PRN 3512

ST BEES TO BRAYSTONES WATER PIPELINE AND WwTW (SITE 3), CUMBRIA

Archaeological Evaluation

Oxford Archaeology North

January 2004

United Utilities Ltd

Issue No: 2003-4/099
OAN Job No: L9210
NGR: NX 9693 1135 – NY 0075 0619

Document Title:	**ST BEES TO BRAYSTONES WATER PIPELINE AND WWTW (SITE 3), CUMBRIA**
Document Type:	**Archaeological Evaluation**
Client Name:	United Utilities Ltd
Issue Number:	2003-4/099
OA Job Number:	L9210
National Grid Reference:	NX 9693 1135 – NY 0075 0619

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Date:	January 2004	
Document File Location	Alison/Projects/9210StBees/Report	

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SUMMARY

In August 2003, Oxford Archaeology North (OA North) was commissioned by United Utilities Ltd to carry out an archaeological evaluation in advance of the construction of a new pipeline from St Bees' sewage works (NX 9693 1139) to Braystones (NY 0076 0619). A total of 1.496km of trenching was excavated along the proposed pipeline and a further 0.3km of trenching in the area of the proposed Braystones Waste Water Treatment Works, centred on NY 008 050 to the south of Braystones village.

Following a desk-based assessment and walkover survey a program of archaeological evaluation trenching, which entailed the excavation of 5% of the study area, and comprised 48 evaluation trenches 1.6m wide and of varying length, was executed. Twenty-five of these were located in areas highlighted as being of potential archaeological interest based on results of a Stage Two Desk-Based Assessment and Walkover Survey carried out in April-June 2003. The remaining trenches were located sporadically along the proposed route (Figs 2a and 2b) to achieve as wide a coverage as possible.

Trial trenching confirmed the presence of probable post-medieval ridge and furrow in several areas, as well as two small undated pits of possible archaeological importance, both of which produced a suitable quantity of charcoal for dating purposes. Trial trenching produced a limited quantity of post-medieval pottery throughout the length of the proposed pipeline, with predictable concentrations near the centres of Nethertown, Braystones and St. Bees. Three pieces of flint were recovered from the same trench (TR 37) 0.7km south of St. Bees, though initial examination by OA North's lithics expert has revealed the one worked flint to be of modern origin (Gun flint).

The identified archaeological resource is of little significance. Given the lack of finds, features or deposits of archaeological interest there is no archaeological constraint for the construction of the proposed pipeline and waste water treatment plant and no need for further archaeological works to occur in the study area.

ACKNOWLEDGEMENTS

Oxford Archaeology North would like to express its thanks to United Utilities Ltd for commissioning the work. The evaluation trenching was carried out by Jess Opie, Jon Onreat, Mark Bagwell, Nicky Gaskell and Arran Ferguson, who wrote this report. Alison Plummer managed the project.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Oxford Archaeology North (OA North) undertook a programme of archaeological assessment, requested by the Cumbria County Council Archaeology Service in advance of two new pipeline developments. The first development, the St Bees to Braystones Rising Main was to run for approximately 7.3km, from St Bees sewage works (NX 9693 1139) to Braystones (NY 0076 0619). The second development is the Braystones Waste Water Treatment Works which was to cover some 2.78 hectares, centred on NY 008 050 to the south of Braystones village (Fig 1).

1.1.2 The archaeological programme of work comprised a desk-based assessment in conjunction with a rapid identification walkover survey. This was undertaken during April 2003. The construction work for the pipeline would necessitate the below ground disturbance of a large area of land, in a landscape already rich in archaeological discoveries, and so the potential for the disturbance of new archaeological deposits was considered to be high. The study was intended to appraise rapidly the likely archaeological value of the specified area, and to locate and record potentially important features in the landscape, whether or not they were visible as surface remains. To this end, available documentary and map sources were consulted. All the work was carried out in accordance with the project designs (*Appendix 2*) prepared by Oxford Archaeology North (OA North).

1.1.3 The desk-based assessment was undertaken to establish the likely presence and density of sites of archaeological interest within the area of the development. This comprised a search of both published and unpublished records relating to the history and archaeology of the area, as well as any original documents and relevant maps held in the Cumbria County Record Office in Whitehaven. The Cumbria Sites and Monuments Record (SMR), in Kendal was consulted: this is a register of all known sites of archaeological interest within the county and is the primary source for a search of this kind.

1.1.4 The walkover survey took place in conjunction with the desk-based assessment and comprised the systematic inspection of the proposed pipeline corridor, and Braystones wastewater treatment works and their immediate environs.

1.1.5 Following on from and informed by the desk-based assessment and walkover survey, a full programme of evaluation trenching was implemented to cover 5% of the area affected by the pipeline and wastewater treatment plant. This amounted to a minimum of 1.75km of trenching, trenches typically being 30m x 1.6m (Fig 2a and 2b). Of the 5% approximately 1km of trenching was recommended in areas where archaeological potential was thought to be high based on previous field walking exercises.

1.1.6 Results of this evaluation are presented in the form of a report outlining the results of findings followed by a statement of the archaeological potential of the area and the impact the proposed development will have on it and subsequent recommendations for further archaeological works where necessary.

1.2 GEOLOGY AND TOPOGRAPHY

1.2.1 The site lies on the west Cumbria coastal plain, covering the stretch of land between St Bees in the north and Braystones in the south (Fig 1). Along the coastlines are lesser cliffs formed from glacial moraine to the south of the impressive sandstone cliffs of St Bees Head (Countryside Commission 1998, 26). The landscape is fairly low lying, being anywhere between 30m-60m OD in the north around St Bees, and becoming gradually lower (20m-40m) further south towards Braystones (Ordnance Survey 2000). The countryside is cut by several becks running into the sea and a variety of small to medium sized tarns and kettle-holes litter the edge of the coastline (*ibid).*

1.2.2 The solid geology here is red and grey sandstone with partings of red mudstone (British Geological Survey 1982). The soils are brown earth over the northern half of the route, and brown sand over the southern half (Soil Survey of England and Wales 1983).

1.2.3 The geology is reflected in the sandstone quarries to the north of the pipeline route at St Bees and it is evident in the numerous red sandstone walls which can be seen in the area, particularly associated with the railway.

1.3 AGRICULTURAL CHARACTER

1.3.1 The landscape of the coastal plain consists of improved pasture grazed by cattle and sheep in medium to large sized open fields, (Countryside Commission 1998, 29). The fields are managed as grass leys, being occasionally ploughed and the field boundaries known as stone hedges or dykes, which consist of earthen banks with beach cobble facing in order to protect the thorn hedges from prevailing sea winds (British Trust for Conservation Volunteers 1977,13). The tarns and waterlogged areas are generally enclosed forming small generally overgrown reeded areas with stunted trees.

1.4 HISTORY AND ARCHAEOLOGY

1.4.1 ***Introduction***: the historical and archaeological background is principally compiled through secondary sources and is intended to put the results of the assessment into a wider context. The large study area inevitably means that the background is generalised in places, but specific references are made to the immediate area where relevant.

1.4.2 ***Prehistory***: Cumbria has few confirmed archaeological sites dating to the post-glacial period, indeed until recently habitation this far north at that time was

considered highly unlikely (Rollinson 1996, 14). Sites have, however been identified in the south of the county (Young 2002), demonstrating that the area was perhaps not as uninhabitable as previously thought, although such sites have not been discovered as far north as the study area. Evidence for hunter-gatherer sites of the Mesolithic period is, by contrast, well represented, with numerous sites known along the coast from St Bees to Walney Island. These tend to be late Mesolithic, and consist of flint and tuff scatters dating as late as the fourth millennium BC (Cherry and Cherry 2002). Similar evidence further inland is less well known, despite large quantities of similar material having been found on the limestone uplands of eastern Cumbria (*ibid*). There appears to be a degree of continuity between the end of the Mesolithic and the start of the Neolithic; flint artefacts typically belonging to the early Neolithic are essentially indistinguishable from the late Mesolithic (*ibid*). The Neolithic is, however, a time of significant social changes with the introduction of ceramics, large funerary and ritual monuments, more intensive agricultural practices and the large-scale production of polished stone axes. These are found throughout Cumbria, and were traded across Britain and into Europe (Rollinson 1967), and five examples are known from within the environs of the study area (Sites **33**, **38**, **47**, **50** and **81**).

1.4.3 Later prehistoric sites are recorded across Cumbria, although they are only just beginning to be understood. Extensive settlement remains have been examined through intensive aerial survey across the Solway plain to the north (Bewley 1994) and in the Lake District where large field systems and agriculturally improved areas have been identified in the uplands (Quartermaine and Leech forthcoming).

1.4.4 ***Roman***: the closest Roman forts to the study area are the forts at Ravenglass to the south and at Moresby to the north (Shotter 1993, 44). There are no Roman roads recorded running between these two forts, however the road south from Papcastle appears to finish on the River Ehen to the east of the study area (*ibid*). The discovery of the Braystones coin hoard (Site **35**) downstream from this stretch of road on the Ehen may indicate that the route continued into the study area.

1.4.5 ***Early Medieval:*** there is little physical evidence for habitation or activity in the centuries following the Roman period. Historians are forced to rely on fragments of records and place-name evidence (Rollinson 1996, 33), and as a result the record is far from clear. Cumbria probably formed part of the British kingdom of Rheged, recorded in Welsh poetry and other accounts (*ibid*), for which reliable evidence is scarce. In turn Rheged was eclipsed by the more powerful kingdom of Strathclyde in the north, at a time when the early Christian church was beginning to have a major impact on northern Britain (*ibid*, 34).

1.4.6 By the seventh century the power of the kingdom of Strathclyde was beginning to wane as the Northumbrian Anglian kingdom became the dominant force in the area (*ibid*). In time they too were ousted by a new power, the Vikings; the Danes at first arriving in the eastern part of Britain, and the Norwegian Vikings landing later, principally during the ninth century, in the west via Ireland. All of these groups had a great impact on the social

landscape of Cumbria, but few left any particularly evident physical traces. The Vikings in particular had a great effect on the language and place-names.

1.4.7 ***Medieval:*** following the Norman Conquest the north of England was a relatively unstable place, badly affected by cross-border conflict and constant rebellions against the new rulership (Rollinson 1996, 43-4). This ended in 1092 when William II retook Carlisle and drove out the Scots, bringing a relative peace and creating a new fortified border defended by loyal barons (*ibid*, 44-5). The priory of St Bees was founded in the early twelfth century (Wilson 1905, 179). It was wealthy in comparison with the other monastic houses in the country (*ibid*, 180). The removal of the constant threat of war at least brought some stability. It was not to last, however, and the next 200 years saw several further rebellions and feuds, as well as raids from Scotland, culminating in the numerous and serious attacks led by Robert the Bruce in the first half of the fourteenth century, which, combined with outbreaks of the plague, devastated vast areas (Rollinson 1996, 50). A network of fortresses was built, but it was not enough to keep the Scots at bay.

1.4.8 It was not until the fifteenth century that some form of peace returned and truces were signed (*ibid*, 55). The border remained an issue of some contention but the following centuries were characterised mainly by growth and stability. This was severely upset by the Dissolution of the monasteries, which seriously damaged many aspects of the social and economic fabric of the North of England (*ibid*, 57). Some agricultural development took place during this time, but it was through industry that Cumberland began to make its wealth (*ibid*, 60).

1.4.9 ***Post-medieval***: during the seventeenth century the Lowther family had a huge influence on the development of the area, particularly in and around Whitehaven (Collier 1991, 26-7). Sir Christopher Lowther turned Whitehaven's fishing harbour into a serious port, initially for the export of salt to Ireland (*ibid*, 26). Later his son, Sir John, exploited the rich coal resource of the area, also exporting it to Ireland (*ibid*). With coal being the main export to Ireland, the main import became tobacco from Virginia, and this meant it was difficult to find return cargoes (*ibid*). Sir John attempted to stimulate the linen and woollen industries as well as the tanneries to produce goods to export to America (*ibid*, 27).

1.4.10 During the eighteenth century the West Cumbrian coal industry continued to expand, with the Lowther family controlling around 90% of the coal in the area (*ibid*, 36). Whitehaven continued to develop as a port. As before, coal was exported to Ireland, and tobacco imported from America (*ibid*). From Whitehaven, tobacco was re-exported to Holland, France and various other European countries (*ibid*). In spite of the emphasis in towards industrialisation, in particular the exploitation of iron and coal reserves (Wood 1988), the area around St Bees probably remained relatively rural.

