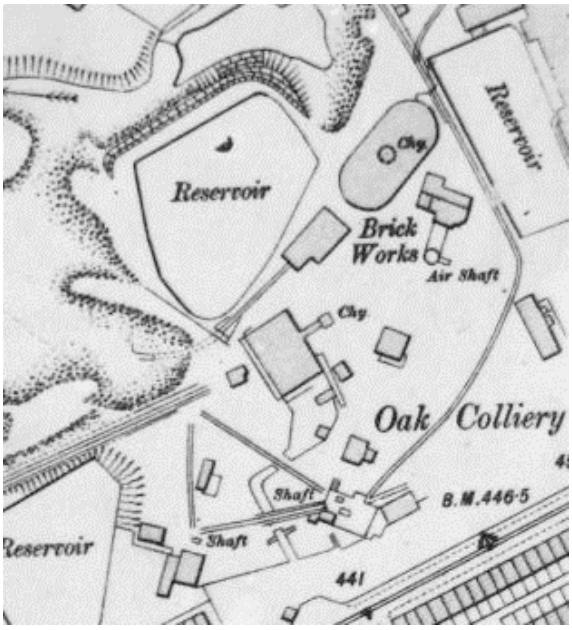

Oak Colliery, Hollins Road, Oldham

Greater Manchester

Archaeological Evaluation

Oxford Archaeology North

July 2010

Oldham Metropolitan Borough Council

Issue No: 2009-10/1080
OA North Job No: L10223
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SUMMARY

Oldham Metropolitan Borough Council (OMBC) has granted outline planning permission for the erection of an Academy Secondary School on a site off Hollins Road in Oldham (centred on NGR SD 91540299), which was occupied from the mid-nineteenth century by one of the largest coal mines in Oldham, known as Oak Colliery. In order to secure archaeological interests, OMBC attached a condition to the planning consent that required an appropriate scheme of archaeological investigation to be carried out in advance of development to support the final design proposals. The scope of these archaeological works was specified in a brief devised by the Assistant County Archaeologist for Greater Manchester, and allowed for historical research of the site, and the excavation of targeted evaluation trenches.

In March 2010, Oxford Archaeology North (OA North) was commissioned by Oldham Metropolitan Borough Council to devise a Written Scheme of Investigation in accordance with the project brief. This proposed the excavation of 11 trenches that were targeted on the sites of structures shown on historical mapping. Following the formal approval of this Written Scheme of Investigation by the Assistant County Archaeologist, OA North was commissioned to carry out the specified programme of works, which was undertaken during May and June 2010.

The evaluation trenching revealed that well-preserved remains of archaeological interest survive *in-situ* across parts of the site. In particular, buried remains of a continuous-type brick kiln were encountered beyond the eastern edge of the football pitch, the remains of a boiler house and associated structures exposed beneath the southern part of the football pitch, and the remains of buildings on the pit bank of Albert Pit in the south-western part of the site. The evaluation also demonstrated that the clearance of the former colliery in the early 1970s is likely to have been responsible for the complete destruction of remains elsewhere across the site.

The current design proposals for the development of the site necessitate earth-moving works that will impact upon the buried archaeological remains. Whilst the remains encountered across the site are not considered to be of national importance, which would merit preservation *in-situ*, their damage or destruction during the course of the proposed development will require an appropriate mitigation strategy to be formulated. It is recommended that three discrete areas of the site are subject to further archaeological investigation in advance of development. The excavation would be targeted on the continuous brick kiln, the putative boiler house and associated structures, and the pit bank of Albert Pit.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank the Oldham Council for funding and supporting the project. Thanks are also due to Dr Andrew Myers, the Assistant County Archaeologist for Greater Manchester, for his support and advice. Thanks are also expressed to the staff of the Local Studies and Archives Unit in Oldham for facilitating access to the sequence of historic maps.

The desk-based research was carried out by Ian Miller and Alison Plummer. The evaluation was carried out by Graham Mottershead and Sean McPhillips, assisted by Phil Cook, Lewis Stitt and Charlotte Vallance. The report was compiled by Graham Mottershead, and the illustrations were produced by Marie Rowland. The report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 Oldham Metropolitan Borough Council has granted outline planning permission for the erection of an Academy Secondary School on a site off Hollins Road in Oldham (centred on NGR SD 91540299). The eastern part of this site is of some historical and archaeological interest as it was occupied from the mid-nineteenth century by one of the largest coal mines in Oldham, known as Oak Colliery.

1.1.2 In order to secure archaeological interests, the Assistant County Archaeologist for Greater Manchester, who provides archaeological planning advice to Oldham Metropolitan Borough Council, recommended that an initial programme of archaeological research and intrusive evaluation was required to support the planning application for the proposed development of the site. The scope of these archaeological works was specified in a brief devised by the Assistant County Archaeologist, and allowed for historical research of the site, and the excavation of targeted evaluation trenches (*Appendix 1*). Acting on the recommendations of the Assistant County Archaeologist, the Local Planning Authority attached a condition to the planning consent for development (PA/056494/09). Condition 8 requires that:

> 'No development should be undertaken until the applicant has secured the implementation and completion of a programme of archaeological works to be undertaken in accordance with a Written Scheme of Investigation approved by the Local Planning Authority.'

1.1.3 In March 2010, Oxford Archaeology North (OA North) was commissioned by Oldham Metropolitan Borough Council to devise a Written Scheme of Investigation in accordance with the project brief. In the first instance, a programme of historical research into the development of Oak Colliery was carried out, which included the analysis of the sequence of historical maps available for the site. Based on the results obtained from the research, the Written Scheme of Investigation proposed the excavation of 11 trenches that were targeted on the sites of structures shown on historical mapping. Following the formal approval of this Written Scheme of Investigation by the Assistant County Archaeologist, OA North was commissioned to carry out the specified programme of works. The evaluation was undertaken during May and June 2010.

1.2 LOCATION, GEOLOGY AND TOPOGRAPHY

1.2.1 The study area lies in the Hollins area of Oldham, which is located to the south of the town centre. The site (centred on SD 9154 0299) is bounded to the south by Hollins Road, to the east by the site of the former Brook Mill, to the north by Ribble Road, and to the west by housing off Chapel Street (Fig 1). The site is used presently as a recreational area (Plate 1).

Plate 1: Recent aerial view of the study area

1.2.2 Oldham lies on the eastern part of the Lancashire coalfield which, in broad terms, occupies a band of land lying east/west. At its widest, the coalfield is over 50km long, with an average width of nearly 10km (Hull 1861, 121-4). At the western boundary is a great fault, which ranges through Eccleston, Lathom Park, Bickerstaffe, Knowsley Park and Huyton. To the north, the high moorlands of Millstone Grit and Lower Coal Measures reach a height of 2,000ft, and stretch with a semi-circular outline from Chorley to Staleybridge. From this elevated tract the country gradually descends towards the Mersey Valley, and the Coal Measures dip under the Triassic and Permian strata, which form the low-lying districts by Rainford, Newton, Ashton-in-Makerfield, Leigh, Astley, Eccles, Manchester and Stockport (Countryside Commission 1998, 121).

1.2.3 On the southern side of the great fault are the Middle Coal Measures, which comprise numerous seams (Table 1); it was the Middle Coal Measures that were mined principally at Oak Colliery. The geological strata in the Oldham area are broken up by several other major faults. One such fault, the Chamber Fault, runs through Chadderton Park and Cowhill, Werneth and Chamber Hall, giving a downthrow to the north-east. This fault produces a great thickness of coal measures in the Hollinwood area, which was exploited at Oak Colliery (Fanning 2001, 9).

MIDDLE COAL MEASURES
Radley Mine
New Jet Amber Mine
Pottery Mine
Major Mine
Colonel Mine
Roger Mine
Lower Furnace Mine
Stubbs Mine
Fairbottom Mine
Park Mine
Foxholes Mine
Cannel Mine
Hathershaw Mine
Upper Chamber Mine
Lower Chamber Mine
Blenfire Mine
Oldham Great Mine
Little Mine
Saltpetre Mine
Black Mine
Stone Mine
Higher Bent Mine
Lower Bent Mine
Olive Mine
Higher Two Mines
Lower Two Mines
Top Neddy Mine
Bottom Neddy Mine
Royley Mine

Table 1: Middle Coal Measure seams worked in the Oldham district (Fanning 2001, 10-11)

1.2.4 There are at least four outcrops of Middle Coal Measure seams in the Hollinwood area. These include a crop of poor-quality cannel coal that runs along the edge of the Oak Colliery site. The other seams that were probably mined at Oak Colliery were the Blenfire Mine, Oldham Great Mine, Black Mine, Bent Mine (Higher and Lower), and Roger Mine.

1.2.5 Topographically, Oldham lies within the Manchester Pennine fringe, a transitional zone between the open moorlands of the Dark Peak and the Millstone Grit uplands of the Southern Pennines (Countryside Commission 1998, 121). The underlying drift geology of the area comprises alluvial sand, gravel and till. The solid geology consists of the Pennine lower coal measures and Millstone Grit comprising sandstone, siltstone and mudstone (British Geological Survey 2007).

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 The fieldwork undertaken followed the method statement detailed in the approved Written Scheme of Investigation, and was consistent with the relevant standards and procedures provided by the Institute for Archaeologists, and their code of conduct.

2.2 EVALUATION TRENCHING

2.2.1 The uppermost levels were excavated by a machine fitted with a toothless ditching bucket. The same machine was then used to define carefully the extent of any surviving walls, foundations and other remains, after which all excavations were undertaken manually.

2.2.2 All information was recorded stratigraphically with accompanying documentation (plans, sections and both colour slide and black and white print photographs, both of individual contexts and overall site shots from standard view points). Photography was undertaken with 35mm cameras on archivable black-and-white print film, as well as colour transparency, all frames including a visible, graduated metric scale. Digital photography was extensively used throughout the course of the fieldwork for presentation purposes. Photographic records were also maintained on special photographic *pro-forma* sheets.

2.3 FINDS

2.3.1 ***Artefactual procedures:*** all finds recovered during the excavations were lifted, cleaned, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds* (1998). Recovery and sampling programmes were in accordance with best practice (current IFA guidelines) and subject to expert advice.

2.3.2 ***Environmental procedures:*** a targeted programme of palaeo-environmental sampling was implemented in accordance with the Oxford Archaeology's *Environmental Guidelines and Manual* (OAU 2000), and in line with the English Heritage guidance paper on *Environmental Archaeology* (2001).

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the Written Scheme of Investigation, and in accordance with current IfA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with the Greater Manchester Historic Environment Record on completion of the project.

3. BACKGROUND

3.1 INTRODUCTION

3.1.1 An understanding of the historical background of a site provides the local context within which buried remains can be assessed archaeologically. The following section presents a summary historical and archaeological background of the general area, and has been compiled in order to place the study area into a wider context.

3.1.2 ***Prehistoric Period:*** the earliest known evidence of a human presence in what is now Oldham is provided by the discovery of flint arrow-heads, dated to the Neolithic period, which were found at Werneth and Besom Hill (Bateson 1974). The chance find of two stone axe hammers of late Neolithic/early Bronze Age date (HER 5917) in the centre of Oldham also attests to prehistoric activity in the town (Tindall 1981), although there is no known evidence for prehistoric activity in the present study area.

3.1.3 ***Roman Period:*** the first military occupation of the area was established during the governorship of Agricola (AD 77-84), and was focused on a five-acre wooden fort, known as *Mamucium*, in what is now Manchester (Brunton 1909). Roads from the fort linked Manchester with Ribchester to the north, Castleshaw, Slack and York to the north-east, Wigan to the north-west, Northwich and Chester to the south, and Buxton to the south-east (Margary 1957). The line of the road to Castleshaw is marked on the Ordnance Survey map of 1848 taking a route to the south of Oldham on a south-west/north-east alignment, approximately 400m to the south of the study area.

3.1.4 There have been several chance finds of Roman artefacts from the town, including a boxed hoard of 100 coins found in 1887 during the construction of Chamber Mill on Heron Street. Other stray finds include a silver *denarius* of the Emperor Domitian (AD 81-96) from an unspecified location, and an enamelled *patera* of red pot from the Werneth area. However, these are all thought to be associated with the use of the road, as there is as yet no firm evidence for Roman settlement in Oldham (Bateson 1974; Tindall 1981).

3.1.5 ***Medieval Period:*** the emergence of Oldham as a permanent place of settlement is believed to date from 865, when Danish invaders established Aldehulme (Ballard 1986). The name is thought to be derived from the Old English *ald* meaning 'old' and the Old Norse *holmr* meaning 'island' (Tindall 1981). Oldham is not mentioned in the Domesday Survey of 1086, and it was probably part of the manor and hundred of Salford at this time. By 1212 it was one of five parts of the thegnage estate of Kaskenmoor, which was held on behalf of King John by Roger de Montbegon and William de Nevill (Farrer and Brownbill 1911). However, in the later thirteenth century, Oldham was documented as a manor held from the Crown by a family surnamed Oldham, whose seat was at Werneth Hall (Bateson 1974). Oldham later formed a township within the ancient ecclesiastical parish of Prestwich-cum-Oldham, in the hundred of Salford (Farrer and Brownbill 1911).

3.1.6 ***Post-medieval and Industrial Period:*** Oldham was essentially little more than a scattering of small settlements spread across the moorland until the later eighteenth century. A market was not established in Oldham until quite late and, as a result, the town experienced ribbon development along the roads to Manchester, Saddleworth and Rochdale, rather than development focusing on a central core (Tindall 1981). In his late eighteenth-century description of the area, Aiken (1795, 236-7) noted that the manufacture of hats and strong fustians for the Manchester market were trades of particular importance locally, and that 'a considerable number of machines are worked in the cotton and woollen manufactories'. The movement of goods at this time was facilitated by a turnpike road from Manchester to Huddersfield, which took a route through Oldham, and another from Mumps that ran through Lees and Saddleworth.

3.1.7 By the end of the eighteenth century, the population of Oldham was estimated at 12,000. By 1901, this figure had increased to a staggering 137,000, as a direct consequence of the town's industrialisation (McNeil and Nevell 2000); in the words of one twentieth-century historian, 'if ever the Industrial Revolution placed a town firmly and squarely on the map of the world, that town is Oldham' (Frangopulo 1977, 154).

3.1.8 Oldham rose to dominate the cotton-spinning industry during the second half of the century (Williams with Farnie 1992, 35). As a result of a mill building boom in the 1860s, the town supplanted Manchester and Bolton as the nation's principal cotton-spinning centre; a further boom in the 1870s cemented this position (McNeil and Nevell 2000, 29-30). A final massive expansion of the local industry occurred during the early Edwardian period, which saw the erection of mills of an unprecedented size by companies taking advantage of new laws on limited liability. The completion of Elk Mill in 1928 represented the peak of the town's spinning industry (Gurr and Hunt 1998, 7-8).

