An Archaeological Evaluation at Cocklaw Quarry, Brunton Bank, Tynedale District, Northumberland

Central National Grid Reference: NY 932 702

Site Code: CQT 08

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1. NON-TECHNICAL SUMMARY

1.1 An archaeological evaluation was undertaken at a site proposed for mineral extraction at Cocklaw Quarry, Brunton Bank, Tynedale, Northumberland. The site lies approximately 5.5km north of Hexham and approximately 1km east of Chollerford and is situated to the north of the B6318 on the eastern valley side of the River North Tyne. Its central National Grid Reference is NY 932 702.

1.2 The project, undertaken in November 2008 by Pre-Construct Archaeology Limited, was commissioned by Tynedale Roadstone Limited. The site lies to the west of disused mineral workings at Cocklaw Quarry and planning applications have been submitted for re-activation of a dormant minerals planning permission for the site and for construction of an access road to serve the proposed new workings.

1.3 The proposed extraction area, which covers *c.* 5 hectares, comprises a large field of rough pasture, with a narrow corridor of land skirting field boundaries on higher ground to the south proposed for the access route. The site is of particular archaeological interest as it lies *c.* 0.5km north of Hadrian's Wall, which is a World Heritage Site and which, in this area, has statutory protection as a Scheduled Ancient Monument; the site lies within the 'buffer zone' of the World Heritage Site.

1.4 In total, 15 archaeological evaluation trenches were investigated. The broad aim of the work was to determine the presence or absence of archaeological remains at the site and the majority of the trenches were sited on a judgement basis to sample the affected area. Some trenches within the main field – the proposed extraction area – were sited to test field geophysical anomalies identified through an earlier geophysical survey.

1.5 Twelve trenches (Trenches 4-15) were investigated in the main field and three trenches (Trenches 1-3) were sited to the south along the route of the proposed access road. Archaeological recording was also undertaken (Trench 16) adjacent to the existing site access, immediately north of the B6318, where siting of a temporary accommodation unit disturbed the ground surface within the scheduled area.

1.6 In summary, no deposits or features of proven archaeological significance were encountered during the evaluation.

1.7 Natural boulder clay - representing the drift geology of the area - was exposed across the base of all the formal evaluation trenches, with the exception of Trench 10, The maximum depth below existing ground level at which boulder clay was recorded was 0.69m in Trench 12, this located in the lowest-lying portion of the site, while in Trench 1, located in the highest portion of the site, a depth of 0.25m below existing ground level, represents the shallowest depth at which the same deposit was recorded. In Trench 10, where no drift deposit was present, limestone bedrock was encountered at a depth of 0.30m below existing ground level

1.8 A single small circular feature was recorded cutting into the natural boulder clay in each of Trenches 5 and 6, these located along the southern boundary of the main field. Both features could represent postholes, although as no dateable material was recovered from either, the period of origin of each remains uncertain.

1.9 A sub-soil was recorded in all of the evaluation trenches, with the exception of Trenches 1 and 2, these located along the route of the proposed access road. The sub-soil ranged in thickness from 0.45m in Trench 12, this located in the lowest-lying portion of the site, to 0.10m in Trench 10, where the material directly overlay the limestone bedrock.

1.10 Evidence for probable post-medieval agricultural activity was recorded in Trench 14, this located towards the north-eastern corner of the main field. Two ENE-WSW aligned linear features in this trench could represent plough furrows.

1.11 In Trenches 4, 7, 8, 12, 13 and 14 parts of stone-lined culverts or stone-filled drainage features, all of probable post-medieval origin, were recorded, these forming part of an extensive network of drainage arrangements on the valley side.

1.12 In all the formal evaluation trenches, and the additional area of excavation (Trench 16) sited close to the existing site access, the uppermost deposit recorded comprised topsoil with developed turf, ranging in thickness from 0.15m to 0.35m.

1.13 Trenches 7 and 8 were sited to investigate linear geophysical anomalies running NE-SW through the central portion of the main field. The work indicated that these anomalies were caused by substantial stone-lined drainage culverts and stone-filled drainage ditches. Trench 14 was also sited - towards the north-eastern corner of the main field - to investigate a linear geophysical anomaly and the work indicated that the source of this anomaly was an east-west aligned stone-lined culvert. Sub-round geophysical anomalies potentially representing pit-like archaeological features were also identified towards the north-western corner of the main field and Trenches 12 and 13 were sited to investigate these. No discrete features were identified within these trenches and it is possible that the anomalies were caused by variations in the natural boulder clay sub-stratum.

1.14 Trench 16 was sited to record a small area of ground disturbance within the scheduled area just inside the existing site access off the B6318. This work, undertaken for English Heritage, comprised hand cleaning and the compilation of a basic photographic and written record prior to reinstatement. The conclusion of this element of the project was that only existing turf and the uppermost portion of the underlying ploughsoil had been affected and that archaeological remains associated with Hadrian's Wall, lying at a greater depth than the maximum depth of disturbance, had not been disturbed.

2. INTRODUCTION

2.1 General Background

2.1.1 This report describes the methods and results of an archaeological evaluation carried out on land proposed for minerals extraction at Cocklaw Quarry, Brunton Bank, Tynedale District, Northumberland. The site is located to the west of disused workings at Cocklaw Quarry and planning applications have been submitted for re-activation of a dormant minerals planning permission at the site and for construction of an access road.

2.1.2 The site is of particular archaeological interest as it lies *c.* 0.5km to the north of Hadrian's Wall World Heritage Site and within what is known as its 'buffer zone'. At this location, the archaeological core of the Wall has statutory protection as a Scheduled Ancient Monument. The evaluation, which comprised machine excavation and recording of 15 trial trenches, was undertaken to determine the presence or absence of any archaeological remains within the development area. Archaeological recording was also undertaken adjacent to the existing site access, immediately north of the B6318, where siting of a temporary accommodation unit caused a small area of disturbance to the ground surface within the scheduled area.

2.1.3 The work was undertaken by Pre-Construct Archaeology (PCA) between the 3rd and the 14th November 2008 and the work was commissioned by Tynedale Roadstone Limited (the Client).

2.1.4 The archaeological potential of the site was established by a desk-based archaeological assessment, manifest in the form of an 'Archaeology and Cultural Heritage' chapter of an Environmental Statement.[1] A geophysical survey – by magnetometer - was also undertaken in November 2006 at the site and this confirmed the presence of features associated with ridge and furrow agriculture and also identified several potential archaeological features.[2]

2.1.5 A Brief[3] for the evaluation was compiled by the Northumberland County Council Conservation Team (NCCCT) and in response, and on award of contract, a Project Design[4] was prepared by PCA. Prior to the fieldwork, the Project Design was approved by NCCCT. The purpose of the evaluation was to allow the impact of the development proposals upon the archaeological resource to be assessed, in order to inform the planning decision.

2.1.6 At the time of writing, the Site Archive is housed at the Northern Office of PCA, at Unit 19a, Tursdale Business Park, Durham. The completed Site Archive, comprising the written, drawn and photographic records, will be ultimately deposited at the Great North Museum in Newcastle-upon-Tyne, under the site code CQT 08. The Online Access to the Index of Archaeological Investigations (OASIS) reference number for the evaluation is: preconst-52197.

[1] Wardell Armstong 2007.
[2] GSB Prospection 2006.
[3] NCCCT 2008.
[4] PCA 2008.

2.2 Site Location and Description

2.2.1 The site proposed for minerals extraction lies *c.* 5.5km north of Hexham, at central National Grid Reference NY 932 702 (Figure 1). It is located north of the B6318, which at this location is known as Brunton Bank since it runs down the eastern valley side of the River North Tyne towards the bridge crossing at Chollerford.

2.2.2 The proposed extraction site lies *c.* 0.5km north of the B6318 and comprises a roughly triangular field *c*. 5 hectares in size on the valley side (Figure 2). Currently utilised as pasture, this field lies west of disused workings at Cocklaw Quarry, east of disused workings at Brunton Quarry and north-east of disused workings at Black Pasture Quarry. A proposed access route will connect the existing access to Black Pasture Quarry off the B6318 to Cocklaw Quarry. This route, which forms part of the site herein described, will skirt existing field boundaries, and enter the proposed extraction area at its southernmost corner (Figures 2 and 3).

2.2.3 The main field – the proposed minerals extraction site - is bounded to the south by a dry stone wall skirting a line of mature trees, beyond which lies a copse of dense, mainly coniferous, trees. To the west, the site is bounded by a post and wire fence, replacing a derelict dry stone wall, beyond which lie the dormant workings of Brunton Quarry. A further copse of trees bounds the south-western corner of the site, beyond which lie the dormant workings of Black Pasture Quarry. To the north, the site is bounded by a post and wire fence beyond which, to the west, lie open fields falling away to the river and, to the east, another area of dense woodland, known as Way Wood. To the east, the site is bounded by a substantial dry stone wall, beyond which lie open fields and the dormant workings of Cocklaw Quarry.

2.2.4 An overhead electricity supply line (OHL) runs roughly south-north in the vicinity of the portion of the proposed access road where it connects to the main field and continues through the western portion of the main field (Figure 3). The OHL falls within the category of 'low voltage, 10kV, 20kV and 38kV lines'.

2.2.5 A spring is located on the sloping ground within the central portion of the main field, with water collected in a stone basin to provide a water source for livestock.

2.3 Geology and Topography

2.3.1 The solid geology of the eastern valley side of the River North Tyne at Brunton Bank comprises 'Millstone Grit' (Namurian) strata, overlain by drift material characterised by glacial (boulder clay) till, with other glacial and fluvioglacial deposits intermittently present.[5]

2.3.2 The main geographical feature in the vicinity of the site is clearly the River North Tyne which flows *c*. 0.5km to the west, so that the site lies upon its eastern valley side, as previously described.

[5] Johnson 1997.

2.3.3 The southernmost portion of the main field at the site may be described as a sloping 'shelf'. The highest point on this shelf is at the south-western corner of the field where ground level lies at *c.* 183m OD. From the edge of this shelf, at *c.* 179m OD, the ground drops away to the north-west across the remainder of the site, this representing the natural fall of the valley side. Initially the slope is very steep, but it becomes less pronounced towards the northern site boundary. The north-western corner of the site is the lowest-lying area, with ground level at *c.* 148m OD (Figure 2).

2.3.4 The southernmost portion of the route of the proposed access road runs SW-NE across land rising to the north-east from *c.* 177m OD to *c.* 186m OD, with the remainder of the route, that is the portion which runs SSE-NNW towards the south-western corner of the main field, for the most part crossing the western end of a distinct spur of ground, with ground level lying between c. 186m OD and *c.* 189m OD.

2.4 Planning Background

2.4.1 Planning permission (reference W/49/44) was granted in 1949 for an extension to existing quarry workings at Cocklaw Quarry. Since this area – the main field in the site herein described - was classed as a 'dormant' minerals site under the *Environment Act 1995*, a planning application (reference 07/00171/MRVEEIA) was submitted in 2007 to the Mineral Planning Authority, Northumberland County Council, for re-activation of the dormant planning permission. The application relates only to the determination of modern working conditions for Cocklaw Quarry. A separate application (reference 07/00172/CCMEIA) relates to the creation of new access road from Cocklaw Quarry to an existing entrance to the adjacent Black Pasture Quarry.

2.4.2 UK Government guidance on the role of archaeology in the planning process is set out in *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG16),[6] while *Planning Policy Guidance Note 15: Planning and the Historic Environment* (PPG 15)[7] details the level of protection that should be afforded to Listed Buildings, Conservation Areas, Historic Parks and Gardens, Historic Battlefields and World Heritage Sites in respect of development proposals. Guidance on mineral extraction is contained within two policy statements, of which *Minerals Policy Statement 2: Controlling and Mitigating the Effects of Mineral Extraction in England* (MPS2),[8] sets out policies and considerations regarding the environmental effects of mineral extraction.

2.4.3 Statutory protection for archaeological remains is principally enshrined in the *Ancient Monuments and Archaeological Areas Act 1979*, as amended by the *National Heritage Act* 1983 and subsequent. Nationally important sites are listed in a schedule of monuments and are accorded statutory protection as Scheduled Ancient Monuments. Details of scheduling are held on the list maintained by the Department for Culture, Media and Sport (DCMS).

[6] Department of the Environment 1990.
[7] Department of the Environment and Department of National Heritage (now the Department of Culture, Media and Sport), 1994.
[8] Office of the Deputy Prime Minister 2005.

2.4.4 Regional guidance is provided by *Regional Spatial Strategy for the North East*[9] published in July 2008 and covering the whole North-East Region, including Northumberland. 'Policy 32. Historic Environment' of the document seeks to conserve and enhance the historic environment of the region, by various means, including by seeking to preserve archaeological remains in situ where they are scheduled and similarly where they are of local and regional importance, if appropriate.

2.4.5 The *Northumberland Minerals Local Plan* (adopted 2000), the County Council's key document for guiding and determining planning applications for minerals developments in Northumberland, is currently in the process of being replaced by the *Northumberland Minerals and Waste Development Framework.* A submission draft was issued for consultation in June 2007, following a *Preferred Options* document in 2006. The following draft policies are of relevance to the archaeological project herein described:

Hadrian's Wall. Policy DC14:

There is a presumption in favour of the preservation of Hadrian's Wall. Minerals and waste developments which would adversely affect Hadrian's Wall world heritage site and its setting will not be permitted.

Scheduled Ancient Monuments. Policy DC15:

There is a presumption in favour of the preservation of Scheduled Ancient Monuments and nationally important archaeological sites. Minerals and waste developments which would adversely affect these sites or their settings will not be permitted.

Other Features of Historic Importance. Policy DC16:

Proposals for minerals and waste development which would adversely affect:

- **Regionally or locally important archaeological sites;**
- **Listed Buildings and their settings;**
- **Conservation Areas;**
- **Historic Battlefields;**
- **Historic Parks and Gardens;**

will only be permitted where other material planning benefits or the need for the development outweighs the importance of retaining the site or area unaltered and no alternative site is available.

Where proposals for minerals working or a waste development would affect an area containing sites of known or potential archaeological importance, the operator will be required to provide information in the form of an archaeological assessment. If this assessment indicates that important archaeological remains may exist, a field evaluation may be necessary. The general presumption will be in favour of *in situ* preservation of archaeological remains but, where this is not possible, the emphasis will be on making adequate provision for sites to be appropriately recorded and published.

2.4.6 Several policies of relevance to the archaeological project herein described were saved beyond September 2007 from the *Tynedale District Local Plan* (2000), as part of the transition to a Local Development Framework:

Policy BE25 - Preservation of scheduled ancient monuments, nationally important sites and settings.

There will be a presumption in favour of the physical preservation in situ of Scheduled Ancient Monuments and other nationally important archaeological sites. Development, which would be detrimental to these sites or their settings, will not be permitted.

BE26 - Hadrian's Wall World Heritage Site.