1.4.11 Industry continued to be the dominating social and economic factor of the area during the nineteenth century. The massive expansion in mining led to new transport routes being created, in particular the railways. The Whitehaven and Furness Junction Railway, which runs to the west of the proposed

development site, was completed in 1850 (Furness Railway Trust 2003). The majority of the main lines had been established by the mid-nineteenth century, principally for the export of coal and iron. In the area around St Bees, sandstone quarrying was an important industry, supplying stone to the expanding towns. The cliff-side quarries at St Bees had been worked since medieval times with materials being shipped by sea (British Stone 2000). During the eighteenth and nineteenth centuries some of the stone was shipped to America (*ibid*).

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design were submitted by OA North (*Appendix 2*), in response to a request from United Utilities Ltd, for an archaeological evaluation of the pipeline easement, in accordance with the briefs prepared by the Cumbria County Council Archaeology Service (*Appendix 1*). Following the acceptance of the project designs, OA North was commissioned by the client to undertake the work. The project designs were adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists.

2.2 TRIAL TRENCHING

2.2.1 The programme of trial trenching aimed to establish the presence or absence of archaeological deposits and, if established, test their date, nature and quality of preservation. The evaluation assessed the character of archaeological deposits to the depth of the natural topsoil.

2.2.2 The brief (*Appendix* 1) required that 5% of the study are be subject to evaluation, and entailed the excavation of 48 trenches, typically 30m x 1.6, though some trenches varied in length to suit the investigation and landscape. The trenches were spread evenly along the study area to gather as much information as possible from the area as a whole. Trenches were also located in areas highlighted by the desk-based assessment and walkover survey as being of high archaeological potential (Figs 2a and 2b). An assessment of service plans was undertaken so that live services could be avoided.

2.2.3 The trenches were excavated mechanically with a toothless ditching bucket 1.6m wide to the level of the natural subsoil or to the level of potential archaeological deposits under close archaeological supervision. Where potential archaeological deposits were encountered the trenches were hand cleaned and the deposits excavated manually in order to test their date, character and extent. The trenches were accurately located by GPS (accurate to +- 0.25m) or by triangulation from topographical features.

2.2.4 ***Recording:*** all information identified as potentially archaeological in nature was recorded stratigraphically with accompanying documentary evidence (plans, sections and both colour slide and black and white print photographs).

2.2.5 Results of the evaluation were recorded using a system devised from that used by the Centre for Archaeology of English Heritage. The archive includes both a photographic record and accurate large-scale plans and sections at an appropriate scale (1:10 and 1:20). Recording was principally in the *pro forma* Trench Record sheet for each trench, which notes the orientation, dimensions and description of the topsoil and subsoil's present in the trench. Features thought to be of possible archaeological potential were recorded using *pro forma* Context Record sheets.

2.3 FINDS

2.3.1 ***Artefacts:*** all finds recovered were bagged and recorded by context number, retained for assessment, processed and stored according to current standard practice based on guidelines set by the Institute of Field Archaeologists. The finds have been analysed by the OA North in-house specialist (section 3.3).

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 2*), and in accordance with the current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited in the Cumbria Record Office, Whitehaven, on completion of the project.

3. EVALUATION RESULTS

3.1 INTRODUCTION

3.1.1 In total, 48 trenches were excavated, dispersed evenly along the proposed pipeline and in the area of the wastewater treatment plant. Typically the trenches were 30m long x 1.6m wide, though trench lengths varied on occasion where circumstance• dictated. A total of 1.75km of trenching was opened. Twelve areas were identified during the desk-based assessment and subsequent walkover survey as being of archaeological potential, these were targeted specifically with approximately 25 trenches, the results of which are described below in tandem with the results of the other 23 evaluation trenches. All trenches are marked on Figure 2a, 2b.

3.2 TRIAL TRENCHING RESULTS

3.2.1 Trenches **1-5** (Figs 2a and 2b) were located in the area to the south of Coulderton, in fields to the north and south of Well Lane, immediately north of Nethertown Road. The desk-based assessment and walkover survey had not identified any potential sites in this area. All trenches were on a roughly north/south axis, excavated to an average depth of 0.40m. Trenches in this area failed to produce any finds, features or deposits of an archaeological nature.

3.2.2 Trenches **6-9** (Fig and 2b) were located to the south of Braystones 200m north of the proposed wastewater treatment plant. The walkover survey and desk-based assessment had not identified any potential sites in this area. Trench **6** cut through a partially extant field boundary, ***6***, of post-medieval origin, this was recorded as an archaeological feature as a distinct lower deposit, *7*, was visible in section, that may represent an earlier field boundary, Lantern Moss Wall, which is denuded here, but partially extant to the east of the proposed access road. Trench **7** located a small pit/hearth, ***4*** (Figure 3), 12m from the south balk. It had gradually sloped sides, a rounded base and showed evidence of *in situ* burning. No diagnostic artefacts were recovered from the single fill **5**, though a substantial quantity of charcoal was sampled for dating purposes. The pit was partially excavated, approximately 20% remained outside the limit of excavation and would not be affected by the proposed construction, and measured 1.2m on a north/south x 0.6m east/west. The single fill, ***5***, comprised a loose black sandy silt with frequent inclusions of mid-sized (0.08-0.15m) stones. The remaining trenches, **8** and **9**, had no visible deposits, features or finds of an archaeological nature.

3.2.3 Trenches **10** and **11** (Fig 2b) were located in area an area that the desk-based assessment and walkover survey had identified as being of archaeological potential due to the documented find of a Roman coin hoard. A substantial deposit of subsoil, up to 0.75m thick, was removed to reveal reddish brown sandy gravel that was not truncated by any intrusive features. No finds or deposits of archaeological interest were recovered from this area. Trenches **12-17** (Fig 2b) were located to the north-west of Emlyn Hall. Trench **12** (Figs 2a

and 2b) was located on the site of a documented flint find (SMR, Cherry and Cherry 1984, 6) and measured 60m in length. No finds features or deposits of archaeological interest were recorded in this trench. Trenches **13-17** (Fig 2b) were located in the area of Silver Tarn, which had been targeted as having potential for archaeological deposits; none such were found, nor were their any finds or features of archaeological interest.

3.2.4 Trenches **18-20** (Figs 2a and 2b), located approximately 100m north-east of Silver Tarn, totalled 90m in length and were in an area targeted by the walk-over survey and desk-based assessment as being of potential for prehistoric archaeology. Trenches **18** and **19** (Figs 2a and 2b) were bereft of any features, finds or deposits of archaeological interest. Trench **20** contained a small pit 8.3m from the northern balk. The cut, ***9*** (Fig 4), of this feature had a diameter of 0.6m with gradually sloped concave sides and a flat base. A single fill, ***8***, comprised mid-greyish brown loose silty sand with occasional inclusions of burnt sandstone. No dating evidence was present in the fill, but a large quantity of charcoal was sampled for dating purposes.

3.2.5 Trench **21** (Fig 2b), located north-east of Harnsey Moss, measured 30m in length and revealed no finds, features or deposits of an archaeological nature. Trenches **22-26** (Fig 2b), located between Lop Bank and Mountain View, were placed in an area targeted by the desk-based assessment and walkover survey as being high in archaeological potential. Lithic scatters had been located in this series of fields by the Cherry's (SMR, Cherry and Cherry 1984, 6). A shallow ditch that ran nearly parallel to the existing boundary hedge, 10m to the north was recorded. It consisted of a shallow cut, ***11***, in the natural with irregular sides and a nearly flat base. A single, light brown silty sand fill with approximately 15% small rounded stones was excavated, no dating evidence was recovered but an environmental sample was taken. Trenches **23-26** had no finds features or deposits of an archaeological nature.

3.2.6 Trenches **27** and **28** (Fig 2b) were located north-east of Nethertown, at the second intermediary pumping station also in an area targeted by the desk-based assessment and walkover survey as being of possible archaeological potential due to the recovery of lithic scatters (SMR, Cherry and Cherry 1984, 6) nearby. Neither trench revealed any trace of archaeological deposits, finds or features.

3.2.7 Trenches **29-32**, (Figs 2a and 2b) located north-west of Nethertown station, were in an area targeted by the walkover survey and desk top study as being of possible archaeological potential due to the nearby recovery of a lithic scatter (SMR, Cherry and Cherry 1984, 6). A shallow land drain traversed Trench **32** on a north-west/south-east alignment. The remaining trenches contained no finds, features or deposits of an archaeological interest.

3.2.8 Trenches **33-36** (Fig 2b), located immediately west of Deepgill Banks, were placed in area targeted by the desk top study and walk-over survey as being of potential archaeological interest due to the presence of a non-extant post-medieval farm building. A single course of dry stone wall, ***12*** and ***13*** was located in the east side of Trench **33** (Figs 2a and 2b). Several small finds,

including a quantity of post-medieval pottery and a clay pipe stem from within the matrix of the wall established the feature as being of a late post-medieval date probably associated with the non-extant farm building thought to have existed here. The land-owner said the field was locally referred to as shed field as within his own memory there had been a series of poorly-constructed outbuildings built against the existing dyke that separated the field from Nethertown Road. A natural deposit of light grey sticky clay also occurred in this trench and was given a separate context number, ***15***. Trenches **34-36** (Fig 2a) contained no finds, features or deposits of an archaeological nature, though thick deposits of naturally occurring peat, ***14***, were evident in Trench **34**.

3.2.9 Trench **37** (Fig 2a) was located immediately to the south of Nethertown Road, at the point where the proposed pipeline crosses the aforementioned thoroughfare. The area was targeted by the desk top study, as it is within what are though to be medieval strip fields. Three pieces of flint were retrieved from the southern end of this trench: a waste flake, creamy yellow to orange in colour, most probably an Irish import; a similarly-coloured small beach pebble, likely to be of the same origin (Jones and Wiseman, eds. 2002); and a dark grey gun flint most probably late in design due to it's flat base and evenly-squared shape. No further finds, features or deposits of archaeological interest were located in this trench.

3.2.10 Trenches **38** and **39** (Fig 2a) were located at the base of a hill at Stony Crop, several sherds of late post-medieval pottery were recovered from Trench **38** (Figs 2a and 2b), no further finds features or deposits of archaeological interest were noted in these trenches. Both trenches were on a north/south alignment and totalled 40m in length.

3.2.11 Trench **40** (Fig 2a) was located at the base of a steep cliff between St Bees School Golf Course and Pow Beck. The area had been targeted by the desktop study due to the prior discovery of a Roman coin hoard. Upon excavation of the trench, it became apparent that the area had previously been disturbed, probably when the existing pipeline and electricity services were installed some four years ago. This was made clear by a thick deposit of pea gravel that had been instated some 0.10m below the level of the natural subsoil. No finds features or deposits of archaeological interest were noted in this trench.

3.2.12 Trench **41** (Fig 2a) was located 150m south of trench 40 in an area highlighted by desktop study and walkover survey as being of potential archaeological interest due to the recovery of a Roman coin, a no longer extant post-medieval mill and a salt pan. The area of the salt pan had been fenced off and lay outside the area to be affected by the proposed pipeline and therefore was not tested. No finds, features or deposits of archaeological interest were recorded in this trench, the natural subsoil comprised sticky grey clay, ***15***, similar to or the same as that found in Trench **33**.

3.2.13 Trenches **42** and **43** (Figs 2a and 2b) were located south-west of Deepgill Banks. Trench **43** measured 15m in length and was mechanically excavated to a depth of 0.5m to the natural subsoil, in this case a light grey sticky clay, ***15***, which was truncated 2m from the south balk by a shallow linear feature, ***17*** (Fig 5), running on a north-west/south-east alignment. The cut of this linear

measured 3m in length (visible within the trench) and 1.8m wide with a maximum depth of 0.18m. A single fill, ***16***, was present within the cut and comprised reddish brown silty gravel with frequent inclusions of small and mid-sized rounded and sub-rounded stones. No further finds, features or deposits were located in this trench or in Trench **43**.

3.2.14 Trench **44** (Fig 2a) was located west of Coneyside Cop, measured 75m in length and contained no finds, features or deposits of archaeological significance.

3.2.15 Trenches **45** and **46** (Fig 2b) were located immediately east of Nethertown, in fields where a modern military base was, until recently (1957-1967), utilised as a tank training base. Some structural remains were located though it was not felt necessary to record anything but their extent and location on *pro forma* Trench Record sheets.