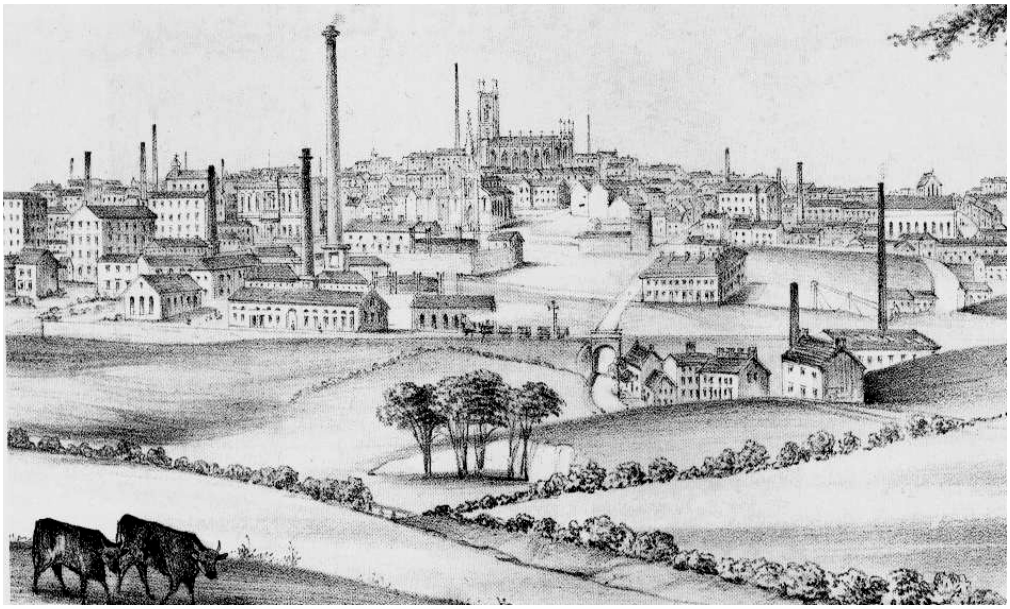

Plate 2: A view of Oldham from Glodwick, c 1860. The engraving highlights the importance of the importance of the cotton industry, with textile mills dominating the townscape, although some collieries are also depicted

3.2 COAL MINING IN OLDHAM

3.2.1 References to the mining of coal in the Oldham area date back to 1524, when a rent of 10d was paid by Richard Wild for getting coals in Leonardine (Crompton), and there are numerous seventeenth-century references to coal mining (Bateson 1974, 48-9). Disputes about mineral rights to common land in Oldham and Hollinwood, for instance, are known in 1622 and 1639 (Shaw 1904, 59). These early coal workings would almost certainly have been either adits, or levels, on the hillside, or bell pits working coal within a small radius at a shallow depth. By the late eighteenth century typical workings were from unlined shafts that went as deep as 100 yards (91.44m). Initially, coal was raised by horse-powered wheels; steam power was first used for winding in 1792, and applied subsequently to power drainage pumps (Law 1999, 33). Many of the early shafts were worked for less than a year, and were rarely worked for three years or more.

3.2.2 In his late eighteenth-century description of Oldham, Aiken noted that 'coals are found in great plenty in the several townships, which, besides supplying the neighbourhood, are sent in large quantities to Manchester. The price of those of the best quality is 5d per cwt at the pit' (Aiken 1795, 237). By that date, there were at least 14 collieries in Oldham.

3.2.3 Coal mining in Oldham expanded dramatically after the later eighteenth century. In 1770, John Evans, an immigrant from Wales, established a colliery on Oldham Edge and, in the same year, William Jones, also from Wales, sunk a pit near Bankside. The colliery rights that these two acquired finally controlled the whole coal supply of the district (Bateson 1974, 88-9). By 1832, there were 37 collieries in Oldham, producing a combined total of approximately 200,000 tons of coal per annum.

3.2.4 The Ordnance Survey map of 1848 marks some 180 coal workings, shallow pits, or deeper collieries in the Oldham district. Amongst the particularly good coal seams to be worked in the district were the Lower Mountain Mine in the Lower Coal Measures, the Black Mine and the Royley Mine, each with four feet of good engine coal, and the Great Mine, which was eight feet thick (Law 1999, 32). By the early twentieth century, mining in Oldham was concentrated at four deep pits: Bower; Chamber Lane; Woodpark; and Oak Colliery.

3.3 THE DEVELOPMENT OF OAK COLLIERY

3.3.1 Coal was being extracted from the site that was developed in the nineteenth century as Oak Colliery as early as 1748 (*Oldham Evening Chronicle* 28 December 1948), although this was almost certainly obtained from small-scale workings. The historic core of the colliery is not shown on the Oldham tithe map of 1840-8, although the site lies in Field 1062. This was owned by Andrew Moss, and occupied by Lees, Jones & Co. It is described as Brudley field, colliery and vacant land, and the land use described as pasture.

3.3.2 The first detailed map of the area is provided by the Ordnance Survey first edition 6": 1 mile map, which was surveyed in 1844-45 and published in 1848 (Plate 3). This map marks the site as a colliery, and names both Victoria Pit and Albert Pit. The map depicts little infrastructure around the pitheads, other than a few small buildings and a small reservoir situated a short distance to the west of Victoria Pit. The map also indicates that the colliery site retained a semi-rural aspect during this period, surrounded largely by fields.

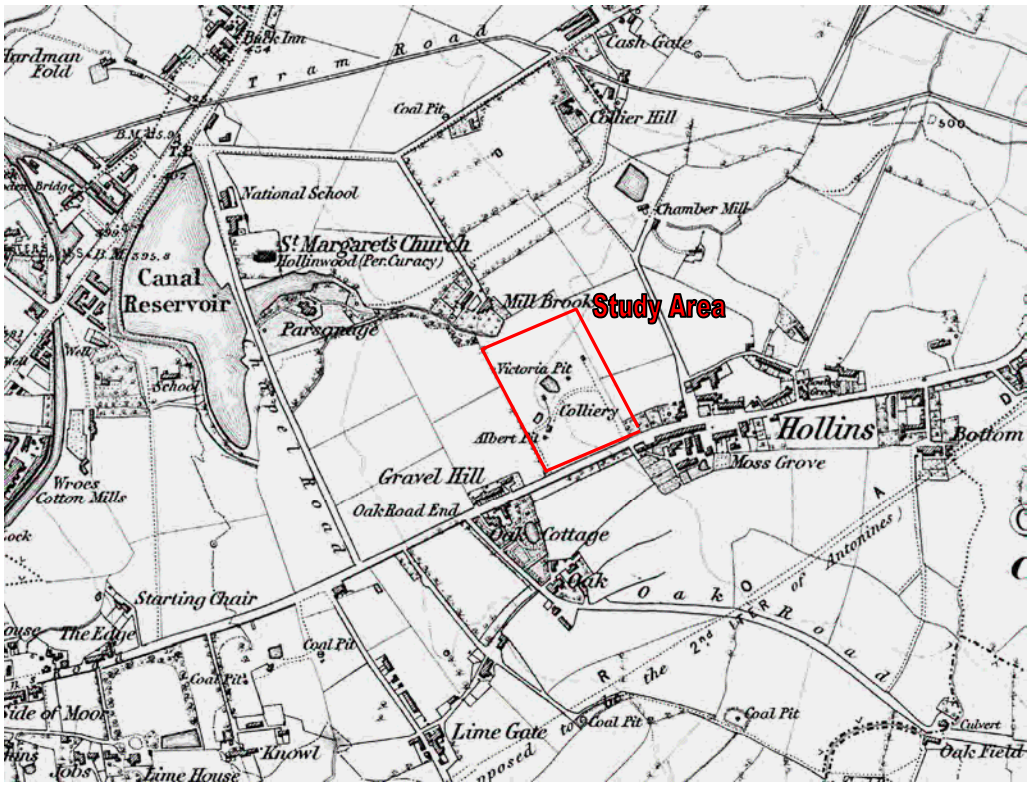

Plate 3: Extract from the Ordnance Survey map of 1848 (surveyed in 1844-5)

3.3.3 ***Duke Pit:*** the first pit of the modern Oak Colliery site was probably the Duke Pit, which was sunk in *c* 1845 to a depth of 744 feet (227m) to the Black Mine (Fanning 2001, 130). The shaft had a diameter of 11 feet (3.35m), and was lined throughout with brick walling. It is likely that this pit was actually a deepening of an existing shaft, which had been sunk to extract coal from the Blenfire or Oldham Great seams (*ibid*).

3.3.4 After 1850, the Duke Pit appears to have been used mainly for pumping, as there are no records of it producing coal until a brief period between 1909 and

1918 (Fanning 2001, 135-8). A beam engine was installed at the top of the Duke Pit for this purpose. This engine was built in 1846, reputedly manufactured by William Fairbairn of Manchester, and had an 80½ inch (2.04m) cylinder with a 10 foot (3.05m) stoke. It was served by four boilers, and was capable of pumping approximately 90 gallons per stroke from a depth of 780 feet (237.74m), at a rate of four strokes per minute (*ibid*).

3.3.5 The beam engine was worked in conjunction with electric pumps for a short while after the installation of electric power at the colliery in *c* 1900, but was ultimately abandoned in 1926 (*op cit*, 136). Whilst most of the engine house was demolished at that date, the front wall of the building and the large beam of the engine remained extant until nationalisation in 1947. The site of the engine house was then used for the fitting shop (*Oldham Chronicle* 11 September 1971).

3.3.6 ***Albert and Victoria Pits:*** according to a contemporary newspaper article, the twin shafts of Albert and Victoria were opened in December 1848, and were the property of Mr William Jones & Co, described as a 'new concern' (*Manchester Courier* 30 December 1848). However, there is evidence to suggest that the two pits were worked originally as independent collieries.

3.3.7 The three shafts, Duke, Albert and Victoria, were each separated at intervals of 40 yards (36.58m). The colliery was connected to the Hollinwood Branch of the Ashton-under-Lyne Canal via a tramway, which was known locally as the Oak Incline (Nadin 2001, 74). This tramway was first included in the Valuation Lists for Chadderton in 1851. It was a self-acting incline, with a gradient of one in seven, and was exactly 880 yards (804.67m) long.

3.3.8 The Oldham Valuation List for 1854 names a 'colliery, yard and reservoir, Hollins Road', owned and worked by William Jones & Co, and rated at £2158 6s 4d (Oldham Borough Rate CBO 2/6/3/5). The rateable value indicates that the colliery was already the largest and most productive pit in Oldham, and was twice the size of Glodwick Pit, three times the size of Bent Grange, and 45% larger that the older Chamber Lane Colliery (Fanning 2001, 130). Joseph Dickinson's list of collieries at work in Lancashire in 1854 similarly identifies William Jones & Co as the owners of Oak Colliery. However, the Oldham Valuation List for 1864 gives the Chamber Colliery Company as the proprietor. The List of Mines in Great Britain and the Isle of Man for 1869 similarly names the Chamber Colliery Company as the owner of Oak Colliery in Hollinwood.

3.3.9 In August 1874, Joseph Pritchard & Sons of Oldham Boiler Works provided two new boilers for Oak Colliery. It seems likely that these were intended to raise steam for a new fan engine, which was installed in November 1874. The new fan provided the draft for a new upcast shaft, which was sunk by Henry Skellorn in November 1874. This shaft was known as Brony Pit, and was 10' 8" (3.25m) in diameter (Fanning 2001, 132). Prior to the sinking of this shaft, Oak Colliery had no upcast pit.

3.3.10 Throughout the history of the colliery, there are only a few fatal accidents recorded. One reported accident did occur in August 1884, when a collapse at Albert Pit resulted in the death of four miners (*Lloyd's Weekly Newspaper* 17 August 1884).

3.3.11 The site is named Albert Colliery on the Ordnance Survey 1:2500 map of 1880 (Plate 4), which shows the complex to have been expanded and remodelled since the 1840s. Albert Pit and Victoria Pit are both named, although are in different positions to those shown on earlier mapping. There are a group of buildings on the pit bank of both pits, which presumably included a winding engine for each shaft. Duke Pit is not named on the map, although a third shaft is marked in the north-eastern part of the colliery site. It seems possible that this shaft was the upcast shaft sunk in 1874 (*Section 3.3.9 above*). If this was the upcast shaft, then the adjacent buildings would almost certainly include the fan house and its associated engine and boilers.

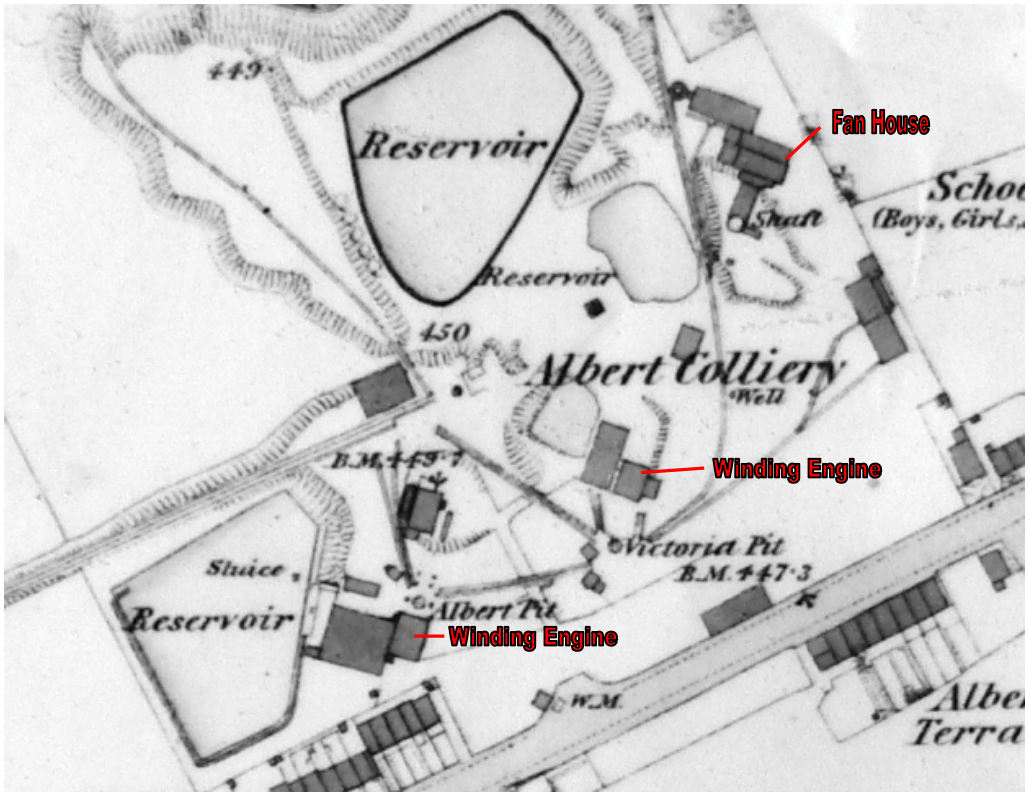

Plate 4: Extract from the Ordnance Survey 1:2500 map of 1880 (surveyed 1879)

3.3.12 The detail provided by the Ordnance Survey 25": 1 mile map of 1894 identifies the site as Oak Colliery (Plate 5), and shows the colliery to have been remodelled and expanded since 1879. The buildings around the pithead at Albert Pit have clearly been modified, hinting that a new steam-power plant for winding had been installed. Victoria Pit had also been remodelled quite extensively, with the erection of a large new building close to the southern edge of the reservoir, seemingly necessitating the infilling of the smaller reservoir depicted on earlier mapping. A small, detached square structure situated a short distance to the east is identified as a chimney on the subsequent mapping, suggesting this building may have incorporated a boiler house. Another new building is depicted to the north-east, adjacent to the

south-eastern side of the reservoir. This building is identified on a twentieth-century plan as a compressor house and lamp room (*Section 3.3.28 below*).