There will be a presumption in favour of the physical preservation in situ of the Hadrian's Wall World Heritage Site, as defined on the Proposals Map. Development which would adversely affect the World Heritage Site will not be permitted. Proposals within its setting will be considered under Policy NE17.

[9] Department of Communities and Local Government 2008.

BE27 - Regional and Locally important archaeological sites and settings.

Development, which would be detrimental to regionally or locally important archaeological sites or their settings, will not be permitted unless the proposed development is considered to be of overriding regional importance and no alternative site is available.

BE28 - Archaeological Assessment.

Where it is not clear how important an archaeological site is, or where the impact of a development proposal on an existing archaeological site is uncertain, the developer will be required to provide further information in the form of an archaeological assessment and, where such an assessment indicates that important archaeological remains may be affected, a full archaeological evaluation.

NE17 - Development in the setting of Hadrian's Wall World Heritage Site.

Development which adversely affects the landscape setting of Hadrian's Wall World Heritage Site will not be permitted.

2.4.7 NCCCT has responsibility for archaeological development control in the county and provides development control advice to developers, planning authorities and utility companies. NCCCT advised that an archaeological trial trenching evaluation was required at the site because of the potential for archaeological remains. This potential, highlighted by the results of the aforementioned desk-based assessment and geophysical survey, provided the justification for the evaluation. The aforementioned Brief for the work was compiled and, in response, PCA prepared the aforementioned Project Design, which was submitted to and approved by NCCCT in advance of the fieldwork.

2.5 Archaeological and Historical Background

In order to assess the archaeological potential of the study site, desk-based assessment was undertaken to facilitate the compilation of the aforementioned 'Archaeology and Cultural Heritage' chapter of the Environmental Statement. A summary of this information is included below, and the research and writing of those responsible is gratefully acknowledged. The assessment examined a 'wider search area' (taken as an area of c. 1km radius from the boundary of the main field at the proposed extraction site at Cocklaw Quarry) and this term is retained throughout the following summary. Northumberland Sites and Monuments Record (SMR) numbers are also included.

2.5.1 Prehistoric

2.5.1.1 Although no prehistoric remains have been recorded at the site itself, there is one SMR entry of prehistoric date within the wider search area, this comprising an isolated find of a Bronze Age palstave (SMR 9301), *c.* 700m to the north of the site.

2.5.1.2 An excavation was undertaken in 1957 on the site of a presumed tumulus (SMR 8565), located *c.* 500m south-west of the site and marked on the Ordnance Survey 1st edition map of 1865. This recorded an artifical mound measuring *c.* 18m in diameter and *c.* 1.20m high. No datable material was recovered and no evidence of burials recorded, therefore its period of origin is unknown. The site has since been quarried and no evidence of the feature now survives above ground.

2.5.2 Roman

2.5.2.1 The main archaeological potential for the site relates to the Roman period due to its proximity to the Hadrian's Wall corridor. The significance of the Wall corridor in archaeological terms lies both in its complexity and the degree of survival of the Roman military and civilian remains. This was recognised by the designation of the Hadrian's Wall Military Zone as a World Heritage Site in 1987. A Management Plan, prepared by English Heritage, Local Authorities along the length of the Wall and other interested parties, identified three distinct areas: the 'archaeological core' of the Wall and Vallum (the World Heritage Site), the surrounding 'buffer zone' and the outer 'visual envelope'.

2.5.2.2 Hadrian's Wall runs *c*. 500m to the south of the proposed extraction area at Cocklaw Quarry, and the southern extent of the proposed access route (as investigated during the work herein described) is located within 100m of the monument. The entire site lies within the aforementioned buffer zone of the Hadrian's Wall Military Zone World Heritage Site. The portion of the Wall corridor in the vicinity of the site has statutory protection as a Scheduled Ancient Monument, as detailed further below.

2.5.2.3 The construction of Hadrian's Wall was undertaken on the order of Emperor Hadrian from AD 122 to consolidate the northern border of the Roman Empire. The Wall was built in stone between Newcastle and the River Irthing, the eastern 45 miles, with the remaining 31 miles constructed in turf. From its inception, the Wall was planned with regularly spaced fortlets ('milecastles') at intervals of about 1 mile, these attached to the south side of the wall allowing access points through the wall and the station of small garrisons, and the original design planned for two equally spaced towers ('turrets') between the milecastles.

2.5.2.4 At some point, a fundamental change of plan occurred and forts were constructed along the line of the Wall. Sixteen forts are now known either attached to the Wall or in close association with it, the closest to the site being Chesters fort*, Cilvrnvm,* which was constructed *c.* 2.5km to the west, overlooking the River North Tyne from the lower slopes of its western valley side. The Wall was originally planned to be ten Roman feet, *c.* 3m, wide, known as the Broad Wall, but at some point this was reduced to eight Roman feet, *c*. 2.5m, the Narrow Wall. In some areas the Broad Wall foundations were laid and then a Wall of narrow gauge was constructed on top.

2.5.2.5 A deep ditch was constructed to the north of the Wall, except in areas where the terrain made it unnecessary such as in the area where the Wall ran along the crags of the Whin Sill, and this varied between 8-12m in width and was around 3m deep.[10] The berm was generally about 6m in width, although was much reduced in areas adjacent to the turrets.[11] The material dug out from the ditch was mounded on the north side, known as the *glacis* mound, to heighten the outer scarp.

[10] Breeze and Dobson 2000, 30.
[11] Bidwell 2008.

2.5.2.6 A further defensive element - the Vallum - was added to the Wall after the decision had been taken to construct the forts. This comprised a broad flat-bottomed ditch flanked by a pair of linear banks, formed from the upcast from the excavation of the ditch. The ditch was *c*. 6.5m wide, up to *c*. 3m deep, with banks *c*. 6m across by 2m high. The standard width of the Vallum – including all the above elements – is 36.60m (this distance is the equivalent of 120 feet, the Roman surveying unit known as an *actus*). The commonly accepted interpretation for the function of the Vallum is that it represented a demarcation of the militarised zone from civilian land to the south. The Vallum was constructed at a variable distance to the south of the Wall, sometimes adjacent to the Wall, and in some places up to 1km to its south.

2.5.2.7 A road known as the Military Way ran from fort to fort across the corridor between the Wall and Vallum. South of the Vallum and linking the forts at Corbridge and Carlisle ran the Stanegate road, which pre-dated the Wall and developed from a strategic highway into a frontier road.

2.5.2.8 Hadrian's Wall in the vicinity of the site comprises two adjoining sections with Scheduled Ancient Monuments (SAM) status, these meeting just east of Dixon's Plantation to the SSE of the site. To the east is the first scheduled section, SAM 26049 (SMR 8623), this in Wall miles 24-25, with the monument mainly surviving in this section as a series of buried remains under the B6318, with the exception of a portion east of St. Oswald's Hill Head Farm, where it survives as an earthwork. The Wall ditch in this section survives for the most part as an earthwork averaging about 2.5m deep but the *glacis* mound has only intermittently survived. The Vallum survives as an upstanding earthwork for much of this section with the north and south mounds averaging 1m in height, but up to 1.60m and 4m high, respectively, in places, and the ditch between 1.50m and 2m deep.

2.5.2.9 Two turret sites, 25a and 25b, lie within SAM 26049, both having been initially identified by Hepple in the 1930s and later excavated in the 1950s. This work revealed no evidence of Roman activity at Turret 25a (SMR 8543), located *c*. 1km south-east of the site. A scatter of sandstone may have been mistaken for a laid wall and, therefore, it is noted in the SMR that the precise location of this turret is uncertain. A rectangular stone structure, this now only visible as earthwork, was recorded at Turret 25b (SMR 8544), located *c*. 700m SSE of the site.

2.5.2.10 Passing the site to the south, then continuing westwards to the River North Tyne, is the adjoining scheduled section of the Wall, SAM 26050 (SMR 8627), this in Wall miles 25, 26 and 27. In this section the Wall is located for the most part to the south of the B6318, surviving as an upstanding monument in some sections, including a 35m stretch of consolidated wall near Planetrees, due south of the site, where the junction between the Broad and Narrow Walls is visible, and a 69m stretch west of Brunton House, roughly the point at which the B6318 turns to the north-west away from the line of the Wall. Elsewhere in this section, the Wall generally survives as a buried feature. The Wall ditch survives intermittently as a well-preserved earthwork up to 3.50m deep. The Vallum has been largely disturbed by ploughing in this section and the mounds have been ploughed flat and the ditch is silted-up. It survives best towards the eastern limit of the section, to the west of Brunton Gate, where the ditch is up to 1.70m deep and the north mound is 1.60m high.

2.5.2.11 Turret 26a and Milecastle 26 are situated within this scheduled section of the Wall. Located *c*. 750m south-west of the site, Turret 26a (SMR 8546) was identified by Hepple in the 1930s and partially excavated in 1959, this work recording a rectangular structure now only identifiable by spoil heaps and stone debris.

2.5.2.12 Milecastle 26 (SMR 8545) is located *c*. 550m south of the proposed extraction site and only *c*. 100m south-east of the southern extent of the proposed access road, as investigated by the work herein described. This feature was excavated by Hepple in 1930 and recorded a stone structure described in the SMR as a long-axis type. This structure survives as a buried feature partially located beneath the B6318 extending beyond this to the north and south.

2.5.2.13 Other evidence of Roman occupation in the wider study area comprises a probable Roman quarry (SMR 8550) located *c*. 250m south-west of the site and *c*. 100m north-west of the access road. A Roman centurial stone (SMR 8553) incorporated into the eastern end of the south wall of a farmhouse at St. Oswald's Hill Head Farm located *c*. 950m south-east of the site bears the inscription 'The century of Caecilius Clemens of the eighth cohort'.

2.5.3 Anglo-Saxon

2.5.3.1 There is no evidence of Anglo-Saxon activity on the site, however within the wider study area, *c*. 500m to the south-east, an inscribed cross at Brady's Crag (SMR 8595) may date to as early as the 6th–7th century, although its proximity to St. Oswald's Church suggests that it could be a medieval pilgrimage relic of the cult of St. Oswald.

2.5.3.2 The SMR shows the battlefield site of Heaven's Field (SMR 8573), this presumed to lie *c.* 750m to the south-east of the site, just north of the B6318. Commemorating this was a wooden cross erected in 1927 set in a stone base inscribed '*Heavenfield, where King Oswald, being about to engage in battle, erected the sign of the Holy Cross and, on his knees, prayed to God and obtained the victory as his Faith deserved. AD 635 LAUS DEO'*. This replaced an earlier cross with a Roman altar as its base, this artefact is now located in St Oswald's Church, as described below.

2.5.4 Medieval

2.5.4.1 Located *c*. 950m north-east of the site is Cocklaw Tower (SMR 9298) a substantial rectangular structure described in the SMR as a well preserved pele-tower of probably 15th century origin. It is a Scheduled Ancient Monument (SAM ND67) and a Grade I Listed Building. Although there is no evidence of associated medieval buildings, the SMR suggests that this tower forms part of a larger manorial enclosure and the area around the tower should be regarded as archaeologically sensitive.

2.5.4.2 The site is situated within the township of Wall that formed part of the manor of Hexham owned by Hexham Priory in 1477. It is possible that the site would have been used as farmland during the medieval period, possibly being utilised by the population of the medieval village of Brunton, known from earthworks, *c*. 950m south-west of the site, thought to represent the deserted medieval village (SMR 8597). The site may have been utilised for agricultural purposes during the medieval period, but such activity may have left little or no trace in the archaeological record.

2.5.5 Post-Medieval and Modern

2.5.5.1 Documentary evidence records that land within the township of Wall was sold to Henry Tulip of Fallowfield in 1806. Cartographic evidence from an 1840 Tithe map to successive editions of the Ordnance Survey map show that the site has remained essentially unchanged, as an open field on the valley side, from the mid 19th century date to the present day.

2.5.5.2 The 1840 Tithe map and apportionment records that Miss Tulip (widower) owned the land at the time This map records evidence of quarrying within the vicinity of the site at this date, as indicated by the names 'Freestone Quarry Close' (Plot 89) and 'East Quarry Field' (Plot 82) to the west of the site boundary. A roughly east-west aligned access track is shown crossing the northern portion of the site.

2.5.5.3 Industrial activity associated with 19th century mineral extraction in the vicinity of the site is known from cartographic evidence. The Ordnance Survey 1st edition of 1865 shows 'Brunton Lime Works' close to quarries to the south-west of the site at Black Pastures and Brunton. The Ordnance Survey 2nd edition of 1896 records further quarrying activity immediately to the east of the site at 'Cocklaw Quarry' with associated waggonways or aerial ropeways, these probably used to transport material to nearby limekilns (SMR 9326) located to the north. The expansion of the already established quarries at Black Pastures and Brunton are also recorded on the 2nd edition.

2.5.5.4 Described below are the other Grade II Listed Buildings on the SMR for the post-medieval period within the wider search area. Located *c*. 550m north of the site, Cocklaw Mills limekilns (SMR 9326) date from the 1860s and consist of two brick-lined sub-rectangular structures that were situated on a branch line of the Hexham–Redesmouth railway. These kilns were connected to Cocklaw and Brunton quarries by aerial ropeways and waggonways. Similar structures, limekilns 'A' and 'B' at Brunton Quarry (SMR 8605), located *c*. 570m south-west of the site, comprise two stone-constructed structures of probable early 19th century date.

2.5.5.5 Situated *c*. 675m south-east of the site is the Church of St. Oswald (SMR 8578). The standing structure is of 18th century origin, although an earlier version is mentioned in early 14th century documentary evidence as being in need of repair. Also in a survey of *c*. 1715 it was noted that the structure was roofless and in 1737 it was either rebuilt or substantially repaired as indicated by this date appearing on a sundial. The church contains the aforementioned late 2nd century to early 3rd century Roman altar. now re-sited within the building after previously being used as the base of a cross commemorating the battle of Heaven's Field. The inscription has eroded but carvings remain apparent on both sides.

2.5.5.6 Brunton toll house (SMR 8613), located *c*. 725m south-east of the site, probably dates from 1775 and was originally known as 'Brunton Turnpike'. For this type of structure there was often a gate across the road, in order to allow tolls to be more easily collected.

2.5.5.7 The site inspection undertaken in order to compile the aforementioned 'Archaeology and Cultural Heritage' chapter of the Environmental Statement identified a spring and associated stone basin in central portion of the site, as well as poorly preserved NNW-SSW aligned ridge and furrow earthworks across the site. Both spring and the ridge and furrow earthworks were identified on aerial photographs taken in 1945 and 1946.

2.6 Aims and Objectives

2.6.1 The broad aim of the evaluation was to ascertain the nature, date and significance of archaeological remains at the site, as evidenced by any buried deposits and features and any artefactual and ecofactual evidence contained within them.

2.6.2 Recording of archaeological remains of the Roman period formed the site-specific project objective, given the setting within the designated buffer zone of the Hadrian's Wall Military Zone World Heritage Site. A specific research objective was to identify any sub-surface archaeological remains that could provide evidence of Roman military activity in the area.