3.2.16 Trench **47** (Fig 2b) was located in the area of the waste water treatment plant, south of Braystones village. The area had been targeted by the desk-based assessment as having potential due to documented finds of worked flint artefacts. A fifty metre trench was placed centrally in the area of the proposed water treatment works and revealed sand beneath a shallow (0.09m) depth of topsoil. No finds features or deposits of an archaeological nature were identified here.

3.3 FINDS

3.3.1 ***Introduction***: in total, 25 fragments of artefacts were recovered from the evaluation. The bulk of the assemblage consisted of late post-medieval ceramic vessel fragments (15 sherds). The assemblage also included clay tobacco pipe stems (four sherds), glass (three fragments) and flint (three pieces). Catalogues of the artefacts have been included in *Appendix 5* in trench number order. All finds were treated in accordance with standard OA North practice.

3.3.2 ***Pottery***: the majority of the ceramic vessel sherds (11 out of the total of 15) were from red earthenware kitchen vessels. Seven of these were black or brown glazed, one was brown glazed with white slip banding, and the remaining three were pancheons with white slipped interiors. Pancheons were only glazed on the interior, and were flaring straight-sided bowls with broad robust rims. They were made in a variety of sizes, the largest being washpans, with smaller versions used, for example, as doughpans and mixing bowls (*op cit*, 18-20). Those recovered had white interiors, as mentioned above, this colour associated in people's minds with cleanliness. Some of the brown glazed sherds come from taller pots such as bread crocks, milk pots or stew pots, all of these shapes having a pair of horizontal handles just below the rim (*op cit*, 24-29). These sherds are not very diagnostic in terms of date, being part of functional vessels whose form was perfected early on, and had little need to change. The likely date range covers the period from the mid-eighteenth century to the mid-twentieth century. They were generally heavy vessels, made locally and transported short distances (*op cit*, 14).

3.3.3 Four white earthenware sherds were recovered, one undecorated sherd, two industrial slipware sherds, and one flat-press blue transfer printed dinnerware sherd. They may all come from tableware vessels. The transfer-pattern is not chinoiserie in style, indicating a nineteenth or twentieth century date. Industrial slipware was most popular during the early nineteenth century, although it continued to be made in smaller quantities until a lot later. The very low number of white earthenware sherds is surprising, considering the large quantity that was produced, used, and discarded during the nineteenth century.

3.3.4 ***Glass***: three glass sherds were recovered, two from bottles, and one from a window pane. All are body sherds showing no diagnostic features and are therefore difficult to date; however, they would all appear to date to the post-medieval period.

3.3.5 ***Clay tobacco pipes***: four stem sherds were recovered, one with a spur. On one side of the spur was 'W' and on the other 'B' in relief, presumably the maker's initials. Initials such as these tend to appear on pedestal spurs rather than pointed spurs such as this.

3.3.6 ***Flint***: three pieces of flint were recovered from the surface of the natural subsoil in Trench **36**. Two of these pieces are creamy yellow and orange in colour, most likely an Irish import, one of which is a waste flake, the other a small beach pebble (3-4cm). The third flint was worked and has been identified as a late gunflint, dark grey in colour whose origin is ascribed to the Cheshire plains.

3.3.7 ***Discussion***: the artefact assemblage produced from the evaluation is of limited archaeological significance. The two pieces of potentially prehistoric flint may represent nearby settlement or be part of a lithic scatter, though comprehensive trenching in this field reduces the likelihood of further finds occurring when the proposed pipeline goes to construction. The limited range of post-medieval pottery indicates some continuity in activity in the area, though it is of little archaeological significance. The artefactual assemblage from context ***12*** indicates a probable nineteenth century date for this wall feature.

4. DISCUSSION

4.1 RESULTS OF DESK-BASED ASSESSMENT AND WALKOVER SURVEY

4.1.1 The description of the historical and archaeological background of the study area shows a relatively large amount of archaeological activity. Much of it consists of very similar types of site, principally lithic scatters and field system elements. The sites identified within the study area cover a wide range of dates, from mesolithic to post-medieval. However, fieldwork carried out by the Cherrys has led to a bias in the number of prehistoric sites recorded, and, similarly, during the post-medieval period, when detailed maps are available for the area, sites are relatively easy to identify.

4.1.2 The large number of prehistoric lithic scatters identified within the study area is consistent with known information from the wider area, where lithic scatters are also common. Most of the data available, however, consists of descriptions of lithics which have been collected from the surface of sites without any associated concrete dating evidence – very few sites have been excavated. It is impossible to tell if the lithic scatter sites are likely to yield substantial settlement remains, but it is possible that hearths, stake holes and charred food remains could be discovered, as well as material which could be used to produce radiocarbon dates. All this would help in the understanding of the prehistoric period in Cumbria. Although Ehenside Tarn produced an outstanding range of artefacts, much of the excavation work was carried out over 100 years ago when excavation and post-excavation techniques were significantly different from those employed today. This has led to doubt being cast on the contextual and temporal provenance of some of the artefacts recovered (Hodgkinson *et al* 2000, 73). Since much of the early Neolithic archaeology of lowland Cumbria has been defined in terms of Ehenside Tarn (*ibid*, 71), excavation of a site of a similar period using modern techniques could prove very useful.

4.1.3 Little is understood of the area during the Roman period. It would not be unreasonable to expect there to have been a coastal road connecting the forts at Ravenglass and Moresby, however, there is at present no evidence for this. Should such a road exist, it would pass through or at least close to the study area. The second Roman road which may run through the study area is that which runs south from Papcastle, appearing to stop somewhere along the River Ehen. From there it may have continued as far as Ravenglass (Margary 1973, 396). The small number of Roman find spots identified within the study area is consistent with the perceived lack of Roman activity in the area.

4.1.4 Landscape elements, in particular elements connected with agriculture, dominate the medieval and post-medieval sites within the study area. This is a reflection of the essentially agricultural nature of the area, with extant stone hedges and some surviving strip fields. There is surviving ridge and furrow and farm trackways running at right angles to and also parallel to the coastal road. Possibly the most important post-medieval site is Sea Mills and the associated salt pan, which is the southernmost water mill of a complex of three

mills (with associated leats) within the St Bees area. A few industrial sites were also identified, relating to modern sand extraction and stone industries. These suggest modest exploitation of resources within the last three centuries, where apart from the installation of the coastal railway, the major change in the landscape has been agricultural intensification with the removal of field boundaries, and land improvement with the draining of mosses and tarns.

4.2 RESULTS OF ARCHAEOLOGICAL EVALUATION

4.2.1 The archaeological evaluation of the proposed Bt Bees to Braystones waste water pipeline and waste water treatment plant, located a total of two pits and two linear features, the former of possible archaeological interest and the latter of limited archaeological interest. The pits were isolated features and were excavated and recorded fully and so require no further archaeological works.

4.2.2 Neither the pits, nor the two linear features produced dating or artefactual material so their archaeological potential is as yet unknown, a quantity of charcoal was sampled from both the pit features but unfortuinately this proved to be unsuitable for radio carbon 14 dating.

4.2.3 A small quantity of post-medieval pottery and glass was retrieved during the evaluation and shows continuity of settlement in the area, no medieval finds, features or deposits were located through the course of the evaluation.

4.2.4 The retrieval of a limited quantity of flint suggests the possibility that further lithic scatters may be extant in the area, though the potential of recovering such artefacts during the construction phase of this development is low. Of the three pieces of flint recovered from Trench **36** (Fig 2a), the only worked piece has been identified as a gunflint of post-medieval date and is of little archaeological interest. The remaining two pieces comprised a single unworked small beach pebble and a waste flake with no evidence of retouch. The coloration of the latter two pieces suggests an Irish origin (Jones & Wiseman, eds. 2002).

5. IMPACT AND RECOMMENDATIONS

5.1 IMPACT

5.1.1 The pit, ***4***, located in Trench **7** (Fig 3) will not be adversely affected by the proposed development as the limit of excavation to the west of the feature delineated the edge of construction for the proposed access road. What was to be affected was excavated in order to determine the nature, extent and date of the feature and will be preserved by record. A second, isolated feature, ***9***, located in Trench **20** (Fig 4), has been categorised as a small pit and was excavated and recorded in full. No other finds, features or archaeological deposits were associated with this pit within the corridor of the proposed pipeline in this field.

5.1.2 A single course of dry stone wall, ***13***, located in Trench **33**, although recorded as an archaeological feature has been identified as part of series of late post-medieval outbuildings and sheds that were visible as above ground structures until quite recently. This will be adversely affected by the construction of the pipeline, but is of little archaeological interest.

5.1.3 A linear feature, ***17***, was identified in Trench **43** (Fig 5); it has been described as a furrow and may represent the ridge and furrow field system continuing from the west side of Nethertown Road where it is still visible. The proposed pipeline will adversely affect this, though it is of probable post-medieval origin and, subsequently, of little archaeological interest. A second linear that was located in Trench **20** (Fig 4) produced no diagnostic material and it's nature and date remain dubious.

5.1.4 The recovery and analysis of three pieces of flint, recovered from the topsoil of Trench **36,** has shown the single worked piece to be a gunflint of limited archaeological impact. The remaining pieces, a flake and pebble, are thought to be Irish imports based on their inclusions and coloration. The latter two pieces may represent the remains of a lithic scatter.

5.2 RECOMMENDATIONS

5.2.1 As the pits have been seen to be isolated features and have been preserved by record there is no need for further archaeological works to take place in either the area of Trench **7** (Fig 3), south of Braystones, or in the area of Trench **20** (Fig 4) where the second pit was located.

5.2.2 The proposed pipeline will adversely affect the remains of the outbuildings in Trench **33**, though their negligible archaeological value negates the need for further archaeological investigations in this area.

5.2.3 The linear feature located in Trench **43** (Fig 5) will be adversely affected by the proposed pipeline and though tentatively described as a furrow it is recommended that when the pipeline goes to construction an archaeological watching brief should be implemented for this area.

5.2.4 The area around Trench **36** where the only flint artefacts were located has been comprehensively tested and, therefore no further archaeological work is recommended.

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APPENDIX 1: PROJECT BRIEF

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BRIEF FOR AN ARCHAEOLOGICAL EVALUATION
ST BEES TO BRAYSTONES RISING MAIN
CUMBRIA

Issued by the

County Archaeology Service

Development Control Division, Community Economy and Environment

COUNTY COUNCIL

Date of Brief: 17 February 2003

This Design Brief is only valid for 1 year after the above date. After this period the County Archaeology Service should be contacted. Any specification resulting from this Brief will only be considered for the same period.

1. SITE DESCRIPTION AND SUMMARY

Site: St Bees to Braystones rising main

Grid Reference: NX 9693 1139 to NY 0076 0619

Length: approximately 7.3km

Detailed proposals and tenders are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this Brief and to produce a report on that work. The work should be under the direct management of either an Associate or Member of the Institute of Field Archaeologists. Any response to this Brief should follow IFA Standard and Guidance for Archaeological Field Evaluations, 1994. No fieldwork may commence until approval of a specification has been issued by the County Archaeology Service.

2. PLANNING BACKGROUND

2.1 Cumbria County Council's Archaeology Service (CCCAS) has been consulted by United Utilities regarding a proposed rising main between St Bees and Braystones.

2.2 Because of the high archaeological potential of the site the County Archaeology Service has advised that the applicant provide information concerning the potential impact of the proposal on archaeological remains. In order to provide this information an archaeological evaluation of the site is necessary. This Design Brief sets out the requirements for the adequate archaeological evaluation of the site.

2.3 This advice is given in accordance with guidance given in Planning Policy Guidance note 16 (Archaeology and Planning) and with policy of the County Structure Plan and Copeland District Local Plan. It is also in accordance with the advice of the Water Industry Act 1991 Code of Practice on Conservation, Access and Recreation 2000.

3. ARCHAEOLOGICAL BACKGROUND

3.1 The west Cumbrian coastal plain was a focus for prehistoric activity and settlement, and the proposed pipeline lies within a landscape rich in prehistoric remains. Lithic scatters are recorded along the length of the pipeline (eg, SMR nos. 1182, 3676, 6437, 6442, 6443, 6469, 6470, 6473, 6475, 6477, 6479, 6480, 6481, 6482, & 17829). The Neolithic Ehenside Tarn occupation site (SMR no. 1248), the site of a Bronze Age standing stone (SMR no. 1301), and a cropmark of a possible settlement site (SMR 3677) also lie close to the pipeline route.

