PROPOSED WIND FARM AT CARSINGTON, DERBYSHIRE

Archaeological Desk-Based Assessment and Rapid Visual Inspection

Oxford Archaeology North

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SUMMARY

Oxford Archaeology North was commissioned by West Coast Energy Ltd to undertake an archaeological desk-based assessment and rapid visual inspection of the proposed development area for a wind farm at Carsington, near Matlock, Derbyshire (NGR 424824, 354269).

The assessment, undertaken in January 2006, covered a radius of 1km from the centre of the proposed development site and included visits to the Derbyshire Sites and Monuments Record, the County Record Office and the Local Studies Library, all in Matlock. Four sites with statutory designation were identified: Carsington Pasture round barrow (Site **01**), St Margarets Church (Site **06**), Hopton Incline Windmill (Site **15**), and the Carsington and Hopton Conservation Area (Site **31**), within which were a further 14 Listed Buildings.

The majority of the proposed development site consists of unenclosed and undeveloped pasture which is thought to hold considerable archaeological potential. Exploitation of the extensive mineral veins in the area has resulted in a concentration of disused mine-shafts across the site (Site **03**); most of these are thought to date from the seventeenth century onwards although documentary evidence suggests that mining has been undertaken on the site from at least the medieval period, and evidence for early workings may survive. Predating this industrial landscape, a series of linear banks and low, earthfast walls may represent a Romano-British field system (Site **02**). If proven, these may be associated with the settlement found on the site of Carsington Reservoir, thought to be the site of *Lutudarum*, the administrative centre of the Romano-British lead mining industry.

In total, 38 sites of cultural heritage interest were identified by the study. Of these, three sites are likely to be directly affected by the proposed development: the probable Romano-British field System (Site **02**), the disused lead mines (Site **03**) and the presumed course of an ancient road known as Portway (Site **32**).

The assessed significance of the sites identified within the proposed development area, and the likely impact of any future development will have upon them, has contributed to the recommendations for further archaeological assessment. These include a site wide detailed topographic survey, followed by a programme of archaeological trial trenching, targeted on specific areas of potential identified by this assessment and by the topographic survey. In addition, those sites with statutory designation (Sites **01**, **06**, **15** and **31**) may need to be considered in terms of indirect impact; it is recommended that English Heritage and the Derbyshire Dales District Conservation Officer are consulted in these cases.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank West Coast Energy Ltd for commissioning the project. Thanks are also due to Gill Hinds at the Derbyshire Historic Environment Record, to Sue Peach at the Local Studies Library in Matlock, and to the staff of the County Record Office for their assistance.

The desk-based assessment was researched and written by Anthony Lee. The rapid visual inspection was undertaken and written by Andy Lane, and drawings were produced by Mark Tidmarsh. The project was managed by Alison Plummer, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Following proposals by West Coast Energy Ltd for the construction of a wind farm at Carsington, near Matlock, Derbyshire (NGR 424824, 354269), Oxford Archaeology North was commissioned to undertake an archaeological assessment of the area to further inform the planning process. An Environmental Impact Assessment is currently being undertaken; this report will be used to inform the Environmental Statement, together with the planning application

1.1.2 The archaeological assessment, undertaken in January 2006, consisted of a search of both published and unpublished records, and a rapid visual inspection of the proposed development site. The results of this work, as detailed in this report, will be used to inform a strategy to assess the nature, extent, and survival of any archaeological remains that may be present that will suffer impact by the development. An assessment of the impact of the proposed development has been undertaken using the significance criteria for scheduling monuments detailed in Planning Policy Guidance Note 16 (DoE 1990).

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 The study area is located on Carsington Pasture, to the north-west of the village of Carsington, east of Brassington, and south of the High Peak Trail, in an area that is excluded from the National Park (centred on NGR 424824, 354269) (Fig 1). Carsington Pasture is an area of largely unimproved upland lying at the southern margin of the carboniferous limestone plateau of the Peak District, commonly known as the White Peak, and incorporating a *c* 1km stretch of its south-facing escarpment. In effect, this limestone scarp forms the southern end of the Pennine spine of England, as well as the southern limit of the White Peak lead-mining area (Trent and Peak 1994). The whole area is pockmarked by numerous disused mineshafts and pits. The plateau lies between approximately 310m and 300m above Ordnance Datum (OD), while the scarp drops steeply to 240-250m OD (Ordnance Survey 2004).

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 1*) was submitted by OA North in response to a request by West Coast Energy Ltd for an archaeological desk-based assessment of a proposed wind farm site at Carsington, Derbyshire (Fig 1, centred NGR 424824, 354269). The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 DESK-BASED ASSESSMENT

2.2.1 The study area focused on an area within a 1km radius of the centre of the proposed development site covering the site itself and its immediate surroundings. Relevant information from the wider area has been summarised in order to place the results of the assessment into context. All known archaeological sites with the study area and its environs have been included in the Site Gazetteer (*Section 4*). In order to undertake the desk-based assessment, several sources of information were consulted.

2.2.2 ***Derbyshire Sites and Monuments Record (SMR):*** the Historic Environment Record held at the SMR Office in Matlock was consulted to establish the presence of sites of cultural heritage interest already known within a 1km radius centred on the proposed development site. Aerial photography was consulted from this source for the study area.

2.2.3 ***County Record Office (CRO)***, ***Matlock:*** primary documents, principally comprising early maps of the study area, were examined in order to identify any sites of cultural heritage interest that might be affected by the proposed development.

2.2.4 ***Matlock Local Studies Library:*** secondary sources ranging from histories of the local area to histories of specific aspects of the local landscape and periods were examined.

2.2.5 ***Oxford Archaeology North:*** OA North has an extensive archive of secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North and in its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where necessary.

2.3 RAPID VISUAL INSPECTION

2.3.1 Following the desk-based assessment a Level 1 walkover survey was undertaken to relate the existing landscape to research findings. Features of cultural heritage interest identified within the landscape were recorded using the relevant OA North *pro forma* record sheet, and the features accurately

positioned with the use of a hand held GPS, with respect to the OS national grid, and by manual survey techniques which tied in new features to existing cartographic reference points.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with the Derbyshire Record Office in Matlock on completion of the project and a paper copy of the report will be sent to the Derbyshire SMR.

3. RESULTS

3.1 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1.1 ***Prehistoric Period:*** a number of caves within the Peak District have produced small amounts of Palaeolithic material, including those at Thors Fissure Cave, Elder Bush Cave, and Ossum's Cave, all in the Manifold valley, 14km west of the study area (Barnatt and Smith 2004, 10). Cave finds representing Mesolithic activity are few, and evidence for this period is chiefly derived from stone tools found scattered throughout the region (*ibid*). During the Neolithic period, the Peak District was one of the most important areas in Britain due to its rich, light soils (*op cit*, 4). These were naturally clear of thick forest and as a result large expanses of upland were suitable for grazing and cultivation without a great deal of effort needed to clear them. Analysis of human bones excavated at Carsington Cave (Site **23**) has produced evidence of at least twenty inhumations dating from the period 2500BC-1500BC, spanning the Late Neolithic and Early Bronze Age (Chamberlain 1996).

3.1.2 Over 500 prehistoric burial mounds, commonly known as barrows, have been identified across the region. These were probably mostly built in the Late Neolithic and Early Bronze Age (Barnatt and Smith 2004, 33). One definite and one putative round barrow have been identified within the study area (Sites **01** and **07**, respectively).

3.1.3 The origins of lead mining in the Peak District are uncertain. It is known that lead ore was obtained in the Later Prehistoric period from the North Pennines, and it seems likely, though not proven, that the veins in the Peak District would have been exploited during the same period (Ford and Rieuwerts 2000, 15). Pieces of melted lead and burnt lead ore found in Early Bronze Age barrows in Derbyshire, a perforated lead bead from a barrow near Foolow, and a Late Bronze Age lead axe-head, found on Mam Tor, serve to enhance speculation about the prehistoric origins of lead mining in the region (*ibid*).

3.1.4 Although no prehistoric settlement or mining evidence is known from the study area, numerous stray finds of flint tools have been made, most notably in the north-east of the study area, representing the Mesolithic, Neolithic and Bronze Age periods (Sites **12**, **14**, **16**, **19**, **21**, **22**). This suggests that considerable exploitation of natural resources took place, and the existence of settlement or mining activity in the vicinity should not be ruled out.

3.1.5 ***Roman Period:*** the Roman army probably first entered the Peak District shortly before, or at the advent of, Petillius Cerialius' push north into Brigantian territory in the 70s AD, and it is thought that the forts of *Navio* and *Ardotalia*, which survive at Brough in the Hope valley and *Melandra* near Glossop, may have been built to support this expansion (Barnatt and Smith 2004, 46). Archaeological work over the last 150 years has produced records of numerous potential Romano-British rural settlements and associated field systems surviving as upstanding earthworks in the Peak District and Derbyshire, and it can now be demonstrated that Romano-British activity was

much more widespread than previously thought (Bevan 2000). A picture is emerging of a landscape which expanded during the Romano-British period but had its origins in the Iron Age (Makepeace 1998). Many settlements were sited above valley floors, on scarp edges or shelves leading to the plateau slope, where many farms are situated today (*ibid*).

3.1.6 A series of banks and low walls enclosing an area of 200ha within the study area has been interpreted as a probable Romano-British rural settlement (Bevan 2000; Trent and Peak 1994) (Site **02**) (Figs 8 and 9) (Plate 2). Occasional boulders within the banks suggest they were once substantially higher and at the western end they are defined with a short section of 'double orthostat wall'. Such low enclosure banks and orthostat walls are a frequent feature of Romano-British sites (Bevan 2000) and examples have been identified at Roystone Grange (Hodges 1991), five kilometres to the north-west of the study area. Hodges (*op cit*, 33) states that '*similar walls were constructed on Carsington Pastures* (sic*) to divide up land rich in lead*', whilst the discoverer of the multi-period walls at Roystone, Martin Wildgoose, comments that '*walls were constructed on Carsington Pastures* (sic) *enclosing parcels of moorland rich in lead veins*' (1991, 216).

3.1.7 Three hundred metres south-east of the study area, the construction of Carsington Reservoir led to a major programme of archaeological fieldwork and excavation by the North Derbyshire Archaeological Trust between 1979-1984 (Dearne *et al* 1980; Ling and Courtney 1981; Branigan 1986; Ling 1990; Ling 1992). An extensive high-status Roman settlement was discovered, and the excavators speculated with some confidence that the site may represent the lost site of *Lutudarum*, the probable Romano-British administrative centre for the lead mining industry, referred to on inscribed lead pigs found in the area, and documented in the eighth century gazetteer the *Ravenna Cosmography* (Rivet and Smith 1981). Although little evidence for lead processing and smelting were found, it is thought that the emphasis on *Lutudarum* would have been on administrative and supply functions (Dearne *et al* 1980). It has also been speculated that *Lutudarum* denotes a general area, or the name of a company contracted to carry out the mining, rather than a specific place (Barnett and Smith 2004, 49). Dearne (1990) argues, however, that even if *Lutudarum* was an area, not a place name, an administrative centre should be sought, and Carsington appears to be the prime candidate.

3.1.8 A Roman Road known as Portway (Site **32**) is thought to have passed through the study area (Willies 1995) (Fig 8). The road led from Derby via the Roman settlement now covered by Carsington Reservoir on towards Lancashire. Some scholars believe Portway to have had pre-Roman origins (Willies 1995) and cite the fact that the route passes by a substantial number of Bronze Age and Iron Age monuments. Willies asserted that another Roman road known as The Street (*Aquae Arnametiae*) (Site **33**) branched off Portway immediately south of Bee Nest Mine (Site **34**) and ran north-west towards Buxton (*ibid*) (Fig 4).

3.1.9 ***Early Medieval:*** following the demise of the Roman infrastructure in the fifth century AD Britain reverted once more to a tribal system based on small warrior-led kingdoms. When Anglian people first entered the Peak District is

unknown; Anglian pottery from the ditch surrounding the late Roman 'villa' at Carsington Reservoir dates to the fifth or sixth century, and a sixth century grave is known from a barrow at Musden near Ilam, 10km to the west (Barnatt and Smith 2004, 56).

3.1.10 The second half of the seventh century is probably when the *Tribal Hidage* was compiled (*ibid*). This unique document lists all the provinces and client kingdoms that paid tribute to the Kingdom of Mercia. This identifies the 'Pecsaete', or 'People of the Peak'. The land of the Pecsaete focused on the limestone plateau and valleys of Bakewell, Matlock, Ashbourne and Wirksworth (*ibid*), of which the study area forms part.