2.6.3 The project had the potential to make a significant contribution to archaeological knowledge of the area.

2.6.4 Additional aims of the evaluation were:

- to characterise and establish the date of any potential archaeological features identified by the earlier geophysical survey;
- to establish the archaeological potential of areas of the site that were unavailable for geophysical survey, specifically the southernmost portion of the proposed access route;
- to make recommendations, where possible, about further mitigation which may be necessary to preserve archaeological features *in situ*, or
- to make recommendations in order to preserve archaeological features by record, where necessary.

3. ARCHAEOLOGICAL METHODOLOGY

3.1 Fieldwork

3.1.1 The fieldwork was undertaken in accordance with the relevant standard and guidance document of the Institute for Archaeologists (IfA).[12] PCA is an IfA-Registered Organisation.

3.1.2 The evaluation comprised machine excavation and archaeological recording of 15 trial trenches (Trenches 1-15, Figures 2 and 3) as well as hand cleaning and archaeological recording of a small area of disturbed ground (assigned as Trench 16) close to the existing access to the site and within the boundary of a scheduled section of the Hadrian's Wall corridor (SAM 26050) (Figure 2).

3.1.3 The total area investigated by the evaluation was *c.* 1,400 square metres, this amounting to an approximate 3% sample of the entire site (Figure 3). The trenches were sited to investigate possible archaeological features identified through the geophysical survey and to maximise the potential of the site to provide the most productive archaeological information and address the aims and objectives of the project. The dimensions of the trenches are set out in Table 1, below.

Dimensions			
Trench No.	***Length***	***Width***	***Av. Depth***
1	18.60m ENE-WSW	1.80m	0.30m
2	19.20m NW-SE	1.80m	0.35m
3	19m N-S	1.80m	0.65m
4	60.60m ENE-WSW 20m NNE-SSW	1.80m	0.50m
4 extension	3.40m NNE-SSW	3.50m	0.50m
5	59.40m ENE-WSW 12.40m NNE-SSW	1.80m	0.25m
6	49.10m ENE-WSW	1.80m	0.45m
6 extension	15.20m ENE-WSW	2.80m	0.45m
7	50.20m NW-SE	1.80m	0.45m
8	51.30m NW-SE	1.80m	0.40m
9	39.30m NE-SW 41.50m NW-SE	1.80m	0.35m
10	29.40m ENE-WSW	1.80m	0.30m
11	29.60m ENE-WSW	1.80m	0.50m
12	39.50m NNW-SSE 38.30m ENE-WSW	1.80m	0.50m
13	39.80m N-S 39.70m E-W	1.80m	0.35m
14	40m NW-SE	1.80m	0.25m
15	60.80m NW-SE	1.80m	0.50m
16	1m E-W	1m N-S	0.10m

Table 1. Dimensions of trenches

[12] IfA 2001.

3.1.4 The geophysical survey undertaken in 2006 covered the main field (this was designated 'Area 1' in the geophysical survey) at the site along with the northernmost portion of the corridor of the proposed access road (designated 'Area 2'), a total survey area of 5.25 hectares.

3.1.5 The geophysical survey confirmed the presence of NNW-SSE aligned ridge and furrow earthworks, as previously identified by aerial photography and site inspection. It also identified several geophysical anomalies potentially representing archaeological features, including four sub-round pit-like anomalies towards the north-western corner of the site. A linear anomaly running east-west and roughly parallel to part of the northern site boundary was interpreted as probably being a former field boundary or a field drain.

3.1.6 Another linear geophysical anomaly, aligned WSW-ENE and of considerable extent, was located between the spring in the central part of the main field and the western field boundary and this was interpreted as a possible drain or pipe associated with the spring. Two shorter linear anomalies were located a short distance to the south of this main anomaly, and running roughly parallel to it.

3.1.7 There were two major constraints on the siting of trenches at the site. The first was the necessity to impose a wayleave at ground level due to the presence of overhead electricity supply lines (OHL). These run roughly north-south through the western portion of the main field and continue southwards crossing the two sections of the proposed access road corridor that were investigated by the work. The OHL at the site fall within the category of 'low voltage, 10kV, 20kV and 38kV lines', therefore, for Health and Safety purposes, the ground level wayleave runs parallel with the OHL and must be 6m minimum width each side of the outermost conductor in the OHL. No machine operations are permitted within such a wayleave. The second constraint was the topography of the main field. Along the southern edge of this field is a sloping 'shelf' of higher ground, from which the ground drops away sharply to the north-west, at such a gradient that it was impractical to site trenches there.

3.1.8 Trenches 1-3 were sited within or close to the corridor of the proposed access road between the proposed extraction area and the existing access route to the dormant workings of Black Pasture Quarry which continues to join the B6318 on Brunton Bank. Trench 3 had to be re-sited to lie just west of the access road corridor due to the OHL.

3.1.9 Trenches 4-6 were sited on a judgment basis on the sloping 'shelf' of higher ground forming the southern extent of the main field. The southern arm of Trench 5 had to be shortened from its intended length due to the presence of a mature tree along the southern site boundary. Trench 6 had to re-sited slightly further to the north than had been intended for the same reason.

3.1.10 Trenches 7-15 were located in the northern portion of the main field. Trenches 7 and 8 were sited to investigate the WSW-ENE aligned linear geophysical anomalies located within the central portion of the site. Trenches 12 and 13 were sited to investigate three of the four sub-round pit-like geophysical anomalies identified and Trench 14 was sited to investigate the east-west aligned linear geophysical anomaly.

3.1.11 Trench 16 was located *c.*530 SSW of the main field, immediately to the north of the B6318 and just inside the existing access to the site. It was investigated at the request of the Hadrian's' Wall Archaeologist at English Heritage after siting of a portable site accommodation unit caused a small area of ground disturbance within the scheduled area.

3.1.12 The Brief and Project Design set out a requirement for additional, contingency, trenching - the precise quantity of which was to be decided by the NCCCT - in order to address specific archaeological issues that arose as a result of the work. The locations of contingency trenches were to be discussed and agreed with NCCCT on site. To this end, two of the existing trial trenches (Trenches 4 and 6) were extended (see Table 1) in an attempt to clarify archaeological issues.

3.1.13 Trenches 1-15 were set out using a Total Station EDM, with the layout having been approved, as part of the Project Design, by NCCCT, in advance of the work.

3.1.14 Trenches 1-15 and the extensions to Trenches 4 and 6 were excavated with a tracked 360^{o} mechanical excavator, using a toothless bucket. Topsoil and, where present, sub-soil was removed to expose the upper interface of the natural sub-stratum. Where necessary, trenches were then hand-cleaned at this level and any potential archaeological features were sample excavated to establish their nature, extent and date.

3.1.15 The exposures in each trench were recorded using *pro forma* 'Trench Recording Sheets' and, where necessary, 'Context Recording Sheets'. Sections across excavated features were drawn to scale, along with at least one complete section in each trench. All plans and sections were located relative to a survey baseline within each trenches, this having been set out using a Total Station EDM.

3.1.16 A photographic record of the investigations was compiled using SLR cameras. This comprised both black and white prints and colour transparencies (on 35mm film). All representative photographs included a clearly visible graduated metric scale. The photographic record also included 'working shots' to illustrate the nature of the archaeological investigations more generally.

3.1.17 Several Temporary Bench Marks (TBMs) were established at the site from existing survey data. All trenches were levelled and the heights of all principal strata and features were calculated in metres above Ordnance Datum (m OD) with the values indicated on the appropriate paperwork.

3.2 Post-excavation

3.2.1 The stratigraphic data for the project is represented by the written, drawn and photographic records. A total of 90 archaeological contexts were defined during the evaluation (Appendix A). Post-excavation work involved checking and collating site records and phasing the stratigraphic data. Written and tabulated summaries of the site data were then compiled, as described below.

3.2.2 No artefactual material was recovered during the work.

3.2.3 The palaeoenvironmental sampling strategy for the project was to recover bulk samples where appropriate, from well-dated (where possible), stratified deposits covering the main periods or phases of occupation and the range of feature types represented, with specific reference to the objectives of the evaluation. To this end, no appropriate deposits were encountered and, therefore, no bulk samples were recovered. No other biological material was recovered.

3.2.4 The complete Site Archive, in this case comprising written, drawn and photographic records (including all material generated electronically during post-excavation) will be packaged for long term curation. In preparing the Site Archive for deposition, all relevant standards and guidelines documents referenced in the Archaeological Archives Forum guidelines document[13] will be adhered to, in particular a well-established United Kingdom Institute for Conservation (UKIC) document[14] and an forthcoming IfA publication.[15] No material was recovered that required specialist stabilisation or an assessment of potential for conservation research. The depositional requirements of the receiving body, in this case the Great North Museum, due to open in Newcastle-upon-Tyne in 2009, will be met in full.

[13] Brown 2007.
[14] Walker, UKIC 1990.
[15] IfA forthcoming.

4. THE ARCHAEOLOGICAL SEQUENCE

4.1 Phase 1: Natural sub-stratum

4.1.1 The natural sub-stratum exposed in Trenches 1-5 generally comprised variously coloured, firm sandy clays, silty clays and clayey silts, with the exception of Trench 10 where limestone bedrock, [1002], was encountered (Figure 9). These softer deposits were the boulder clay (till) glacial 'drift' material that is typical of the area.

4.1.2 The height at which the natural sub-stratum was encountered within the three trenches (Trenches 1-3) sited along the route of the proposed access road varied from *c.* 180.92m OD in Trench 1, to the south, to *c.* 188.18m OD in Trench 3, to the north. This reflects the extent to which the ground rises north of the Hadrian's Wall corridor towards the spur of high ground overlooking the main field at the site from the south. Along the sloping 'shelf' forming the southernmost portion of the main field, the natural sub-stratum was recorded at a maximum height of 181.11m OD in Trench 5 and at a minimum height of 179.70m OD, this in Trench 6. The minimum height that the natural sub-stratum was recorded on the site as a whole was 148.90m OD, this in Trench 12, located towards the north-western corner of the site.

4.1.3 Natural sub-stratum was encountered at a maximum depth of 0.69m below existing ground level in Trench 12 and at a minimum depth of 0.25m below existing ground level in Trench 1.

4.2 Phase 2: Undated

4.2.1 A NW-SE aligned irregular linear feature, [406], was encountered at the WSW extent of Trench 4, cutting into the natural sub-stratum, [402] (Figures 5, 14 and 20). This feature was recorded for a distance of 5.30m NW-SE, continuing beyond the limits of excavation, and was a maximum of 1.40m wide and 0.46m deep. No artefactual material was recovered from its single sandy clay fill, [405]. The irregular form of the feature in plan, narrowing at both ends and wider in the central portion, provides the justification for its interpretation as being the result of root turbation.

4.2.2 Located immediately to the east of feature [406] was a similarly aligned irregular linear feature, [410], also recorded cutting into the natural sub-stratum, [402] (Figures 5, 14 and 20). This feature was exposed for a distance of 5.20m NW-SE and was up to 1.14m wide and 0.30m deep. No datable artefactual material was recovered from its single fill, [409]. As with feature [406], this also had an irregular form in plan, narrow at its south-eastern extent and becoming wider to the north-west, and is also interpreted as being the result of root turbation.

4.2.3 An east-west aligned shallow linear feature, [1308], was encountered at the northernmost extent of Trench 13, cutting into the natural sub-stratum, [1302] (Figures 11, 18 and 20). This feature was recorded for a distance of 1.80m, continuing beyond the limits of excavation, and was 0.28m wide and 70mm deep. No artefactual material was recovered from its single silty clayey sand fill, [1307]. The function of this feature is uncertain but it probably represents a silted-up drainage feature of uncertain period of origin.

4.3 Phase 3: Sub-soil

4.3.2 Sub-soil deposits encountered in Trenches 3-15 generally comprised mid to dark greyish brown clayey silt and clayey sandy silt. The sub-soil overlay the Phase 2 undated features or, where no such features were present, the natural sub-stratum. No sub-soil was encountered in Trenches 1 and 2.

4.3.3 The maximum thickness of any sub-soil was 0.45m, this recorded within Trench 12 in the lowest-lying part of the site, while the thinnest sub-soil recorded was only 0.10m, this within Trench 10, where the deposit overlay limestone bedrock. Sub-soil recorded in the trenches sited on the southern 'shelf' of the main field ranged in thickness from 0.12m in Trench 5 to 0.25m within Trench 6. Elsewhere within the main field sub-soil ranged in thickness from 0.12m to 0.30m.

4.3.4 The maximum and minimum recorded heights on the upper interface of sub-soils within trenches (Trenches 4-6) along the southern 'shelf' of the main field and those along the proposed route of the access road (only Trench 3, since no sub-soil was encountered in Trenches 1 and 2) were *c.* 188.40m OD and *c.* 179.90m OD, respectively. The upper interface of the sub-soil in Trench 12, this sited within the lowest-lying part of the site, was recorded at a minimum height of *c.* 149.40m OD.

4.4 Phase 4: Undated

4.4.1 A shallow NW-SE aligned linear feature, [103], with a rounded terminal to the south-east, was recorded in the central portion of Trench 1 cutting into the natural sub-stratum, [102] (Figure 4). This feature measured at least 1.60m, continuing beyond the limit of excavation, by 0.65m wide and was up to 70mm deep. No datable artefactual material was recovered from its single silty sand fill, [104]. Based on its form and the composition of its fill, this feature has been interpreted as being formed as a result of root turbation.

4.4.2 A semi-circular feature, [504], was recorded within the central portion of the ENE-WSW arm of Trench 5, cutting sub-soil deposit [502] (Figures 6, 14 and 20). This feature measured 0.73m ENE-WSW by at least 0.46m NNW-SSE and was 0.28m deep. No artefactual material was recovered from its single fill, [503], which comprised small to medium stones, these possibly representing post-packing. The feature has been interpreted as part of a possible posthole of uncertain period of origin.

4.4.3 A sub-circular feature, [602], was encountered in the central portion of Trench 6, cutting into the natural sub-stratum, [601] (Figures 7 and 20). This feature measured 0.75m east-west by 0.60m north-south and was 0.28m deep. In profile it tapered to a flat base and, based on this evidence, the feature could possibly represent a post setting. No datable material was recovered from its single clayey silt fill, [603]. As mentioned, this feature has been interpreted as a possible posthole or alternatively it could represent a small refuse pit of uncertain period of origin.

4.5 Phase 5: Post-medieval

4.5.1 A group of six substantial stone-lined culverts were encountered across the site in Trenches 4, 7, 12, 13 and 14, these undoubtedly forming parts of an extensive network of culverts set out in the fields of the valley side to aid drainage.