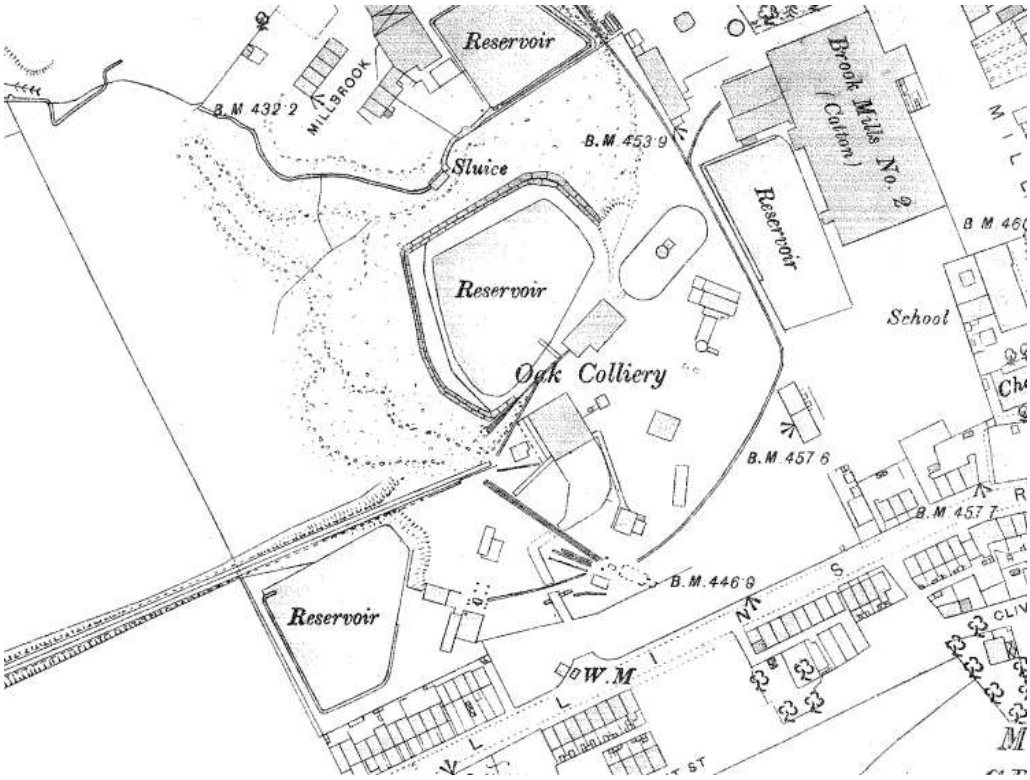

Plate 5: Extract from the Ordnance Survey 1:2500 map of 1894 (surveyed 1890-1)

3.3.13 In the eastern part of the site, one of the group of buildings situated to the north of the new upcast shaft has been demolished, and its site redeveloped partly as a brick kiln. All of the major collieries had brickworks, and Oak Colliery was no exception.

3.3.14 It is uncertain precisely when the brickworks was established, although on cartographic evidence it was between 1879 and 1890-1. The Ordnance Survey map of 1894 (surveyed in 1890-1) depicts the distinctive plan form of a continuous-type kiln, or sometime referred to as a tunnel kiln. The type of continuous kiln most frequently applied to the brick-making industry in the later nineteenth century was of a type patented by Friedrich Hoffmann in 1858. A Hoffman kiln comprises a main fire passage surrounded on each side by a series of small chambers, each of which contains a pallet of fresh bricks. The dimensions of a typical Hoffmann kiln vary, but in average about 5m high by 15m wide and 150m long. These kilns were operated continuously for 24 hours a day, for a period of years, and were frequently capable of producing in excess of one million bricks per week. Two fires 'chase' each other around the kiln, moving progressively from one chamber to another with the bricks undergoing drying, pre-heating, firing and cooling in turn. Once lit, the kiln was not allowed go out, and the whole process was controlled manually by manipulating dampers and sliders, which required skill and experience.

3.3.15 Each chamber is connected to its neighbour by a small tunnel, known as a fire trace, through the dividing walls just above ground level. These carry hot gases from the fire, thus directing the hottest gases into the room that is currently being fired. A number of off-take flues in the chamber walls carry drying and combustion gases down into the 'steam-flues', which are under draught as soon as the damper controls to the main flue are lifted. Each chamber is also connected to a hot air flue, situated around the top of the kiln, which enables hot air, via damper controls, to be re-circulated from one chamber to another. Support fuel can be added to each chamber through small openings in the roof. Larger openings allow the control of temperature (reduction) by introducing ingress air. A continuous kiln is very energy-efficient, because heat given off during cooling is recycled to pre-heat the incoming ware.

3.3.16 Newly made 'green' bricks are set in a chamber and the entrance is bricked up and then sealed using an ash and clay based skim to prevent the ingress of air. Hot air conveyed from cooling bricks in one chamber is used to dry and pre-heat bricks in another. Drying is carried out relatively slowly to ensure that all the moisture is driven out of the bricks uniformly and that distortion does not occur. Once the bricks are dry then it is important to raise their temperature rapidly in order to maintain reducing conditions in the chamber. The organic material in the clays helps with this process.

3.3.17 Once the required temperature has been reached, caps over the openings in the roof are opened permitting 'easing' of bricks by allowing cold air into the chamber. Coal is subsequently fed through openings in order to achieve the necessary soaking time (30 hours at 930-960C). After firing the bricks are allowed to cool in the chamber before they are removed. This cooling process provides the heat to drive the drying process of the next batch. New 'green bricks' are then placed in the chamber and the process cycle starts again. Each cycle takes ten days to complete. The erection of the brick kiln at Oak Colliery may also have been the principal factor in remodelling the route of the tramway around the eastern part of the site, which is shown on the Ordnance Survey map of 1894 to take a line along the boundary of the site (Plate 5). It is interesting to note that a branch of this tramway led directly to the boiler house of Brook Mill.

3.3.18 Oak Colliery prospered until 1894, when its value fell dramatically to £28, equivalent to half the value of the brickyard listed on the site. This reflected a major recession in the cotton industry, which was the principal customer for Oldham coal. However, by 1896, the rateable value of the colliery had increased to £775.

3.3.19 Electric lighting was fitted to the colliery in *c* 1900. Electricity was generated by a dynamo fitted to the fan engine, which produced 15amps at 220 volts DC. In the List of Mines of 1902, the two pits are differentiated, with Victoria employing 155 men, working the Bent Mine, and Albert employed 34 men, working the Yard Mine. In the List of Mines in Great Britain and the Isle of Man for 1908, the Chamber Colliery Co Ltd is listed as the owner of Oak (Victoria) Colliery, with Owen Hughes as the manager. At that date, 131 men were employed underground, and 25 on the surface.

3.3.20 Information provided by the Mines Department's List of Mines for the early part of the twentieth century indicates that Albert Pit was not used after 1908. Victoria Pit, however seems to have expanded during the following years; in 1908, Victoria Pit had 131 employees underground and 63 on the surface, increasing to 234 and 61 respectively by 1912, and 328 and 64 by 1918.

3.3.21 The Ordnance Survey 25": 1 mile map published in 1909 (based on revision of the 1894 survey, which was completed in 1906) shows the layout of the colliery as largely unchanged relative to the layout in 1894. However, the next edition of Ordnance Survey mapping, published in 1922, shows several important changes to have been implemented (Plate 6). The brick works is marked as 'disused', although the kiln clearly survived extant. The group of buildings situated to the south of the reservoir, incorporating the putative boiler house, has been remodelled and expanded, with new buildings erected immediately to the south-east of the existing structures; the intended function of these buildings remains uncertain. This group of buildings is shown to have been served by a new network of tramlines, although this appears to have been intended purely for moving coal around the colliery, as there are no connections with railway lines beyond the site boundary; the Oak Incline, which had connected the colliery to the Hollinwood Branch of the Ashton-under-Lyne Canal, is no longer shown, and the tramline to the boiler house of Brook Mill has also been removed.

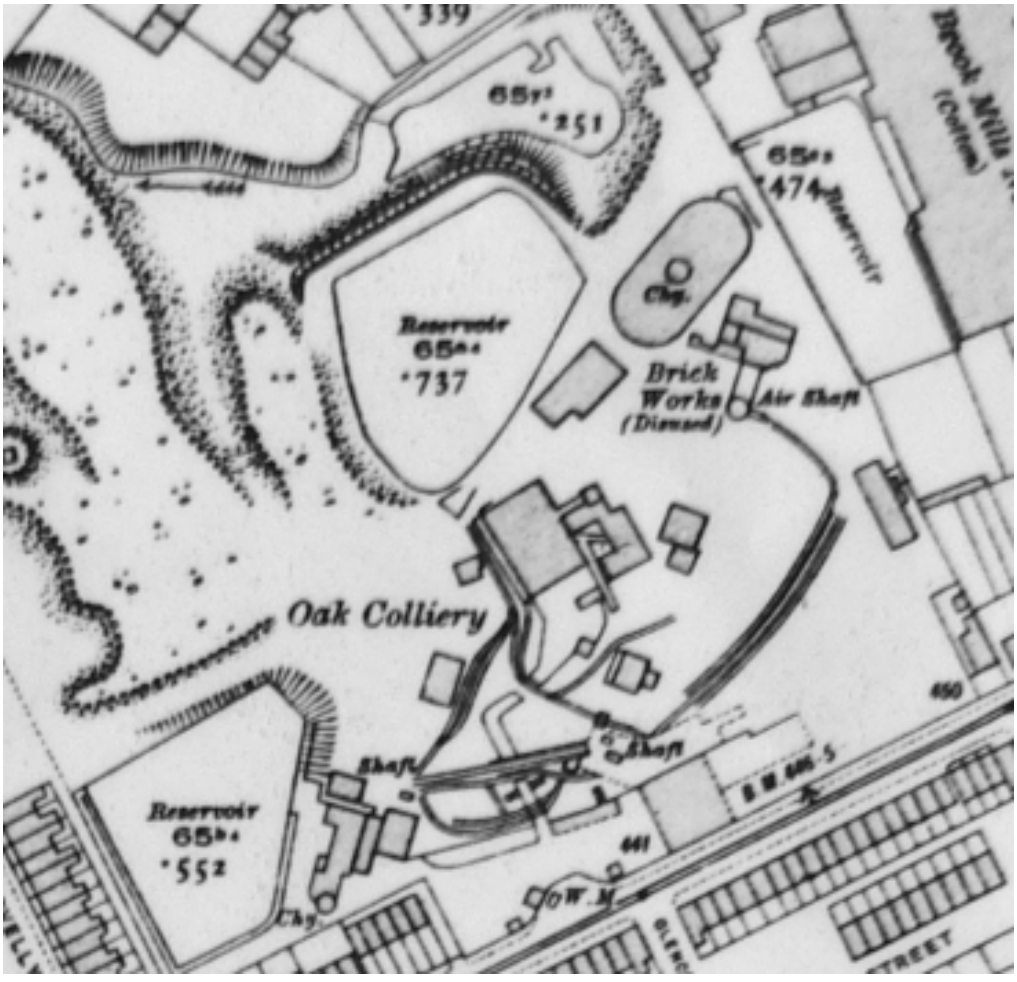

Plate 6: Extract from the Ordnance Survey 25": 1 mile map of 1922 (revised 1916)

3.3.22 The Ordnance Survey map of 1922 also shows the buildings on the pit bank at Victoria Pit to have been replaced with a new, large structure erected on the southern boundary of the site. The map also shows new structures to have been erected on the pit bank associated with Albert pit in the south-west corner of the site. These included a chimney, suggesting that the steam-power plant for the winding engine had been replaced; it is possible that this was the building depicted in a photograph dated to the 1920s, thought to be of Albert Pit (Plate 7).

Plate 7: Albert Pit in the 1920s (reproduced from Fanning 2001)

3.3.23 In the List of Mines in Great Britain and the Isle of Man for 1918, the Chamber Colliery Co Ltd is listed as the owner of Oak (Victoria) Colliery, with Owen Hughes as the manager. At that date, 408 men were employed underground, and 62 on the surface.

3.3.24 In 1932, Oak Colliery employed 437 men underground and another 132 on the surface, with Victoria being the only productive shaft. Horses and ponies were used underground to haul coal from the pit face to the main engine brow, and lived in stables at the pit bottom. It is not entirely clear when horses were last used underground at Oak Colliery, although it was before 1935. The stables in Victoria Pit were used as a substation when electric power was taken down the shaft (Fanning 2001, 136).

3.3.25 In the List of Mines in Great Britain and the Isle of Man for 1938, the Chamber Colliery Co Ltd is listed as the owner of Oak (Victoria) Colliery, with I Jackson as the manager; the company is also listed as the owner of Ashton Moss Nos 1 and 2. At that date, 366 men were employed underground, and 107 on the surface. The layout of the colliery at that date is depicted on the

Ordnance Survey 25": 1 mile map of 1936 (Plate 8). This shows the brick kiln in the north-eastern part of the site to have been demolished, together with the buildings immediately to the south-east. The upcast shaft is marked, with an associated range of new buildings situated to the south-west. These are shown on a deposited building plan of 1953 (Plate 9) to have housed the upcast winding engine and the fan motor (CBO 4/11). Immediately to the south-east of the upcast winding engine and fan house is a large new building, which is identified on the deposited building plan of 1953 as screens. The Ordnance Survey map also shows a reduced group of buildings on the pit bank around Albert Pit, although the shaft is still marked.

Plate 8: Extract from the Ordnance Survey 25": 1 mile map of 1938

3.3.26 In the List of Mines in Great Britain and the Isle of Man for 1945, the Chamber Colliery Co Ltd is listed as the owner of Oak (Victoria) Colliery, with R Crompton as the manager. At that date, 326 men were employed underground at Oak Colliery, but none on the surface. It was noted that the colliery had a ventilation system partly in common with Ashton Moss and Woodpark, which were also owned by the Chamber Colliery Co Ltd.

3.3.27 Following nationalisation of the coal industry in 1947, it seems that the newly formed National Coal Board (NCB) implemented some improvements to Oak Colliery. In 1951, the NCB drew up plans for a new geared electric winding engine (CBO 4/11/27020). This engine was to be installed in a new engine house, situated immediately to the south-west of the upcast shaft, as shown on

a deposited building plan of October 1953 (CBO 4/1; Plate 9). This plan also indicates that the building to the north, situated adjacent to the south-eastern edge of the reservoir, was used as a compressor house and lamp room.

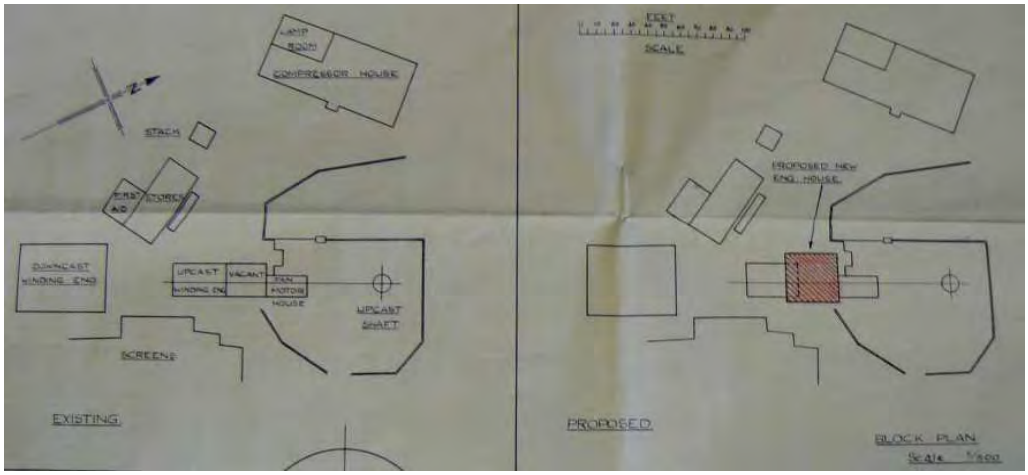

Plate 9: Plan for proposed new engine house at Oak Colliery, 1953 (CBO 4/11)

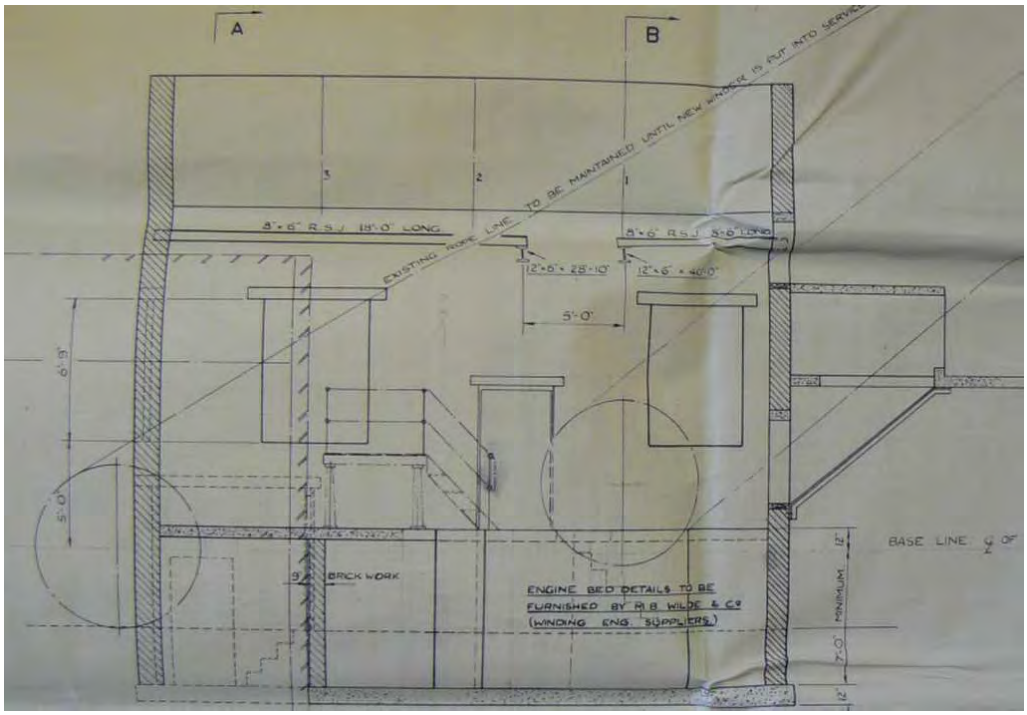

Plate 10: Plan for proposed new winding engine at Oak Colliery, 1951 (CBO 4/11/27020)

3.3.28 Oak Colliery was closed on 13 July 1956, and the workforce was transferred to Ashton Moss and Bradford Collieries. Following closure, the galleries were widened out and then filled with a stopping of concrete, and then the shafts were filled with hardcore. The headstocks and winding gear were demolished in May 1959, and the site was cleared to allow its reuse subsequently as a distribution centre (Fanning 2001, 146). However, this only occupied part of the site, the remainder being derelict industrial land that became a matter of concern amongst local residents. Eventually, in October 1972, work commenced on reclaiming the site and converting it into parkland (*Oldham Evening Chronicle* 18 September 1972).