3.1.11 In the eighth and ninth centuries the mines at Wirksworth were attached to the Abbey of Repton and were evidently of considerable importance as in AD 835 lead worth 300 shillings had to be paid as annual rent charge to Christ Church, Canterbury (Ford and Rieuwerts 2000, 18). The Danish army destroyed Repton Abbey in 874, and the Manor of Wirksworth, along with the lead mines, passed into the hands of the Danish King Ceolwulf. The Wirksworth Manor included the study area and it is possible, though not proven, that mining took place here in the early medieval period. The Roman road The Street (Site **33**), which is thought to pass through the study area, was still in use in the tenth century, when it was known as Kingstreet (*op cit*, 174).

3.1.12 ***Late Medieval Period:*** at the time of Domesday, medieval society was organised in a rigid hierarchy, with the King at its head. During this time, the study area was part of the estate of Brassington, owned by a nobleman named Siward (Slack 1991). The manor was one of many granted by William I to Henry de Ferrers and was run on feudal lines (*ibid*).

3.1.13 Lead was in great demand for roofing and other building purposes in the Middle Ages and the numerous castles and religious houses constructed during the eleventh, twelfth and thirteenth centuries provided a steady outlet for Derbyshire lead (Ford and Rieuwerts 2000, 20). Accounts indicate that the mining was widespread and well established during this period and production reached a high level (*ibid*).

3.1.14 During the fourteenth century a succession of calamities reversed the progress that had been made since the Conquest. Their was a major climate change to wetter and colder weather, a ruinous cattle disease and finally, in 1358, the Black Death (Slack 1991). The effect of this on many villages can be seen in the manor court records, such as those for Brassington, which ceased altogether for several years, and which resumed with most of the family names of the years before the plague gone (*ibid*). Many villages suffered 'shrinkage' or were abandoned altogether; evidence of village shrinkage can be seen within the study area (Site **8**) where a series of earthworks in a field at the western edge of Carsington probably represents a former hollow way and house platforms.

3.1.15 The only other sites with known medieval origins within the study area are in Carsington village: St Margarets Church (Site **6**) and the village cross (Site **31**) are both thought to have fourteenth century origins. Although no evidence of

medieval mining is known from the study area, it is possible that some of the disused mines had their origin in the later medieval period.

3.1.16 The sixteenth century saw a rise in prosperity among the wealthier families in the region, based on the wool trade and lead mining. Some families in the village of Brassington and Carsington became gentlemen, and their houses became larger and more comfortable with each generation (Slack 1991). The old farming methods began to change in the later sixteenth century, when adjacent strips were progressively grouped into the fields, bounded by hedges or walls, which still exist to the east and south of Brassington. However, the creation of privately-owned fields meant that less and less land was available for communal grazing during winter (*ibid*).

3.1.17 ***Post-Medieval Period:*** lead mining was at the height of its prosperity in the seventeenth century, and many of the disused mines found within the study area are thought to date from this period (Site **03**). Mining was an adventure and offered independence and hope, and while prospecting was always a gamble, it had an overwhelming attraction to people who would otherwise have been wholly dependent on farm work (*ibid*). During this time, the heyday of lead mining in Derbyshire, many villagers in the region became prosperous enough to buy or rent pasture fields in their village to keep a few cattle or sheep (*ibid*).

3.1.18 Daniel Defoe left a graphic account of a miner and his family when he visited the study area in 1731 (Ford and Rieuwerts 2000). He wrote of his party meeting a miner's wife and five children who lived happily '*in a natural opening in the rock, wherein her husband had been born.*' The cave is thought likely to have been the Carsington Pasture Cave (Site **23**) or else Harborough Rocks Cave a short distance to the north. Defoe described how the wife '*earned, when she could, a few pence a day washing ore*' and he wrote of a miner returning to the surface from a mine on Carsington Pasture '*this subterranean creature was a most uncouth spectacle clothed all in leather...pale as a dead corpse...something of the colour of lead itself. He drew up a basket of tools the names of which we could not understand.*'

3.1.19 Many villages became poorer during the eighteenth century due to a decline in the industries which had been their main sources of income: wool and lead (*ibid*). The farmers, miners, and publicans of Brassington, who had profited from the advantages arising from the villages position on the Derby-Manchester road for centuries, suffered a further blow in 1738, when an alternative route to the north through Ashbourne was turnpiked, severely cutting Brassington's advantage (*ibid*). Evidence of agricultural industry from the study area comes from the remains of a windmill (Site **15**). Thought to have been built in 1780, the ruin is thought to be one of the few surviving tower mills in the country (Gifford 2003).

3.1.20 In 1825 an ambitious scheme was begun, to link the Peak Forest Canal, via the high limestone plateau, with the Cromford Canal to the south. The result, the Cromford and High Peak Railway, was opened in 1830-31 (Barnatt and Smith 2004, 127). It was a considerable engineering achievement, with stationary steam engines at the top of inclined planes and cuttings, and tunnels along its

torturous route. Originally wagons were pulled by horses, but steam locomotives were introduced in the 1830s (*ibid*). The railway was closed in the 1960s, and much of it is now a walking and cycle route known as the High Peak Trail, including the stretch which passes through the study area (Site **30**).

3.1.21 The Enclosure Acts of the eighteenth and nineteenth centuries transformed the landscape across the region; the open moorland vanished and was replaced by large rectangular fields divided by limestone walls and barns. Carsington Pasture remained largely unenclosed however, possibly due to the high concentration of mines on the Pasture, which would have made the centuries old laws of common mining rights problematic for any new landowners.

3.1.22 During the twentieth century there have been several speculative attempts to re-open old lead mines within the study area; some produced ore for limited periods but were not able to sustain a high level of production for long enough periods (Ford and Rieuwerts 2000, 61). Some open pitting took place for refractory sands, and barytes, which had been ignored until this period but in demand as a source of barium in the chemical industry, were still being mined on locations on Carsington Pasture until the 1950s (Slack 1991) (Site **34**). Today, flourspar, the mineral discarded by previous generations of miners as worthless, is a far more valuable commodity than lead and a few flourspar mills are operational in the immediate surroundings of the study area (Ford and Rieuwerts 2000, 61). Sketch maps of the mining remains on Carsington Pasture have been reproduced for this report (Figs 6 and 7).

3.1.23 The most recent major change to the landscape of the locality came in the 1980s with the building of Carsington Reservoir, to provide additional water supplies to three million people in Derbyshire, Nottinghamshire and Leicestershire. The reservoir, located 300m south of the study area, was opened by the Queen in 1992, twenty-one years after the first public enquiry into the scheme was ordered (Environmental Teaching Resources 1997).

3.2 MAP REGRESSION ANALYSIS

3.2.1 ***Carsington Parish Tithe Map, 1839:*** the tithe award shows that the unenclosed Carsington Pasture was owned by Philip Gell and the state of cultivation was listed as 'old turf pasture'. A road leading from Carsington towards Brassington was identified as Swires Road. Six stone posts delineated two adjacent rectangular areas to the north of Swires Road; the larger area within the posts to the north-west was listed as 'the widows allotment', owned by 'the widows of Carsington'; the smaller area to the south-east was under the ownership of 'the churchwardens of Carsington'. It is possible that the two posts previously identified as 'boundary stones of some sort' (Slack 1991, 275) (Sites **09** and **10**) represent surviving examples of the posts shown on the tithe map. The initials 'CW' 'W' and 'G' inscribed on the posts may refer to the landowners named on the tithe award. White and Co.'s Directory of Derbyshire records that '*two beast gates were left by an unknown donor for the benefit of the poor. Two poor widows, usually appointed from time to time, have had the benefit of them*' (1857, 416). White and Co do not record the exact location of the 'beast gates' but it tempting to speculate that this may be

a reference to the stone posts and plot of land owned by the widows of Carsington. No mines were recorded on the tithe map and the only other identified features on Carsington Pasture were two small meers identified as 'Gorsy Meer' and 'Rushy Meer'.

3.2.2 ***Ordnance Survey 1880, 1:2500*** (Fig 3): a large number of disused mines on Carsington Pasture were recorded as 'Old Lead Shafts' (Site **34**), mostly unnamed although Speedwell Mines was identified in the centre of the study area. A quarry was located in the south of the study area and sheepfolds were recorded adjacent to a small copse identified as 'Old Knoll'. A short distance to the south, along the Carsington/Hopton parish boundary, an unspecified feature was recorded as 'Ladies Chair'.

3.2.3 ***Ordnance Survey, 1900, 1:10560*** (Fig 4): many more unnamed, disused mines had been surveyed than on the previous map. A sandpit and path/track had appeared to the north-east of Speedwell Mine and 'Ladies Chair' had been renamed 'King's Chair'. The quarry was no longer identified and had presumably fallen out of use.

3.2.4 ***Ordnance Survey, 1926/1938, 1:10560*** (Fig 5): a quarry was recorded close to the site of the one identified on the 1880 map, with the earlier feature being identified as 'Old Quarry'. In the west of the study area, several mines were identified for the first time, including Water Head Mines, Bee Nest Mines, and Job Mine. Two features further east were recorded as 'Old Sand Pits'.

3.3 ARCHAEOLOGICAL INTERVENTIONS

3.3.1 Carsington Pasture Bronze Age round barrow (Site **01**) was subject to archaeological excavation as part of the Channel 4 *Time Team* television series in 2002 (Harding *et al* 2005). The Bronze Age round barrow had been subject to unauthorised excavation by a known local metal detectorist in 1983, for which there were no surviving records. The area of the illicit trench was re-excavated and extended to provide a complete section through the mound. Human bones were present in the backfill of the previous excavation, suggesting that a probable primary inhumation had been disturbed at the time. A secondary undisturbed Bronze Age cremation burial was found below an inverted bioconical urn (*ibid*).

3.3.2 Several attempts have been made to survey the surviving linear banks and low walls (Site **02**) of the putative Romano-British settlement within the study area (Trent and Peak 1994; Willies 1995; Bevan 2002) (Figs 8 and 9). These comprised basic surveys with sketch plans through field observations and examination of aerial photographs (Figs 8 and 9). Willies asserted that '*traces of a medieval system can be seen on the open top of the Pasture in snow or appropriate light, and it could be the banks are the boundary of these*' (1995, 22). All of the previous surveys, however, mention the significance of the 'double orthostat walls' found on the site, a style of wall with pairs of limestone slabs set on edge in two parallel lines, with the space between the orthostats filled with small boulders and rubble. Excavation and survey found Roman artefacts in context with boundaries built with this technique at

Roystone Grange, 5km to the north-west (Hodges 1991) and double orthostat walls have since proved to be a fairly reliable indicator of Romano-British rural settlement in the Peak District (Bevan 2002).

3.3.3 Many of the disused mines on Carsington Pasture have been surveyed in recent years by the Wirksworth Historic Mines Research Group. Slack (1986) identified 66 mines (Fig 7), the locations of which, exact or approximate, were found in surviving mining records.

3.3.4 A more recent study of lead mining sites in the Peak District has been undertaken by the Cultural Heritage Team of the Peak District National Parks Authority and summarised in *An Inventory of Regionally and Nationally Important Lead Mining Sites in the Peak District* (Barnatt 2004). Several sites were identified within the proposed development area (Fig 10) and included surface remains of rakes, dressing floors, belland yards, as well as underground vein workings and pipe/flat workings. All of the mining features identified within the proposed development area were classified as being 'relatively common features' (Barnatt 2004, 168).

3.4 RAPID VISUAL INSPECTION

3.4.1 ***Introduction:*** the rapid visual inspection aimed to determine both the survival of the above ground remains of sites recorded during the desk-based assessment and also to identify any hitherto unrecorded sites. All fields within the proposed development site were walked systematically. The majority of the area was open rough pasture, which appears to have been subject to recent disturbance from four-wheel drive vehicles, with one enclosed field laid to pasture to the west.

3.4.2 ***Results:*** the walkover survey identified a single new site: a possible former housing platform (Site **36**). In addition, several sites established by the desk-based assessment were recorded (Sites **02**, **03**, **15**, **35** and **37**).

3.4.3 ***Enhancement of the Desk-Based Assessment Established Sites:*** the Windmill (Site **15**) identified on the 1880 OS map as 'Windmill (Corn) (disused)', was observed as a stump (Plate 1). A previously blocked doorway had been recently unblocked, with a fragment of millstone evident as the original step into the building.

3.4.4 Site **02** (Fig 9) was observed as a series of shallow banks forming two distinct linear features; the first was aligned approximately north/south and measured 120m in length, 1.5m in width, with a height of 0.5m (Plate 2). The second was aligned approximately east/west and measured 130m in length by 1.8m in width with a height of 0.5m (Plate 3). A third bank was observed to the north, measuring *c* 400m in length, 1.4m in width and 0.4m in height. Frequent medium-to-large stones were observed jutting through the turf covering (Plate 4).