4. SCOPE OF THE PROJECT

4.1 *Objectives*

4.1.1 The evaluation should aim to determine, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development. An adequate representative sample of all areas where archaeological remains are potentially threatened should be studied.

4.2 *Work Required*

4.2.1 A desk-based assessment of the existing resource, to be undertaken before any work commences on site. This should include an assessment of primary and secondary maps and documents relating to the site, to set the evaluation results in their geographical, topographical, archaeological and historical context. Records and aerial photographs held by the County Sites and Monuments Record and the County Records Office should be consulted.

4.2.2 A rapid walkover survey of the pipeline route, encompassing the proposed working easement as a minimum. Any surface features of potential archaeological interest should be recorded, together with areas of significant

disturbance, and hazards and constraints to undertaking further archaeological work on site (including the siting of live services, Tree Preservation Orders and public footpaths).

4.2.3 The excavation of a series of linear trial trenches and/or test-pits to adequately sample the threatened available area, and the investigation and recording of deposits and features of archaeological interest identified within those trenches. Investigation within existing roadways will not be required. All features must be investigated and recorded unless otherwise agreed with the County Archaeology Service. Initial topsoil removal can be undertaken by machine, but subsequent cleaning and investigation must be by hand. A minimum sample of 5% of the total area threatened by development should be investigated.

4.2.4 The evaluation should provide a predictive model of surviving archaeological remains detailing zones of relative importance against known development proposals. An impact assessment should also be provided, wherever possible.

4.2.5 The following analyses should form part of the evaluation, as appropriate. If any of these areas of analysis are not considered viable or appropriate, their exclusion should be justified in the subsequent report.

- A geophysical specialist should be consulted, to assess the viability of using survey techniques on the site. All geophysical work must be undertaken by a suitably qualified organisation and/or individuals. All geophysical work must be preceded by a sample scan to assess the effectiveness of the technique in relation to the site specific geological/topographical conditions. Any subsequent survey work must be recommended by the specialist and approved by the County Archaeology Service.
- A suitably qualified specialist should assess the environmental potential of the site through the examination of suitable deposits, including: (1) soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features, and; (2) the retrieval of plant macrofossils, insect, molluscs and pollen from waterlogged deposits.
- Advice is to be sought from a suitably qualified specialist in faunal remains on the potential of sites for producing bones of fish and small mammals. If there is potential, a sieving programme should be undertaken. Faunal remains, collected by hand and sieved, are to be assessed and analysed, if appropriate.
- The advice from a suitably qualified soil scientist should be sought on the whether soil micromorphological study or other analytical techniques will enhance understanding site formation processes of the site, including the amount of truncation to buried deposits and the preservation of deposits within negative features. If so, analysis should be undertaken.

5. SPECIFICATION

5.1 Before the project commences a project proposal must be submitted to, and approved by, the County Archaeologist.

5.2 Proposals to meet this Brief should take the form of a detailed specification prepared in accordance with the recommendations of The Management of Archaeological Projects, 2nd ed. 1991, and must include:

- A description of the excavation sampling strategy and recording system to be used
- A description of the finds and environmental sampling strategies to be used
- A description of the post excavation and reporting work that will be undertaken
- Details of key project staff, including the names of the project manager, site supervisor, finds and environmental specialists and any other specialist sub-contractors to be employed
- Details of on site staffing, expressed in terms of person days
- A projected timetable for all site work and post excavation work

5.3 The specification should identify the proposed locations of trial trenches. Final trench locations will however be determined following the desk-based assessment and walkover survey and must be agreed with the County Archaeological Service.

5.4 Any significant variations to the proposal must be agreed by the County Archaeologist in advance.

6. REPORTING AND PUBLICATION

6.1 The archaeological work should result in a report, this should include as a minimum:

- A site location plan, related to the national grid
- A front cover/frontispiece which includes the planning application number and the national grid reference of the site
- The dates on which the fieldwork was undertaken
- A concise, non-technical summary of the results
- An explanation of any agreed variations to the brief, including justification for any analyses not undertaken (see 4.2.5)
- A description of the methodology employed, work undertaken and the results obtained
- Plans and sections at an appropriate scale showing the location and position of deposits and finds located
- A list of, and dates for, any finds recovered and a description and interpretation of the deposits identified
- A description of any environmental or other specialist work undertaken and the results obtained

6.2 Three copies of the report should be deposited with the County Sites and Monuments Record within two months of completion of fieldwork. This will be on the understanding that the report will be made available as a public document through the County Sites and Monuments Record.

6.3 Should further archaeological work result from the evaluation, the results of the evaluation will need to be made available for inclusion in a summary report to a suitable regional or national archaeological publication.

6.4 Recommendations concerning any subsequent mitigation strategies and/or further archaeological work following the results of the field evaluation should **not** be included in the report. Such recommendations are welcomed by the County Archaeology Service, and may be outlined in a separate communication.

6.5 Cumbria SMR is taking part in the pilot study for the Online Access to Index of Archaeological Investigations (OASIS) project. The online OASIS form at http://ads.ahds.ac.uk/project/oasis must therefore also be completed as part of the project. Information on projects undertaken in Cumbria will be made available through the above website, unless otherwise agreed.

7. THE ARCHIVE

7.1 An archive must be prepared in accordance with the recommendations of *The Management of Archaeological Projects*, 2nd ed. 1991, and arrangements made for its deposit with an appropriate repository. A copy shall also be offered to the National Monuments Record.

7.2 The landowner should be encouraged to transfer the ownership of finds to a local or relevant specialist museum. The museum's requirements for the transfer and storage of finds should be discussed before the project commences.

7.3 The County Archaeology Service must be notified of the arrangements made.

8. PROJECT MONITORING

8.1 One weeks notice must be given to the County Archaeology Service prior to the commencement of fieldwork.

8.2 Fieldwork will be monitored by the Assistant Archaeologist on behalf of United Utilities. Monitoring notes will be recorded on a standardised form, which will be completed following receipt of the final project report. Copies of the form will be forwarded to the contractor and their clients.

9. FURTHER REQUIREMENTS

9.1 It is the archaeological contractor's responsibility to establish safe working practices in terms of current health and safety legislation, to ensure site access and to obtain notification of hazards (eg. services, contaminated ground, etc.). **The County Archaeology Service bears no responsibility for the inclusion or exclusion of such information within this Brief or subsequent specification.**

9.2 All aspects of the evaluation shall be conducted in accordance with the Institute of Field Archaeologist's *Code of Conduct* and the IFA's *Standard and Guidance for Archaeological Field Evaluations*.

9.3 Human remains must be left *in situ*, covered and protected when discovered. No further investigation should normally be permitted beyond that necessary to establish the date and character of the burial, and the County Archaeology Service and the local Coroner must be informed immediately. If removal is essential, it can only take place under appropriate Home Office and environmental health regulations.

9.4 The involvement of the County Archaeology Service should be acknowledged in any report or publication generated by this project.

10. FURTHER INFORMATION

For further information regarding this brief, contact

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As part of our desire to provide a quality service to all our clients we would welcome any comments you may have on the content or presentation of this design brief. Please address them to the Assistant Archaeologist at the above address.

T1887

BRIEF FOR AN ARCHAEOLOGICAL EVALUATION
WWTW (SITE 3) BRAYSTONES
CUMBRIA

Issued by the

County Archaeology Service

Development Control Division, Community Economy and Environment

COUNTY COUNCIL

Date of Brief: 13 February 2003

This Design Brief is only valid for 1 year after the above date. After this period the County Archaeology Service should be contacted. Any specification resulting from this Brief will only be considered for the same period.

1. SITE DESCRIPTION AND SUMMARY

Site: WWTW (site 3), Braystones

Grid Reference: NY 008 050

Site area: approximately 2.78 hectares

Detailed proposals and tenders are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this Brief and to produce a report on that work. The work should be under the direct management of either an Associate or Member of the Institute of Field Archaeologists. Any response to this Brief should follow IFA Standard and Guidance for Archaeological Field Evaluations, 1994. No fieldwork may commence until approval of a specification has been issued by the County Archaeology Service.

2. PLANNING BACKGROUND

2.1 Cumbria County Council's Archaeology Service (CCCAS) has been consulted by United Utilities regarding a proposed waste water treatment works at Braystones.

2.2 The scheme affects an area considered to have a high archaeological potential. An archaeological desk-based assessment of the area (in Oxford Archaeology North, 2002, *Lantern Moss Tarn, Braystones, Beckermet, Archaeological Survey & Evaluation Report*, OAN Issue No. 2002-3/099) has highlighted the potential for prehistoric archaeological remains. This Brief must be read in conjunction with that report. Furthermore, Roman finds are recorded on the site (Sites & Monuments Record no. 1297).

2.3 Because of the high archaeological potential of the site the County Archaeology Service has advised that United Utilities provides information concerning the potential impact of the proposal on archaeological remains. In order to provide this information an archaeological evaluation of the site is necessary. This Design Brief sets out the requirements for the adequate archaeological evaluation of the site.

3. ARCHAEOLOGICAL BACKGROUND

3.1 There is a great deal of evidence for prehistoric activity in the vicinity. A number of flint implements and flakes have been recovered in close proximity of the site (eg. SMR nos. 1258, 1298, 6441, 6444 & 6504), and the extremely important Neolithic occupation site at Ehenside Tarn (SMR no. 1248), lies to the north.

3.2 Fragments of 2-4th century AD pottery have also been recovered from the proposed site.

4. SCOPE OF THE PROJECT

4.1 *Objectives*

4.1.1 The evaluation should aim to determine, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development. An adequate representative sample of all areas where archaeological remains are potentially threatened should be studied.

4.2 *Work Required*

4.2.1 A rapid desk-based assessment of the existing resource, to be undertaken before any work commences on site. This should complement the existing desk-based assessment in Oxford Archaeology North, 2002, *Lantern Moss Tarn, Braystones, Beckermet, Archaeological Survey & Evaluation Report*, OAN Issue No. 2002-3/099, to set the evaluation results in their geographical, topographical, archaeological and historical context.

4.2.2 A visual inspection of the site. This should include a walkover of the site noting any surface features of potential archaeological interest, areas of potentially significant disturbance, and hazards and constraints to undertaking

further archaeological work on site (including the siting of live services, Tree Preservation Orders and public footpaths).

4.2.3 The excavation of a series of linear trial trenches and/or test-pits to adequately sample the threatened available area, and the investigation and recording of deposits and features of archaeological interest identified within those trenches. All features must be investigated and recorded unless otherwise agreed with the County Archaeology Service. Initial topsoil removal can be undertaken by machine, but subsequent cleaning and investigation must be by hand. A minimum sample of 5% of the total site area should be investigated.

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- Details of on site staffing, expressed in terms of person days
- A projected timetable for all site work and post excavation work

5.3 The specification should identify the proposed locations of trial trenches. Final trench locations will however be determined following the desk-based assessment [and walkover survey] and must be agreed with the County Archaeological Service.

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6. REPORTING AND PUBLICATION

6.1 The archaeological work should result in a report, this should include as a minimum:

- A site location plan, related to the national grid
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- A list of, and dates for, any finds recovered and a description and interpretation of the deposits identified
- A description of any environmental or other specialist work undertaken and the results obtained

6.2 Three copies of the report should be deposited with the County Sites and Monuments Record within two months of completion of fieldwork. This will be on the understanding that the report will be made available as a public document through the County Sites and Monuments Record.

6.3 Should further archaeological work result from the evaluation, the results of the evaluation will need to be made available for inclusion in a summary report to a suitable regional or national archaeological publication.

6.4 Recommendations concerning any subsequent mitigation strategies and/or further archaeological work following the results of the field evaluation should **not** be included in the report. Such recommendations are welcomed by the County Archaeology Service, and may be outlined in a separate communication.

6.5 Cumbria SMR is taking part in the pilot study for the Online Access to Index of Archaeological Investigations (OASIS) project. The online OASIS form at http://ads.ahds.ac.uk/project/oasis must therefore also be completed as part of the project. Information on projects undertaken in Cumbria will be made available through the above website, unless otherwise agreed.

7. THE ARCHIVE

7.1 An archive must be prepared in accordance with the recommendations of *The Management of Archaeological Projects,* 2nd ed. 1991, and arrangements made for its deposit with an appropriate repository. A copy shall also be offered to the National Monuments Record.

7.2 The landowner should be encouraged to transfer the ownership of finds to a local or relevant specialist museum. The museum's requirements for the transfer and storage of finds should be discussed before the project commences.