4.5.2 Located in the central portion of the ENE-WSW arm and continuing into the SSE extent of the SSE-NNW arm of Trench 4, a sandstone structure, [407], aligned WNW-ESE, was recorded within a narrow vertical sided construction cut, [404] (Figures 5 and 20). This structure comprised two parallel walls, up to *c.* 0.35m high and *c.* 0.15m wide, separated by a gap of *c.* 0.40m. The walls were constructed using random courses of roughly hewn and unworked sandstone varying in size from 180mm x 140mm to 300mm x 220mm, these capped by large unworked sandstone blocks. In total the structure measured at least 6.10m east-west, by 0.74m wide and 0.55m deep. The highest recorded level of the structure was 181.48m OD and the base was recorded at a height of 180.91m OD. A 0.26m thick deposit, [408], observed within the structure comprised very loose sandy silty clay and is interpreted as primary silting. Another silting deposit, [403], was recorded overlying the stone capping. This structure is interpreted as a stone-lined drain of probable later post-medieval origin.

4.5.3 Trench 7 was sited to investigate a linear geophysical anomaly in the western central portion of the main field. Two inter-cutting sandstone structures encountered within the south-eastern portion of Trench 7 probably account for the anomaly. The first, a sandstone structure, [707], was recorded within a narrow construction cut, [704], cutting sub-soil [701] (Figures 7 and 21). It comprised two parallel east-west aligned walls with an internal gap of *c.* 0.16m. The walls were constructed using random coursed, unworked sandstone blocks varying in size from 100mm x 20mm to 210mm x 50mm, these capped by large roughly hewn sandstone blocks and overlain by a *c.* 0.22m thick sandstone rubble infill, [703]. This structure measured at least 2m east-west by up to 0.40m wide and was at least 0.17m deep. The highest level of the structure occurred at 165.97m OD and the base was recorded at 165.79m OD. A 0.10m thick deposit, [708], observed within structure [707] comprised loose sandy silty clay and is interpreted as primary silting.

4.5.4 The north-eastern extent of culvert [707] was truncated by the construction cut, [706], for the second stone-lined structure, [709]. This cut comprised a narrow vertical-sided construction cut lined with two parallel NE-SW aligned walls with an internal gap of *c.* 0.15m. The walls were constructed with uncoursed, unworked sandstone blocks varying in size from 150mm x 120mm to 260mm x 110mm, these capped with roughly hewn sandstone slabs overlain by a *c.* 0.10m thick sandstone rubble infill, [705]. A 0.12m thick deposit, [710], observed within the structure comprised loose sandy silty clay and is interpreted as primary silting. Both structures [707] and [709] are interpreted as stone-lined culverts of probable later post-medieval origin. Culvert [709] was the latest feature and may represent the establishment of a more substantial drainage feature, possibly after the earlier culvert silted-up.

4.5.5 Two NE-SW aligned linear features, [807] and [805], were encountered in the south-eastern portion of Trench 8, cutting sub-soil deposit [801] (Figures 7 and 22). The south-easternmost of these, [807], measured at least 1.80m NE-SW by 1.11m wide and 0.57m deep and had a generally U-shaped profile. Located *c*. 1.80m to the north-west was linear feature [805], this measuring at least 1.85m NE-SW by 0.80m wide and 0.63m deep and of similar profile. No artefactual material was recovered from the fill of either, [808] and [806], respectively, these comprising silty sand with frequent stones throughout. Both features have been interpreted as stone-filled drainage features, based on their form and composition of infill, forming part of the extensive drainage system recorded at the site. Trench 8 had been sited to investigate two linear geophysical anomalies potentially indicative of archaeological remains and these drains can reasonably be interpreted as being the cause of these anomalies.

4.5.6 Part of an irregular shaped feature, [803], was recorded in the central portion of Trench 8 cutting into sub-soil deposit [801] (Figure 7). It measured at least 1.05m NE-SW and was up to 0.80m wide and 50mm deep. No datable material was recovered from its single fill, [804]. Based on its irregular form in plan and its uneven base, the feature has been interpreted as an area of ground disturbance, possibly resulting from the removal of a substantial boulder during ploughing at the site.

4.5.7 Located at the SSE portion of the NNW-SSE arm of Trench 12, a sandstone structure, [1203], was recorded within a narrow construction cut, [1202] (Figures 10, 17 and 23). This structure comprised two parallel east-west aligned walls, *c*. 0.25m high and *c*. 0.10m wide, with an internal gap of *c*. 0.16m. The walls were constructed using one course of roughly hewn, fairly uniformly sized sandstone blocks measuring *c.* 300mm x 200mm to 300mm x 110mm, these capped by large roughly hewn sandstone blocks and overlain by *c*. 0.23m thick sandstone rubble infill, [1205], in turn overlain by the 70mm thick clay capping, [1204]. In total, the structure measured at least 1.80m east-west by 0.35m wide and 0.32m deep. The highest level at which the structure was recorded was 151.23m OD and the base was recorded at 150.91m OD. This structure is interpreted as a stone-lined culvert of probable later post-medieval origin. A void observed within the structure, suggest that the culvert remained functional.

4.5.8 A stone-lined curvi-linear structure, [1304], was recorded within a narrow construction cut, [1306], at the northern extent of the north-south arm of Trench 13 (Figures 14 and 23). This structure comprised two parallel, roughly north-south aligned, walls with an internal gap of *c*. 0.12m. It was constructed using random courses of roughly hewn and unworked sandstone measuring from 80mm x 150mm to 400mm x 250mm, these capped by roughly hewn and unworked sandstone blocks and overlain by *c.* 0.35m thick sandstone rubble deposit, [1303]. The structure measured 4.50m north-south, continuing beyond the limits of excavation, by 0.64m wide and 0.37m deep. The highest level at which this structure was recorded was 152.69m OD and the base was recorded at 152.29m OD. This structure is interpreted as a stone-lined culvert of probable later post-medieval origin.

4.5.9 Trench 14 had been sited to investigate a linear geophysical anomaly. A sandstone structure, [1404], was encountered in the central portion of Trench 14, and this can be confidently suggested as the cause of the anomaly (Figures 12 and 23). It was built within a narrow vertical-sided construction cut, [1405], this cutting sub-soil deposit [1401]. The structure comprised two parallel, east-west aligned, walls, *c*. 0.30m high and up to *c*. 0.15m wide, with an internal gap of *c*. 0.20m. The walls were constructed using one course of unworked sandstone varying in size from 120mm x 100mm to 400mm x 250mm, these capped by large unworked sandstone blocks and overlain by a *c*. 0.30m thick sandstone rubble infill, [1403]. This structure measured at least 2m east-west by up to 0.62m wide and at least 0.32m deep. The highest level that the structure occurred at was 153.51m OD and its base was recorded at 153.17m OD. This structure is interpreted as a stone-lined culvert of probable later post-medieval origin and, as with culvert [1203], a void observed within it demonstrated that it was probably still functioning.

4.5.10 Two parallel, ENE-WSW aligned, linear features, [1409] and [1407], were encountered in Trench 14, both cutting sub-soil [1401] (Figures 12 and 19). Feature [1409] was U-shaped in profile and measured at least 1.80m ENE-WSW by 1.05m wide and 0.35m deep. Feature [1407], located *c*. 16m to the north, was also of U-shaped profile and measured at least 1.80m ENE-WSW by 1.30m wide and 0.40m wide. No datable artefactual material was recovered from either of their single fills, [1408] and [1406], respectively. The function of both features is uncertain although they could conceivably represent a phase of ridge and furrow ploughing.

4.6 Phase 6: Modern

4.6.1 A NW-SE aligned linear feature, [204], was exposed along the length of Trench 2 cutting the natural sub-stratum, [202] (Figure 4). This feature contained a single silty clay fill, [203], at the base of which a plastic pipe was recorded. This feature has been interpreted as a service trench of modern origin.

4.6.2 Two parallel, ENE-WSW aligned, linear features, [304] and [305], were encountered in Trench 3. both cutting sub-soil [301] (Figure 4). These measured at least 2m ENE-WSW by 0.24m wide and at least 0.32m deep. Ceramic drain pipes were recorded at the base of both, therefore they have been interpreted as field drains of modern origin.

4.7 Phase 7: Topsoil

4.7.1 Topsoil, with developed turf, was recorded in all 15 machine-excavated trenches, as well as the area of investigation designated as Trench 16. The deposit generally comprised friable mid to dark greyish brown clayey sandy silt or silty sandy clay. The maximum thickness recorded for any such deposit was 0.35m in Trench 2 and the minimum thickness was 0.15m, this in Trench 3.

4.7.2 The thickness of the topsoil in Trench 16 was not established and the deposit was ‘excavated’ to reveal a thickness of only 0.10m, this being the maximum depth of disturbance.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 No features of proven archaeological significance were recorded within any of the trenches investigated.

5.2 Features and deposits recorded within the evaluation trenches have been assigned to seven phases of activity, ranging from the earliest, Phase 1, comprising naturally derived geological material through to the latest, Phase 7, comprising topsoil/turf, this forming the existing ground surface.

5.3 Natural glacially-derived material was recorded across all areas investigated, with the exception of Trenches 10 and 16. Boulder clay was recorded at a maximum depth of 0.69m below existing ground level in Trench 12, sited within the lowest-lying portion of the site and at a minimum depth of 0.25m below existing ground level within Trench 1, sited towards the southernmost extent of the proposed access route. Limestone bedrock was exposed within Trench 10, at a depth of 0.30m below existing ground level.

5.4 Features assigned to Phase 2 were recorded within Trench 4, sited close to the south-western corner of the main field. These comprised two irregular linear features interpreted as being caused by root disturbance. An east-west aligned linear feature recorded within Trench 13 has been interpreted as a possible silted-up drainage feature. No dateable material was recovered from any of the Phase 2 features, so that the period of origin of each remains uncertain.

5.5 Phase 2 features and/or the natural sub-stratum were overlain by sub-soil deposits, assigned to Phase 3, these recorded throughout all of the trenches with the exception of Trenches 1 and 2, sited along the proposed access route. The sub-soil ranged in thickness from 0.45m in Trench 12, at the lowest point of the site, to 0.10m in Trench 10, where the material overlay limestone bedrock.

5.6 Features assigned to Phase 4 were recorded in Trenches 5 and 6 along the southern margin of the main field; these comprised by two circular features cut into the sub-soil. Both have been interpreted as possible postholes, but as no artefactual material was recovered, the period of origin remains uncertain in each case. Trench 6 was extended northwards to establish if the putative posthole was an isolated feature of part of a group of such features representing a former structure. To this end, no other features were revealed and therefore it seems most likely that the feature simply represents some undermined agricultural usage of the land. The other feature assigned to Phase 4 comprised a linear feature recorded in Trench 13, but this is likely to have been caused by root disturbance.

5.7 Phase 5 activity comprised a series of variously aligned linear features interpreted as furrows, stone-lined culverts and stone-filled drains associated with drainage and the agricultural usage of the site during the later post-medieval period. All these are considered to be of low archaeological significance. Substantial stone-lined culverts were recorded in Trenches 4, 7, 12, 13 and 14, while stone-filled drainage ditches were recorded in Trench 8, all these probably part of an extensive network of drainage features set out in the fields on the valley side of the River North Tyne, in order to improve drainage.

5.8 Phase 6 activity - of modern date - was represented by a service trench in Trench 2 and two field drains in Trench 3.

5.9 The uppermost deposits recorded across all areas investigated comprised topsoil and the existing turf ground surface, these assigned to Phase 7; the deposits varied in thickness from 0.15m to 0.35m.

5.10 Trenches 7 and 8 had been sited to examine linear geophysical anomalies and the evaluation demonstrated that stone-lined drainage culverts and stone-filled drainage ditches were almost certainly the source of these anomalies. Trench 14 was also sited to investigate a linear geophysical anomaly and the work demonstrated this to be caused by an east-west aligned stone-lined culvert. Trenches 12 and 13 were sited to investigate three sub-round pit-like anomalies identified through geophysical survey. No discrete features were identified within these trenches and it is probable that the anomalies were caused by variations in the natural boulder clay sub-stratum.

5.11 Trench 16 was sited to clean and record an area of ground disturbance close to the existing site access off the B6318, Brunton Bank and within the scheduled area of Hadrian's' Wall. No archaeological remains associated with Hadrian's Wall were recorded, these presumably surviving at greater depths than the extent of disturbance. The work demonstrated that only the existing turf and the uppermost portion of the underlying topsoil had been affected.

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7. ACKNOWLEDGEMENTS AND CREDITS

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PCA Credits

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Report: Aaron Goode, Jennifer Proctor (editing)