3.4.5 There was an abundance of lead mines and shafts concentrated to the south and centre of the study area, varying in shape and dimension, with some of the

larger shafts capped by concrete (Sites **03** and **34**) (Fig 6) (Plate 5). A few of the shaft 'heads' were surrounded by low, ruinous dry stone walls (Plate 6). These remains display the density and complexity of the mining industry in the area.

3.4.6 Near the centre of Carsington Pasture was a derelict building and associated pit head (Site **37**), identified on the first edition OS map as 'ruin' (Fig 3). The building was constructed of moderately large roughly-cut stone measuring 5m by 4m in plan, surviving to a height of 1.2m, with the walls measuring 0.5m in width (Plate 9). The chimney-stack survives to a height of *c* 4m and was prominent in the landscape. The remains were situated atop an earthen mound, thought likely to be the remains of a spoil heap from previous mining. The pit head (Plate 10) was positioned immediately to the north of the ruin, and was identified as Breck Hollow Mine on the sketch map of mines on Carsington Pasture reproduced by Ford and Rieuwerts (1983) (Fig 6).

3.4.7 A series of water-filled hollows or ponds were observed (Site **38**). One of these features was identified on the 1880 OS map (Fig 3) and was likely to be the feature identified on the 1842 Tithe Map as Gorsy Meer. The other ponds were likely to be former sand pits, one of which was shown on the 1900 OS map (Fig 4). A large mining spoil mound was observed to the west of the largest pond.

3.4.8 In the north-east corner of Carsington Pasture an enclosed field contained an east/west aligned group of four trees; these represented the remains of a post-medieval field boundary observed on the 1880 and 1900 OS maps (Site **35**) (Figs 3 and 4) (Plate 7). A concentration of large stones at the base of the easternmost tree may have been associated with a rectangular protrusion south of the boundary seen on the first edition map, and possibly represented the remains of an enclosure associated with the windmill (Site **15**).

3.4.9 ***Additional Sites Established by the Walkover Survey:*** immediately east of Site **35** was a platform (Site **36**), measuring 10m by 6m and bounded to the north and west by field boundaries (Plate 8). It comprised a flat raised area with a sharp slope to the south and possibly represented the remains of a housing platform of unknown date.

4. GAZETTEER OF SITES

Site number **01**
Site name Carsington Pasture, round barrow
NGR SK 244 542
Site type Bowl barrow
Period Bronze Age
SMR No 3204
Sources Trent and Peak 1994; Harding *et al* 2005
Statutory Designation Scheduled Monument 35606
Description The remains of the bowl barrow include a low circular earthen mound approximately 20m in diameter and 1m in height. The mound had been trenched in an unauthorised excavation in the 1980s, for which there are no surviving records and the illicit trench was re-excavated during an investigation by the Channel 4 television programme *Time Team* in 2002. A secondary undisturbed Bronze Age cremation burial, dated by radiocarbon to *c* 1700-1500BC and containing the remains of an adult male, was found below an inverted Bioconical Urn near the crest of the mound in the south-west quadrant. Broken bone tweezers were found in the redeposited pyre debris around the urn. The barrow subsequently became incorporated into a field system, which can be traced across Carsington Pasture and which is thought to be of post-Roman date. The mound later became subsumed within the upcast of adjacent post-medieval lead workings. The Scheduled area includes a 2m boundary around the barrow, considered to be essential for the monument's support and preservation.
Assessment The site lies outside the proposed development area and is unlikely to be directly affected.

Site number **02**
Site name Carsington Pasture, field system
NGR Centred on SK 246 540
Site type Field system
Period Romano-British?
SMR No 3205
Sources Willies 1995; Makepeace 1998; Bevan 2000
Description Survey of the area in July 1999 identified a range of features, including lynchets, earthen banks, stone banks, ditches, and both single and double orthostatic walls, and well as rectilinear and irregular enclosures. The features are thought most likely to represent a Romano-British field system, with dating evidence comprising the finds of Romano-British potsherds in the general area and the presence of double and single orthostatic walling. At one location wall footings typical of post-medieval walls are visible however, and it is possible that the features date to the medieval or post-medieval period.
Assessment The site lies within the proposed development area and is likely to be affected.

Site number **03**
Site name Carsington Pasture, lead mining
NGR Centred on SK 24 54
Site type Lead mining remains
Period Post-medieval (possibly earlier)
SMR No 3206
Sources Ford and Rieuwerts 2000; Barnatt 2004
Description Carsington Pasture escaped the Parliamentary Enclosure Acts and contains a large number of disused lead mines of the early seventeenth century.
Assessment The site lies within the proposed development area and is likely to be affected.

Site number **04**
Site name Carsington Pasture, flint
NGR SK 241 539
Site type Findspot
Period Prehistoric
SMR No 3207
Sources SMR Index: NDAT 3444
Description Core trimming flakes and waste fragments found by R Carr of Wingerworth in or before 1978.
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **05**
Site name Carsington Pasture, Roman pottery
NGR SK 241 539
Site type Findspot
Period Roman
SMR No 3208
Sources SMR Index: NDAT 3444
Description Rounded rim of a squat vessel of Derbyshire Ware found by R Carr in or before 1978.
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **06**
Site name St Margaret's Church, Carsington
NGR SK 2523 5343
Site type Building
Period Medieval to post-medieval
SMR No 3211
Statutory Designation Listed Building Grade II* (number 32553067)
Sources Cox 1877
Description The church, which is dedicated to St Margaret, is of small dimensions and simple construction, and appears to belong chiefly to the first half of the fourteenth century.
Assessment The site lies outside the proposed development area and is unlikely to be directly affected.

Site number **07**
Site name Alleged barrow on Carsington Pasture
NGR SK 2430 5402
Site type Barrow?
Period Undated
SMR No 3242
Sources Marsden 1977
Description Barrow tentatively identified by Marsden but not found on any of the subsequent studies of the area. It is possible that the mound is related to post-medieval mining activities.
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **08**
Site name Carsington, village shrinkage
NGR SK 25070 53428
Site type Earthworks
Period Medieval to post-medieval
SMR No 3245
Sources Field observation made by David Barrett

Description	Earthworks visible towards the west end of the village, on the corner of the B5035. These may relate to shrinkage of the village since medieval times, possibly representing house platforms or crofts.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**09**
Site name	Boundary stone on Carsington Pasture
NGR	SK 24080 54299
Site type	Boundary stone
Period	Post-medieval
SMR No	3246
Sources	Slack 1992; D2360/3/182b
Description	Boundary stone on the Carsington side of the Brassington/Carsington parish boundary wall near Picking Pitts Gate. Its north face has a well carved letter 'G', the east and south faces have 'W'. This may be a reference to the landowners 'Gell' and the 'Widows of Carsington' named in the Tithe Award.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**10**
Site name	Boundary stone on Carsington Pasture
NGR	SK 244 539
Site type	Boundary stone
Period	Post-medieval
SMR No	3247
Sources	Slack 1992
Description	A collapsed boundary stone lies on the south side of Carsington Pasture. It is similar to a surviving stone on the Brassington/Carsington parish boundary to the north-west (SMR 3246). The stone is inscribed with the letters 'CW' on its upward facing side, while the left and right faces have CW and W respectively. It is possible that the inscriptions refer to the 'Widows of Carsington' and/or the 'Churchwardens of Carsington' both of who, according to the Tithe Award of 1839, owned a parcel of land in this area.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**11**
Site name	Carsington, hammerstone
NGR	SK 2526 5336
Site type	Findspot
Period	Undated
SMR No	3215
Sources	SMR Index: NDAT 2269
Description	A large rounded pebble with a hammered end was recovered from the car park wall of the Miners Arms.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**12**
Site name	Griff Grange, Macehead
NGR	SK 255 547
Site type	Findspot
Period	Mesolithic
SMR No	8306; 8354
Sources	Ford and Hughes 1963; Roe and Radley 1967
Description	A quartzite pebble macehead with an hourglass perforation was found *c* 1963 when topsoil was being removed prior to a quarry extension. The macehead was found only half a mile from the nearest silica sand pit and thus may have been made, used and lost in the Brassington area.

Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **13**
Site name Griff Grange, hammerstones
NGR SK 255 547
Site type Findspot
Period Undated
SMR No 8307; 8354
Sources SMR Index: 1362
Description Three hammerstones are said to have been found roughly in the same area as a quartzite macehead (SMR 8306).
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **14**
Site name Hopton Incline, flint arrowheads
NGR SK 2518 5453
Site type Findspot
Period Early Neolithic to Early Bronze Age
SMR No 8316
Sources SMR Index: NDAT 2275
Description Two leaf-shaped arrowheads and a barbed and tanged arrowhead were found by K Maddocks in ploughsoil between the Hopton Incline Windmill and the field wall to the north.
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **15**
Site name Hopton Incline, Windmill
NGR SK 252 545
Site type Ruined building
Period Post-medieval
SMR No 8318
Statutory Designation Listed Building Grade II number 32554100
Sources Gifford 2003
Description The stump of this windmill survives, and is thought to be one of the few small stumpy tower mills remaining in the country. The actual date it was built is not known although it may have been during the 1780s based on a very worn inscription in the jamb of one of the doors to the tower.
Assessment The site lies outside the proposed development area and is unlikely to be directly affected.

Site number **16**
Site name Hopton Incline, Bronze Age Flint and Stone
NGR SK 257 545
Site type Findspot
Period Bronze Age
SMR No 8325
Sources SMR Index: 2266
Description Amount of flint collected by R Boam, comprising a barbed and tanged arrowhead, a pestle stone and a gritstone wedge.
Assessment The site lies outside the proposed development area and is unlikely to be affected.

Site number **17**
Site name Hopton Incline, Romano-British Pottery
NGR SK 257 543
Site type Findspot

Period	Romano-British
SMR No	8326
Sources	SMR Index: 2266
Description	A single rim sherd of Romano-British pottery collected by R Boam
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**18**
Site name	Eniscloud Barn, Quartzite Pebble
NGR	SK 255 542
Site type	Findspot
Period	Undated
SMR No	8329
Sources	SMR Index: 2268
Description	An imported black quartzite pebble was found in or before 1977. It showed no evidence of working.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**19**
Site name	Hopton Incline, Flint
NGR	SK 254 544
Site type	Findspot
Period	Neolithic - Bronze Age
SMR No	8334; 8335; 8336
Sources	SMR Index: NDAT 2280
Description	Quantities of flint recovered from this field, including a leaf-shaped arrowhead and a barbed and tanged arrowhead.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**20**
Site name	Hopton Incline, Romano-British Pottery
NGR	SK 254 543
Site type	Findspot
Period	Romano-British
SMR No	8337
Sources	SMR Index: NDAT 2281
Description	Six sherds of Romano-British pottery were recovered from this field.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**21**
Site name	Hopton Incline, Neolithic Axe
NGR	SK 2514 5460
Site type	Findspot
Period	Neolithic
SMR No	8338
Sources	SMR Index: NDAT 3104
Description	Large flake of Neolithic polished stone axe constituting about 40% of the implement including the cutting edge. Possibly Great Langdale Group VI. Found by M Wildgoose in 1978.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**22**
Site name	Hopton Incline, Barbed and Tanged Arrowhead
NGR	SK 2523 5460