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8. PROJECT MONITORING

8.1 One weeks notice must be given to the County Archaeology Service prior to the commencement of fieldwork.

8.2 Fieldwork will be monitored by the Assistant Archaeologist on behalf of United Utilities. Monitoring notes will be recorded on a standardised form, which will be completed following receipt of the final project report. Copies of the form will be forwarded to the contractor and their clients.

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As part of our desire to provide a quality service to all our clients we would welcome any comments you may have on the content or presentation of this design brief. Please address them to the Assistant Archaeologist at the above address.

APPENDIX 2: PROJECT DESIGN

Oxford
Archaeology
North

March 2003

ST BEES TO BRAYSTONES RISING MAIN, CUMBRIA

ARCHAEOLOGICAL DESK-TOP ASSESSMENT, RAPID WALKOVER SURVEY AND EVALUATION
PROJECT DESIGN

Proposals

The following project design is offered in response to a request by United Utilities for an archaeological desk-based assessment, rapid walkover survey and evaluation in advance of a proposed rising main between St Bees and Braystones, Cumbria.

1. INTRODUCTION

1.1 United Utilities (hereafter the client) are proposing a new water pipeline from the existing St Bees Wastewater Treatment Work to the Braystones network, Cumbria (NX 1600 2640 to NY 0076 0619).

1.2 As the scheme will affect an area rich in prehistoric remains the Cumbria County Council's Archaeology Service has issued a brief for a programme of archaeological works to be undertaken.

1.3 The area of the proposed pipeline is known to have been a focus for prehistoric activity and settlement. Recorded sites along the proposed route include a number of lithic scatters. In close proximity to the route are the Neolithic Ehenside Tarn occupation site, the site of a Bronze Age standing stone and the cropmark of a possible settlement site.

1.4 OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 20 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.

1.5 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 following programme has been designed to provide for accurate recording of any archaeological deposits that are disturbed by the soil strip and trench cutting associated with the pipeline. A rapid desk-based assessment will precede a programme of fieldwork to place any findings that are made in to the context of known archaeological sites and/or artefact discovery sites in the immediate vicinity.

2.2 A written report will assess the significance of the data generated by the desk-based assessment and subsequent fieldwork, within a local and regional context.

3 METHOD STATEMENT

3.1 DESK-BASED ASSESSMENT

3.1.1 The following will be undertaken as appropriate, depending on the availability of source material. The level of such work will be dictated by the time scale of the project.

3.1.2 ***Documentary and Cartographic Material:*** this work will comprise a rapid desk-based assessment of the existing resource. It will include an appraisal of the data in the CSMR (Kendal), appropriate sections of County histories, early

maps (printed and manuscript), and such primary documentation (tithe and estate plans etc.) as may be reasonably available. Particular attention will be paid to field and place names recorded on early cartographic sources relating to estate and parish boundaries, field boundaries, woodlands and routes, as these often provide important evidence of archaeological activity and transformation of the historic landscape. All available published and unpublished documentary sources will also be examined and assessed. The Cumbria Record Office (Whitehaven) will also be consulted.

3.1.3 ***Aerial Photography:*** any relevant photographic material held by Cumbria County Council will also be studied. This may indicate the range and survival of archaeological and structural features in the designated area no longer visible at ground level.

3.1.4 ***Physical Environment:*** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken in order to set the archaeological features in context. Any engineering and/or borehole data relating to the site will also be examined.

3.2 WALKOVER SURVEY

3.2.1 ***Visual Inspection:*** 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 a 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 EVALUATION

3.3.1 Following initial topsoil removal by machine a minimum 5% sample of the pipeline corridor will be subject to a programme of trial trenching. This equates to approximately 35 x 100m x 2m trenches. It is likely that the position of the trenches will be in a continuous alignment but also informed by the results of the desk-based assessment and walkover survey. The topsoil will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. Thereafter all excavation will proceed by hand in a stratigraphic manner.

3.3.2 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in

terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.

3.3.3 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.3.4 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

3.3.5 The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum prior to the work taking place.

3.3.6 ***Specialist Assessment:*** OA North's in-house palaeoenvironmental specialist (Elizabeth Huckerby) will assess the palaeoenvironmental potential of the site. OA north's specialist in faunal remains (Andrew Bates) will assess the potential of the site for producing bones of fish and small mammals. Erica Guttman, OA North's in-house geoarchaeologist, will assess the appropriateness of a soil micromorphological study. Should further analysis be recommended for any of the above, then this would be subject to a variation to this project design. A geophysical survey is not considered to be viable due to the restricted nature of the pipeline easement.

3.3.7 ***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.

3.3.8 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.

3.4 ARCHIVE/REPORT

3.4.1 ***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. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the CSMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. Wherever possible, OA North recommends the deposition of such material in a local museum approved by the Museums and Galleries Commission, and would make appropriate arrangements with the designated museum at the outset of the project for the proper labelling, packaging, and accessioning of all material recovered.

3.4.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3.4.3 ***Report:*** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria SMR within eight weeks of completion of fieldwork. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, with an assessment of the overall stratigraphy, together with appropriate illustrations, including detailed plans and sections indicating the locations of archaeological features. Any finds recovered will be assessed with reference to other local material and any particular or unusual features of the assemblage will be highlighted and the potential of the site for palaeoenvironmental analysis will be considered. The report will also include a complete bibliography of sources from which data has been derived.

3.4.4 This report will identify areas of defined archaeology. 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. Illustrative material will include a location map, section drawings, and plans. This report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format), if required.

3.4.5 Provision will be made for a summary report to be submitted to a suitable regional or national archaeological journal within one year of completion of fieldwork, if relevant results are obtained.

3.4.6 ***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 PROJECT MONITORING

4.1 Monitoring of this project will be undertaken through the auspices of the CCC Archaeologist, who will be informed of the start and end dates of the work.

5 WORK TIMETABLE

5.1 The desk-based assessment is expected to take in the region of seven days to complete.

5.2 It is anticipated that the rapid walkover survey will take in the region of seven days.

5.3 The evaluation trenching will take approximately fifteen days in the field.

5.4 The client report will be completed within eight weeks following completion of the fieldwork.

6 STAFFING

6.1 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.

6.2 The desk-based assessment will be undertaken by **Daniel Elsworth MA** (OA North Project Supervisor). Daniel has a great deal of experience in documentary research, and in particular for the county of Cumbria.

6.3 Present timetabling constraints preclude detailing at this stage exactly who will be undertaking the rapid walkover survey and evaluation trenching, but both of these elements of the project are likely to be supervised by an OA North project supervisor experienced in these types of project. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

7 INSURANCE

7.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

Oxford
Archaeology
North

March 2003

WASTEWATER TREATMENT WORKS (Site 3), BRAYSTONES, CUMBRIA

ARCHAEOLOGICAL DESK-TOP ASSESSMENT, RAPID INSPECTION AND EVALUATION
PROJECT DESIGN

Proposals

The following project design is offered in response to a request by United Utilities for an archaeological desk-based assessment, rapid inspection and evaluation in advance of a proposed wastewater treatment works at Braystones, Cumbria.

1. INTRODUCTION

1.1 United Utilities (hereafter the client) are proposing a new water pipeline from the existing St Bees Wastewater Treatment Work to the Braystones network, Cumbria (NX 1600 2640 to NY 0076 0619). This will necessitate the construction of a new Wastewater treatment Works at Braystones (NY 008 050).

1.2 As the scheme will affect an area rich in prehistoric remains the Cumbria County Council's Archaeology Service has issued a brief for a programme of archaeological works to be undertaken.

1.3 The area of the proposed Wastewater Treatment Works is known to have been a focus for prehistoric activity and settlement. Recorded sites in close proximity to the works include a number of flint implements and flakes and the Neolithic Ehenside Tarn occupation site. Fragments of 2nd to 4th century AD pottery have also been recovered from the site.

1.4 OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 20 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.

1.5 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 following programme has been designed to provide for accurate recording of any archaeological deposits that are disturbed by the construction works. A rapid desk-based assessment will precede a programme of fieldwork to place any findings that are made in to the context of known archaeological sites and/or artefact discovery sites in the immediate vicinity.

2.2 A written report will assess the significance of the data generated by the desk-based assessment and subsequent fieldwork, within a local and regional context.

3 METHOD STATEMENT

3.1 DESK-BASED ASSESSMENT

3.1.1 The following will be undertaken as appropriate, depending on the availability of source material. The level of such work will be dictated by the time scale of the project.

3.1.2 ***Documentary and Cartographic Material:*** this work will comprise a rapid desk-based assessment of the existing resource. It will include an appraisal of

the data in the CSMR (Kendal), appropriate sections of County histories, early maps (printed and manuscript), and such primary documentation (tithe and estate plans etc.) as may be reasonably available. Particular attention will be paid to field and place names recorded on early cartographic sources relating to estate and parish boundaries, field boundaries, woodlands and routes, as these often provide important evidence of archaeological activity and transformation of the historic landscape. All available published and unpublished documentary sources will also be examined and assessed. The Cumbria Record Office (Whitehaven) will also be consulted.

3.1.3 ***Aerial Photography:*** any relevant photographic material held by Cumbria County Council will also be studied. This may indicate the range and survival of archaeological and structural features in the designated area no longer visible at ground level.

3.1.4 ***Physical Environment:*** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken in order to set the archaeological features in context. Any engineering and/or borehole data relating to the site will also be examined.

3.2 WALKOVER SURVEY

3.2.1 ***Visual Inspection:*** 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 the entire area of the proposed works, which will be 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 EVALUATION

3.3.1 Following initial topsoil removal by machine a minimum 5% sample of the development area will be subject to a programme of trial trenching. This equates to approximately 6 x 10m x 1.5m trenches. The position of the trenches will be informed by the results of the desk-based assessment and walkover survey. The topsoil will be removed by machine (fitted with a toothless ditching bucket) under archaeological supervision to the surface of the first significant archaeological deposit. This deposit will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and inspected for archaeological features. Thereafter all excavation will proceed by hand in a stratigraphic manner.

3.3.2 Any investigation of intact archaeological deposits will be exclusively manual. Selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal. It is hoped that in

terms of the vertical stratigraphy, maximum information retrieval will be achieved through the examination of sections of cut features. All excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features, which appear worthy of preservation *in situ*.

3.3.3 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by Centre for Archaeology Service of English Heritage, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.3.4 Results of all field investigations will be recorded on *pro forma* context sheets. The site archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20 and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration.

3.3.5 The deposition and disposal of any artefacts recovered in the evaluation will be agreed with the legal owner and an appropriate recipient museum prior to the work taking place.

3.3.6 ***Specialist Assessment:*** OA North's in-house palaeoenvironmental specialist (Elizabeth Huckerby) will assess the palaeoenvironmental potential of the site. OA north's specialist in faunal remains (Andrew Bates) will assess the potential of the site for producing bones of fish and small mammals. Erica Guttman, OA North's in-house geoarchaeologist, will assess the appropriateness of a soil micromorphological study. Should further analysis be recommended for any of the above, then this would be subject to a variation to this project design. A geophysical survey is not considered to be viable due to the restricted nature of the pipeline easement.

3.3.7 ***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.

3.3.8 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.

3.4 ARCHIVE/REPORT

3.4.1 ***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. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the CSMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. Wherever possible, OA North recommends the deposition of such material in a local museum approved by the Museums and Galleries Commission, and would make appropriate arrangements with the designated museum at the outset of the project for the proper labelling, packaging, and accessioning of all material recovered.

3.4.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3.4.3 ***Report:*** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria SMR within eight weeks of completion of fieldwork. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, with an assessment of the overall stratigraphy, together with appropriate illustrations, including detailed plans and sections indicating the locations of archaeological features. Any finds recovered will be assessed with reference to other local material and any particular or unusual features of the assemblage will be highlighted and the potential of the site for palaeoenvironmental analysis will be considered. The report will also include a complete bibliography of sources from which data has been derived.

3.4.4 This report will identify areas of defined archaeology. 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. Illustrative material will include a location map, section drawings, and plans. This report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format), if required.

3.4.5 Provision will be made for a summary report to be submitted to a suitable regional or national archaeological journal within one year of completion of fieldwork, if relevant results are obtained.

3.4.6 ***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 PROJECT MONITORING

4.1 Monitoring of this project will be undertaken through the auspices of the CCC Archaeologist, who will be informed of the start and end dates of the work.