4. FIELDWORK RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological evaluation initially comprised the excavation of 11 trenches, targeted on features depicted on historical mapping (Fig 2), in accordance with the approved Written Scheme of Investigation. In the light of the results obtained from these trenches, and additional trench (Trench 12) was placed across the footprint of the late nineteenth-century brick kiln, which was exposed in Trench 1 beneath a raised bank along the eastern boundary of the study area (Fig 3).

4.2 TRENCHES 1 AND 12

4.2.1 Trench 1 was placed in the north-eastern part of the study area, aligned approximately north-east/south-west across the footprint of the late nineteenth-century continuous brick kiln depicted on historical mapping (Fig 2). The trench was excavated for a length of 21m, and to a maximum depth of 2.5m. Well-preserved structural remains of the brick kiln were exposed, together with ancillary features.

4.2.2 Excavation of the north-eastern part of the trench revealed a heavily burned surface of machine-made brick (***101***), clearly representing the *in-situ* remains of the brick kiln (Fig 4). The exposed surface was almost certainly an internal element of the kiln, and had probably formed part of a firing chamber floor (Plate 11). The north-western edge of floor ***101*** abutted a north-east/south-west-aligned wall, which was similarly composed of machine-made bricks. The location of this wall corresponded broadly with the curtain wall of the brick kiln, as shown on historical mapping (Fig 2).

4.2.3 Excavation to the south of floor ***101*** exposed a concrete base (***102***). This incorporated two metal tie-down bolts, suggesting that concrete ***102*** had been intended as a foundation base for an item of heavy machinery (Plate 12).

4.2.4 Situated immediately to the south of machine base ***102*** was wall ***103***. This similarly comprised machine-made bricks, and was aligned north-west/south-east. This wall was clearly associated with wall ***104***, which was aligned south-west/north-east and, in turn, abutted a two-course wide brick wall (***105***) running north-west/south-east at a slight angle to wall ***103***. This wall lay at the north side of a second concrete machine base (***106***), which incorporated a single tie-down bolt.

4.2.5 Two further walls (***107*** and ***108***) ran north-west/south-east parallel to each other to the south of wall ***106***, and abutted a surface of machine-made bricks (***109***). As with floor ***101***, the component bricks were all heavily burned, suggesting that surface ***109*** similarly represented the *in-situ* remains of an internal element of the kiln.

*Plate 11: View along Trench 1, showing brick kiln floor **101***

*Plate 12: Machine base **102** and wall **103***

4.2.6 Trench 12 was aligned broadly east/west, across the central part of Trench 1, and was intended to further investigate the extent of the remains of the brick kiln. The trench measured 16.4m long, and was excavated to a maximum depth of 1.2m.

4.2.7 Machine base (***102***) within Trench 1 was exposed further in Trench 12, where it was bounded to the west and east by walls ***1207*** and ***1210*** respectively (Fig 4). Both walls comprised hand-made bricks, and were two courses wide. Situated to the east of wall ***1210*** were the remains of a brick surface (***1211***) that had been subjected to intense heat, suggesting that it had formed part of a firing chamber within the kiln. A stub of brick walling (***1212***) ran east/west across surface ***1211***, although it was unclear as to whether this represented an *in-situ* or a tumbled structure. At the eastern end of the trench, and forming the edge of surface ***1211***, was a north-west/south-east-aligned wall (***1213***), which survived to a height of at least ten courses. The south-west-facing elevation of the wall ***1213*** had evidently been subject to intense heat, whilst the opposite elevation displayed evidence of only slight heating, suggesting that the wall represented the middle of the kiln.

4.2.8 Excavation of the western part of the trench revealed a surface (***1203***) of heavily burned, machine-made bricks, situated immediately to the west of wall ***1207***. Surface ***1203*** was bounded to the north by an east/west-aligned wall (***1205***), to the north of which was a deposit (***1206***) of mixed rubble. The western end of wall ***1205*** abutted another wall (***1202***), which was four courses wide, and aligned broadly north/south. The position of wall ***1202*** corresponded broadly with the outer wall of the kiln, as depicted on historical mapping. Further west were two concrete intrusions, ***1201*** and ***1215***.

4.3 TRENCH 2

4.3.1 Trench 2 was placed in the north-eastern part of the study area, aligned approximately north-east/south-west and positioned to investigate a series of buildings associated with the nineteenth-century colliery depicted on historical mapping (Fig 2). The trench measured 18m long, and was excavated to a maximum depth of 3.5m, although the natural geology was not encountered within the excavated area. The fragmentary remains of only two structures were exposed, and these were both situated towards the south-western end of the trench (Fig 5).

4.3.2 At the south-western end of the trench were the fragmentary remains of a three-course wide wall (***204***), composed of machine-made bricks, and aligned north/south (Fig 5). Wall ***204*** was abutted by the vestiges of a brick structure (***203***), which had been heavily damaged, although may have represented the *in-situ* remains of a surface. The area between wall ***204*** and structure ***203*** was filled with a deposit (***205***) of purple ash and cinders, which had probably derived from a chimney or flue.

4.3.3 No buried remains survived to the north-east of wall ***204*** and structure ***203***, the trench comprising backfilled demolition rubble to a depth lower than the remains at the southern end of the trench (Fig 5).

4.4 TRENCH 3

4.4.1 Trench 3 was placed across the north-eastern part of the study area, a short distance to the south-west of Trench 1, within the area of the modern football pitch (Fig 3). The trench was aligned approximately north-east/south-west, and was intended to investigate one of the colliery buildings known to have been used by the mid-twentieth century as a compressor house and lamp room (*Section 3.3.28 above*). The trench measured 25m long and 3.2m wide, and was excavated to a maximum depth of 1.2m (Plate 13).

4.4.2 Buried archaeological remains in the northern part of the trench had been subject to some disturbance, although a rectangular structure composed of machine-made bricks (***301***) survived *in-situ*. This comprised two parallel walls, aligned north-east/south-west and set 0.4m apart, with a third wall aligned north-west/south-east at the south-western end (Fig 6). A long wall of machine-made bricks (***302***) continued to the south-west. It was two-courses wide, and survived to a height of six courses high above a stone foundation. The wall was excavated to a depth of 0.9m deep, although its base was not exposed as the trench was flooded with water below this depth.

Plate 13: General view of Trench 3, looking south-west

4.4.3 Wall ***302*** appeared to be associated with two parallel walls (***303***) and (***304***), both made of two courses of brick with no stone foundation. The three walls essentially formed two long north-east/south-west channels, which immediately flooded with water which was heavily contaminated by diesel oil.

4.4.4 At the south-western end of the two channels was the remains of a brick and stone structure (***305***), which was exposed immediately below the modern ground surface. This structure may have originally been the foundation bed for an item of machinery. Beyond this structure the trench had been disturbed.

4.5 TRENCH 4

4.5.1 Trench 4 was aligned north-east/south west across the central part of the study area, towards the eastern edge of the football pitch (Fig 3). It was targeted on the pit bank and one of the colliery shafts and a reservoir depicted on the Ordnance Survey first edition 6": 1 mile map of 1848. The trench measured 21m long, and was excavated to a maximum depth of 1.6m.

4.5.2 No structures of archaeological interest were exposed in the trench, although a deposit of misfired bricks seemingly represented an *in-situ* dump of waste material from the kiln (*Section 4.3 below*). The remainder of the excavated material comprised rubble that was contaminated with diesel oil, and was subject to rapid flooding of ground water.

4.6 TRENCH 5

4.6.1 Trench 5 was aligned broadly north-east/south-west across the football pitch in the central part of the study area (Fig 3). The trench was targeted on one of the principal colliery buildings depicted on historical mapping, which is likely to have incorporated the boiler house and associated chimney (Fig 2). The trench measured 37m long and was excavated to a maximum depth of 2.3m.

4.6.2 A stone-capped drain of brick construction was exposed at a depth of 2.3m below the modern ground surface at the south-western end of the trench (Fig 7). This was sealed beneath a thick, mixed deposit of ash, rubble and clay, which presumably derived from the clearance of the site in the 1970s.

4.6.3 Situated at a distance of 6.2m from the south-western end of the trench were the well-preserved remains of a brick wall (***501***), aligned north-west/south-east and composed of machine-made bricks. The top of the wall was exposed at a depth of 0.52m below the modern ground surface, and was excavated for a depth of 2m, although its foundations were not exposed (Plate 14).

4.6.4 A second wall (***503***) ran parallel to wall ***501*** at a distance of 4.1m to the north-east (Fig 7).The area between the two walls incorporated a sloping brick surface (***502***), which extended from the top of wall ***501*** to the base of wall ***503***. Situated towards the exposed base of wall ***503***, and set slightly above the point where surface ***502*** abutted wall ***503***, were the possible remains of a suspended wooden floor.

4.6.5 Situated some 15.7m to the north-east of wall ***503*** was another wall (***505***), composed of machine-made bricks. Wall ***505*** was aligned north-west/south-east across the trench, and incorporated a narrow, 0.37m wide, doorway (***504***) set within a metal frame (Plate 15). The upper portion of the frame had a projecting slot, which had probably housed a retractable wooden or metal gate. The doorway led into a small underground brick chamber with passages leading off it to the north-west and south-east. These passages had both been blocked with brick. The top of the chamber beyond wall ***505*** comprised a surface of machine-made bricks coated with black tar. The area between walls ***503*** and ***505*** contained a thick deposit of mixed ash and rubble, which had a depth in excess of 2.5m.

*Plate 14: South-western end of Trench 5, showing structures **501** and **503***

*Plate 15: Passage **504** and wall **505** looking north-east*

4.6.6 Situated to the north-east of wall ***505*** was structure ***506***, which comprised two parallel north-west/south-east-aligned brick walls with brick steps in between leading downwards to the south-east. Abutting the eastern corner of steps ***506*** were the remains of a square brick chimney (***508***), with a brick-arched flue (***507***) extending to the north-west (Plate 16). Situated 1.15m to the north-east was a second set of brick steps (***509***) leading downwards to the south-east (Plate 17). At the north-eastern end of the trench was a wall (***514***) of machine-made bricks, which ran parallel to the south-eastern trench edge and then, at its north-eastern end, returned south-east into the trench edge. Beyond this wall the trench had been disturbed and was filled with mixed rubble and ash.

*Plate 16: Flue **507** and chimney **508***

*Plate 17: Brick steps **509**, looking north-west*

4.7 TRENCH 6

4.7.1 Trench 6 measured 10m long and was excavated to a maximum depth of 0.8m. It was aligned roughly east/west across the south-eastern corner of the football pitch (Fig 3), and was intended to investigate a building shown on the Ordnance Survey map of 1880, which is likely to have housed the winding engine for Victoria Pit (*Section 3.3.11 above*). Excavation revealed well-preserved structural remains that appeared to represent twentieth-century development of the colliery site, but no remains that could be identified firmly as representing elements of the winding engine (Fig 8).

4.7.2 A wall (***601***) composed of machine-made bricks bonded with a cement-based mortar, indicative of a twentieth-century construction date, was exposed at the eastern end of the trench. Wall ***601*** was aligned north-east/south-west, and survived to a height of at least four courses (Plate 18). A similar wall (***603***) was exposed at the western end of the trench (Fig 8). This sat on a concrete foundation (***604***), set within mixed rubble levelling material (***605***).

4.7.3 Excavation of the area between the two walls exposed a concrete floor (***602***), situated at a depth of 0.8m below the modern ground surface. This was overlain by a deposit of mixed demolition rubble, which was sealed beneath a thin topsoil that formed the football pitch.

*Plate 18: Trench 6 looking east, showing wall **601***

4.8 TRENCH 7

4.8.1 Trench 7 measured 15m long and was excavated to a maximum depth of 1.5m. It was aligned roughly north-east/south-west across the southern edge of the football pitch, and was intended to establish the presence or absence of remains of a rectangular structure associated with the colliery depicted on the Ordnance Survey map of 1848.

4.8.2 The entire length of the trench was filled with mixed demolition rubble and ash, almost certainly representing the clearance of the site in the 1970s. No features of archaeological interest were encountered.

4.9 TRENCH 8

4.9.1 Trench 8 measured 7m long, and was excavated to a maximum depth of 1.1m. It was aligned roughly north-east/south-west within the southern part of the study area, adjacent to the modern skate park. The trench aimed to investigate a building associated with the colliery depicted on the map of 1894.

4.9.2 The trench contained a thick deposit of crushed stone and brick, which probably represented modern levelling material associated with the clearance of the site in the 1970s, or the construction of the skate park subsequently. No features of archaeological interest were encountered.

4.10 TRENCH 9

4.10.1 Trench 9 measured 15m long and was excavated to a maximum depth of 2m. It was aligned roughly north/south across the southern part of the study area, and was targeted on the pit bank shown on the Ordnance Survey map of 1848, and the footprint a colliery building, potential housing the winding engine for Albert Pit, shown on the Ordnance Survey map of 1894 (Fig 2). No *in-situ* remains of archaeological interest were encountered in the trench.

4.10.2 A stone-capped drain (***901***) of brick construction, aligned east/west, was exposed at a depth of 0.5m at the northern end of the trench. This wall was covered by a layer of mixed rubble, ash and clay (***900***), which seemingly represented the demolition and clearance of the colliery during the 1970s. Demolition rubble ***900*** was excavated to a depth of 2m, although the bottom of the layer was not exposed.

4.10.3 The upper surface of demolition rubble ***900*** appeared to incorporate a small, semi-circular, bowl-shaped depression with a slight raised bank around the top edge. Whilst this was not investigated fully, it seems possible that this represented an infilled mine shaft.

4.11 TRENCH 10

4.11.1 Trench 10 measured 14.5m long and was excavated to a maximum depth of 1.2m. It was aligned roughly north-east/south-west within the south-western part of the study area. The trench aimed to establish the presence or absence of remains associated with the former colliery depicted on the Ordnance Survey map of 1894. Well-preserved structural remains of archaeological interest, seemingly representing at least two phases of development, were exposed in the trench.

4.11.2 Excavation of the north-eastern part of the trench revealed a substantial, sub-rectangular plinth of stone and brick construction (***1003***), situated at a depth of approximately 0.3m below the modern ground surface. A wall (***1004***) composed of hand-made bricks bonded with a lime-based mortar, suggesting a mid-nineteenth century date of construction, was exposed along the eastern side of plinth ***1003*** (Fig 10). A surface composed of hand-made bricks (***1005***) was situated immediately to the north of the plinth, with another brick surface (***1006***) lying adjacent (Plate 19). Surface ***1006*** sloped down to a brick and mortar base (***1007***) at the north-east end of the trench (Fig 10).