Site type	Findspot
Period	Bronze Age
SMR No	8339
Sources	SMR Index: NDAT 2282
Description	A barbed and tanged arrowhead was found in this field.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**23**
Site name	Carsington Pasture Cave: possible Neolithic / Bronze Age burials
NGR	SK 2415 5368
Site type	Cave
Period	Early Neolithic to Late Bronze Age
SMR No	3489
Sources	Chamberlain 1999
Description	The cave is on a ridge line with a distant viewshed in all directions. Archaeological excavations within the cave have found human bones representing at least 20 individuals, with both sexes and a range of ages included. A number of animal bones were also recovered, including a red deer antler that had been grooved for splintering.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**24**
Site name	Golconda Mines, Hopton
NGR	SK 24671 55402
Site type	Lead mine
Period	Post-medieval
SMR No	8374
Sources	Ford and King 1966
Description	Golconda lead and baryte mine may have seventeenth century origins or earlier: a miner is said to have recollected finding a date of 1678 smoked on a wall and sections cut out by pick-axes have been found, suggesting an early date.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**25**
Site name	Hopton Incline; Cromford and High Peak Railway
NGR	SK 25078 54659
Site type	Railway Inclined Plane
Period	Post-medieval
SMR No	8346
Sources	Marshall 1996
Description	Hopton Incline on the Cromford and High Peak Railway was formerly the steepest incline (1 in 14) worked by adhesion on a British railway.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**26**
Site name	Boundary wall, between Intake Crossing and Hopton Tunnel
NGR	SK 26879 54830 to SK 22945 55496
Site type	Boundary wall
Period	Post-medieval
SMR No	28339; 8364
Sources	Marshall 1996; Rimmer 1956
Description	Drystone wall of irregular limestone blocks crossing the northern part of the study area close to the Cromford and High Peak Railway.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**27**
Site name	Railway Workers Cottages, Plate Layers Hut, and an Incline House and Pond: Hopton Top; Cromford and High Peak Railway
NGR	SK 25290 54655; SK 25278 54646; SK 25335 54650
Site type	Buildings and features associated with the Cromford and High Peak Railway
Period	Post-medieval
SMR No	8369, 8370, 8371
Sources	Rimmer 1956; Nicholson and Barnes 1975
Description	A number of structures relating to the Cromford and High Peak Railway are clustered in this area.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**28**
Site name	Level Crossing near Harborough Rocks; Cromford and High Peak Railway
NGR	SK 25219 54642
Site type	Level Crossing
Period	Post-medieval
SMR No	8372; 8373
Sources	Ordnance Survey 2004
Description	The site of a former level crossing, now a public bridleway and footpath with a break in the boundary walls. To the west of the feature is a small section of rail track, possibly *in situ*.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**29**
Site name	Embankment near Harborough Rocks, Cromford and High Peak Railway
NGR	SK 24394 54996
Site type	Railway embankment
Period	Post-medieval
SMR No	30640
Sources	Ordnance Survey 2004
Description	Embankment, approximately 2.4m-3m high. Boundary walls/retaining walls hold the embankment up at a low level. Approximately 1m, but retain the whole earthen wall in parts.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**30**
Site name	The Cromford and High Peak Railway
NGR	SK 248 547 (general point through study area)
Site type	Railway
Period	Post-medieval
SMR No	99001
Sources	Marshall 1996
Description	The Cromford and High Peak Railway was incorporated by act of Parliament on May 2 1825 with powers to construct a railway or tram road from the Cromford Canal to the Peak Forest Canal at Whaley Bridge. Construction was underway by 1826 and the railway opened in 1830. The line crossed large expanses of rough upland country and involved considerable engineering works. Abandonment of some sections of the CHPR had already taken place by the end of the nineteenth century. However, the main period of abandonment was in the late 1960s, in particular in 1967. Following closure, some 17 miles of the line was developed into what is now the High Peak Trail for walkers and cyclists.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**31**

Site name	Carsington and Hopton Conservation Area
NGR	SK 249 535 (point closest to the proposed development area)
Site type	Conservation Area
Period	Medieval to Post-medieval
Statutory Designation	Conservation Area (designated 1971)
Sources	SMR (Derbyshire Dales District Council administered)
Description	A large part of the village of Carsington was designated a Conservation Area in 1971. Conservation Areas are of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Within the study area, there are 14 Listed Buildings, including the medieval St Margarets Church and the remains of the medieval village cross.
Assessment	The Conservation Area lies outside the proposed development area and is unlikely to be directly affected.

Site number	**32**
Site name	The Portway, Carsington
NGR	SK 244 250
Site type	Road
Period	Prehistoric/Roman
SMR No	-
Sources	Willies 1995
Description	The putative line of *Portway*, the major artery through the Derbyshire orefield in the Roman period. The road potentially has pre-Roman origins.
Assessment	The putative route crosses the south-west fringe of the development area and may be affected.

Site number	**33**
Site name	The Street, Carsington
NGR	SK 241 545
Site type	Putative road
Period	Roman
SMR No	-
Sources	Willies 1995
Description	The putative line of *The Street* (Aquae Arnemetiae), which runs south-east from Buxton and possibly joined the *Portway* at the site of Bee Nest Mine in the west of the study area.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**34**
Site name	The Mines of Brassington and Carsington
NGR	SK 245 542 (approximate centre of area)
Site type	Disused mines on and around Carsington Pasture
Period	Post-medieval (some mines possibly have earlier origins)
SMR No	-
Sources	Slack 1986 (location plan on Fig 7)
Description	A list of 66 mines whose location, precise or approximate, is given in surviving mining records. They include many on Carsington Pasture which have been surveyed in recent years by the Wirksworth Mines Research Group. There are many more mines in the area than the 66 listed that have not been identified. They include many with deep, well-constructed and preserved shafts and some with surface remains.
Assessment	The majority of the site lies within the proposed development area and is likely to be affected.

Site number	**35**
Site name	Carsington Pasture, field boundary

NGR	SK 25193 54532
Site type	Field boundary
Period	Post-medieval
SMR No	-
Sources	Ordnance survey 1900; Ordnance survey 1880; rapid visual inspection
Description	Field boundary aligned east/west returning north to meet existing field boundary, enclosing a small field. The east/west boundary has now all but disappeared with four large trees to mark its path. At the base of the easternmost tree lies a pile of stones, suggesting that a walled enclosure may have been present detailed as a rectangular enclosure south of this boundary on the 1880 Ordnance survey map. The northern extent of the field boundary can be seen as a stone built wall extending south from the existing field boundary for 7m, surviving 0.7m in height and 0.45m wide.
Assessment	The site lies outside of the proposed development area and is unlikely to be affected.

Site number	**36**
Site name	Carsington Pasture, possible housing platform
NGR	SK 25230 54606
Site type	Platform
Period	Post-medieval ?
SMR No	-
Sources	Rapid visual inspection
Description	Flat raised area of ground, (10m by 6m) bounded to the north and west by field boundaries, with a sharp slope to the south. This may have formed a platform for a dwelling or temporary structure. To the east of the platform is a ramp for access into the field.
Assessment	The site lies outside the proposed development area and is unlikely to be affected.

Site number	**37**
Site name	Carsington Pasture, ruin and pit head
NGR	SK 24598 54243
Site type	Ruin and pit head
Period	Post-medieval
SMR No	-
Sources	Ordnance Survey 1880; Ordnance Survey 1900; Ford and Rieuwerts 2000; rapid visual inspection
Description	Ruined building associated with the pit head immediately to the north. The building, constructed of course stone, is 5m by 4m with the wall surviving to a height of 1.2m and being 0.5m wide. The chimney-stack stands to a height of *c*4m and is prominent in the landscape. The pit head shown as Breck Hollow Mine by Ford and Rieuwerts (2000) is approximately 6m by 5m, with a low ruined semi-circular stone wall on its top. From this point five veins for lead mining extend to the east (Breck Veins) with a single one running to the west to Speedwell mine.
Assessment	The site lies within the proposed development area and is likely to be affected.

Site number	**38**
Site name	Carsington Pasture, meer and former sand pits
NGR	SK 246 545
Site type	Sand Pits
Period	Post-medieval
SMR No	-
Sources	Tithe Map 1842; Ordnance Survey 1880; Ordnance Survey 1900; rapid visual inspection
Description	A group of water-filled hollows identified by the rapid visual inspection. One of these is very likely to be 'Gorsy Meer' identified on the 1842 map and shown as a

shaded circular feature on the first edition OS map. The other features are likely to represent sand pits, one of which was identified on the second edition OS map.

Assessment The site lies within the proposed development area and is likely to be affected.

5. SIGNIFICANCE OF THE REMAINS

5.1 INTRODUCTION

5.1.1 In total, 38 sites of archaeological interest were identified within the study area (Fig 2), of which seven lie within the boundaries of the proposed development site itself (Sites **02**, **03**, **32**, **33**, **34**, **37** and **38**). Of these 38 sites, four have statutory designation: Carsington Pasture round barrow (Site **01**) is a Scheduled Monument (SM 35606); Hopton Incline Windmill (Site **15**) is a Grade II Listed Building; much of the village of Carsington falls within the Carsington and Hopton Conservation Area (Site **31**); the conservation area contains thirteen individually designated Grade II Listed Buildings situated within the study area, as well as the Grade II* Listed St Margarets Church (Site **06**). Of the remainder of the sites, 27 were included in the Derbyshire SMR (Sites **02**, **03**, **04**, **05**, **07**, **08**, **09**, **10**, **11**, **12**, **13**, **14**, **16**, **17**, **18**, **19**, **20**, **21**, **22**, **23**, **24**, **25**, **26**, **27**, **28**, **29** and **30**), three were identified from documentary and cartographic sources (Sites **32**, **33**, **34**, **35**, **37 and 38**), and one additional site was found during the rapid visual inspection (Site **36**). The detailed results of the assessment are shown in the Site Gazetteer (*Section 4*).

5.1.2 The types of sites identified are summarised by period in the table below:

Period	**No of sites**	**Sites**
Mesolithic	1	Stone tool (Site **12**)
Early Neolithic – Late Bronze Age	9	Round barrow (Site **01**), putative round barrow (Site **07**), cave inhumations (Site **23**), flint tools (Sites **04**, **14**, **16**, **19**, **21** and **22**)
Romano-British	6	Field system (Site **02**), putative roads (Sites **32** and **33**), pottery (Sites **05**, **17** and **20**)
Medieval	3	Earthworks (Site **08**), Conservation Area with Listed Buildings (Sites **06** and **31**)
Post-medieval	17	Disused lead mines (Sites **03**, **24** and **34**), stone posts (Sites **09** and **10**), disused corn mill (Site **15**), railway features (Sites **25-30**), Conservation Area with Listed Buildings (Sites **06** and **31**), field boundary (Site **35**), ruin and pit head (Site **37**), sand pits (Site **38**).
Unknown	4	Hammerstones (Sites **11** and **13**), quartzite pebble (Site **18**), platform (Site **36**)

Table 1: Number of sites by period

5.2 CRITERIA

5.2.1 ***Statutory designated sites:*** Scheduled Monuments are buildings, structures or other works above or below ground that are considered to be of national importance because of their historic, architectural, traditional, artistic or archaeological interest. Listed Buildings are those considered to be of special architectural or historic interest, and are classified in grades to show their relative importance: Grade I buildings are of exceptional interest; Grade II* buildings are particularly important buildings of more than special interest; Grade II buildings are of special interest. The lists are compiled on the merits of the building by reference to national criteria recommended by English Heritage. Conservation Areas are considered to be of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance. Although a local designation, conservation areas may nevertheless be of national importance. The statutory designated sites include the Scheduled Monument (Site **01**), Listed Buildings (Sites **06**, **15** and **31**) and Conservation Area (Site **31**).

5.2.2 Carsington Pasture has recently been put forward to the Heritage Protection team at English Heritage for Scheduling (Gill Stroud, Derbyshire SMR Officer, pers comm). It is unclear at present as to the size of the proposal area, although it is assumed that if Scheduled Monument status is granted, then the whole, or majority of the proposed development site would become a statutory designated site of national importance.

5.2.3 ***Undesignated sites:*** there are a number of different methodologies used to assess the archaeological significance of undesignated sites; that to be used here is the 'Secretary of State's criteria for scheduling ancient monuments' which is included as Annex 4 of PPG 16 (DoE 1990). The undesignated sites previously listed (*Section 4*, above) were each considered using the criteria, with the results below.

5.2.4 ***Period:*** Romano-British field systems such as the probable example within the study area (Site **02**) are regionally significant sites for their period. The Cromford and High Peak Railway (Site **30**) is regionally important as a remarkable engineering feat for its period. Carsington Pasture cave (Site **23**) is significant because of the recorded evidence of inhumations from the Neolithic/Bronze Age period.

5.2.5 ***Rarity:*** none of the undesignated sites are particularly rare, although any hitherto unidentified evidence of early mining surviving within the disused lead mines (Site **03**) would be nationally important for its rarity.

5.2.6 ***Documentation:*** surviving mining records giving the names, details and locations of many of the mines within the study area help to enhance their significance. The value of Cromford and High Peak Railway (Site **30**) is similarly enhanced by the considerable amount of surviving documentary records.

5.2.7 ***Group Value:*** the probable Romano-British field system (Site **02**) may be associated with putative roads (Sites **32** and **33**) and the Romano-British settlement site excavated at Carsington Reservoir, 300m south of the study area. Although the reservoir has covered any surviving evidence of the

settlement, the field system would possess group value through association. The surviving elements of the Cromford and High Peak Railway (Sites **25-30**) represent a significant group of associated sites with railway heritage value.

5.2.8 ***Survival/Condition:*** much of the study area escaped the post-medieval Enclosure acts, and little or no cultivation has taken place on Carsington Pasture in recent centuries. This has been an instrumental factor in the survival of the probable Romano-British field system (Site **02**), and enhances the survival prospects of any hitherto unknown buried sites. The density of post-medieval lead mining in the area will have had a detrimental effect on any remains from earlier periods, although a lack of recent mining activity or cultivation has improved the potential for the survival of post-medieval or earlier lead mines and associated features.

