the junction between Greenberfield Lane and Gisburn Road (Fig 3). Works to create the passing place (Fig 3) were effected in the absence of archaeological supervision, but an inspection was made after the fact. Works to widen the north side of the junction had also been completed prior to OA North's arrival on site.
- 3.1.2 **Access Road:** this involved the removal of topsoil along the proposed route down to a horizon where the underlying geology was sufficiently solid to sustain the laying and rolling of hardcore to form a temporary access road. The route (Fig 2) was c.110m in length and 3.5m wide along the main trunk, being wider at each end, giving a total excavated area of approximately 400m<sup>2</sup>. The first c50m, which took the excavation nearly to the brow of the hill, was removed by the contractors in the absence of any archaeological supervision, but the stretch remained open for inspection. Mid-brown sandy silt topsoil had been removed to an average depth of 0.25m exposing a yellowy buff-grey silty clay beneath. This was the natural geology which also comprised c30% angular stones of dimensions less than 0.10 x 0.10 x 0.05m. It was of fairly uniform composition, but there were lenses of a more sandy composition randomly distributed within it. There were, however, no archaeological features or finds evident within the natural. Finds of modern glazed pot were observed on the spoilheap but they were not retained.
- 3.1.3 The second c30m stretch of excavation, carrying the excavation over the brow of the hill, revealed much the same stratigraphy as described above (3.1.2). An average of 0.25m of topsoil was removed to expose the same yellowy buff-grey silty clay natural. Here, there were patches of finer clay evident within the natural, but no features, negative or otherwise, that were archaeological in nature.
- 3.1.4 A third stretch measuring c20m was then excavated reaching the base of the hill where the land levelled out. The removal of topsoil at this point, c15m from the end, revealed a c.2m x 2m deposit of angular stones of dimensions 0.20 x 0.10 x 0.10m (max) extending out from the northern baulk (Plate 1). Whilst much of the spread had been disturbed by the digger, some of the stones appeared to have been deliberately packed as metalling and the feature continued under the topsoil of the northern baulk. Otherwise, the stratigraphy remained the same as previously encountered.
- 3.1.5 The fourth and final section involved the demolition of both a low stone wall and a stile over which a public footpath through the field was accessed. In addition, a brick wall which formed the western entrance to the southern WwTW site was demolished. The excavations here penetrated deeper into the natural to create a ramp down onto the junction with Greenberfield Lane which, being a hollow way, was at a lower level than the adjacent fields. The stratigraphy remained the same as that encountered along the entire length of the trench, with c0.25m of mid-brown topsoil directly overlying the natural, which here was slightly more orangey red in

colour. No features nor finds of an archaeological nature were encountered during the excavation of the this stretch of access road.

- 3.1.6 **Junction Widening:** the excavation, backfilling and surfacing of the north side of the junction of Greenberfield Lane and Gisburn Road had been completed before the arrival of an OA North archaeologist. No details can, therefore, be given regarding the presence or absence of, or disturbance to, any archaeological features within the area of excavation. However, the excavation of the southern side of the widening project was effected under direct archaeological supervision. The trench was excavated over the course of one day and was crescent in shape, being c15m long, 1m wide at each end, 2m wide at the centre and a uniform 0.5m deep. The basic stratigraphy was c0.20m of mid brown topsoil directly overlying orangey-buff sandy clay natural with inclusions of riverworn cobbles <0.15m in diameter. The outer (northern) edge of the excavation had been previously disturbed by the works effected when laying the original road, and there was an electricity cable, used to supply street lighting, noted in this part of the trench. No features nor finds of archaeological significance were encountered during the excavations.
- 3.1.7 **Passing Place:** the excavation, backfilling and partial re-surfacing of the passing place had occurred prior to the arrival of an OA North archaeologist. Little, therefore, may be said about the presence or absence of, or disturbance to, archaeological features within the excavation area. However, the east facing section remained exposed for inspection. The excavations had cut through a bank of earth that had built up by the roadside exposing a wedge-shaped section (Plate 2) which comprised 0.20m of topsoil directly overlying a yellowy-buff homogenous silt clay subsoil evident to a depth of 0.45m.

## 3.2 FINDS

- 3.2.1 Whilst some modern, glazed sherds of ceramic were observed following the removal of topsoil on the access road, they were from an unstratified context and none were recovered. There were no other material finds observed or recovered during the course of the watching brief.

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## 4. CONCLUSIONS

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### 4.1 DISCUSSION

- 4.1.1 One feature noted during the term of the watching brief was the spread of stones at the eastern base of the hill exposed by the topsoil stripping for the access road. Whilst much disturbed by the digger, some of the stones appeared to have been deliberately laid and packed to act as metalling. It was, however, observed that their presence coincided with a disused entrance to the field, evidenced by two standing gate-stones. It is not, therefore, considered that this is an exposure of the Roman Road, but an area where, owing to boggy ground at the base of a hill, the farmer has, at some undetermined time, deliberately deposited the stones so as to allow vehicular access into the field from Greenberfield Lane.
- 4.1.2 No other structures, features nor finds of archaeological significance were encountered during the course of the watching brief.
- 4.1.3 The small changes in the composition and colour of the natural observed around the study area are considered to be the results of leaching, erosion and other such natural phenomena and are not of archaeological significance.

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## ILLUSTRATIONS

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### **LIST OF FIGURES**

Fig 1: Location Map

Fig 2: Access Road Location Plan

Fig 3: Junction Widening and Passing Place Location Plan

### **LIST OF PLATES**

Plate 1: East-Facing Section, Passing Place

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## APPENDIX 1: PROJECT BRIEF

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## APPENDIX 2: PROJECT DESIGN

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