4.11.3 Excavation to the south-west of plinth ***1003*** revealed a concrete surface (***1002***; Plate 20), although a localised deposit of mortared brick tumble perhaps represented demolition associated with the construction of surface ***1002***.

*Plate 19: Trench 10 looking south-west, showing plinth **1003**, and surfaces **1005** and **1006***

*Plate 20: Trench 10, showing surface **1002** at the south-western end of the trench*

4.12 TRENCH 11

4.12.1 Trench 11 was excavated for 6.6m along an east/west-alignment, and a further 15.7m on north-west/south-east alignment (Fig 3). It was excavated to a maximum depth of 2m, and was placed a short distance to the west of Trench 10. The trench aimed to establish the presence or absence of remains associated with the former colliery depicted on the Ordnance Survey map of 1894 (Fig 2). As with Trench 10, well-preserved structural remains of archaeological interest, seemingly representing at least two phases of development, were exposed in the eastern part of the trench. Conversely, excavation of the western arm of the trench exposed a thick deposit of ash and fine coal dust (***111***), which seemingly represented waste material dumped during the operation of the colliery. Deposit ***111*** was excavated to a depth of 3.5m, although the base of this material was not exposed.

4.12.2 A brick wall (***1109***) composed of hand-made bricks was exposed in the central part of the trench (Fig 11). Wall ***1109*** was two courses wide, and was aligned north-east/south-west across the trench. A short stub of brick wall (***1110***) ran north-west from wall ***1109***, perhaps representing the remains of a buttress. Another wall (***1106***), composed of hand-made bricks, extended to the south-east from wall ***1109***, with a concrete surface (***1107***) exposed to the south. Situated at the south-western end of wall ***1106*** was a stone-flagged floor (***1104***) sitting on stone walling.

*Plate 21: Trench 11, showing **1101** and **1104** at the south-western end of the trench*

4.12.3 Situated to the north of floor ***1104*** and wall ***1106*** was a stone structure (***1101***), which comprised stone blocks forming an 'L'-shape (Plate 21). This had a groove cut along its south-western edge, a small circular hole drilled into it and a cast-iron tying-down bolt at the southern corner. There was also the 'U'-shaped imprint of a machine or engine base stained onto the stone surface. The stone blocks forming the walls of both ***1101*** and ***1104*** were of well dressed, slightly rusticated ashlar masonry of varying sizes.

4.12.4 Between structures ***1101*** and ***1104***/***1106*** was a channel filled with mixed rubble (***1115***). Excavation of rubble ***1115*** from the channel exposed a 0.47m wide brick-arched opening (***1114***) through wall ***1106***, which had been partially blocked with bricks (Plate 22). Opposite ***1114***, and set within stone structure ***1101***, was a square opening, measuring 0.48m wide. The rationale for these openings remains unclear.

*Plate 22: Trench 11, showing arched-brick aperture **1114** within wall **1106***

4.13 FINDS

4.13.1 Very artefacts were recovered from the evaluation trenches. The assemblage consisted entirely of misfired bricks, almost certainly discarded from the brick kiln (Plates 23 – 27). These were all recovered from a dump of waste material exposed in Trench 4, and clearly offer some potential to inform an understanding of the type and range of bricks that were manufactured in the kiln.

Plate 23: Sample of waste brick recovered from Trench 4

Plate 24: Sample of waste bricks recovered from Trench 4

Plate 25: Sample of waste brick recovered from Trench 4

Plate 26: Sample of waste brick recovered from Trench 4

Plate 27: Sample of waste bricks recovered from Trench 4

5. IMPACT AND RECOMMENDATIONS

5.1 INTRODUCTION

5.1.1 The programme of archaeological investigation at the site of Oak Colliery has provided a valuable opportunity to investigate the physical remains of one of Oldham's most important collieries. The evaluation has also demonstrated that buried remains of archaeological interest survive *in-situ* across the site, and has provided an indication of their depth, nature, character and significance.

5.1.2 The current design proposals for the development of the site necessitate earth-moving works that will impact upon the buried archaeological remains. Whilst the remains encountered across the site are not considered to be of national importance, which would merit preservation *in-situ*, their damage or destruction during the course of the proposed development will require an appropriate mitigation strategy to be formulated.

5.2 OAK COLLIERY

5.2.1 Well-preserved remains of the colliery were exposed in some of the evaluation trenches, offering considerable potential for further excavation. In particular, in the central part of the site, elements of the putative boiler house, chimney and associated structures were exposed at a shallow depth in Trench 5.

5.2.2 Excavation in the south-western part of the site also revealed well-preserved remains. The stone structures and brick walling exposed in Trench 10 and Trench 11 appeared to represent a foundation base for a steam engine, or other items of large machinery. The use of hand-made bricks and stone masonry in the fabric of these structures suggest a mid-nineteenth-century construction date and, as such, may represent the early development of Oak Colliery. The concrete floors exposed in the trenches appeared to represent the remodelling of the associated buildings, although the original structures seemed to have remained intact. The results obtained from these trenches indicate that other, associated buried remains are likely to survive in the immediate vicinity.

5.2.3 The remains exposed in Trench 3 were fragmentary, although appeared to represent a series of flues or drains. The large amount of oil within the trench suggests that an engine or machinery was in the immediate vicinity, possibly on the large structure to the south-west of the channels. The ground contamination in this area would preclude detailed archaeological excavation.

5.2.4 Trench 6 was targeted on the site of a building thought to have housed a winding engine for Victoria Pit. However, the structural remains exposed in this trench appeared to be of a twentieth-century date, and possibly represented the redevelopment of the site; no remains of the original engine house were encountered.

5.2.5 The remains of buildings forming the eastern part of the colliery site were investigated in Trench 2. The results obtained from this trench, however, indicated that all remains of buildings to the north-east of wall ***204*** and structure ***203*** had been destroyed entirely. Similarly, no structural remains were present within Trenches 7 and 8 in the southern part of the site, and these had probably been destroyed during the clearance of the site in the 1970s, or as a result of the more recent landscaping works associated with the construction of the skate park.

5.3 THE BRICK KILN

5.3.1 The well-preserved remains of the continuous-type brick kiln were exposed in Trenches 1 and 12, with part of a dump of brick wasters identified in Trench 4. The brick surfaces exposed with the Trenches 1 and 12 were heavily burnt, suggesting that they represented the floors of firing chambers within the kiln. The position of wall ***1202***, revealed in Trench 12, corresponded with the outer north-west wall of the kiln, as depicted on historical mapping. It seems likely that wall ***1213***, also exposed in Trench 12, represented the remains of the interior wall of the north-west 'track' of the kiln, separating the 'track' from the centre of the kiln. This would suggest an overall north-west/south-east width of 22 to 25m, which is consistent with the available cartographic evidence. The intended function of the two putative machine beds (***102*** and ***106***), however, remains unclear.

5.3.2 The results obtained from the trenches placed across the footprint of the brick kiln have some potential to inform several of the initiatives for archaeological research of the industrial and modern periods outlined in the current *Archaeological Research Framework for North West England* (Newman and McNeil 2007; McNeil and Newman 2007). In particular, *Initiative 7.38* states: 'There is a need to source the products of brick and tile kilns and to establish typologies. Early brickfields rarely survive but the below-ground investigation of such sites, as well as surveys of later extant brickworks, should be a priority to understand the technological development of the industry within the region' (Newman and McNeil 2007, 154).

5.4 RECOMMENDATIONS

5.4.1 Following consultation with the Assistant County Archaeologist for Greater Manchester, it is recommended that any earth-moving works in certain parts of the site is preceded by a programme of controlled archaeological excavation. The results obtained from the evaluation indicate that three areas of the proposed development site merit further archaeological investigation: the footprint of the brick kiln beyond the eastern edge of the football pitch, evaluated in Trenches 1 and 12; the southern part of the football pitch, investigated in Trench 5; and the south-western part of the development area, evaluated in Trenches 10 and 11 (Fig 12).

5.4.2 Well-preserved structural remains of the brick kiln were exposed in Trench 1 and 12. These remains are of considerable archaeological interest, and merit further detailed investigation.

5.4.3 The remains of the putative boiler house and associated structures in the central part of the site were revealed to survive *in-situ* in Trench 5. These remains are of considerable archaeological interest, and also merit further detailed investigation.

5.4.4 In the south-western corner of the proposed development area, well-preserved remains of structures occupying the pit bank associated with Albert Pit were exposed at a shallow depth in Trenches 10 and 11. These remains appeared to represent several developmental phases, spanning the mid-nineteenth to mid-twentieth centuries. The exposed remains are of considerable archaeological interest, and merit further detailed investigation.

5.4.5 Elsewhere across the site, structural remains of potential interest were exposed in Trenches 3, 6 and 9. However, ground contamination and groundwater flooding issues may render further detailed investigation in this area impractical. In Trenches 6 and 9, the exposed remains were of lesser interest, but nevertheless demonstrate that buried structures survive *in-situ* in these parts of the site. It is considered that whilst none of these areas merit further detailed excavation, an archaeological watching brief during the development programme might be an appropriate course of mitigation.

5.4.6 The evaluation has demonstrated that any remains of the colliery in the central part of the proposed development area, investigated by Trenches 2, 4, 7 and 8, were destroyed completely during the clearance of the site during the 1970s, or subsequently. It is considered unlikely that any further archaeological investigation in this part of the site would be merited.

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APPENDIX 1: PROJECT BRIEF

BRIEF FOR A PROGRAMME OF ARCHAEOLOGICAL WORKS

Site Name: Brook Mill, Hollins Road, Oldham

Planning Application Reference: PA/056494/09

GRID REFERENCE: SD91540299

Issued by: A. Myers (Assistant County Archaeologist)

Date: 14th January 2010

1.0 Introduction

1.1 Oldham Metropolitan Borough Council has granted outline planning permission for the erection of an Academy Secondary School on the site of Brook Mill, Hollins Road, Oldham (fig. 1). Condition 8 attached to the planning permission requires that,

> "No development should be undertaken until the applicant has secured the implementation and completion of a programme of archaeological works to be undertaken in accordance with a written scheme of investigation approved by the Local Planning Authority."

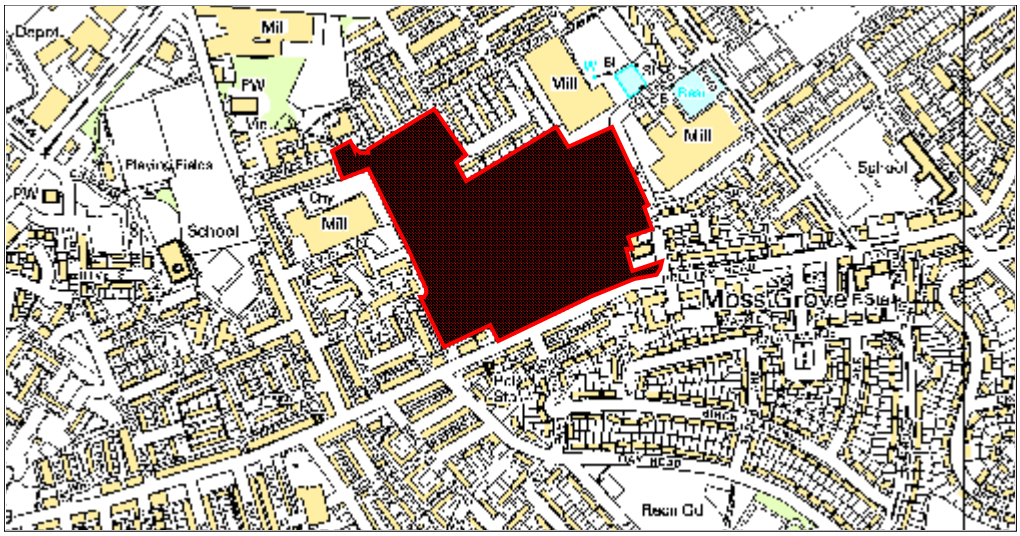

Fig.1: Location of Brook Mill application site (outlined in red)

1.2 This brief covers the implementation of and reporting upon a programme of archaeological works on the development site associated with planning application PA/056494/09. It includes both the site of Brook Mill No 2, shortly to be demolished, and an area of amenity land that lies immediately west of mill.

1.3 From this brief for a programme of archaeological works a written scheme of investigation (WSI) will be produced by the appointed archaeological contractor. The WSI will be submitted in advance for approval by Oldham MBC.

2.0 Background

2.1 The existing Brook Mill No 2 building, formerly a spinning mill, was erected in 1883. This five storey, brick built building of 23 bays has large rectangular brick arch windows, a flat roof, stone capped corner pilasters, and a plaque stone on tower which states "Oldham Twist Co. Ltd. AD 1883". There is also an engine house, dating to the late nineteenth century that is attached to the west side of the mill along with a circular brick chimney and boiler house. There are several later buildings. The single storey warehouse of 16 bays is early twentieth century and has been added to the east side of the mill. It is red brick with a steel and concrete internal structure and has a loading bay at the south end. The 4 bay single storey office building is also early twentieth century, built in red brick and unusually plain. The schematic proposals suggest that once demolished the site of the mill buildings would provide the focus for the construction of the new Academy buildings.

2.2 No desk-based archaeological assessment has been produced for this site. However, a detailed Historic Building Report of Brook Mill No. 2 has been completed and submitted by Garry Miller (2009). Background research for the survey has provided a detailed account of available documentary, cartographic and historic imagery for the mill itself as well as of the mapping covering the general area of the site, including the land immediately to the west of the mill. This work was undertaken in respect of condition 7 of the planning consent.

2.3 The Historic Building Survey report offers specific recommendations for mitigation of the demolition of the mill building (13.3). These include maintaining a watching brief during the soft-strip / demolition phase to record any concealed detail with the findings being included in an updated version of the report. The present brief will not cover this additional historic building recording, which should be undertaken by Garry Miller as part of the requirement arising from condition 7. However, an archaeological investigation of below-ground aspects of the Brook Mill No. 2 power system – including the engine bed, 4 boiler beds and the flue system – will almost certainly overlap in terms of subject matter with the watching brief element of the historic building survey. **It is essential that the appointed archaeological contractor work in close liaison with Garry Miller.**

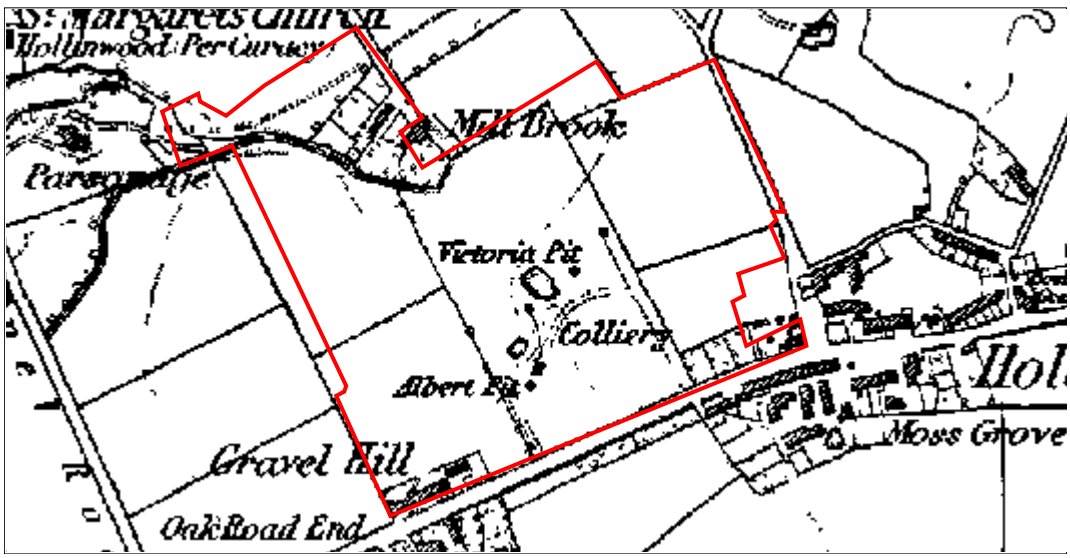

Fig. 2: OS 1848

2.4 The proposed development also includes the formation of a series of sports facilities on land to the west of Brook Mill. Today this land is a green amenity area. However, the site was formerly a significant part of Oak Colliery. The history of Oak Colliery has received some discussion in Gerry Fanning's book 'Oldham Coal' (2001). It is thought that the site had seen coal mining since the eighteenth century. Two small pits extracting cannel coal existed here before the1840s. With the marriage of Queen Victoria in 1840, as part of the collective national celebration of the event, the pits were named Victoria and Albert pits (fig. 2). 'Duke Pit' was sunk in 1845 as part of Oak Colliery, under the ownership of William Jones and Company. We know that a Fairburn pump engine was installed at Duke Pit in 1846. The colliery grew and by the 1890s had also developed a brick works, presumably exploiting the ample clay reserves on the site.