5 WORK TIMETABLE

5.1 The desk-based assessment is expected to take in the region of six days to complete.

5.2 It is anticipated that the rapid walkover survey will take in the region of one day.

5.3 The evaluation trenching will take approximately five days in the field.

5.4 The client report will be completed within eight weeks following completion of the fieldwork.

6 STAFFING

6.1 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.

6.2 The desk-based assessment will be undertaken by **Daniel Elsworth MA** (OA North Project Supervisor). Daniel has a great deal of experience in documentary research, and in particular for the county of Cumbria.

6.3 Present timetabling constraints preclude detailing at this stage exactly who will be undertaking the rapid walkover survey and evaluation trenching, but both of these elements of the project are likely to be supervised by an OA North project supervisor experienced in these types of project. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

7 INSURANCE

7.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

APPENDIX 3: TRENCH DESCRIPTIONS

Trench No: 1
Location: Coulderton
Alignment: north/south
Length: 36m
Depth: 0.40m
Description
The area was stripped of topsoil, **1** (maximum depth 0.15m) and subsoil, **2**, light reddish brown silty sand with frequent inclusions of small-and medium-sized rounded and sub-rounded stones to a depth of 0.4m. The natural, **3**, comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 2
Location: Coulderton
Alignment: north/south
Length: 44m
Depth: 0.30m
Description
The area was stripped of topsoil (maximum depth 0.17m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.3m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 3
Location: Coulderton
Alignment: north/south
Length: 30m
Depth: 0.41m
Description
The area was stripped of topsoil (maximum depth 0.25m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.41m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 4
Location: Coulderton
Alignment: north/south
Length: 30m
Depth: 0.42m
Description
The area was stripped of topsoil (maximum depth 0.28m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.42m. The natural comprised dark reddish brown

sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench. A modern land drain crossed the trench on a north-east/south-west axis approximately 12m from the south balk.

Trench No: **5**
Location: South-west of Coulderton
Alignment: north/south
Length: 21m
Depth: 0.42m
Description
The area was stripped of topsoil (maximum depth 0.22m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.42m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **6**
Location: South of Braystones
Alignment: north/south
Length: 55m
Depth: 0.39m
Description
The area was stripped of topsoil (maximum depth 0.22m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.39m. The natural comprised dark reddish brown sand with frequent inclusions of small rounded stones. The trench was excavated through a post-medieval boundary, which was recorded, **6**, and **7**, as an archaeological feature.

Trench No: **7**
Location: South of Braystones
Alignment: north/south
Length: 30m
Depth: 0.20m
Description
The area was stripped of a very thin layer of topsoil (maximum depth 0.09m) and subsoil, light reddish brown silty sand with frequent inclusions of small stones to a depth of 0.20m. The natural comprised dark reddish brown sandy gravel. The natural subsoil was truncated by a small pit, **4** (Figure 3), which was located 12m from the south balk and extended beyond the limit of excavation to the west. The extent of the feature visible measured 1.2m on its north/south axis x 0.66m extending east from the west balk. The feature was excavated in section revealing a shallow and gradually sloped profile with a rounded base. Complete excavation of the feature produced a single fill, **5**, comprising dark brownish black sandy silt with frequent inclusions of charcoal and medium sized stones (0.08-0.12m). No diagnostic artefacts were recovered from the fill, but both a charcoal sample and environmental samples were retrieved for dating purposes and micro faunal analysis respectively.

Trench No: **8**
Location: South of Braystones

Alignment: north-east/south-west
Length: 30m
Depth: 0.25m
Description
The area was stripped of topsoil (maximum depth 0.15m) and subsoil, light reddish brown fine silty sand with frequent inclusions of small-and-medium sized rounded, sub-rounded and sub-angular stones to a depth of 0.25m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 9
Location: South of Braystones
Alignment: north/south
Length: 20m
Depth: 0.35m
Description
The area was stripped of topsoil (maximum depth 0.14m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.21m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench. A substantial deposit of naturally occurring peat *(14)* was present in the trench.

Trench No: 10
Location: Braystones
Alignment: east/west
Length: 30m
Depth: 0.95m
Description
The area was stripped of topsoil (maximum depth 0.25m) and subsoil, light reddish brown silty sand with moderate inclusions of small-and-medium sized rounded and sub-rounded stones (5%) to a depth of 0.95m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 11
Location: Braystones
Alignment: east/west
Length: 30m
Depth: 0.60m
Description
The area was stripped of topsoil (maximum depth 0.20m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.60m. The natural comprised dark reddish brown sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: 12
Location: North of Braystones
Alignment: north/south

Length: 60m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.15m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.39m. The natural comprised light reddish orange silty sand with occasional inclusions of small and medium sized stones (0.05-0.12m). No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **13**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.25
Description
The area was stripped of topsoil (maximum depth 0.12m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.25m. The natural comprised orange brown coarse-grained sand with frequent (10%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **14**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.38m
Description
The area was stripped of topsoil (maximum depth 0.12m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.38m. The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **15**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.42m
Description
The area was stripped of topsoil (maximum depth 0.08m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.35m at the north west end of the trench becoming shallower at the top of the incline to 0.20m. The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **16**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.10m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.38m. The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **17**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.30m
Description
The area was stripped of topsoil (maximum depth 0.12m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.30m. The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **18**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.48m
Description
The area was stripped of topsoil (maximum depth 0.10m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.38m. Due to the natural slope of the area a thicker deposit of subsoil was present in north west end of the trench, up to 0.30m thick. The natural comprised dark reddish brown sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **19**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.13m) and subsoil, light greyish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.38m. The natural comprised reddish brown coarse

grained sand with occasional (5%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **20**
Location: Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.32m
Description
The area was stripped of topsoil (maximum depth 0.10m) and subsoil, light reddish grey sandy silt with rare inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.32m. The natural comprised reddish brown sandy gravel. Located 8.3m from the north-west balk was a small, shallow circular pit, **9**, measuring 0.6m in diameter and 0.10m deep. The pit (Figure 4) had gradually sloped sides with a near flat base. A single fill, **8**, was present within the cut. It comprised a mid greyish brown silty sand with frequent inclusions (35%) of small and medium sized stones, some heat fractured, and frequent inclusions of charcoal. The fill was sampled both for paelaeoenvironmental analysis and for dating purposes.

Trench No: **21**
Location: North of Silvertarn
Alignment: north-west/south-east
Length: 30m
Depth: 0.18m
Description
The area was stripped of topsoil (maximum depth 0.15m) and subsoil, a thin deposit of light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.18m. The natural comprised brownish red coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **22**
Location: South/ east of Nethertown
Alignment: north-south
Length: 30m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.12m) and subsoil, light orange brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a depth of 0.38m. The natural comprised orange brown coarse grained sand with frequent (25%) inclusions of small rounded and sub-rounded stones. A shallow linearm, **11**, crossed the trench on a north-west/south east alignment at the north end of the trench. The cut of this feature was irregularly shaped with a near flat base. A single fillm, **10**, was extracted from the feature, light brown silty sand with frequent inclusions of small rounded and sub-rounded stones. The feature was 1.8m wide and 0.3m deep and produced no dating material, artefactual or otherwise.

Trench No: **23**
Location: South-east of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.56m
Description
The area was stripped of topsoil (maximum depth 0.15m) and subsoil, light reddish brown silty sand with frequent inclusions of small-and-medium sized rounded and sub-rounded stones to a maximum depth of 0.56m at the base of the hill where the trench commenced, becoming shallower towards the crest of the hill where the depth of subsoil was no more than 0.25m thick. The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **24**
Location: South-east of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.24
Description
The area was stripped of topsoil (maximum depth 0.20m). A very thin deposit of subsoil, with a maximum depth of no more than 0.05-0.07m thick consisted of light reddish brown sandy silt with frequent inclusions small The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **25**
Location: South-east of Nethertown
Alignment: north/south
Length: 5m
Depth: 1.3m
Description
Located at the base of a moss this trench was restricted in length due to the substantial deposits of subsoil. The topsoil (maximum depth of 0.30m) overlay mid reddish brown sandy silt with rare inclusions of small rounded and sub-rounded stones. The natural subsoil comprised light brown sandy gravel. No finds, features or deposits of an archaeological nature were encountered in this trench.

Trench No: **26**
Location: South-east of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.24m
Description
The area was stripped of topsoil (maximum depth 0.12m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.29m The natural comprised orange brown coarse grained sand with frequent (15%) inclusions of small rounded

and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **27**
Location: Nethertown
Alignment: east/west
Length: 30m
Depth: 0.20m
Description
The area was stripped of topsoil (maximum depth 0.18m). Subsoil, represented by a thin deposit of light reddish brown silty sand, was present to a depth of 0.20m. A quantity of modern debris was evident in the subsoil. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **28**
Location: Nethertown
Alignment: east/west
Length: 30m
Depth: 0.95m
Description
The area was stripped of topsoil (maximum depth 0.20m). Subsoil, represented by a light reddish brown sandy silt, was present to a depth of 0.95m The natural comprised reddish brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **29**
Location: South-east of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.34m
Description
The area was stripped of topsoil (maximum depth 0.16m). Subsoil, represented by a light reddish brown sandy silt, was present to a depth of 0.34m The natural comprised orange brown coarse-grained sandy gravel. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **30**
Location: North-west of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.14m). Subsoil, represented by a mid reddish brown silty sand, was present to a depth of 0.40m The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **31**
Location: North west of Nethertown
Alignment: north-west/south-east
Length: 30m
Depth: 0.29m
Description
The area was stripped of topsoil (maximum depth 0.13m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.29m The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **32**
Location: North-east of Nethertown
Alignment: north/south
Length: 30m
Depth: 0.25m
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.25m, a shallower deposit than elsewhere in this area. The natural comprised reddish brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **33**
Location: Deepgill Banks
Alignment: north/south
Length: 38m
Depth: 0.26
Description
The area was stripped of topsoil (maximum depth 0.12m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.25m. The natural comprised light grey sticky boulder clay, **15**. Within this trench, running for approximately 15m was a single course of dry stone wall. The depth of the cut, **13**, for this feature was no more than 0.05m deep, indicating a degree of truncation or that the wall was associated with an ephemeral structure built directly on the natural subsoil. This tallies with local knowledge, the landowner having indicated that within living memory a series of roughly-constructed outbuildings had existed in this area and that the field was locally referred to as Shed Field. The wall, **12**, was only one course high along the length of what was visible within the trench, consisting predominately of old red sandstone which, in some cases, had been roughly-squared.

Trench No: **34**
Location: South of St Bees
Alignment: north/south
Length: 30m
Depth: 1.25
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.65m. A thick deposit of

naturally occurring peat (14) was present in the centre of the trench, in a low-lying area of an undulating field. The natural comprised mid-grey boulder clay with occasional inclusions of small rounded and sub-rounded stones (5%). No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **35**
Location: South of St Bees
Alignment: north/south
Length: 30m
Depth: 0.25m
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by a light reddish brown silty sand, was present to a depth of 0.23m. The natural comprised reddish brown coarse grained sandy with frequent (20%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench. A modern land drain crossed the trench at its southern end on a north-west/south-east alignment.

Trench No: **36**
Location: South of St Bees
Alignment: north-west/south-east
Length: 10m
Depth: 0.80m
Description
The area was stripped of topsoil (maximum depth 0.14m). Subsoil, represented by a mid brown, coarse silty sand, was present to a depth of 0.80m. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench. A small quantity of late post-medieval pottery sherds was recovered from the trench.

Trench No: **37**
Location: South of St Bees
Alignment: north-west/south-east
Length: 10m
Depth: 0.80m
Description
The area was stripped of topsoil (maximum depth 0.14m). Subsoil, represented by a mid brown, coarse silty sand, was present to a depth of 0.80m. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench. A small quantity of late post-medieval pottery sherds was recovered from the trench.

Trench No: **38**
Location: South of St Bees
Alignment: north/south
Length: 30m
Depth: 0.70m
Description

The area was stripped of topsoil (maximum depth 0.18m). Subsoil, represented by light to mid brown, loose silty sand with occasional inclusions of small rounded and sub-rounded stones (5%), was present to a depth of 0.68m. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench. Three sherds of late post-medieval pottery and two clay pipe stems were recovered from the surface of the natural subsoil.

Trench No: **39**
Location: South of St Bees
Alignment: east/west
Length: 11m
Depth: 1.0m
Description
The area was stripped of topsoil (maximum depth 0.35m). Subsoil, represented by mid reddish brown, coarse silty sand, was present to a depth of 0.90m. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench. One sherd of post-medieval pottery, a single fragment of modern glass and a fragment of clay pipe stem were recovered from this trench.