5.2.9 ***Fragility/Vulnerability:*** none of the sites are particularly fragile or vulnerable. Those that survive as earthworks (Sites **02** and **08**) may be more fragile or vulnerable and therefore more significant.

5.2.10 ***Diversity:*** the probable Romano-British field system is likely to be part of a more complex and diverse multi-period landscape.

5.2.11 ***Potential:*** documentary evidence suggests lead mining has taken place in the vicinity of the study area since at least the early-medieval period, and potential exists for evidence of early workings surviving amongst the concentration of post-medieval mines and associated features on Carsington Pasture (Site **03**). There is also the potential for surviving settlement evidence associated with the probable Romano-British field system (Site **02**) and findspots of Romano-British pottery (Sites **05**, **17** and **20**). The considerable number of prehistoric flint tools found in the study area (Sites **04**, **12**, **14**, **16**, **19**, **21**, **22**) suggests the potential for the existence of a settlement or temporary camp, the remains of which may survive as below-ground archaeological resource.

5.3 SIGNIFICANCE

5.3.1 The statutory designated sites (Sites **01**, **06**, **15** and **31**) are considered nationally or regionally significant due to their historic, architectural, traditional, artistic or archaeological interest. The significance of the undesignated sites has been considered using the criteria identified in paragraph 5.2.2 and is summarised in the table below:

Sites	**Significance**
Round barrow Scheduled Monument (Site **01**)	National
Listed Buildings and Conservation Area: St Margarets Church (Site **06**); Hopton Incline windmill (Site **15**); Carsington and Hopton Conservation Area and Listed Buildings (Site **31**)	Regional
Disused lead mines and associated remains (Sites **03**, **24** and **34**)	Regional

Probable Romano-British field system (Site **02**)	Regional
Putative Roman roads (Sites **32**, **33**)	Regional
Carsington Pasture Cave (Site **23**)	Regional
Cromford and High Peak Railway and associated sites (Sites **25-30**)	Regional
Prehistoric and Romano-British findspots (Sites **4**, **5**, **12**, **14**, **16**, **17**, **19**, **20**, **21** and **22**)	Local
Earthworks of shrunken village (Site **08**)	Local/regional
Inscribed stone posts (Sites **9** and **10**)	Local

Table 2: Gazetteer Sites of local, regional or national significance

6. IMPACT AND RECOMMENDATIONS

6.1 IMPACT

6.1.1 The precise construction details of the proposed development showing groundworks and depth of impact are yet to be made available. However, a draft site layout has been provided (0954/SP/1144/03) suggesting that only a relatively small part of the site within the application boundary will be directly affected.

6.1.2 The greatest impact to the known cultural heritage resource is likely to be suffered by the probable Romano-British field system (Site **02**) and the disused lead mines (Site **03**). Significant areas of these sites are likely to suffer severe direct impact or total destruction. The desk-based assessment has also demonstrated the potential for unidentified archaeological remains, particularly from the prehistoric or Romano-British periods.

6.1.3 The statutory designated sites (Sites **01**, **06**, **15**, and **31**) are unlikely to be directly affected as they are all situated outside the proposed development boundary. There are likely to be some indirect impacts however, such as visual, or impact on setting, that will need to be considered. The considerable height of the proposed turbines means that any statutory designated sites in the surrounding area may also suffer similar indirect impacts.

6.2 RECOMMENDATIONS

6.2.1 Current legislation draws a distinction between archaeological remains of national importance and those remains considered as being of lesser significance. The latter may undergo preservation by record, where local or regional significance can be demonstrated; by contrast, designated sites such as Scheduled Monuments, Listed Buildings and Conservation Areas are more typically preserved *in situ* and may only be disturbed subsequent to the granting of consent by the Department for Culture, Media and Sport.

6.2.2 No sites have been identified within the boundary of the proposed development area that may be considered as being of national importance and therefore, merit preservation *in situ*. There are, however, remains of potentially regional or local significance, which would require preservation by record should they be affected directly by any future development of the site. The extent and scope of any such mitigation response would be dependent upon the groundworks required for development, and would be finalised once design proposals are known. It is, however, possible at this stage to make some provisional recommendations.

6.2.3 The whole of the proposed development area should be subject to detailed topographic survey, this could be undertaken using a portable logger with Global Positioning System (GPS) or else should be carried out using an Electronic Distance Measurer (EDM). The survey should include sufficient

recording to provide metrically accurate contours to make sense of the patterns of land-use recorded (Sites **02** and **03**). The upstanding mining remains identified within the proposed development site during the walkover survey and by Barnett (2004) (Fig 10) should also be subject to buildings recording. Elsewhere, it would probably be adequate merely to outline the other areas of mining and associated waste-heaps as areas of disturbance to the earlier pattern of land-use; however, if it should prove possible to identify early workings, then it would be appropriate to consider more detailed recording of these also.

6.2.4 Following on from the topographic survey it is recommended that a programme of archaeological evaluation trenching be undertaken, covering 5% of the site. Some of these trenches should be targeted upon the double orthostat walls and other linear features, with a view to retrieving firm dating evidence. The putative course of the ancient road (Site **32**) and any hitherto unrecorded anomalies or features identified during the topographic survey should also be targeted. It should be noted that in the event of significant remains being encountered during the course of the proposed investigations, archaeological mitigation may be required, the nature of which would be dependent on the evaluation results.

6.2.5 It is recommended that English Heritage be contacted regarding any indirect impacts that the proposed development may have on Carsington Pasture round barrow Scheduled Monument (Site **01**), Hopton Incline Windmill Grade II Listed Building (Site **15**) and St Margarets Church (Site **06**) as well as for advice regarding the extent of the required constraint corridors. It is also recommended that the Derbyshire Dales District Council Conservation Officer be contacted for advice regarding the Carsington and Hopton Conservation Area (Site **31**).

6.2.6 It should also be noted that Carsington Pasture has been put forward to the Heritage Protection team at English Heritage for Scheduling (Gill Stroud, Derbyshire SMR Officer, pers comm). It is therefore advised that the Derbyshire SMR Officer be consulted, to check for any change in status to the proposed development site, before the submission of any Planning Application.

Site No	Type	Period	Impact	Recommendations
02	Field system	Romano-British?	Likely to be directly affected	Detailed topographic survey followed by archaeological evaluation
03	Disused lead mines	Post-medieval?	Likely to be directly affected	Detailed topographic survey
32	Putative course of ancient road	Prehistoric / Roman	Likely to be directly affected	Archaeological evaluation
01	Scheduled	Prehistoric	Likely to be	Consult English Heritage

	round barrow		indirectly affected	
15	Windmill (Grade II Listed)	Post-medieval	Likely to be indirectly affected	Consult English Heritage
31	Conservation Area	Medieval/post-medieval	Likely to be indirectly affected	Consult Derbyshire Dales District Conservation Officer

Table 3: Summary of recommendations

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Figure 3: Extract from Ordnance Survey map, 1880, 1: 2500

Figure 4: Extract from Ordnance Survey map, 1900, 1: 10560

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Figure 6: Sketch map of veins and mines on Carsington Pasture (extract from Ford and Rieuwerts 2000)

Figure 7: Sketch map of the mines of Brassington and Carsington (extract from Slack 1986)

Figure 8: Sketch plan of enclosure banks and roads across Carsington Pasture in the Romano-British period (extract from Willies 1995)

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APPENDIX 1: PROJECT DESIGN

1. INTRODUCTION

1.1 *This project design has been compiled for West Coast Energy Ltd (hereafter the client). It presents proposals for the desk-based assessment and visual inspection of the site of a proposed wind farm at Carsington, near Matlock, Derbyshire to be presented within an Environmental Statement. Section 2 of this document states the objectives of the project, Section 3 deals with OA North's methodology. Section 4 addresses other pertinent issues including an outline timetable, and project costs are presented in Section 5.*

1.2 OA North has extensive experience of desk-based assessments, as well as the evaluation and excavation of sites of all periods in this area, having undertaken a great number of small and large-scale projects during the past 20 years. These have taken place within the planning process, to fulfil the requirements of Clients and planning authorities, to very rigorous timetables. Comparable projects have been undertaken throughout Lancashire, Cumbria and South Yorkshire on behalf of National Wind Power and the Energy Workshop.

1.3 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an **Institute of Field Archaeologists (IFA) registered organisation, registration number 17**, and all its members of staff operate subject to the IFA Code of Conduct.

2 OBJECTIVES

2.1 The objectives of the desk-based assessment and walkover survey are to determine the importance, extent, function or state of preservation of archaeological sites potentially affected by the proposed development, and to provide an assessment on the impact of the scheme on the identified resource. The required stages to reach these ends are as follows:

2.2 *Desk-based Assessment:* a rapid desk-based assessment will be undertaken to place any findings that are made in to the context of known archaeological sites and/or artefact discovery sites in the immediate vicinity;

2.3 *Rapid Visual Inspection:* the undertaking of a rapid and systematic visual inspection;

2.4 *Report and Archive:* to produce a report and archive in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991).

3 METHOD STATEMENT

3.1 DESK-BASED ASSESSMENT

3.1.1 The desk-based assessment will cover an area of approximately 1km around the proposed development site. It will offer an outline account of the historical background of the County, with the emphasis of the assessment targeted on the 1km study area. The significance of the site will be presented utilising Planning Policy Guidance 16 (PPG16) criteria. The work will comprise a rapid assessment of the existing resource and will include an historic map regression exercise. The following sources will be consulted:

(i) ***County Record Office (CRO) Matlock:*** appropriate sections of County histories, early maps, and such primary documentation (tithe and estate plans etc.) as may be reasonably available will be consulted. Particular emphasis will be upon the early cartographic evidence, which has the potential to inform the post-medieval occupation and land-use of the area.

(ii) ***Sites and Monuments Record office (SMR) Matlock:*** any photographic material lodged with the SMR will be studied. This should include aerial photography. Published documentary sources referenced will also be examined and assessed. Grid references and descriptions of known archaeological sites will be obtained.

(iii) ***Matlock local studies library:*** secondary sources and maps will be consulted.

3.2 RAPID VISUAL INSPECTION

3.2.1 Following the desk-based assessment a level I walkover survey (*Appendix* 1) will be undertaken to relate the existing landscape to research findings. This will encompass one-hundred metre corridor along either side of the pipeline, walked in a systematic fashion. Archaeological features identified within the landscape will be recorded using the relevant OA North pro forma, and the features accurately positioned with the use of either a GPS, which can achieve accuracies of +-0.1m with respect to the OS national grid, or by manual survey techniques which will tie in new features to features already shown on the relevant OS map.

3.3 REPORT AND ARCHIVE

3.3.1 ***Report:*** the report will present the following information:

(i) ***Introduction:*** a brief background to the project;

(ii) ***Methodolgy:*** an outline method statement;

(iii) ***Results:*** an historical background will allow the findings of the assessment to be placed in a local, regional and if appropriate, national context;

The report will identify areas of defined archaeology;

The archaeological sites identified will be included in a gazetteer of sites, which will include such details as grid reference, description and source of information;

(iv) ***Statement of Significance:*** an assessment and statement of the actual and potential archaeological significance of the identified archaeology within the broader context of regional and national archaeological priorities will be made, utilising PPG 16 criteria;

(v) ***Impact:*** the impact of the development on the identified archaeological resource will be discussed;

(vi) ***Bibliography:*** a list of sources consulted will be included in the report;

(vii) ***Illustrations:*** illustrative material will include a location map, plan of gazetteer sites and copies of historic plans and photographs.

3.3.2 One bound and one unbound copy of a written synthetic report will be submitted to the Client, and a further copy made available on CD-ROM. It is normal practise to deposit a copy of the report with the County Archaeology Service. The report will not be deposited without the prior permission of the client.

3.3.3 ***Archive:*** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. This archive will be provided in the English Heritage Centre for Archaeology format

and a synthesis will be submitted to the SMR (the index to the archive and a copy of the report).

3.3.4 ***Confidentiality:*** all internal reports to the Client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4 OTHER MATTERS

4.1.1 ***Access:*** OA North will consult with the Client regarding access to the site.

4.1.2 ***Health and Safety***: OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.

4.1.3 ***Work Timetable****:* the desk-based element is expected to take approximately six days to complete, and the visual inspection one day. The report will be completed within approximately eight weeks following completion of the desk-based assessment, although a shorter deadline can be negotiated.

4.1.4 ***Staffing****:* the project will be under the direct management of Alison Plummer BSc (Hons) (OA North Senior Project Manager) to whom all correspondence should be addressed. Daniel Elsworth MA (OA North Project Supervisor) will undertake the desk-based assessment. Daniel has a great deal of experience in documentary research and in particular for the North of England. A suitably qualified archaeological supervisor will undertake the walkover survey.