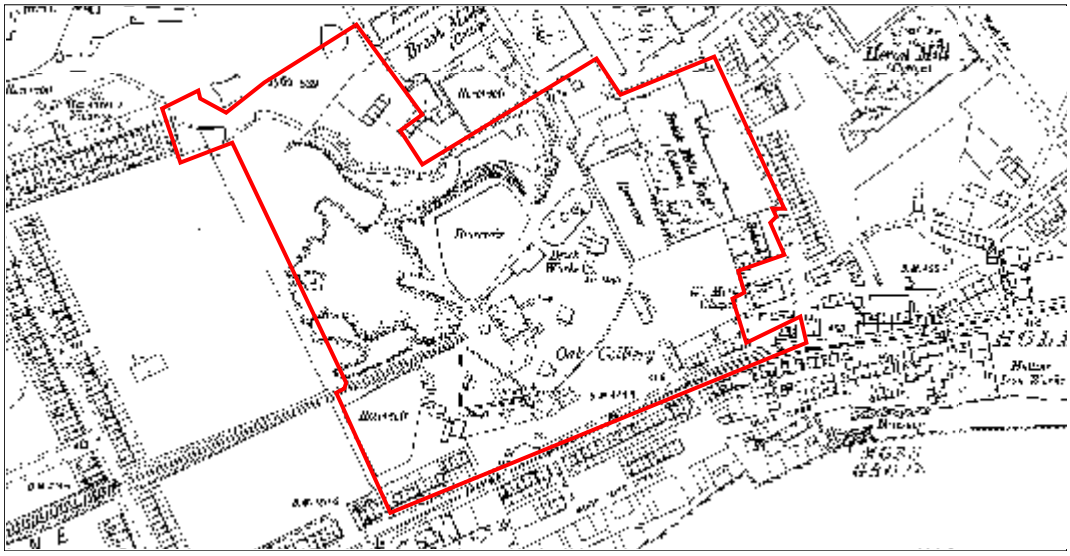

Fig. 3: OS 1907

2.5 The Ordnance Survey 25" mapping of the 1890s through to the 1920s (fig. 3) shows what appears to be a very large Hoffman-style brick kiln with a central chimney centred on SD91460296. Such kilns represented a major investment and, judging from the historic mapping, this example was c.40m long and 18m wide. Large areas of the site now used for amenity open space appears to have been either quarried for clay or covered in spoil tips. By 1896 the Oak Colliery brick works was the largest producer in Oldham. However, by the early 1920s the brick works is shown on mapping as 'disused'. It is not known when the kiln was finally demolished. Mapping of the 1950s shows the colliery but no standing kiln (fig. 4) Oak Colliery continued in coal production until the 1960s. The site was landscaped in the 1970s.

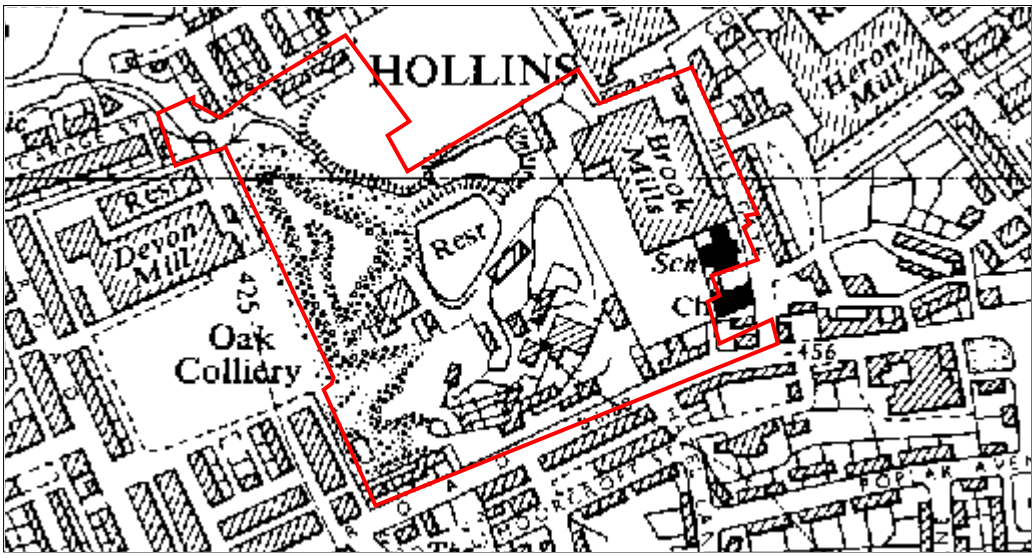

Fig. 4: OS 1954

3.0 Method

3.1 Following the demolition of the above ground fabric of Brook Mill No. 2 there should be a targeted archaeological investigation looking at the surviving evidence for the power systems. Machine assisted trenching should be undertaken to locate surviving below ground evidence for the power systems including the boiler beds, engine bed flue system and rope race. It is hoped to combine what has been learnt through the documentary and building survey with the archaeological investigation. This should provide a clear account of the physical archaeological evidence left by a known engine and boiler arrangement following demolition. For costing purposes the investigation of the Brook Mill 2 power systems should provide for a minimum of 3 x 30m trenches with contingency for 1 x 30m trench. However, in practice the relevant area may simply end up being stripped, mapped and recorded.

3.2 For the rest of the site the programme of works will be phased and should commence with some background documentary research into the history and development of Oak Colliery and the Oak Colliery brickworks, supported by a site walkover survey. Information should be sought at Gallery Oldham (social collections) and Oldham Local Studies Library. The physical development and growth of the colliery from being Victoria and Albert pits through to the Oak Colliery of the 1960s should be charted. **The results of the documentary research should be the subject of a separate report unless otherwise agreed in advance by GMAU.**

3.3 It should be noted that a third condition (condition 9) attached to the planning consent requires that

> "The applicant will design and implement a scheme for the display of industrial archaeological remains/information commemorating the industrial heritage of the site, the scheme to be approved in writing with the Local Planning Authority."

Images and accounts of the colliery and brickworks should prove valuable in informing decisions regarding the targets for subsequent phases of evaluation and excavation, as well as providing an important basis for developing a scheme in response to condition 9.

3.4 A programme of field evaluation should be devised to establish what remains survive of the various structures, spaces and features associated with Oak Colliery and the Oak Colliery brickworks. Amongst the targets for the investigation should be the locations of structures associated with the Victoria, Albert and Duke pits, key buildings and structures associated with the growth of Oak Colliery and the d Hoffman Kiln and buildings associated with the brickworks. The simplest approach may be to develop a programme of machine assisted evaluation trenching. Targeting will be informed by the information from historic mapping, documentary and imagery sources. For initial costing purposes the evaluation of Oak Colliery and the Brickworks should provide for a minimum of 10 x 30m trenches with a further contingency of 2 x 30m trenches. **A written scheme of investigation covering the evaluation phase should be prepared and submitted for agreement in advance.**

3.5 Informed by the results of the evaluation trenching a decision will then be taken regarding the need for further excavation to record evidence that may be destroyed by the proposed development. At this stage it is not possible to predict how much open area excavation may result from the evaluation phase and will need to be costed and agreed separately. **It should be assumed that the evaluation will need to be reported separately.** In practice, the client may wish to run the evaluation and area excavations together, in which case the evaluation results could be presented as part of the final report.

3.6 The appointed archaeologist should inform the client as soon as is possible of any significant post-excavation costs likely to arise, and agree and secure the necessary funding for such work.

4.0 Health and Safety

4.1 Those visiting and working on the site will naturally operate with due regard to health and safety regulations.

4.2 The appointed archaeologists/ historic buildings architect should undertake a site risk assessment.

5.0 Monitoring

5.1 The work should be undertaken by suitably qualified and experienced staff. Details of staff and their relevant experience should be supplied in the WSI to the Assistant County Archaeologist and agreed prior to the commencement of the project.

5.2 The Assistant County Archaeologist will require at least one week's advanced notice of the commencement of field recording, and may wish to visit the site and monitor the work.

6.0 Output

6.1 The preparation of any reports should follow the guidelines published by the Institute of Field Archaeology.

6.2 Upon completion of the programme of fieldwork a full report will be produced and printed copies submitted to the Local Planning Authority, the Assistant County Archaeologist and the HER.

6.3 The report should include as a minimum,

- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology (documentary research, evaluation, area excavation, watching brief phases)
- Detailed account of the work and its results.
- Conclusion, including a confidence statement
- Supporting drawn site illustrations at appropriate scales (site plan, evaluation trench locations, area excavation extent, plans of deposits and features, site sections [to include deposit relationships to ground surface], feature plans and sections)
- Selected site photographs (laser printer quality)
- Drawn finds illustrations – of representative and/ or key finds to support the interpretation of date/ site function – at appropriate scales
- Supporting data – including a basic quantification of artefacts, ecofacts and structural data tabulated and full specialist reports in appendices.
- Index to archive and details of archive location
- References
- Copy of this brief
- An electronic copy of the report (PDF) should be submitted to the HER in addition to the printed text.

6.4 Where the work is undertaken in fulfilment of a condition of planning consent, *discharge of the relevant condition will only be recommended by the ACA once the final report has been submitted and accepted*. Should a variation of this requirement be desired by the developer a written agreement to this effect should be sought from the ACA.

7.0 Submission and Deposition of Project Archive

7.1 From the outset of the project arrangements should be made for the archive, consisting of record sheets, original drawings, drawn plans, photographs, notes, copies of the all reports along with an index to the archive to be deposited with the appropriate archive repository.

8.0 Publicity

8.1 The results of the work should be made public. This may, dependant upon the results of the project, take the form of a full definitive report or a short summary published in an appropriate archaeological journal.

ILLUSTRATIONS

FIGURES

Figure 1: Site location

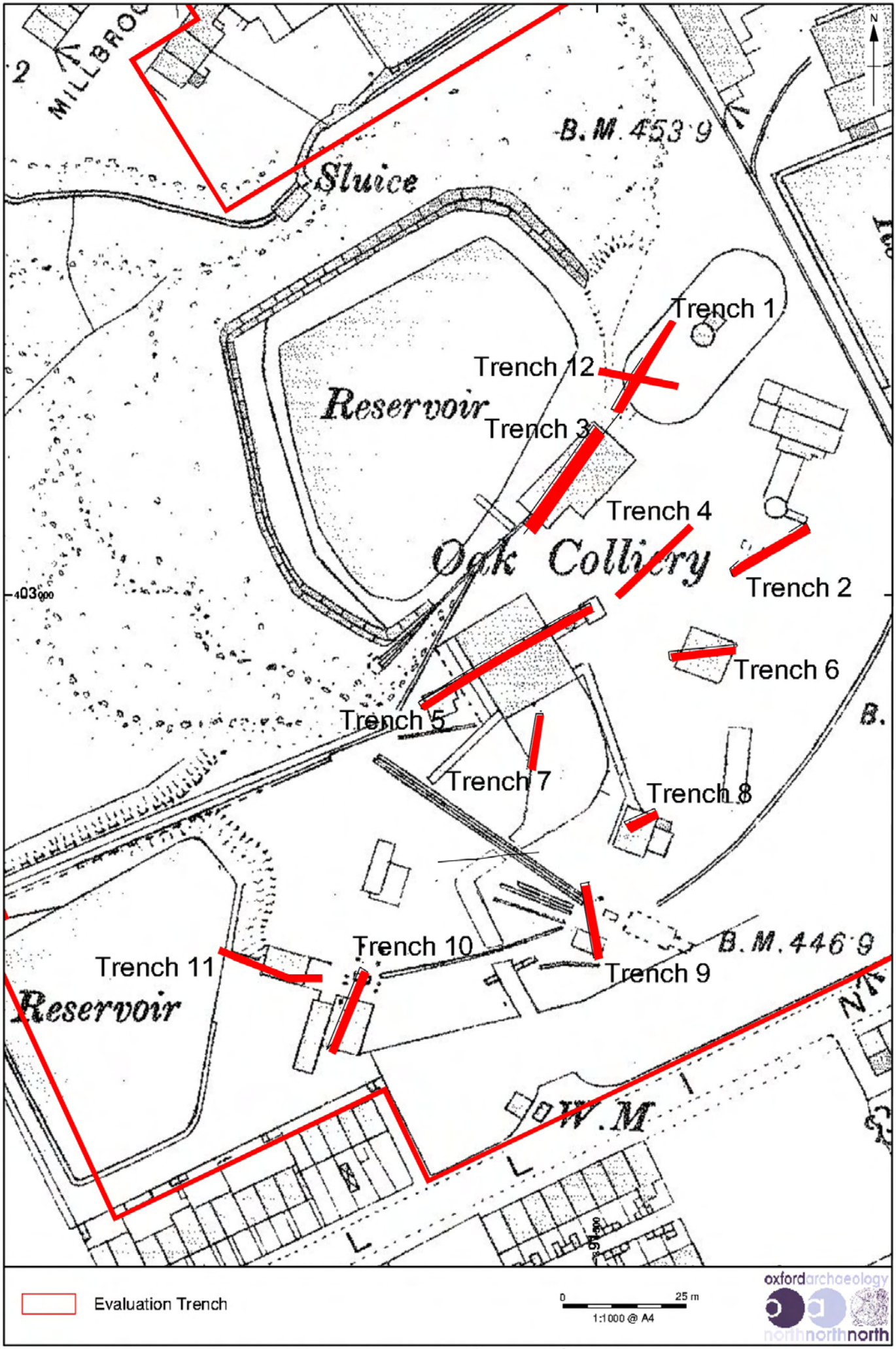

Figure 2: Trench location superimposed on the Ordnance Survey 25": 1 mile map of 1894