Project Management: Robin Taylor-Wilson

Illustrations: Adrian Bailey

Survey: Jim Wright

Figure 1. Site location
Scale 1:50,000

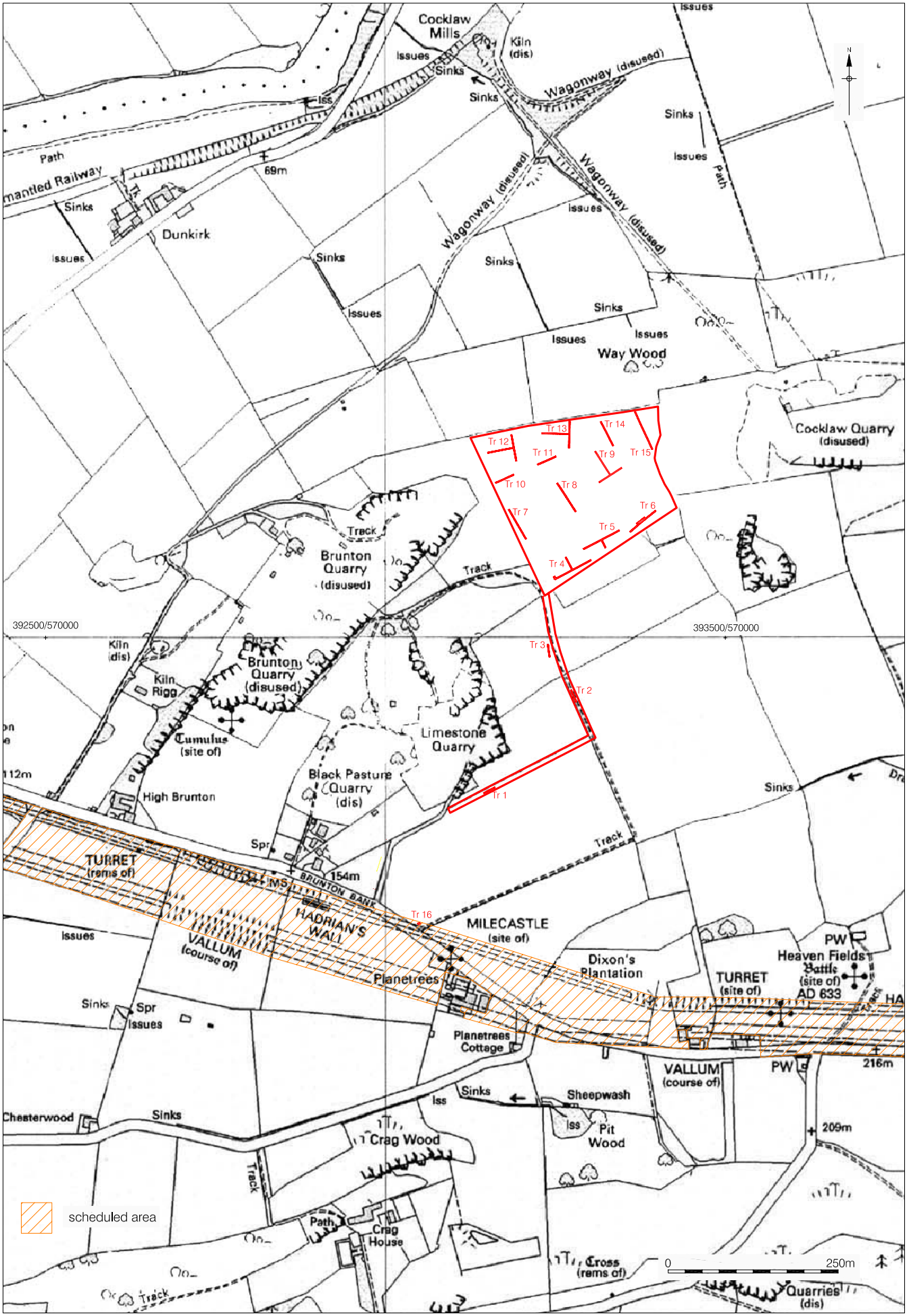

Figure 2. Trench location; overview
Scale 1:750

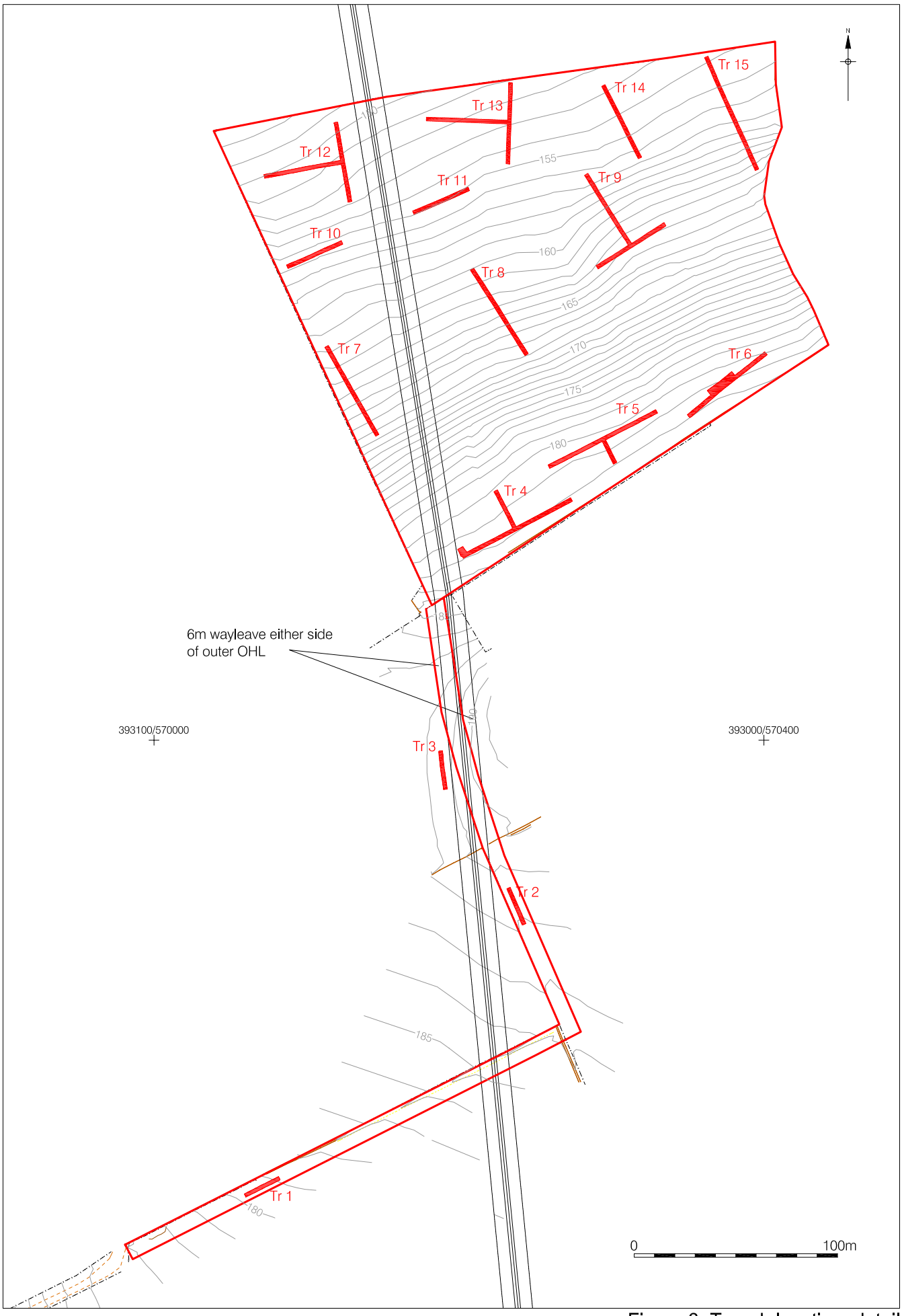

Figure 3. Trench location; detail
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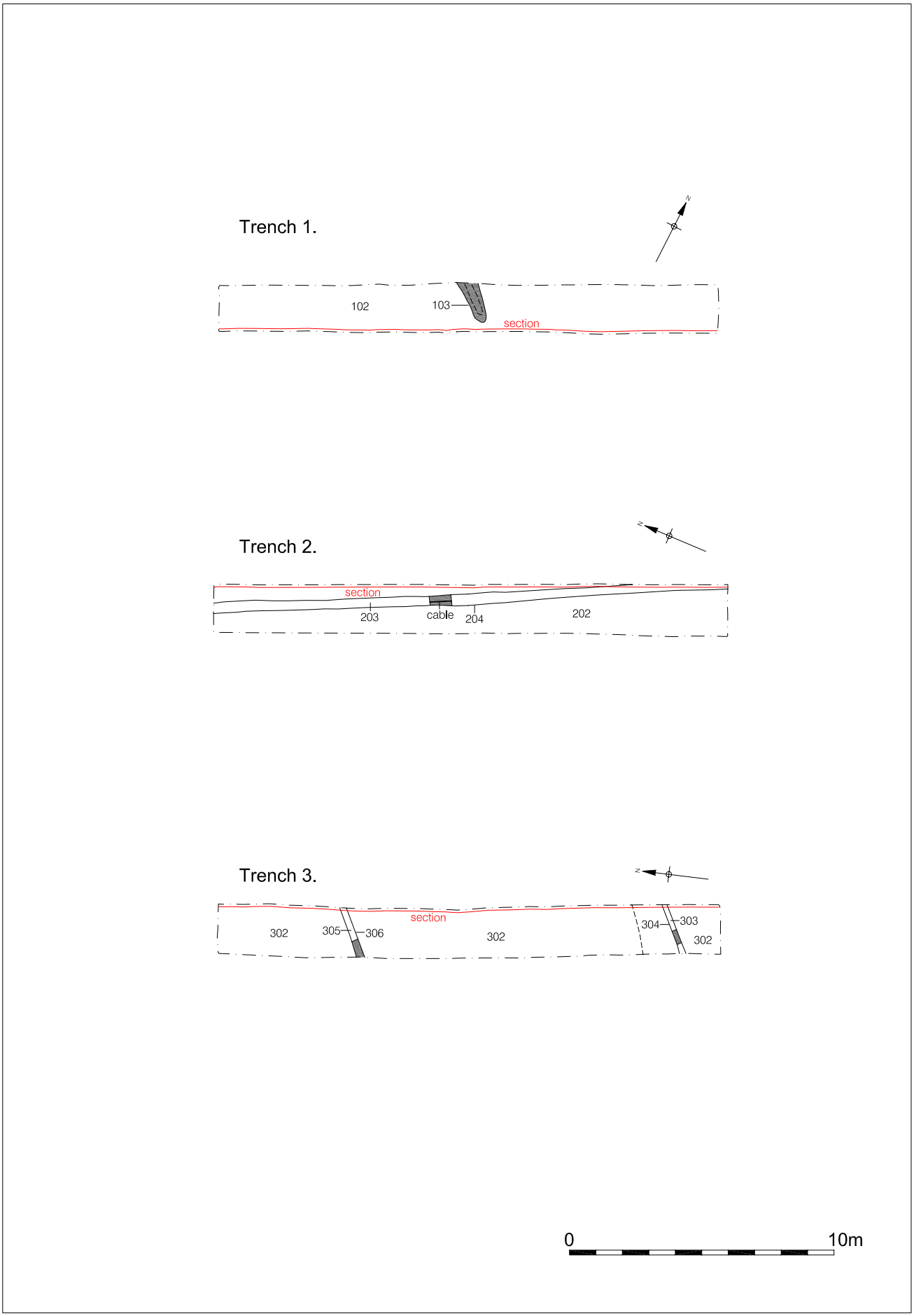


Figure 4. Trenches 1 - 3, plans
Scale 1:200

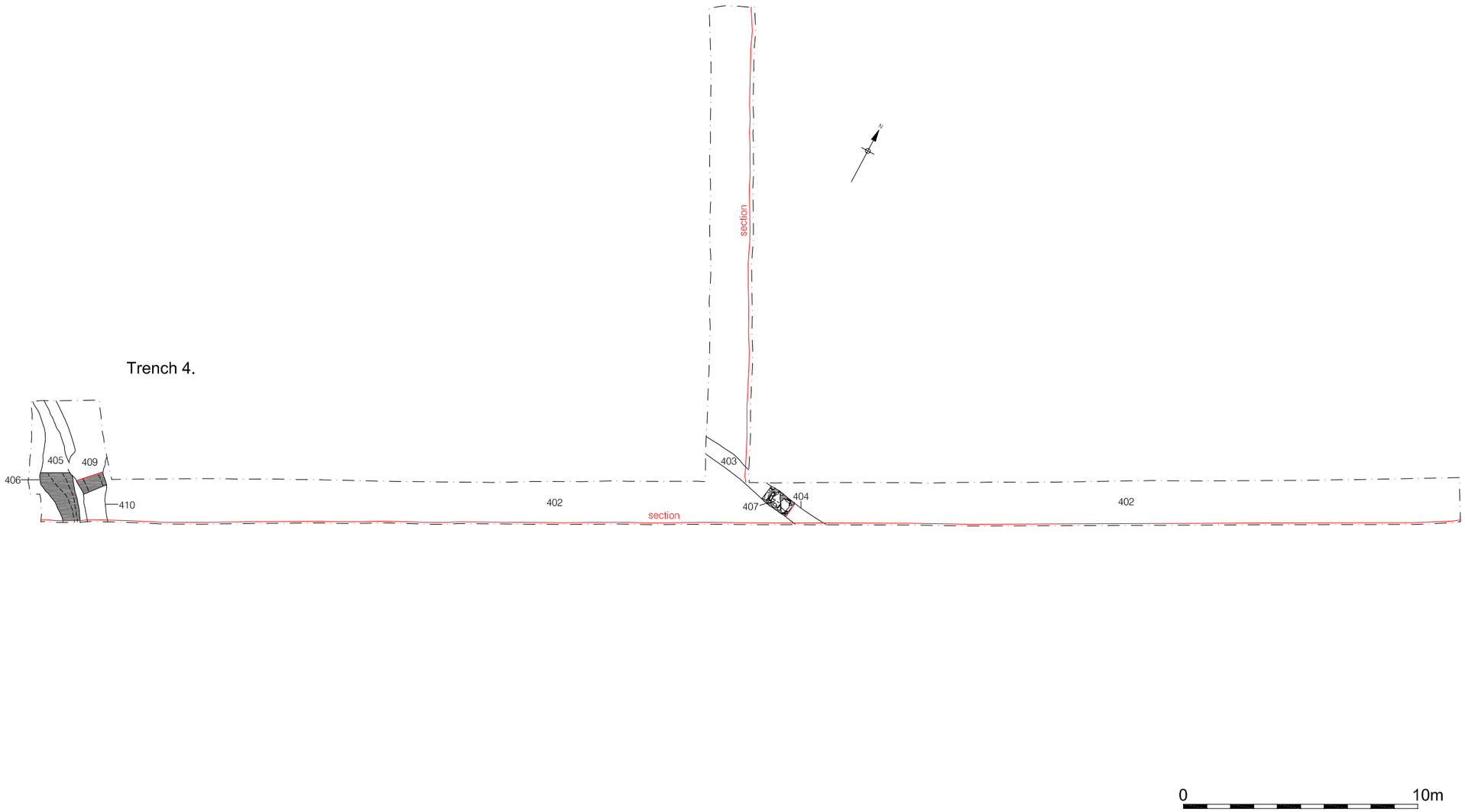


Figure 5. Trench 4, plan
Scale 1:200

Trench 5.