4.1.5 ***Insurance:*** OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

APPENDIX 1: LEVEL 1 SURVEY

The survey outlined is based on survey levels defined by the Royal Commission on the Historical Monuments of England (RCHM(E)) and are in accordance with stages of evaluation defined by the Association of County Archaeological Curators (ACAO 1993).

Level 1 Survey (Assessment)

This is a rapid level of survey (Site Inspection in project design) typically undertaken alongside a desk top study as part of the site assessment (ACAO 1993, 14). It is an initial site inspection, which helps the local planning authority to consider fully the archaeological implications of a planning proposal and also serves as the basis for undertaking and planning further archaeological work on the site.

The Level 1 survey represents the minimum standard of record and is appropriate to exploratory survey aimed at the discovery of previously unrecorded sites. Its aim is to record the existence, location and extent of an archaeological site. The emphasis for the recording is on the written description, which should record type and period and would not normally exceed *c.* 50 words.

The location and extent of the sites is typically shown on 1:2,500 or 1:10,000 OS maps as requested by the client. The extent of a site is only defined for sites greater than 50m in size and smaller sites are shown with a cross.

There are two alternative techniques (Levels 1a and 1b), which provide different accuracy levels and have different applications:

Level 1a

The sites are located by manual distance measurement techniques (eg pacing) with respect to field boundaries and provide an accuracy of +- 10m (8 figure grid ref.). The loss of accuracy is offset by the slightly reduced costs; however, it is only appropriate for enclosed land, because of the paucity of usable topographic detail.

Level 1b

The sites are located using Global Positioning System (GPS) techniques, which uses electronic distance measurements along radio frequencies to satellites to enable a fix in Latitude and Longitude, which can be converted mathematically to Ordnance Survey National Grid. As long as differential GPS techniques are employed then it is possible to achieve accuracies of better than +- 1m. There is a slightly increased cost implication by comparison with Level 1a survey, but it can be undertaken in most terrains, even some woodland.