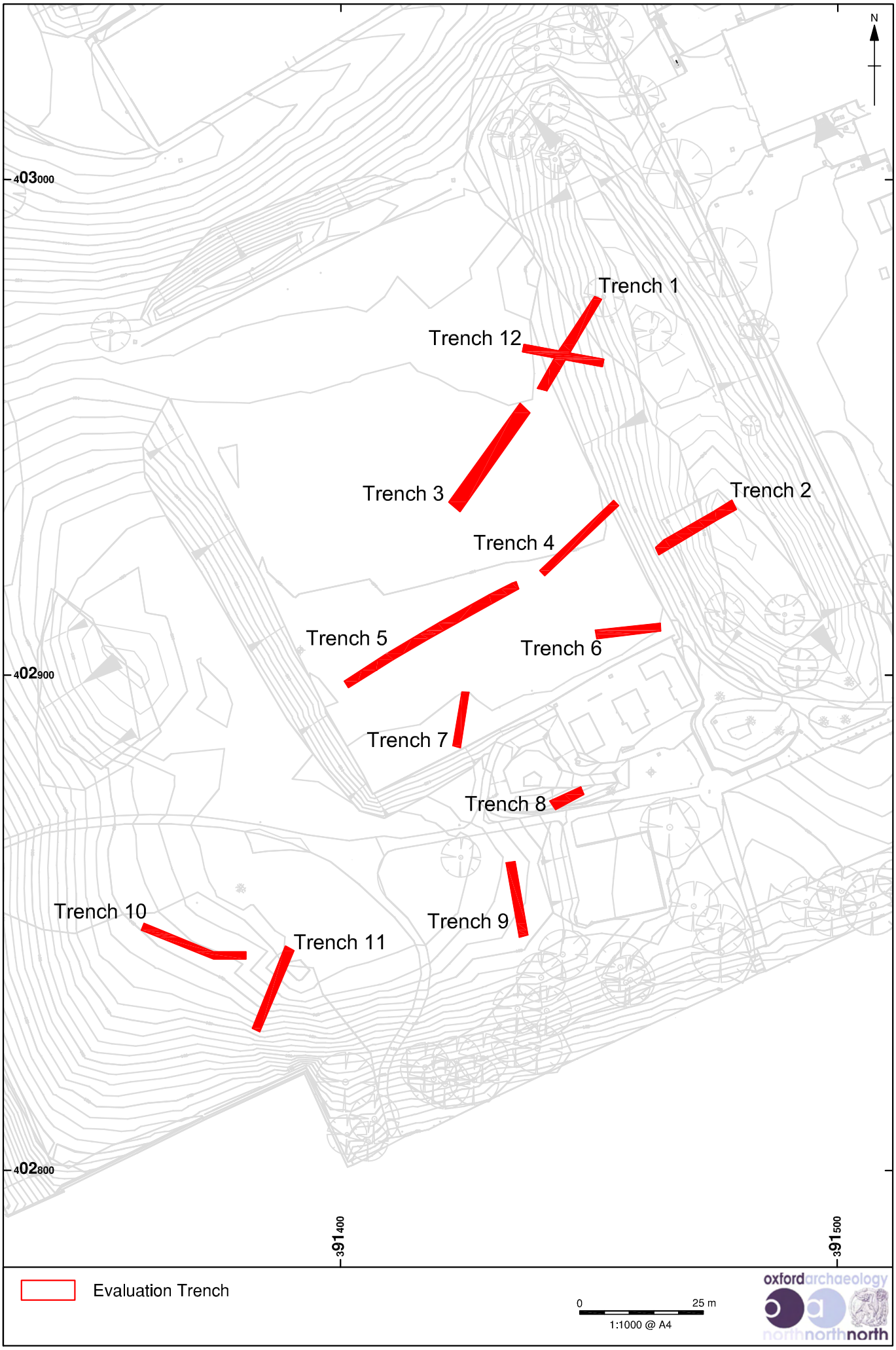

Figure 3: Trench location superimposed on modern topographic detail of the study area

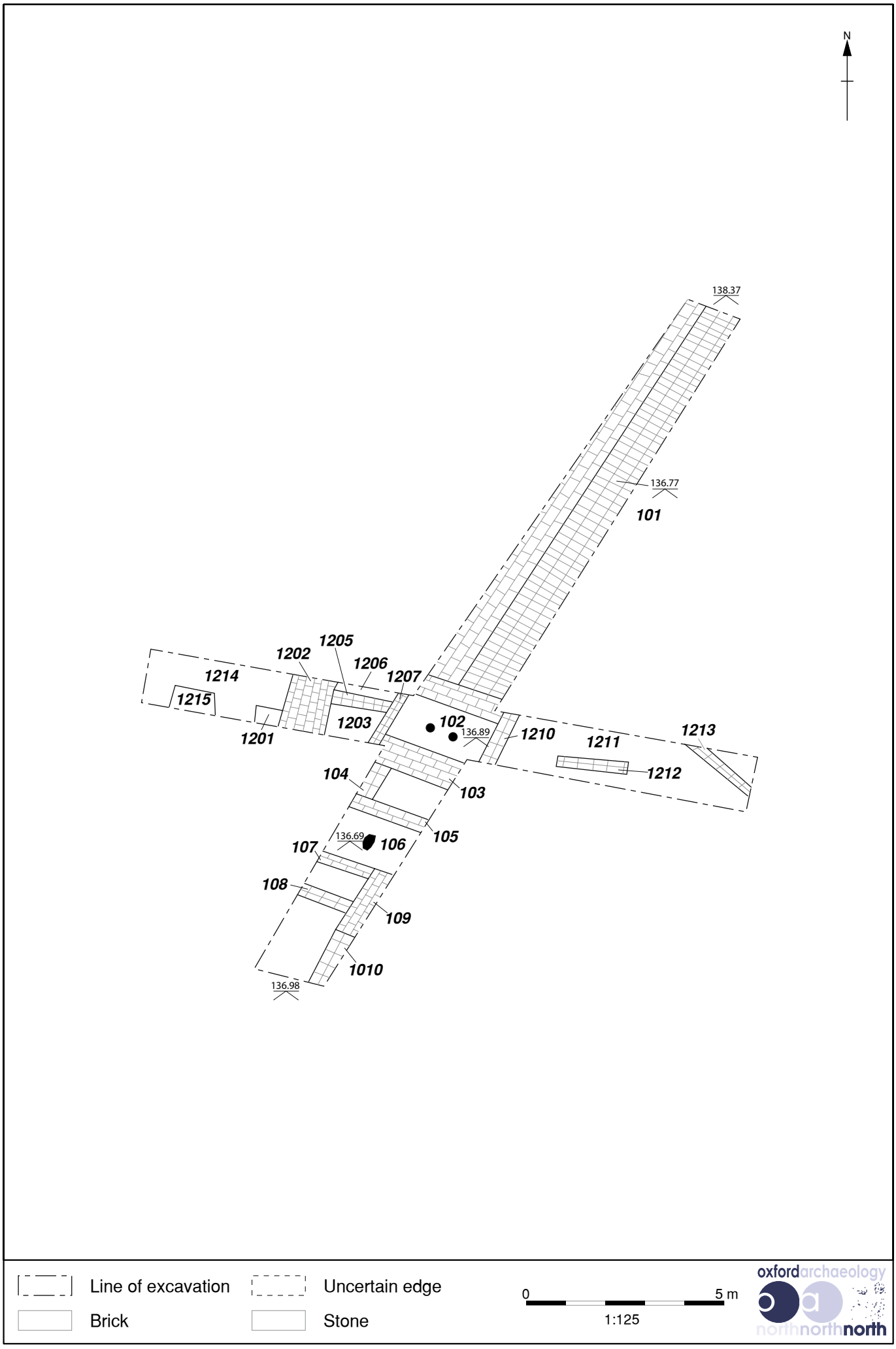

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Figure 4: Trenches 1 and 12

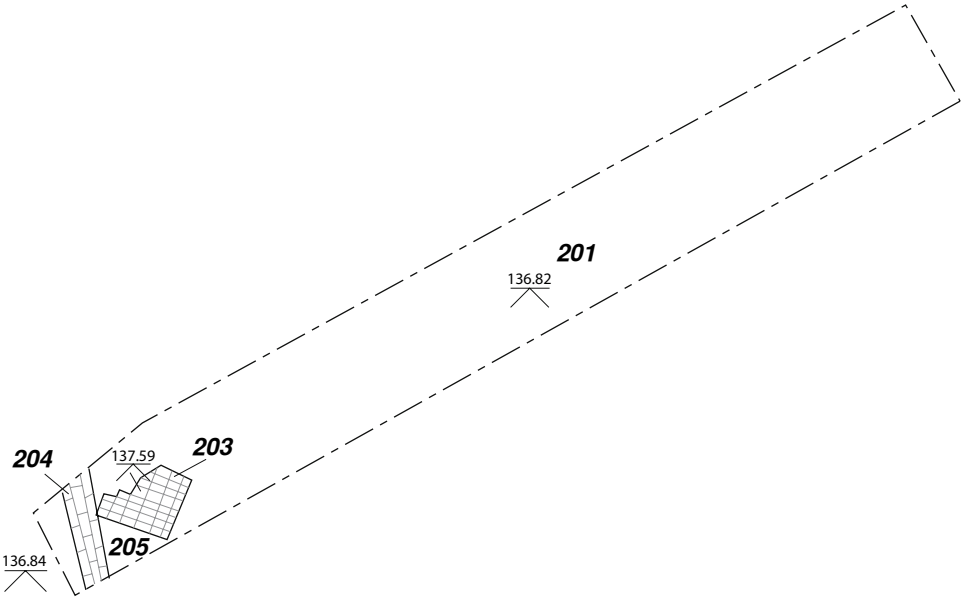


Figure 5: Trench 2

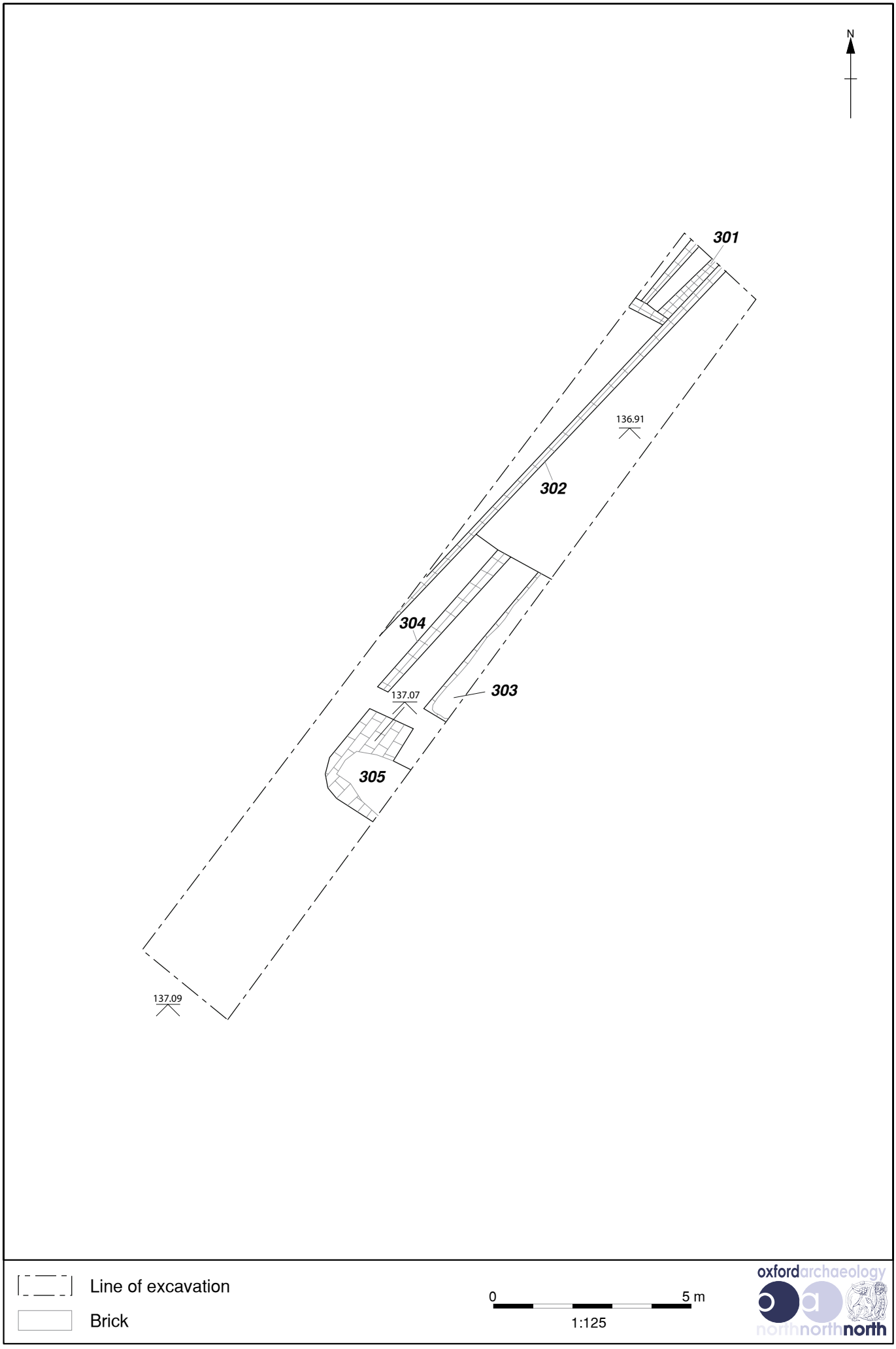


Figure 6: Trench 3

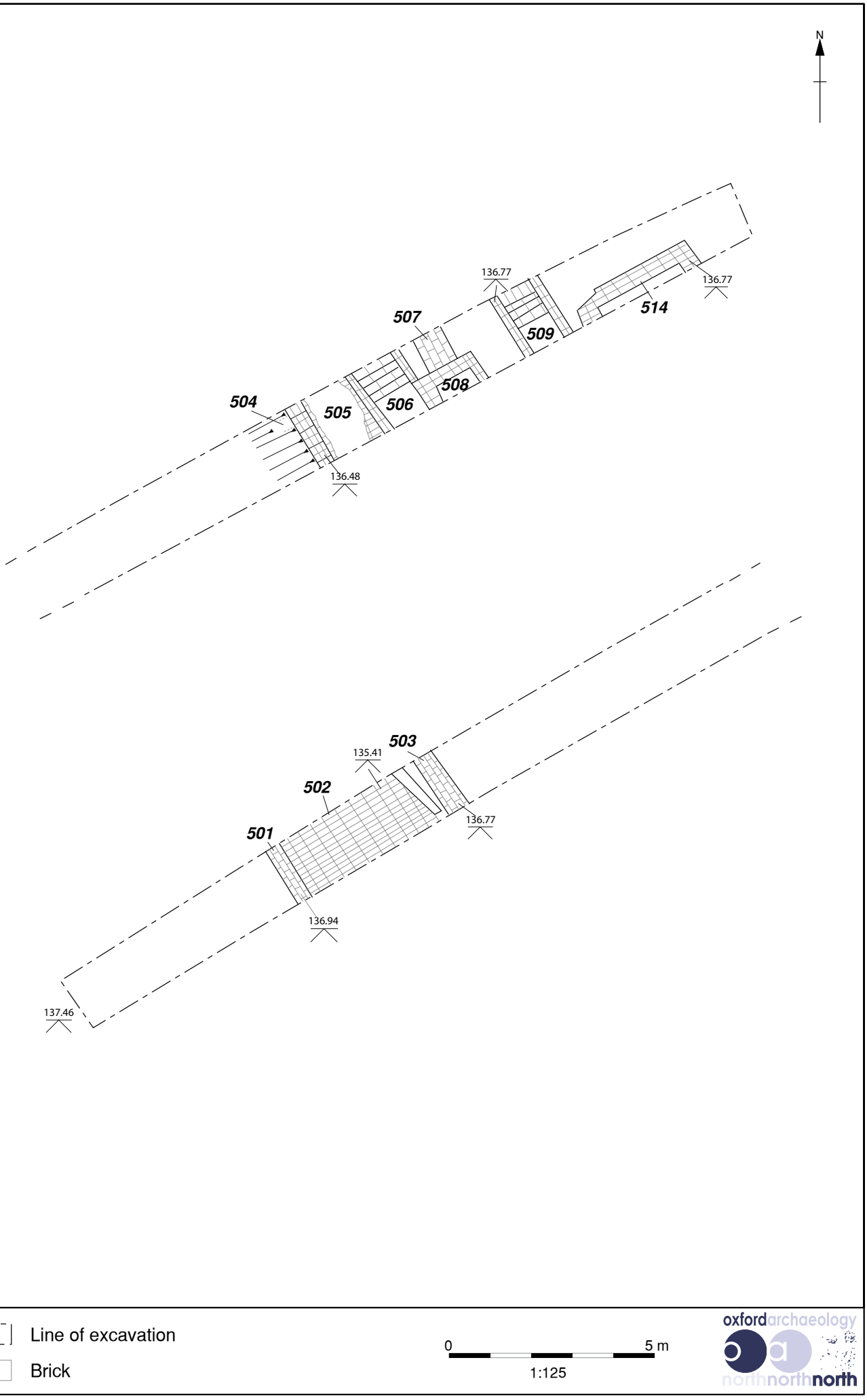
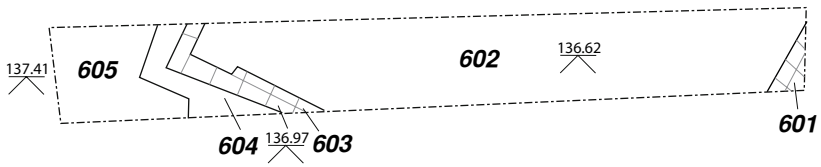