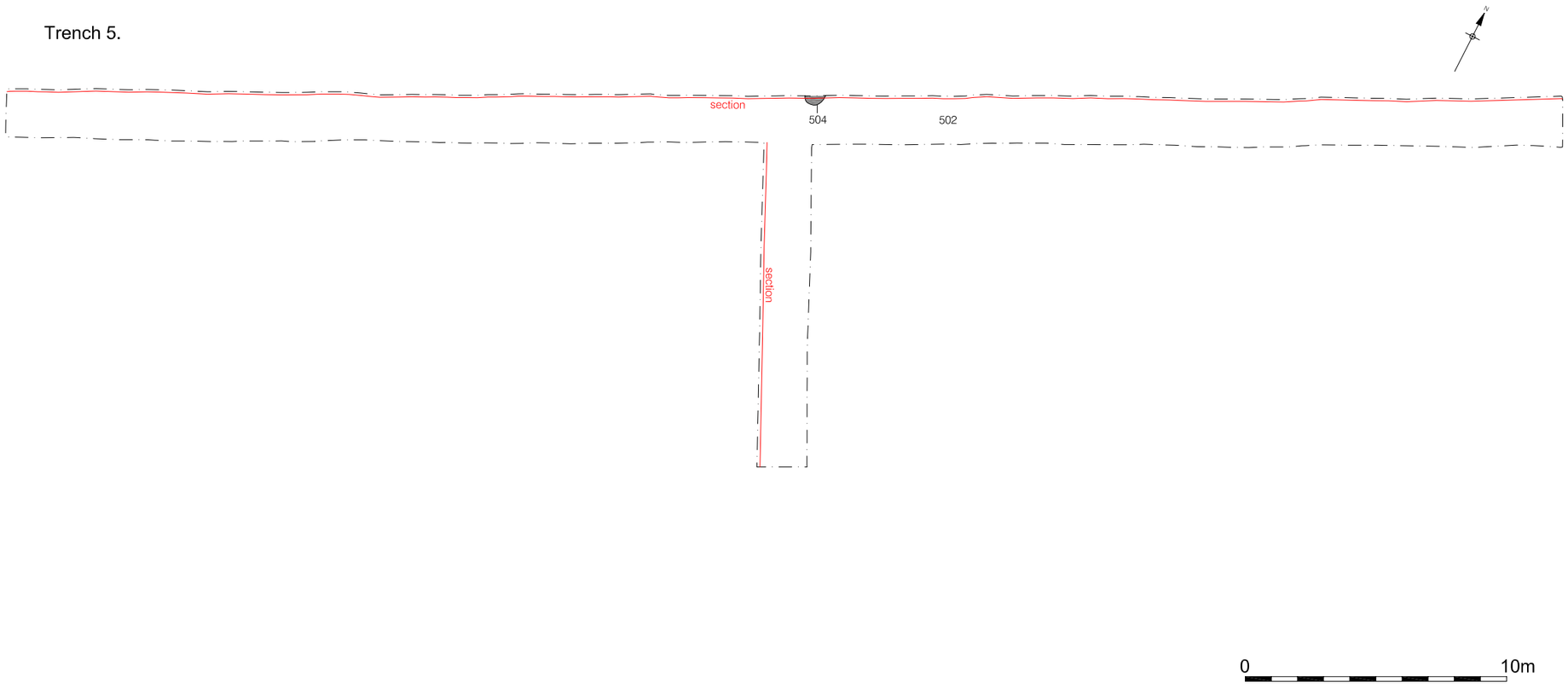


Figure 6. Trench 5, plan
Scale 1:200

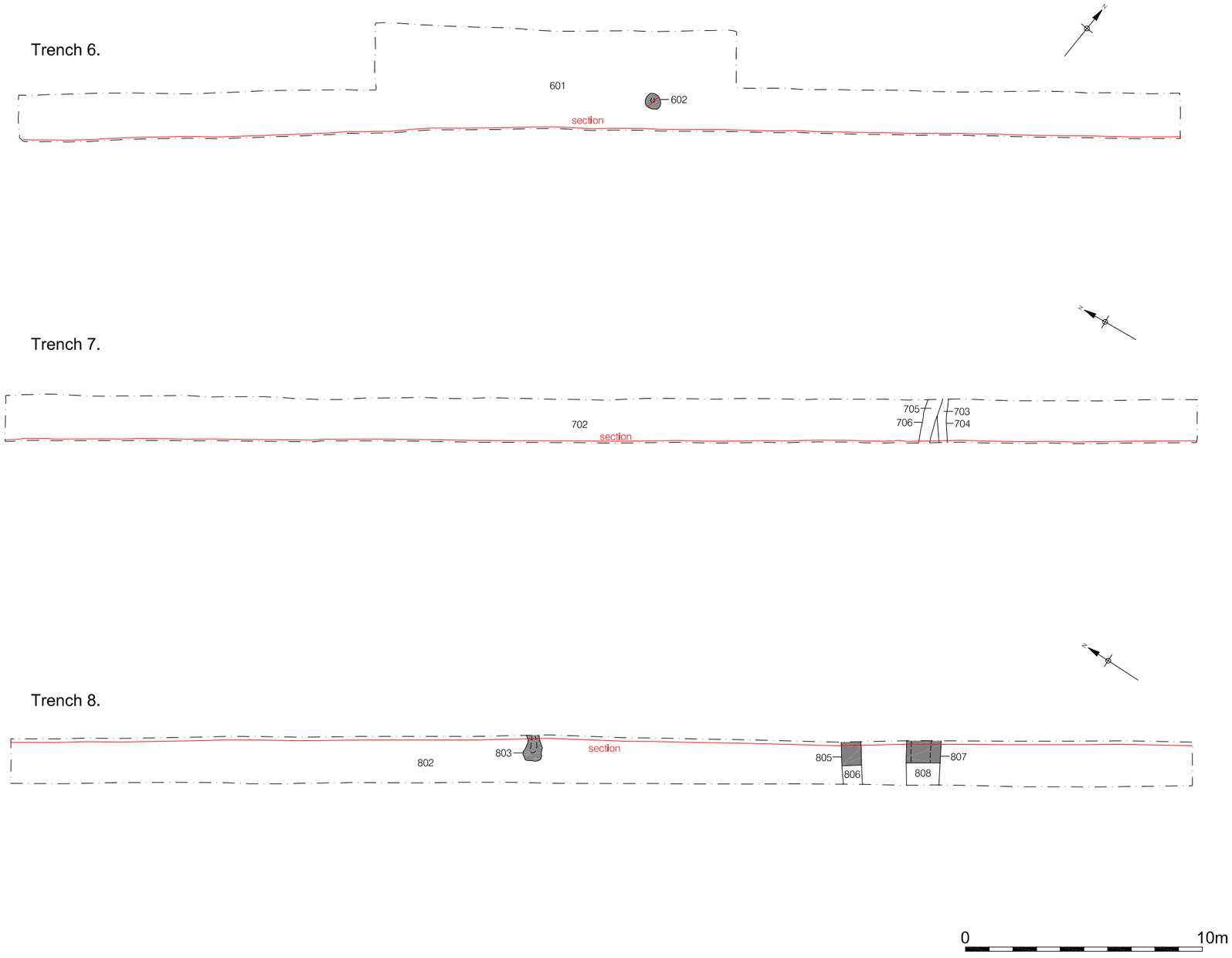


Figure 7. Trenches 6 - 8, plans
Scale 1:200

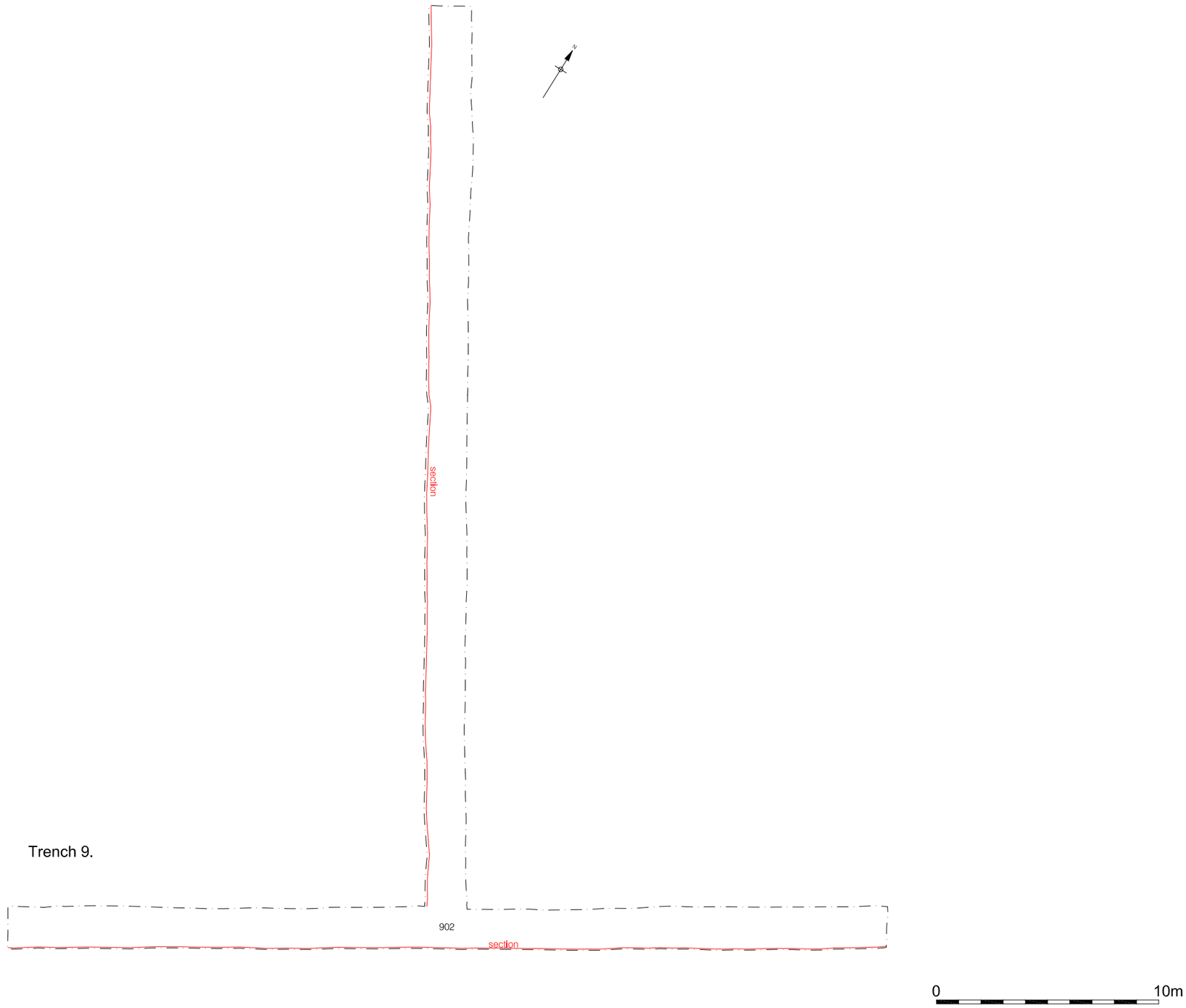


Figure 8. Trench 9, plan
Scale 1:200

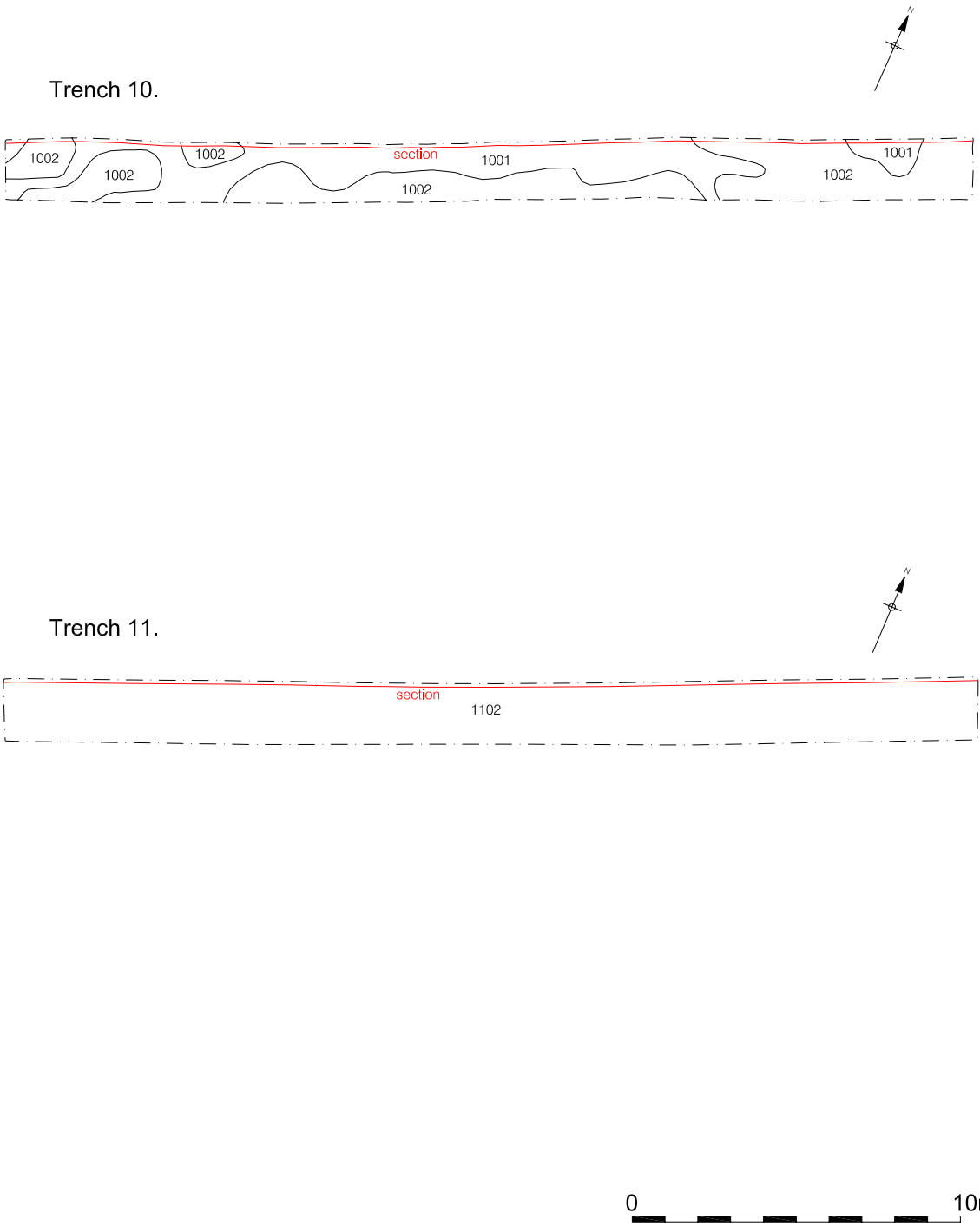


Figure 9. Trenches 10 - 11, plans
Scale 1:200

Trench 12.