north

0 1000 2000
metres

Figure 1: Location Map

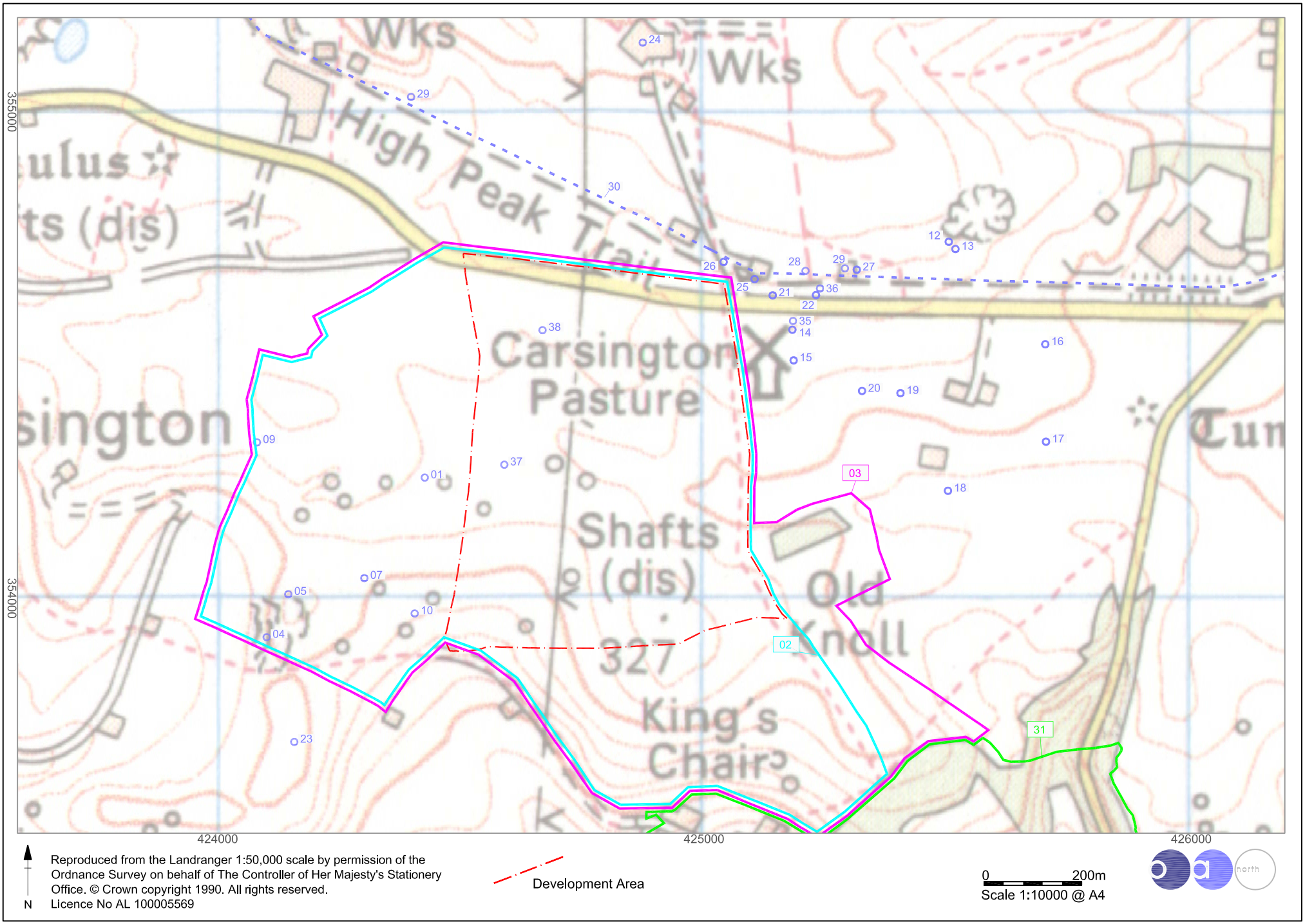

Figure 2: Gazetteer sites plan

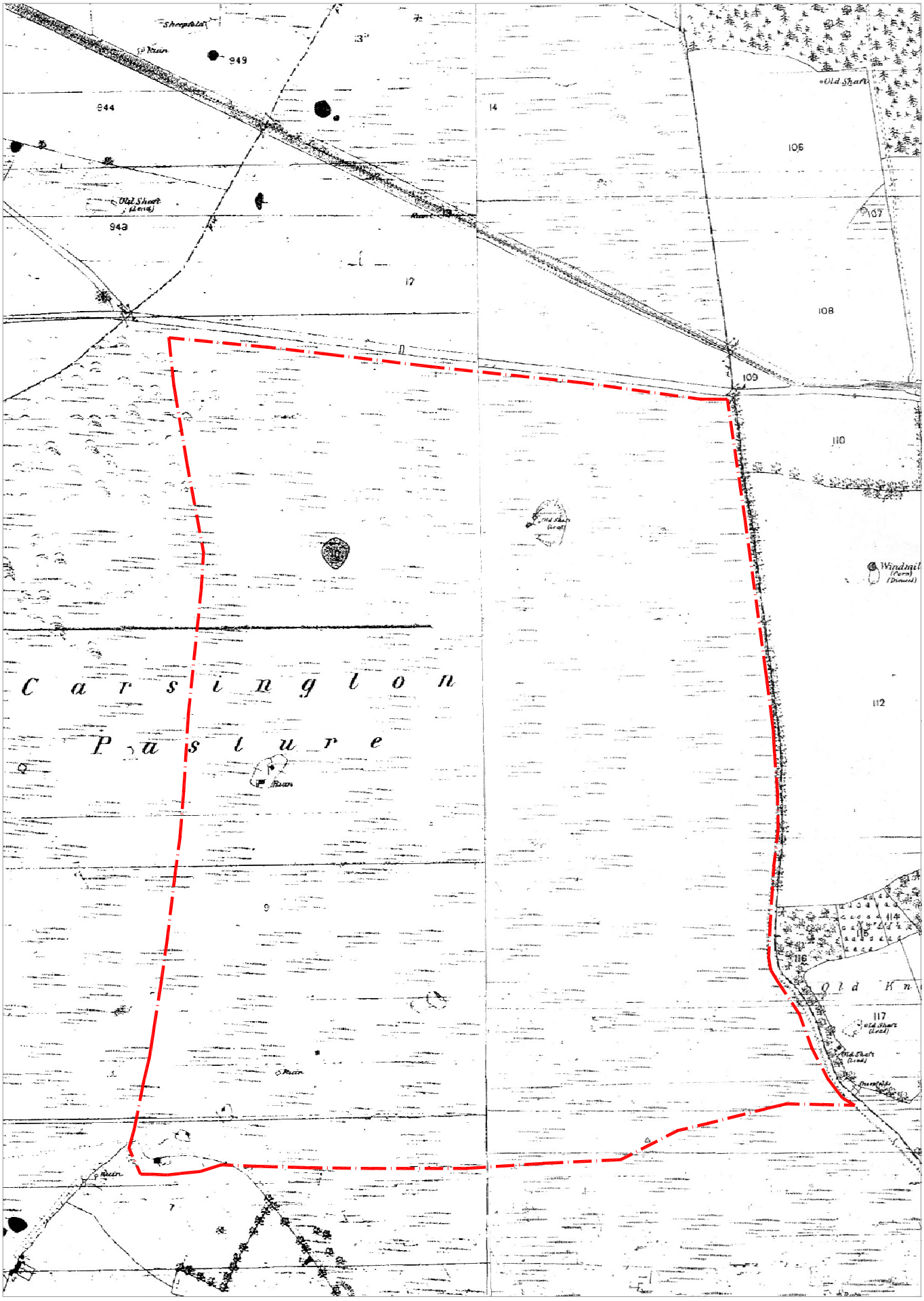

Figure 3: Extract from the Ordnance Survey first edition map, 1880, 1:2500

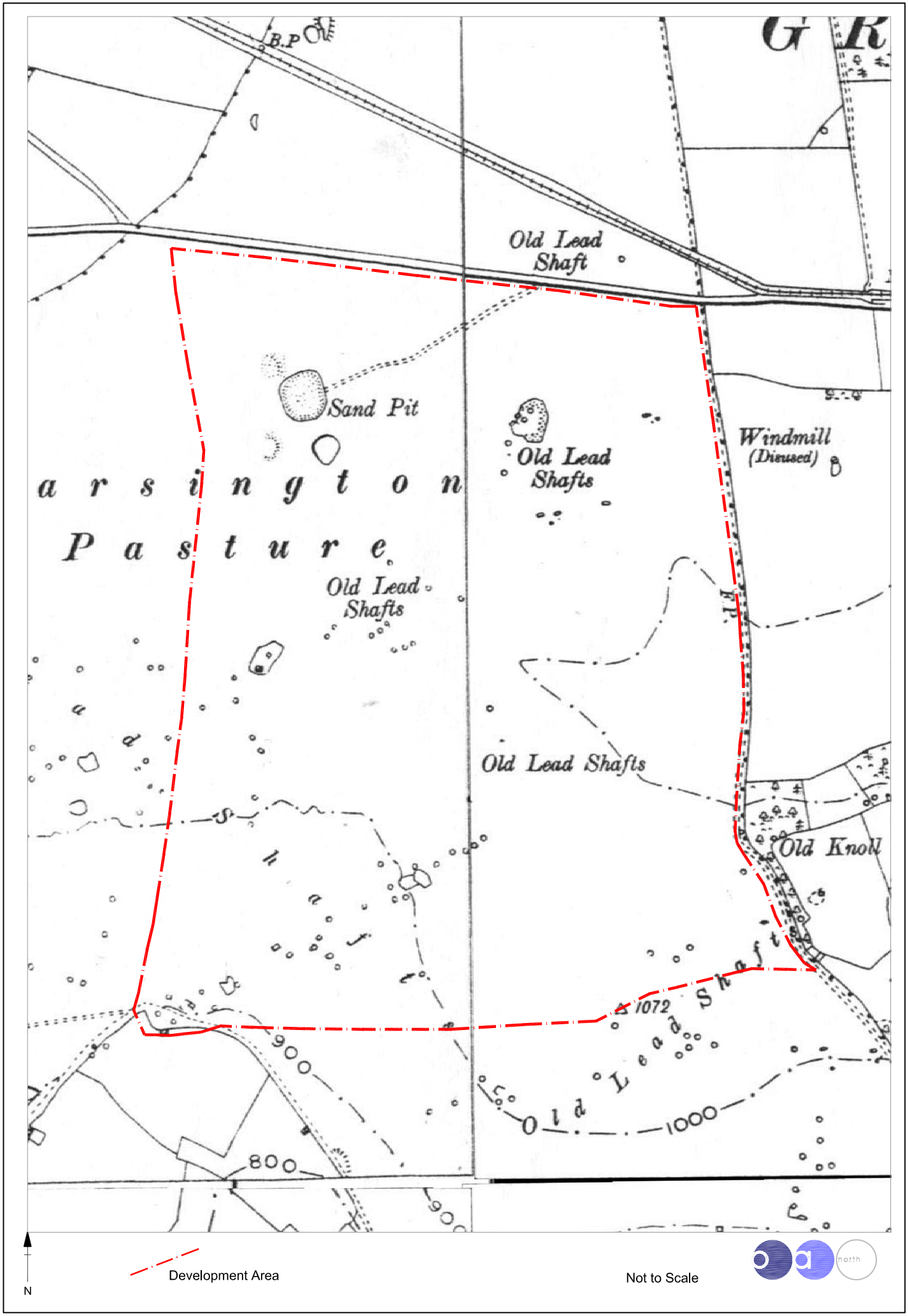

Figure 4: Extract from the Ordnance Survey second edition map, 1900, 1:10560

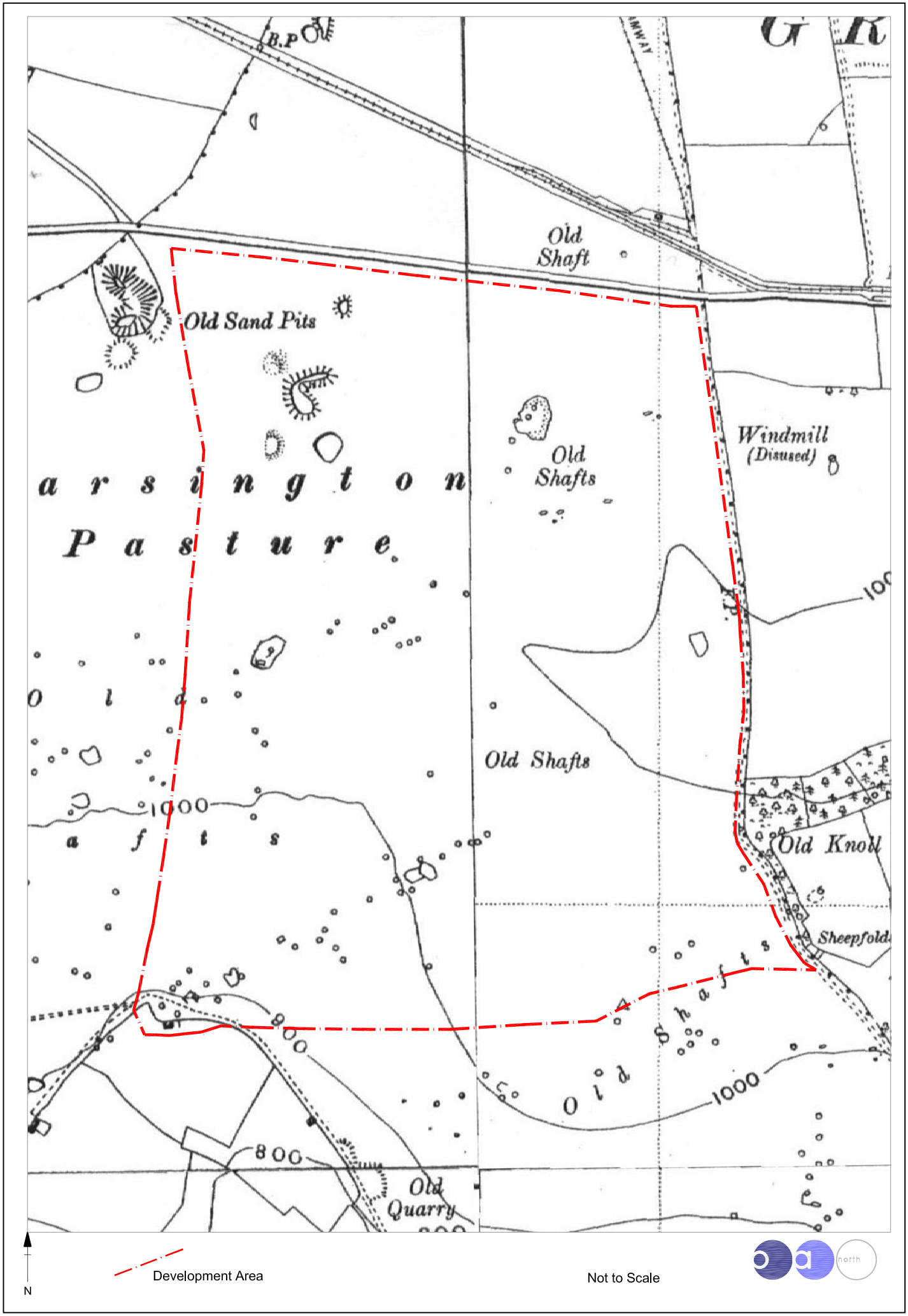

Figure 5: Extract from the Ordnance Survey third edition map, 1920, 1:2500

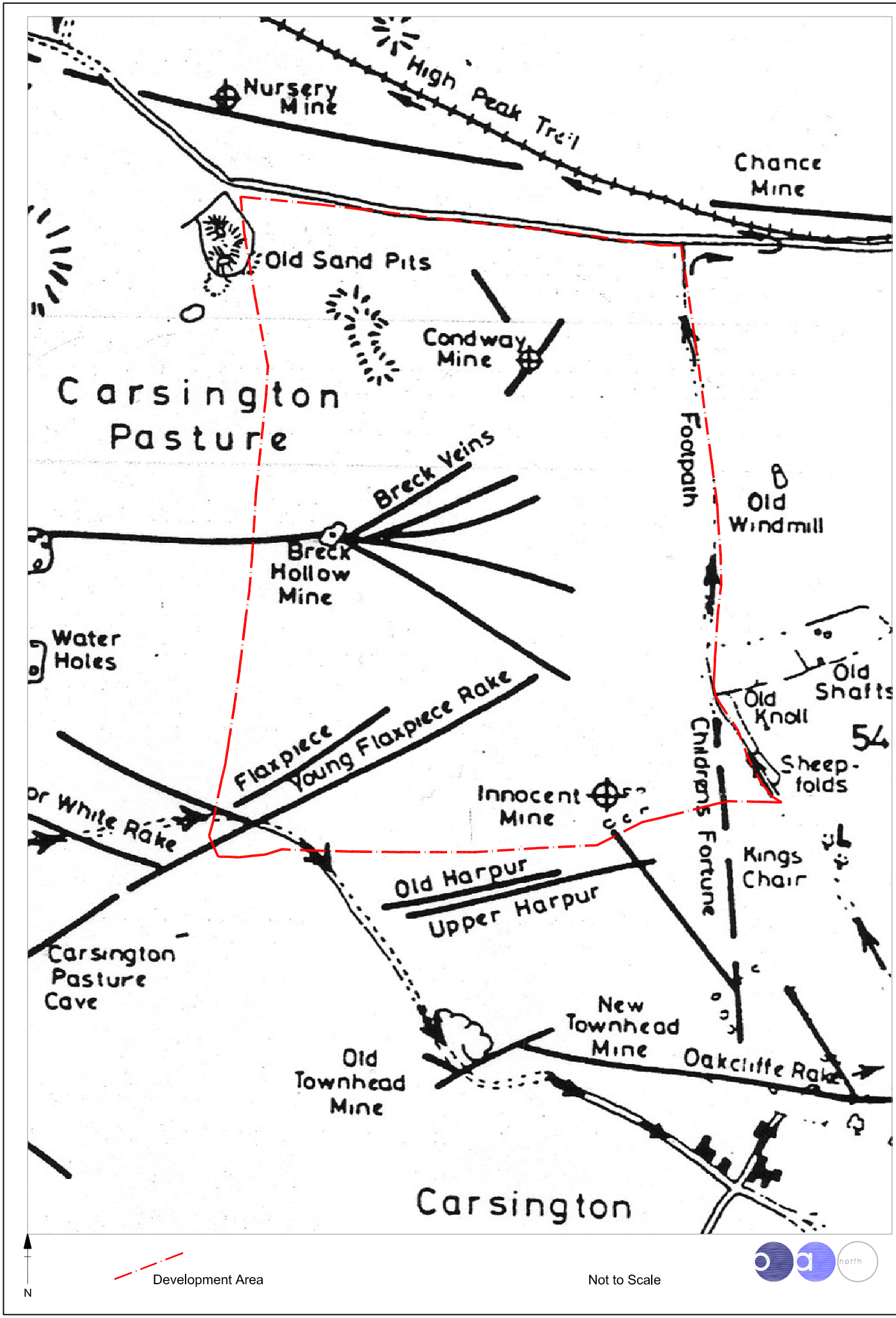

Figure 6: Sketch plan of veins and mines on Carsington Pasture (extract from Ford & Rieuwerts 2000)

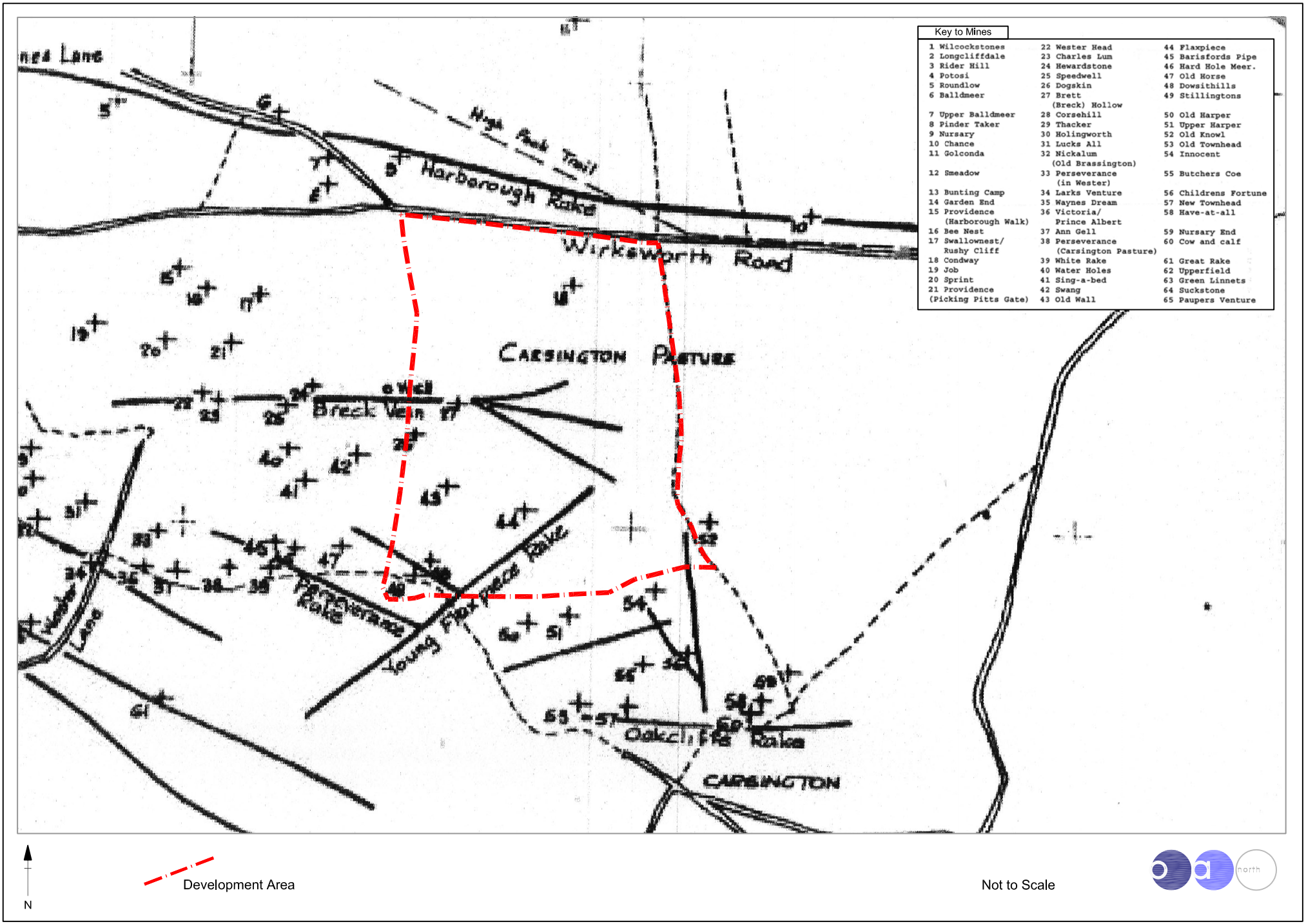

Figure 7: Sketch plan of the mines of Brassington and Carsington (extract from Slack 1986)