Figure 7: Trench 5



Line of excavation

Brick

0 5 m

1:125

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Figure 8: Trench 7

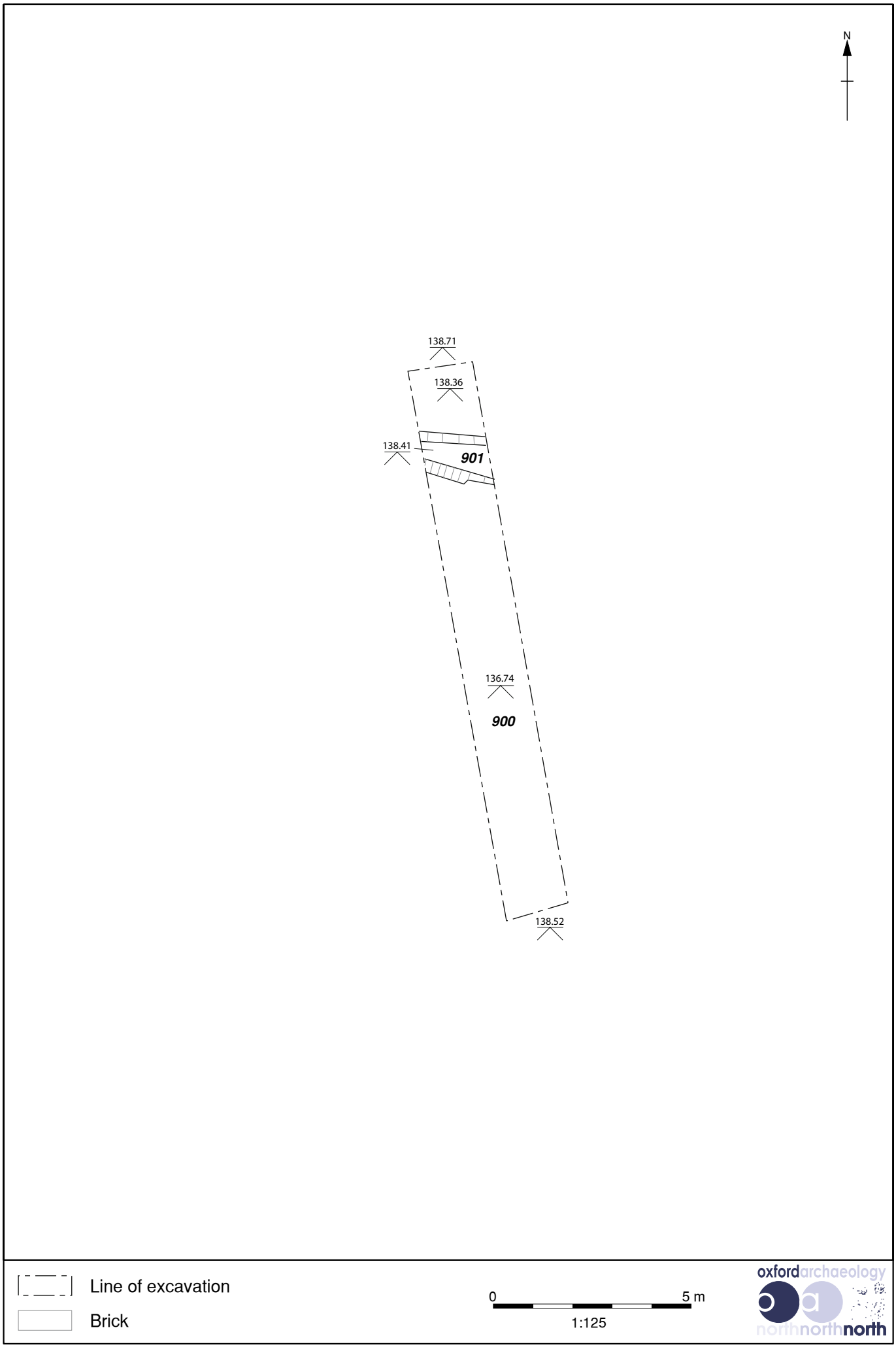

Figure 9: Trench 9

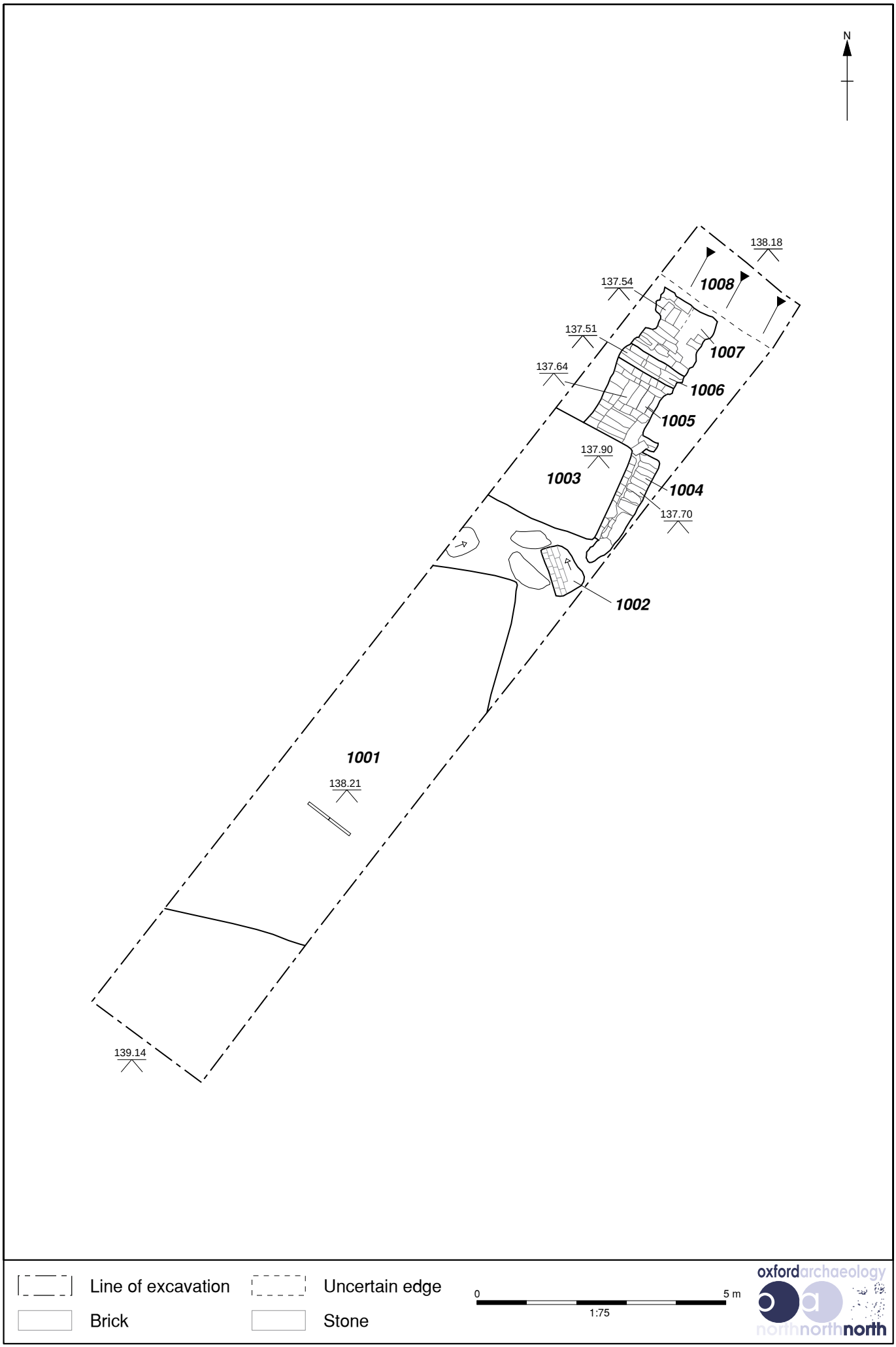

Figure 10: Trench 10

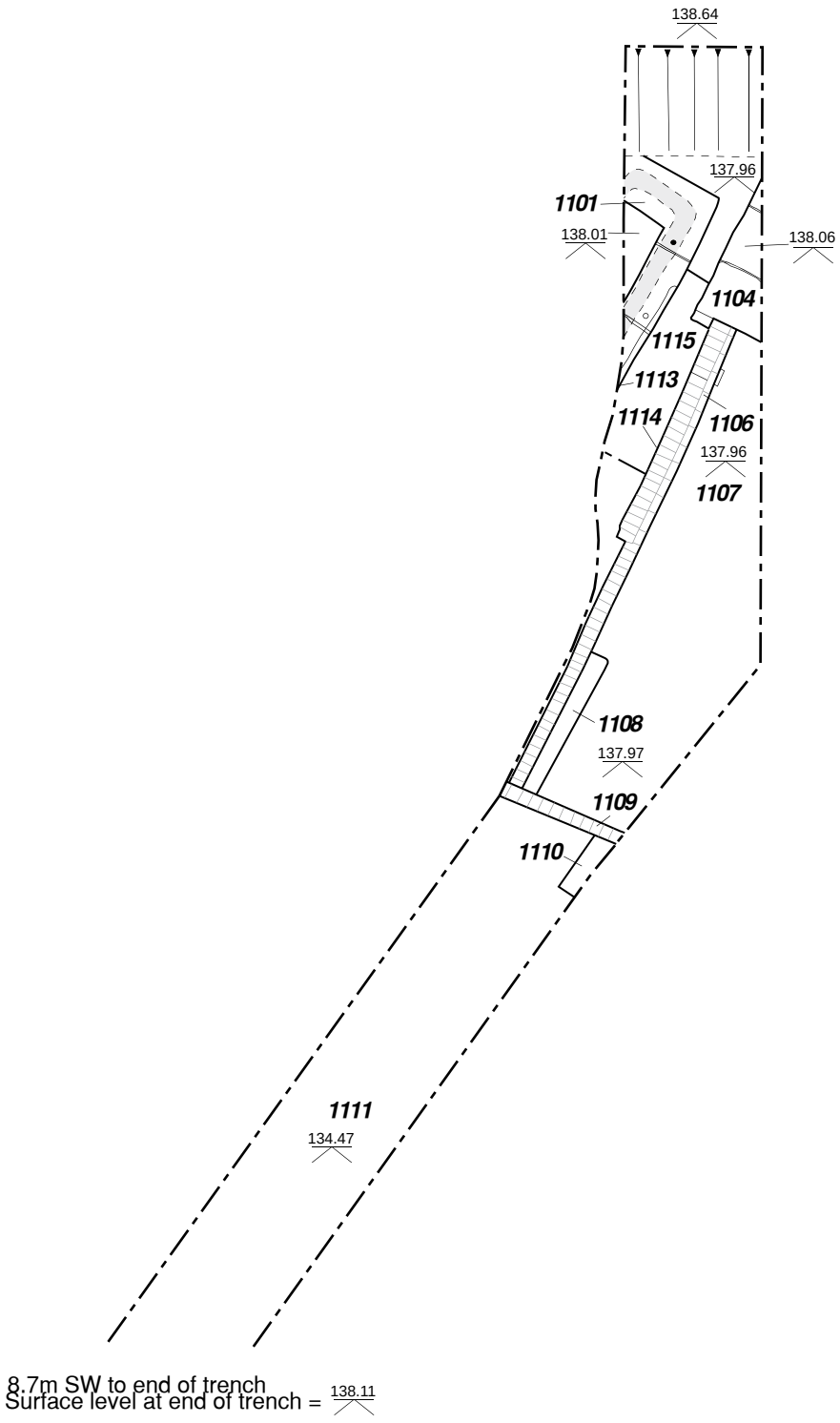

Figure 11: Trench 11

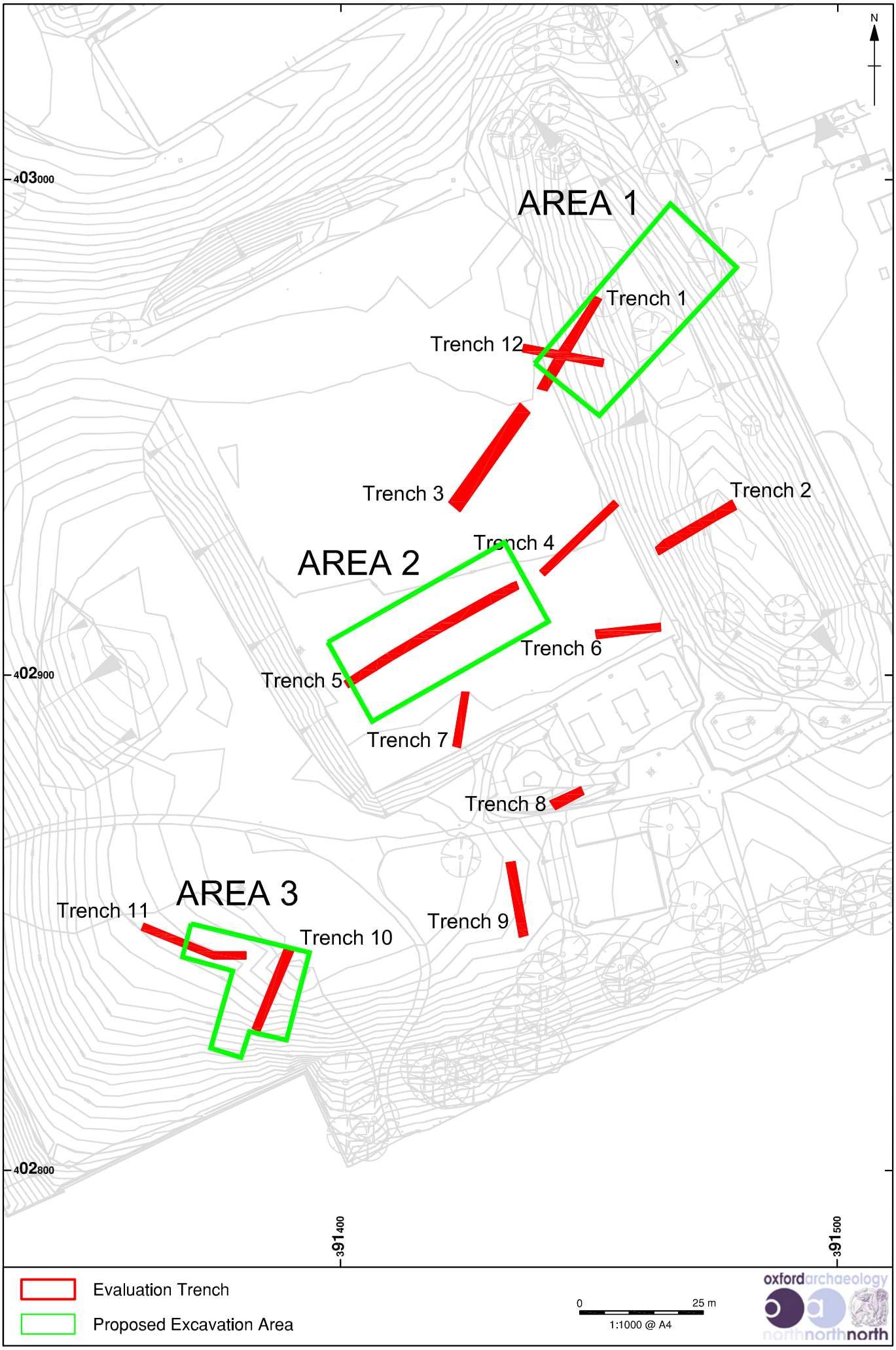

Figure 12: Location of areas meriting further excavation