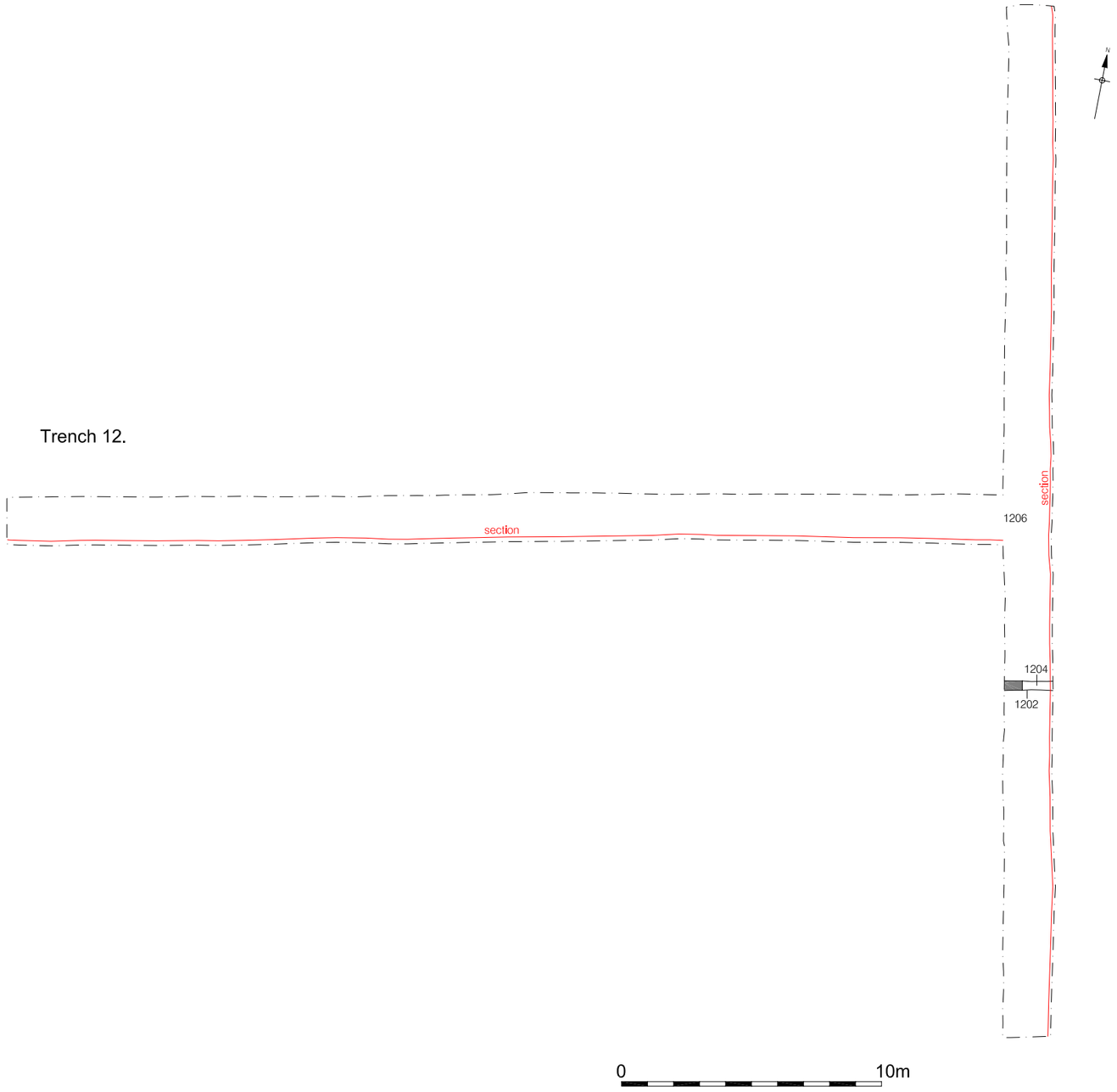


Figure 10. Trench 12, plan
Scale 1:200

Trench 13.

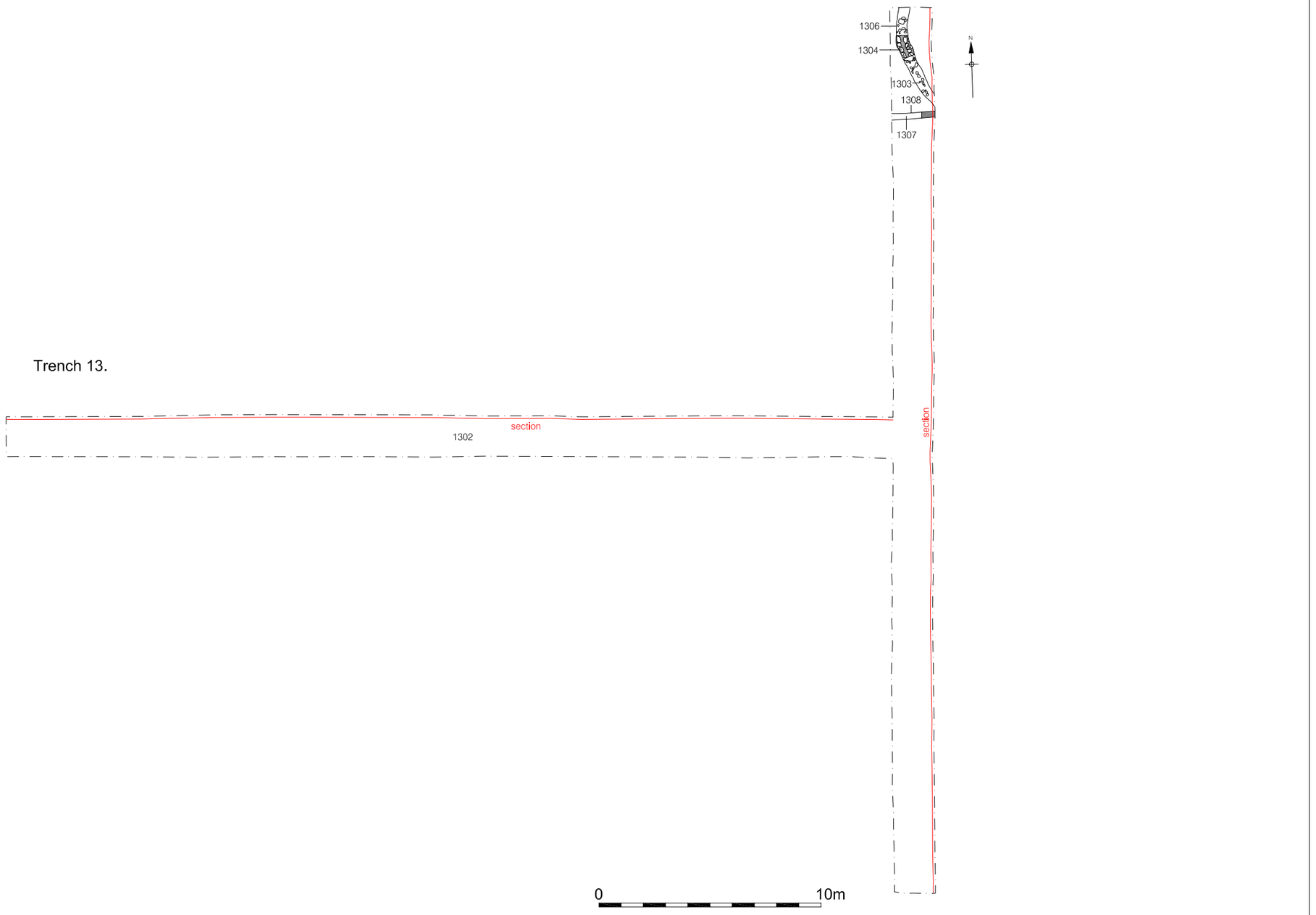


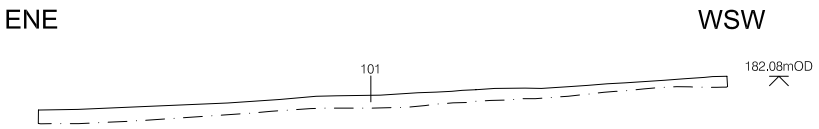
Figure 11. Trench 13, plan
Scale 1:200

Trench 14.

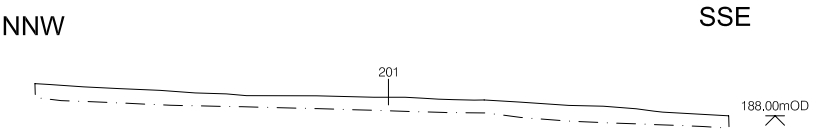
Trench 15.

0 10m

Figure 12. Trenches 14 - 15, plans
Scale 1:200



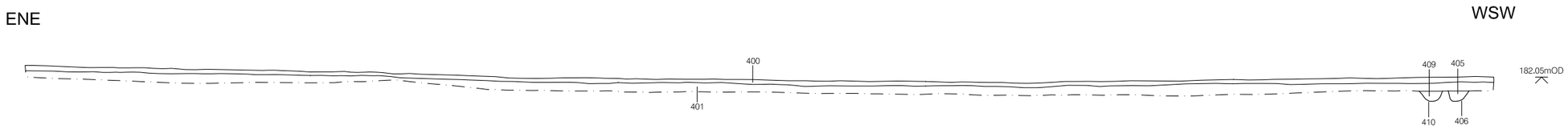
Trench 1. NNW facing section.



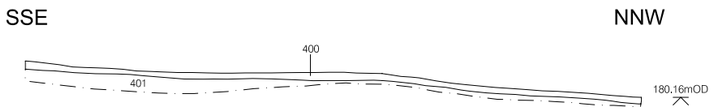
Trench 2. WSW facing section.

Trench 3. West facing section.

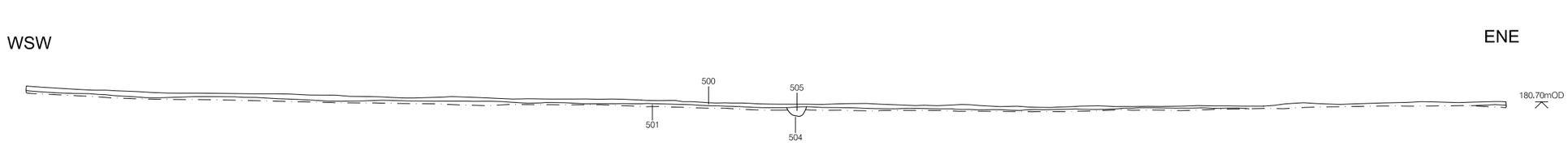
Figure 13. Trenches 1 - 3, sections
Scale 1:200



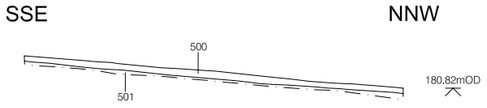
Trench 4. NNW facing section.



Trench 4. ENE facing section.



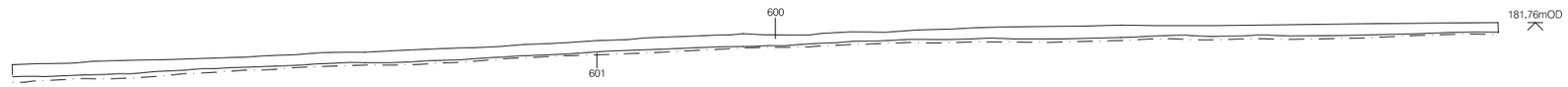
Trench 5. SSE facing section.



Trench 5. ENE facing section.

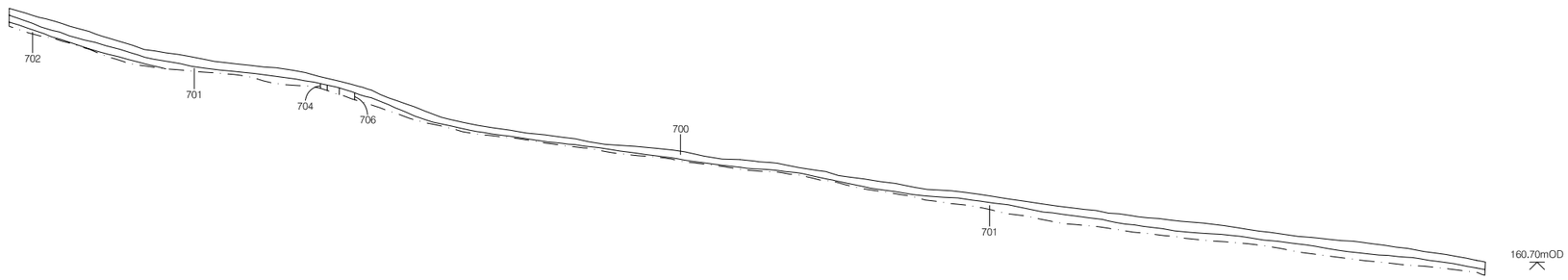
Figure 14. Trenches 4 - 5, sections
Scale 1:200

NE SW



Trench 6. North-west facing section.

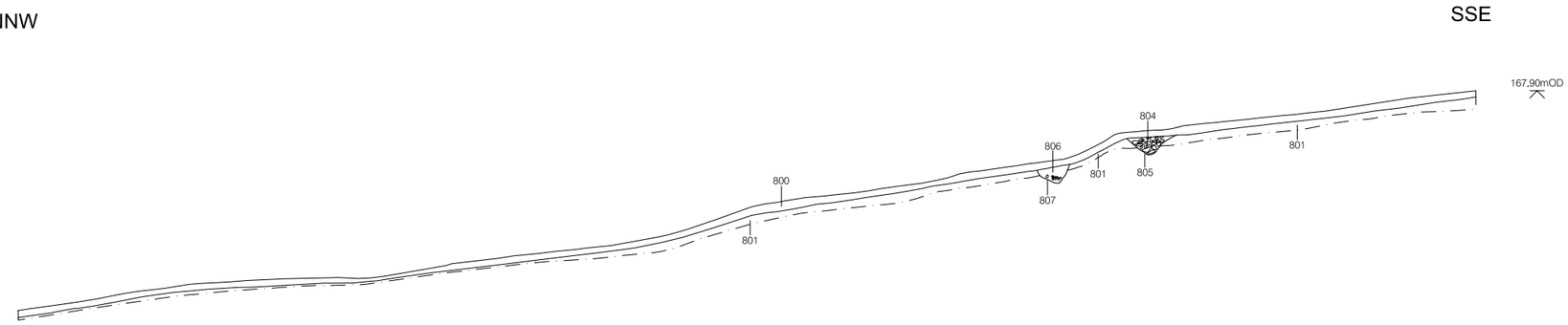
SSE NNW



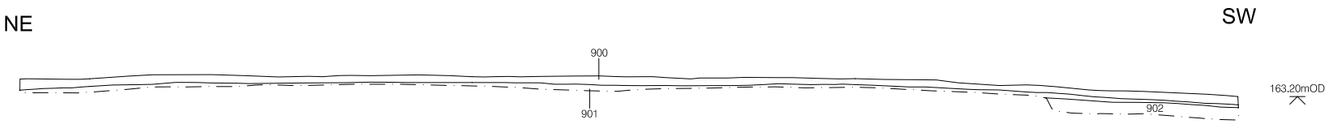
Trench 7. ENE facing section.

0 10m

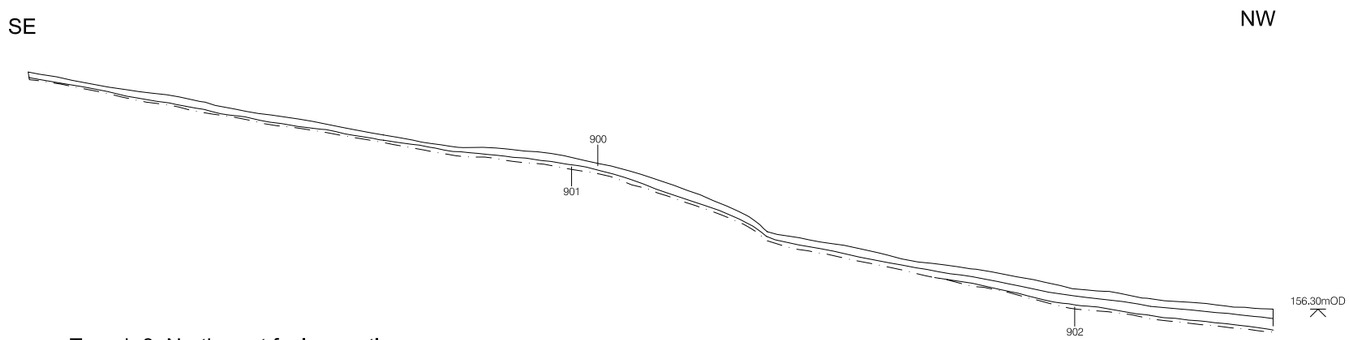
Figure 15. Trenches 6 - 7, sections
Scale 1:200



Trench 8. WSW facing section.