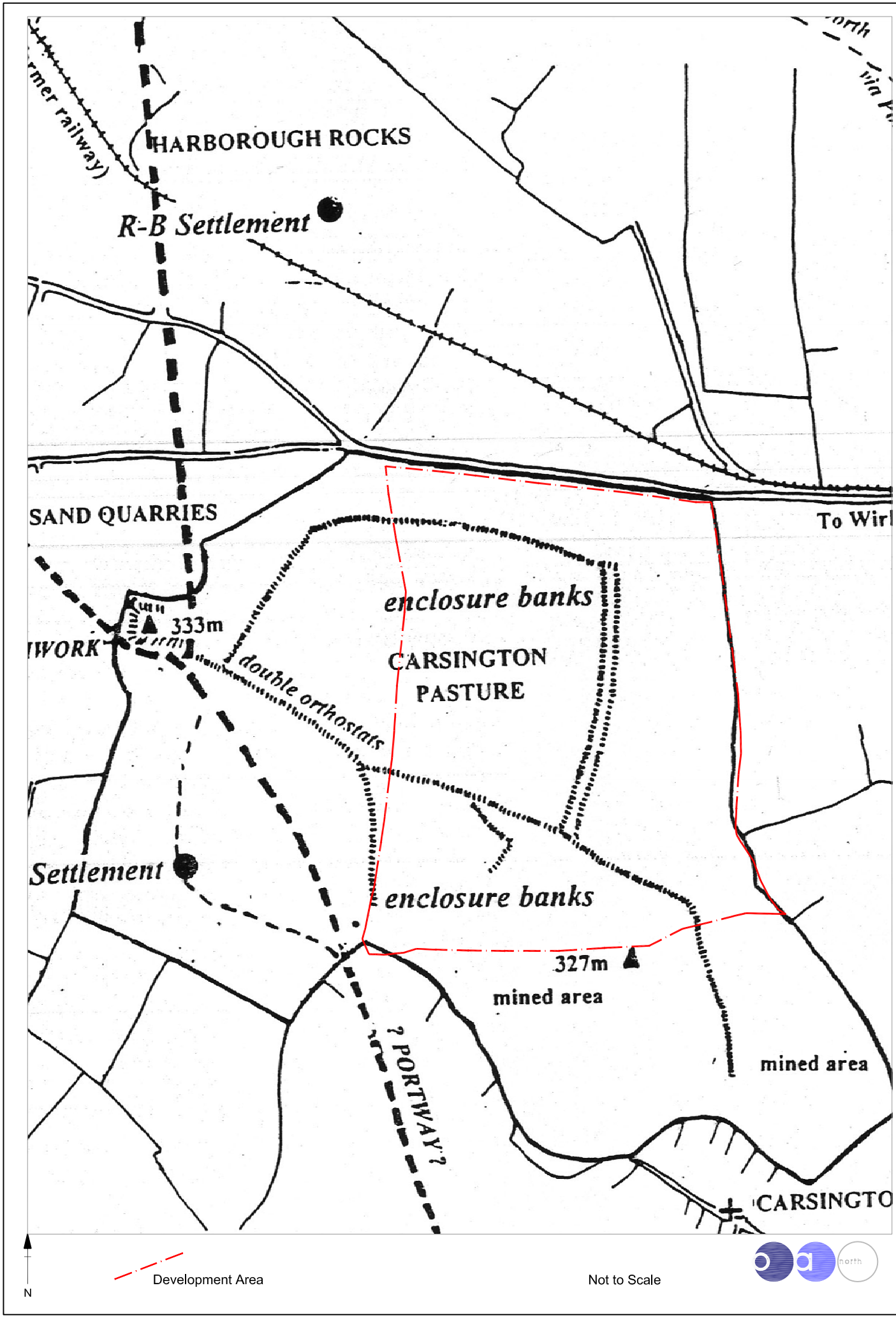

Figure 8: Sketch plan of enclosure banks and roads across Carsington Pasture in the Romano-British period (extract from Willies 1995)

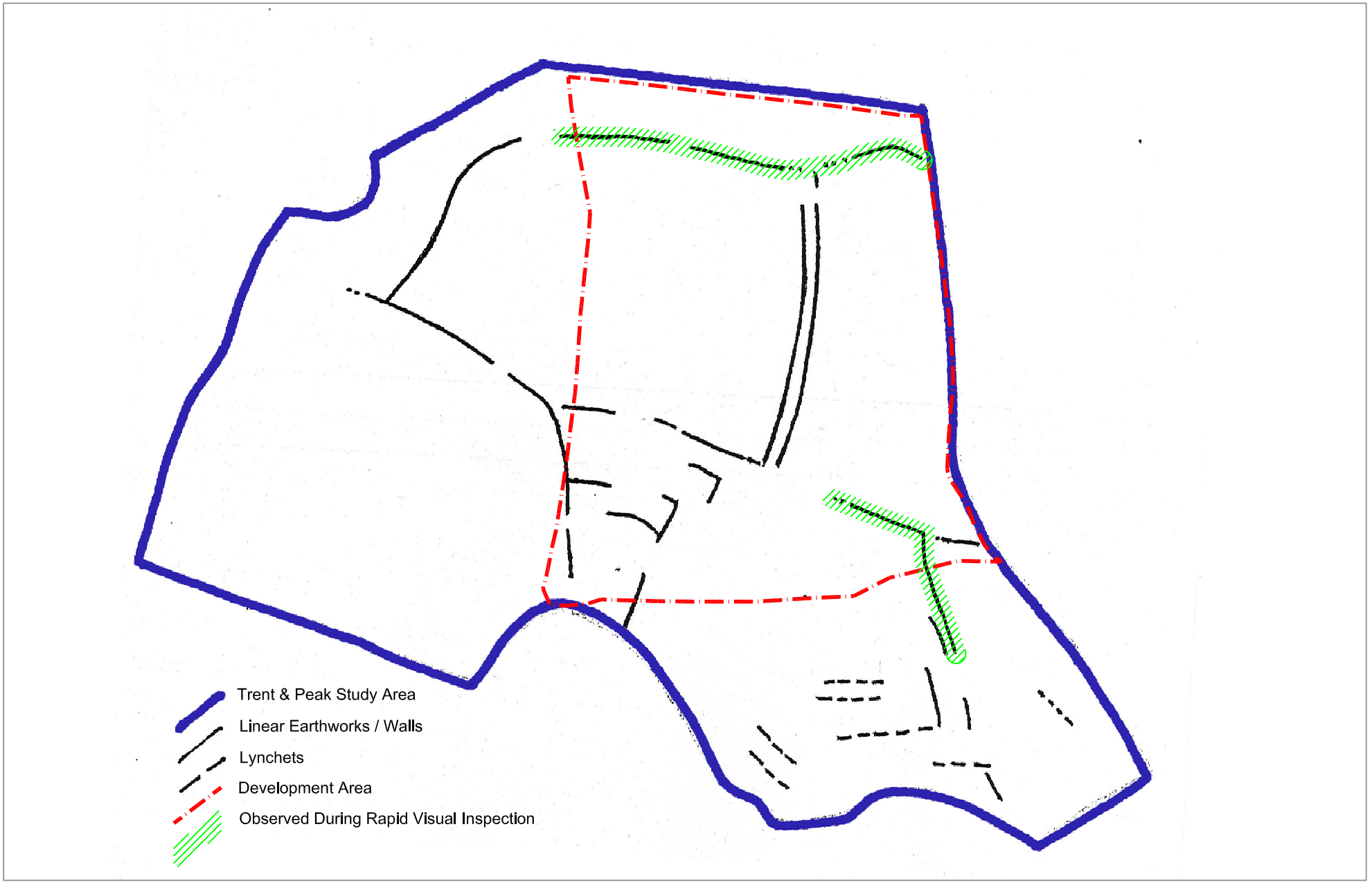

Figure 9: Linear earthworks observed during the rapid visual inspection. Overlaid on sketch map of earthworks subject to rapid survey by Trent and Peak Archaeological Trust (1994)

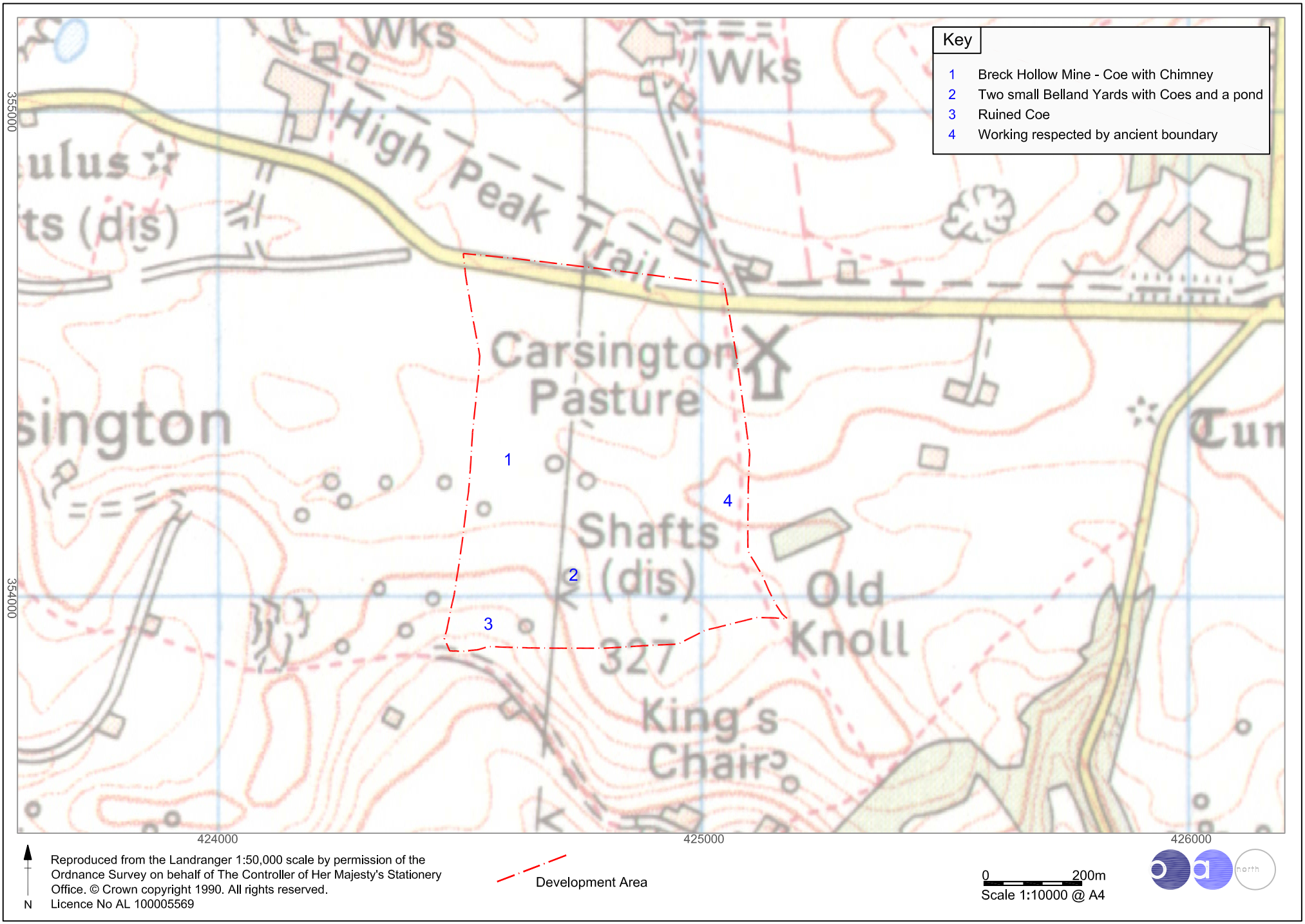

Figure 10: Approximate location of Mining Sites identified by Barnatt (2004), within the proposed development area

Plate 1: Stump of Tower Mill, (Site **15**), looking north

Plate 2: Linear earthwork, aligned north/south (Site **02**), looking north

Plate 3: Linear earthwork, aligned east/west (Site **02**), looking west

Plate 4: Linear earthwork, aligned east/west (Site **02**), looking east

Plate 5: Example of large mine shaft (Site **03**), looking south

Plate 6: Example of linear shafts (Site **03**), looking south-west

Plate 7: Site **35**, field boundary looking east

Plate 8: Site **35**, field boundary in the background with site **36**, platform in the foreground

Plate 9: Ruined building (site **37**), looking north/east

Plate 10: Site **37**, pit head (Breck Hollow Mine), looking north/east