Trench No: **40**
Location: East of St Bees School Golf Course
Alignment: north-east /south-west
Length: 30m
Depth: 0.65m
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by mid brown, coarse silty sand with frequent inclusions of modern debris and in fill was present to a depth of 0.65m. This overlay a thin layer of pea-gravel that had been deposited when the area had been topsoil stripped some four years ago subsequent to the installation of sewage outlet pipes and electricity services. The natural comprised orange brown coarse-grained sand with frequent (15%) inclusions of small rounded and sub-rounded stones. No features, finds or deposits of an archaeological nature were encountered in this trench.

Trench No: **41**
Location: East of St Bees School Golf Course
Alignment: north-east /south-west
Length: 26m
Depth: 0.30m
Description
The area was stripped of topsoil (maximum depth 0.12m). Subsoil, represented by mid brown, coarse silty sand with frequent inclusions of modern debris and in fill was present to a depth of 0.29m. This overlay a thin layer of pea-gravel that had been deposited when the area had been topsoil stripped some four years ago subsequent to the installation of sewage outlet pipes and electricity services. The natural comprised a sticky light grey boulder clay, **15**, which was present throughout the length of the trench.

Trench No: **42**
Location: South of St Bees
Alignment: north/south
Length: 22m
Depth: 0.40m
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by reddish brown, silty clay was present to a depth of 0.39m. The natural comprised sticky light grey clay with frequent inclusions of small angular and sub-rounded stones (15%). The natural had less stone inclusions towards the north end of the trench. No finds features or deposits of an archaeological nature were encountered in this trench.

Trench No: **43**
Location: South-west of Deepgill Banks
Alignment: north-east /south-west
Length: 15m
Depth: 0.50m
Description
The area was stripped of topsoil (maximum depth 0.15m). Subsoil, represented by brownish red coarse silty sand with occasional inclusions small rounded stones (5%) was present to a depth of 0.40m. The natural comprised a sticky light grey boulder clay (15), which was present throughout the length of the trench. Towards the southern balk, crossing on north-west/south-east alignment and truncating the natural boulder clay was a shallow ditch or furrow (Figure 5). The cut, **17**, of this feature was irregular in profile with a near vertical east side and a flat base with a gradually-sloped western edge with a break of slope, narrow plateau and gradual slope to the base. The linear feature was 0.85m wide and 0.18m deep. A single fill, **16**, was present within this feature and comprised reddish brown sandy silt with frequent inclusions of small and mid-sized angular and sub-rounded stones. The feature produced no dating evidence and there were no further finds, features or archaeological deposits within this trench.

Trench No: **44**
Location: North-west of Coneyside Cop
Alignment: north/south
Length: 75m
Depth: 0.30m
Description
The area was stripped of topsoil (maximum depth 0.26m). Only a very thin lens of subsoil, represented by mid reddish brown silty sand with occasional small stones (2%) overlay the natural subsoil. The natural subsoil varied through the length of the trench becoming stonier towards the northern balk. It comprised reddish brown sand with frequent inclusions of small, medium and large (+0.50m) stones and sandstone boulders. No finds, features or archaeological deposits were encountered in this trench.

Trench No: **45**
Location: West of Nethertown
Alignment: north/south

Length: 95m
Depth: 0.25m
Description
The area was stripped of topsoil (maximum depth 0.15m). This overlay reddish brown sandy silt subsoil with frequent inclusions of small-and mid-sized stones. The natural comprised light brown sandy gravel with frequent inclusions of small angular and sub-rounded stones. The field in which this trench was located was the site of a military tank training base in the mid-twentieth century, the structural remains of which were located in several areas of the trench. These features amounted to a series of foundation walls extant to the level of the natural subsoil. These features were not recorded.

Trench No: **46**
Location: Nethertown
Alignment: north/south
Length: 65m
Depth: 0.50m
Description
The area was stripped of topsoil (maximum depth 0.20m). This overlay reddish brown silty sand with frequent inclusions of small rounded, sub-rounded and sub-angular stones (15%). The natural comprised reddish brown sandy gravel. No finds features or archaeological deposits were evident in this trench.

Trench No: **47**
Location: Braystones WwTW
Alignment: north/south
Length: 75m
Depth: 0.20m
Description
Located 100m in from the foreshore, the area was stripped of topsoil (maximum depth 0.20m) where it was present, which directly overlay the natural comprised of light brown sand. No finds features or archaeological deposits were evident in this trench.

APPENDIX 4: CONTEXT LIST

Context	Trench	Description
1	All	Top Soil
2	All	Sub Soil
3	All but 33,41 and 43	Natural (sandy gravels)
4	7	Cut of Hearth
5	7	Fill of Hearth *4*
6	6	Field Boundary, deposit
7	6	Field Boundary, deposit
8	20	Fill of Pit *9*
9	20	Cut of Pit
10	22	Fill of Linear *11*
11	22	Cut of Linear
12	33	Dry Stone Wall *13*
13	33	Cut of Foundation Trench for Wall
14	33, 34	Naturally Occurring Peat
15	33, 41, 43	Natural Boulder Clay
16	43	Fill of Linear *17*
17	43	Cut of linear

ILLUSTRATIONS

FIGURES

PLATES

Figure 1: Location Map

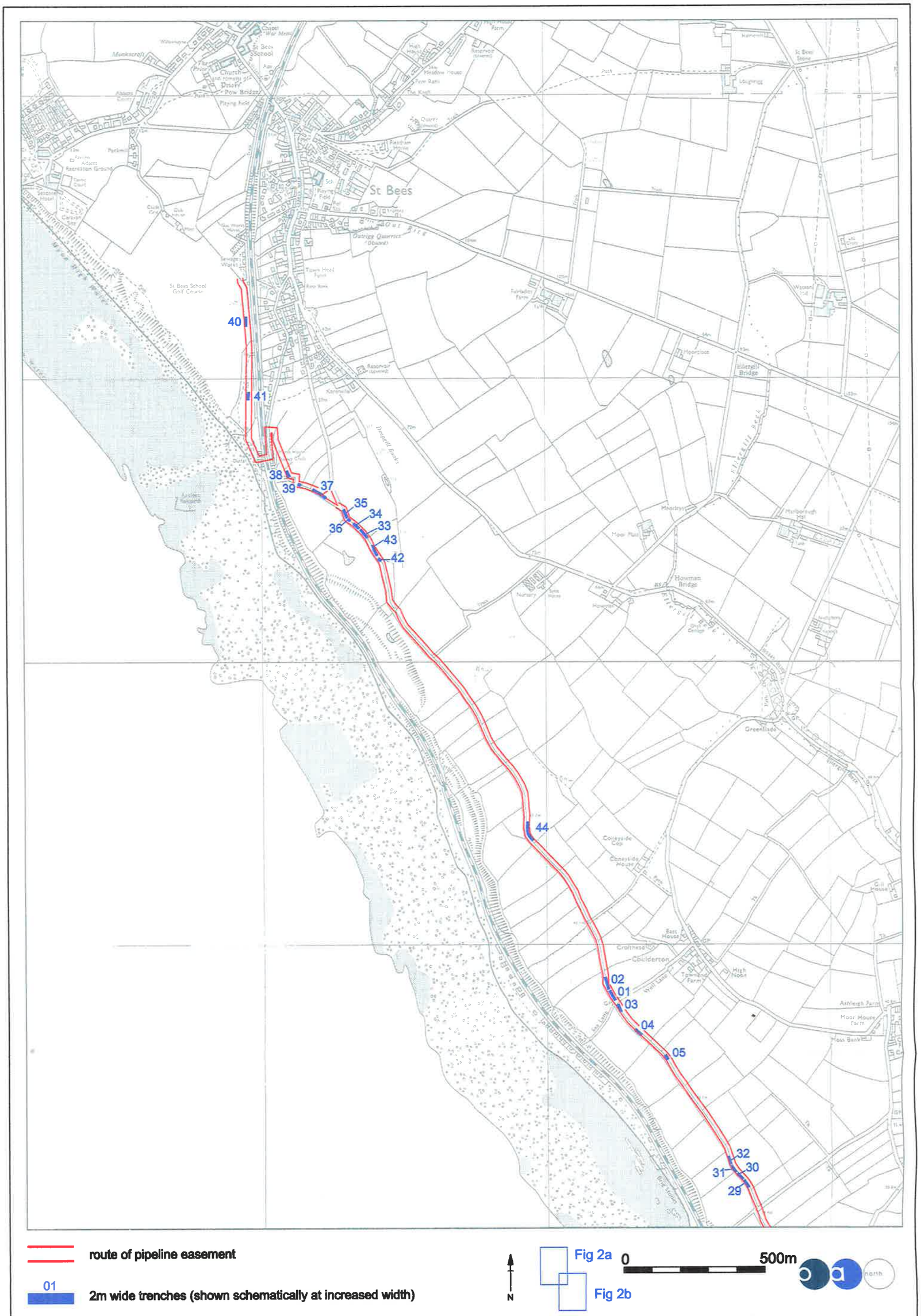

Figure 2a : Trench location plan, northern section

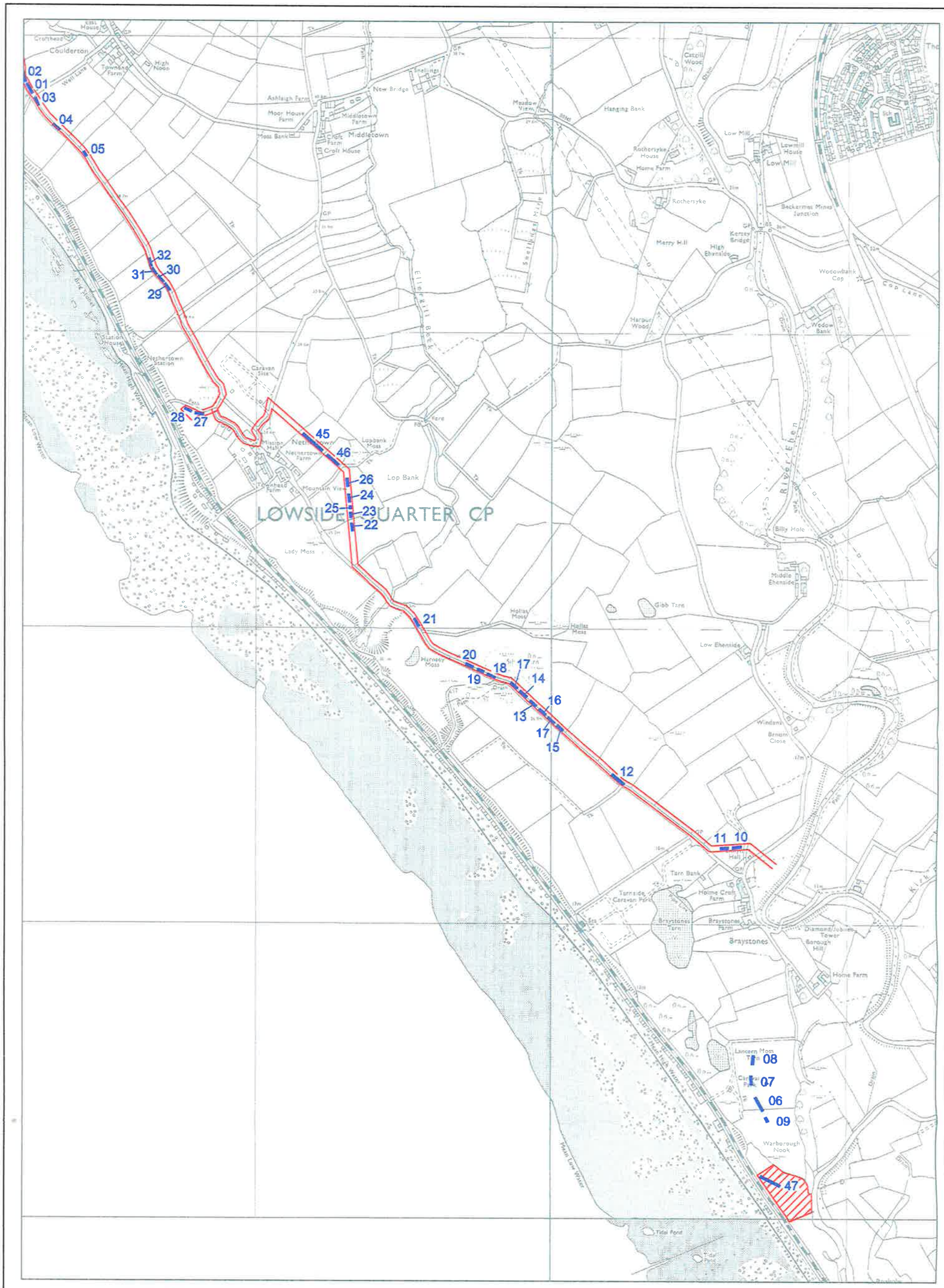

Figure 2b : Trench location plan, southern section

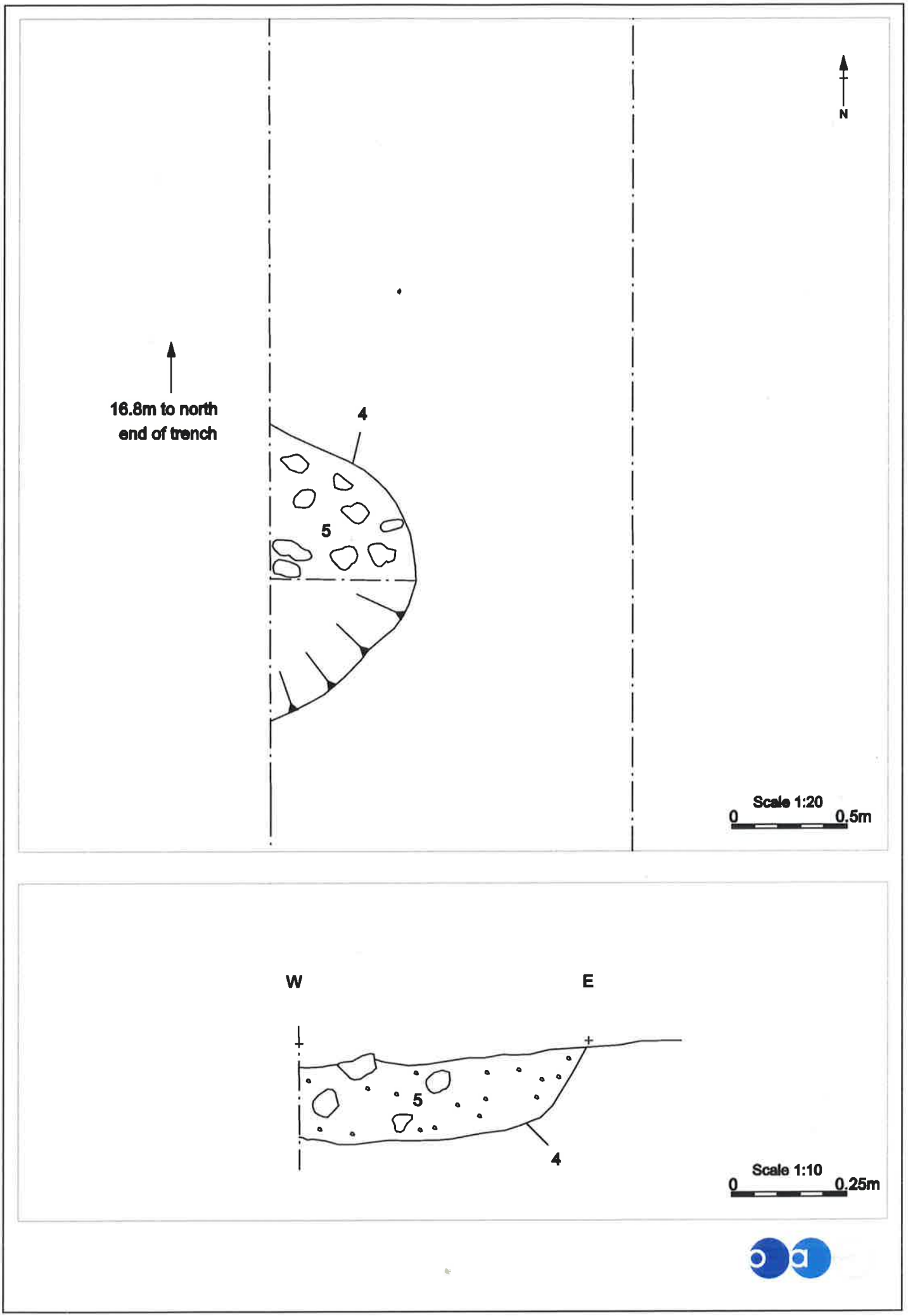

Figure 3 : Plan and section of feature*4*, Trench 7

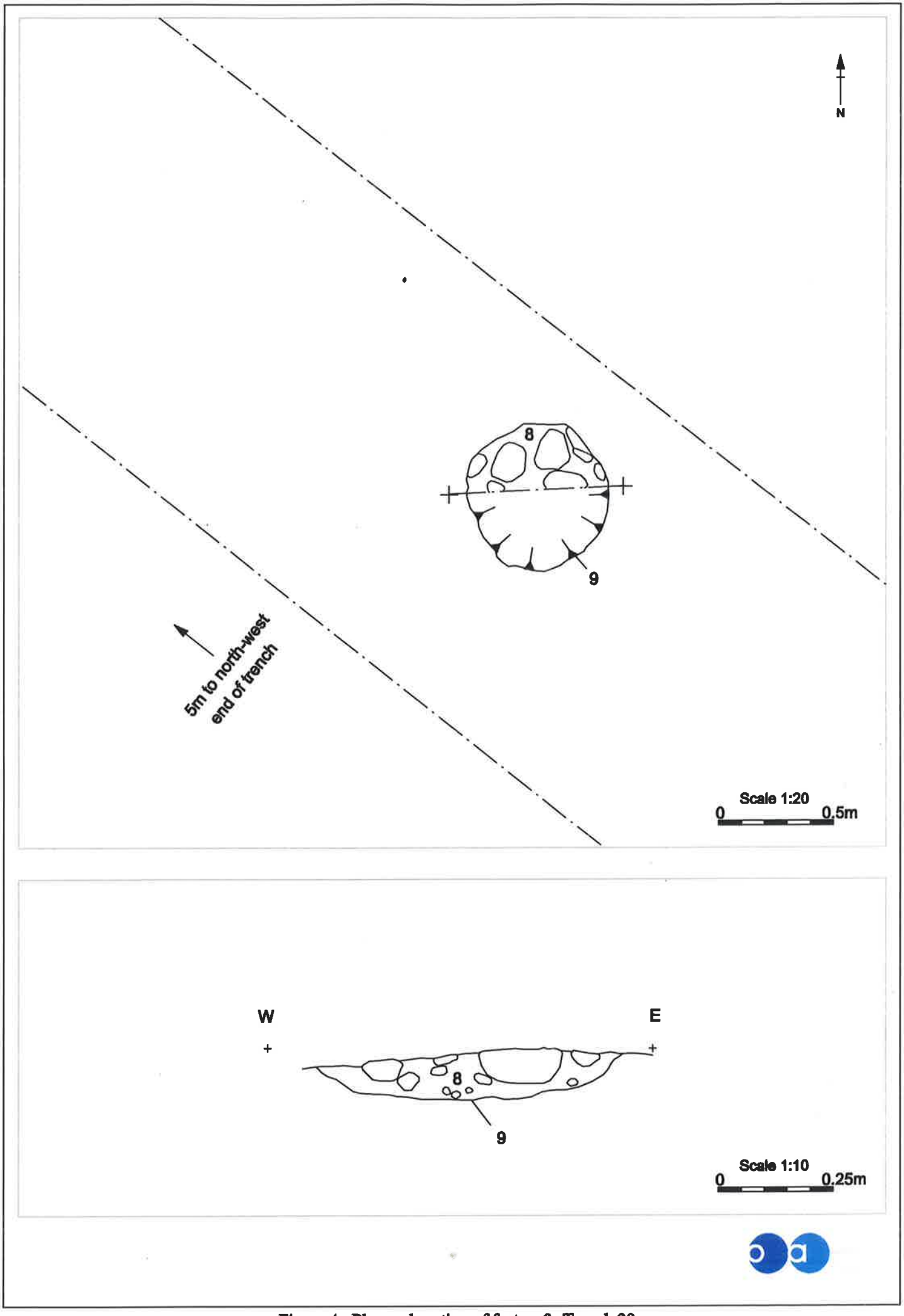

Figure 4 : Plan and section of feature *9*, Trench 20

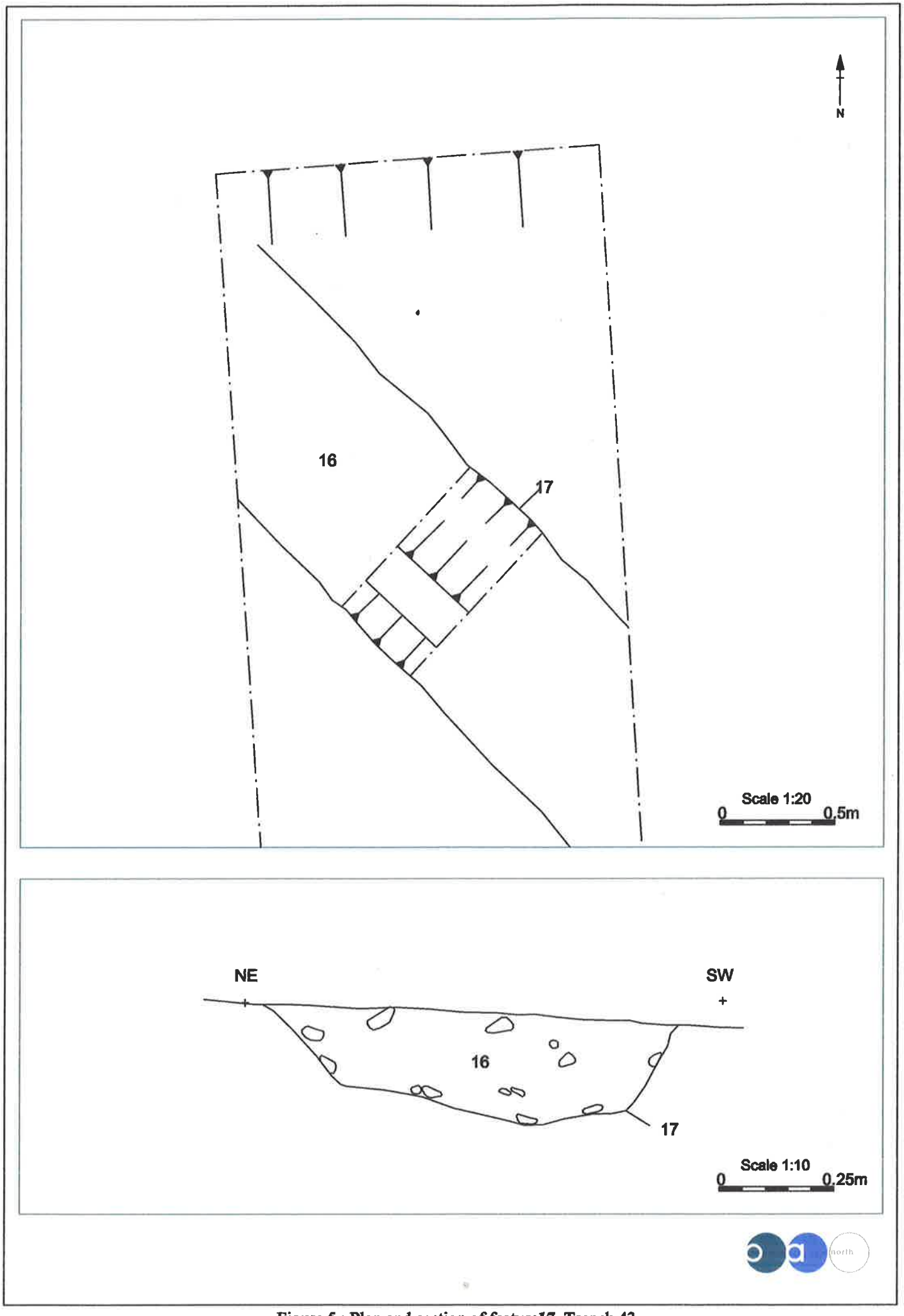

Figure 5 : Plan and section of feature*17*, Trench 43

Plate 1: Trench 7, feature *4*

Plate 2: Trench 20, feature *9*

Plate 3: Trench **43**, feature *17*, view north

Plate 4: View west of Braystones WwTW

Plate 5: Trench 47, view north

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