Trench 9. North-west facing section.

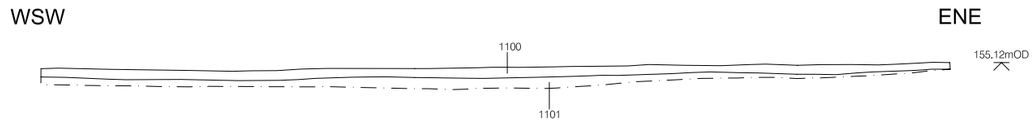


Trench 9. North-east facing section.

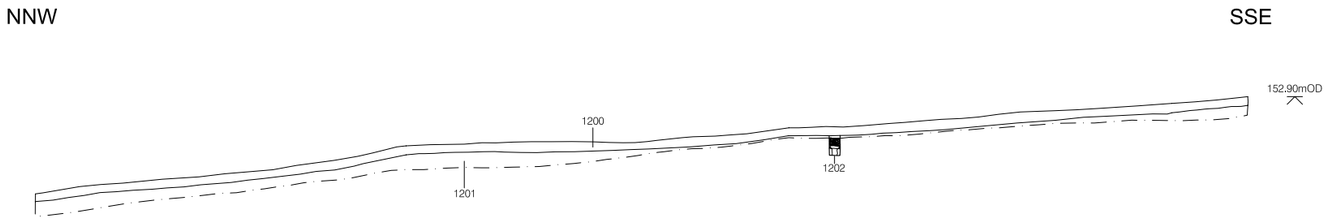
0 10m

Figure 16. Trenches 8 - 9, sections
Scale 1:200

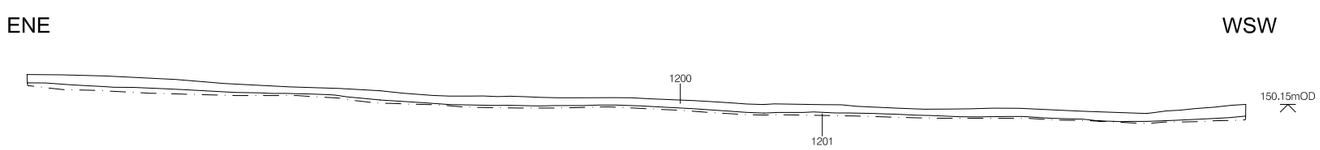
Trench 10. SSE facing section.



Trench 11. SSE facing section.

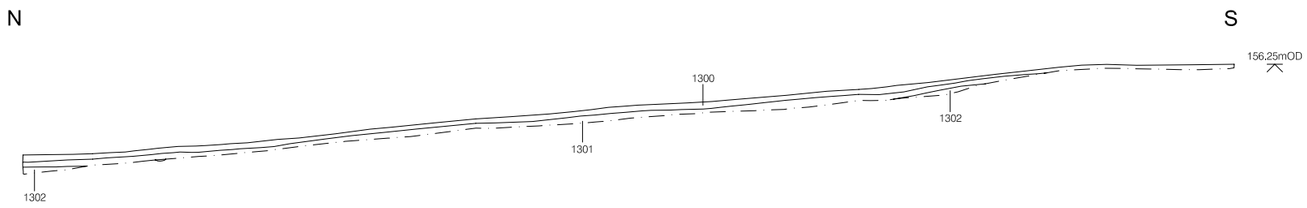


Trench 12. WSW facing section.

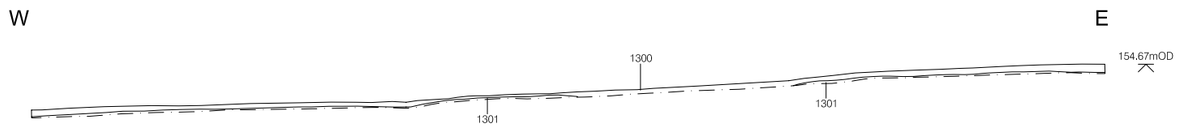


Trench 12. NNW facing section.

Figure 17. Trenches 10 - 12, sections
Scale 1:200



Trench 13. West facing section.



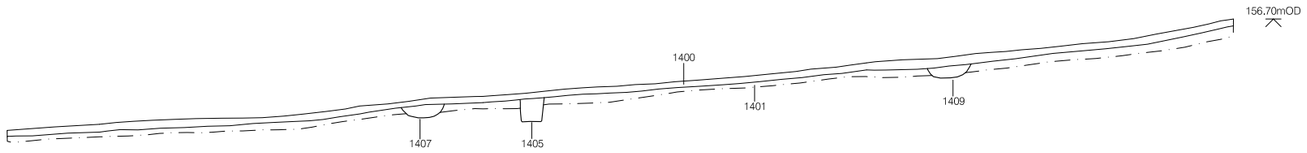
Trench 13. South facing section.

0 10m

Figure 18. Trench 13, sections
Scale 1:200

NNW

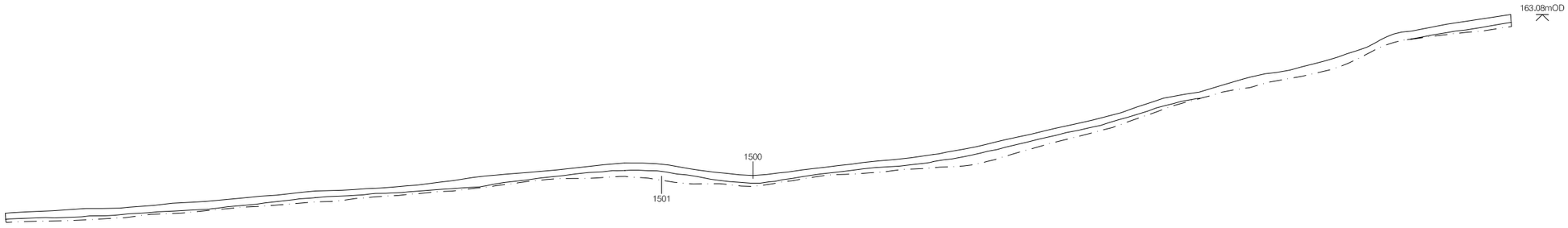
SSE



Trench 14. WSW facing section.

NNW

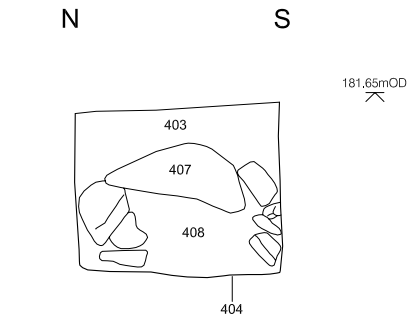
SSE



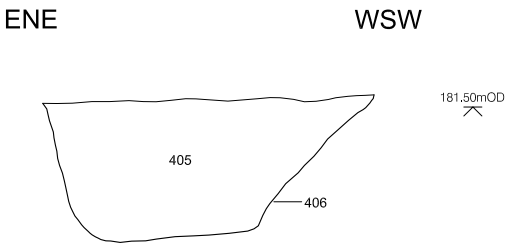
Trench 15. WSW facing section.

0 10m

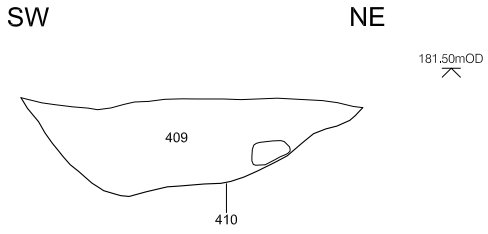
Figure 19. Trenches 14 - 15, sections
Scale 1:200



West facing section through culvert [404].

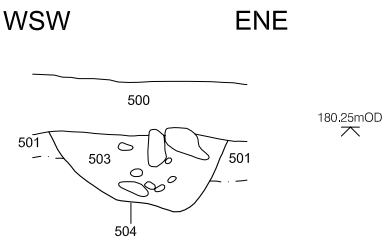


NNW facing section through feature [406].

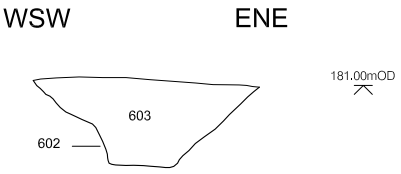


South-east facing section through linear feature [410].

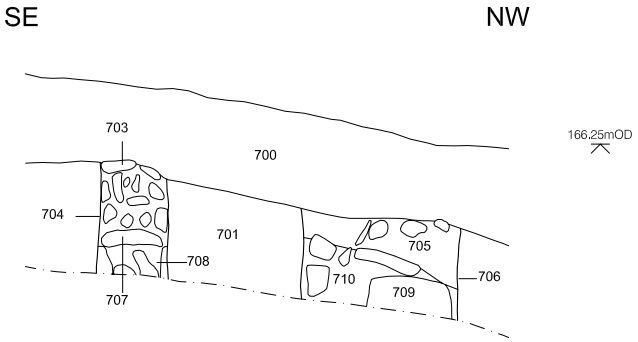
Figure 20. Trench 4, detailed sections
Scale 1:25



SSE facing section through posthole [504].

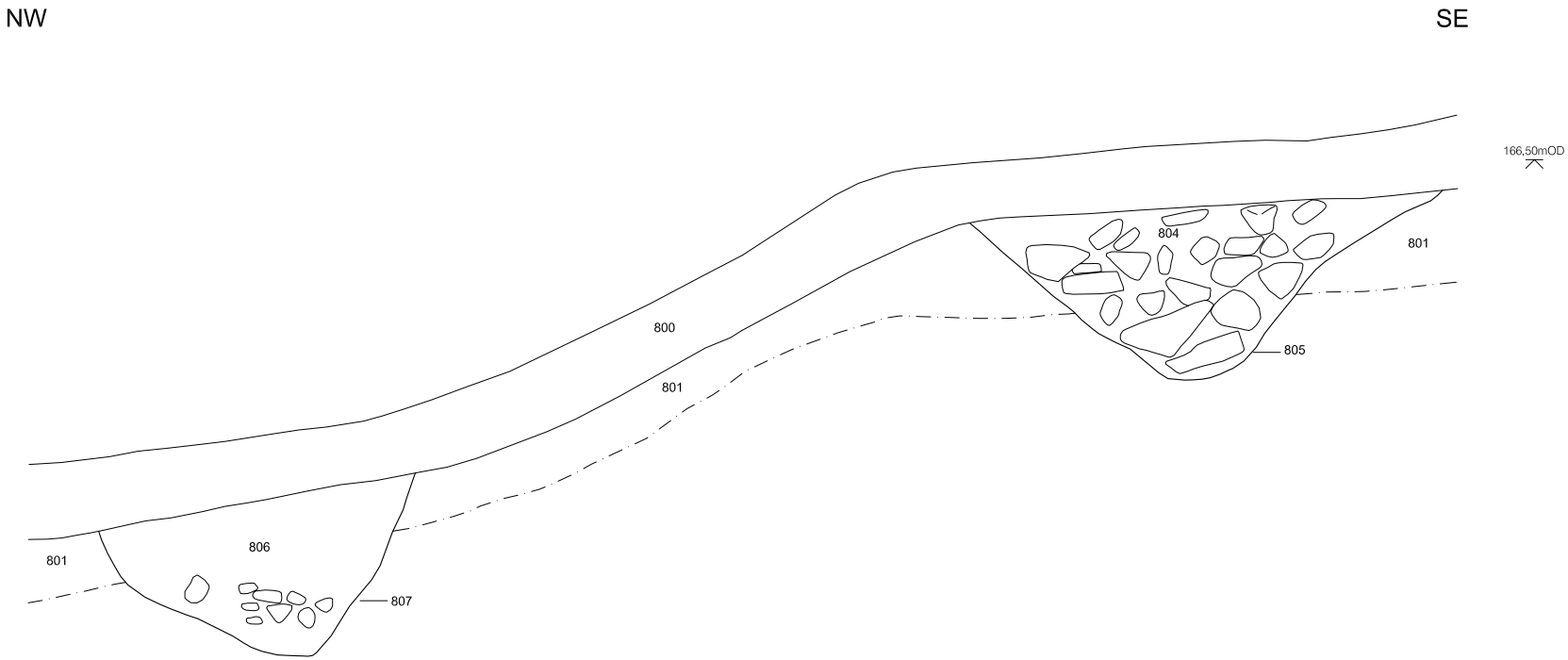


SSE facing section through feature [602].



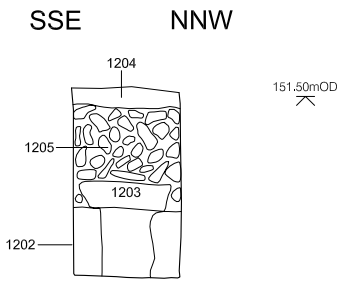
North-east facing section through culverts [704] and [706].

Figure 21. Trenches 5 - 7, detailed sections
Scale 1:25

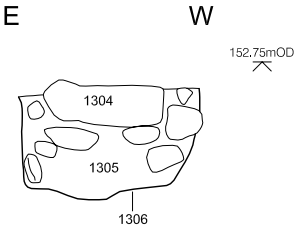


South-west facing section through drains [805] and [807].

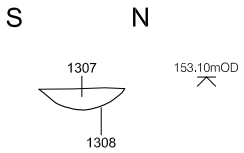
Figure 22. Trench 8, detailed sections
Scale 1:25



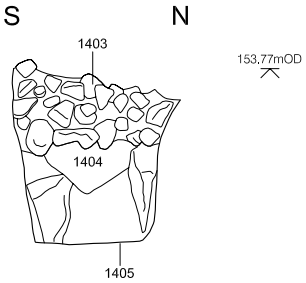
ENE facing section through culvert [1202].



North facing section through culvert [1306].



East facing section through feature [1308].



East facing section through culvert [1405].

Figure 23. Trenches 12 - 14, detailed sections
Scale 1:25

APPENDIX A
CONTEXT INDEX

Context	Trench	Phase	Type 1	Type 2	Interpretation
101	1	7	deposit	layer	topsoil in Trench 1
102	1	1	deposit	layer	natural in Trench 1
103	1	4	cut	linear	irregular linear feature
104	1	4	deposit	fill	fill of feature [103]
201	2	7	deposit	layer	topsoil in Trench 2
202	2	1	deposit	layer	natural in Trench 2
203	2	6	deposit	fill	fill of feature [204]
204	2	6	cut	linear	service trench
300	3	7	deposit	layer	topsoil in Trench 3
301	3	3	deposit	layer	sub-soil in Trench 3
302	3	1	deposit	layer	natural in Trench 3
303	3	6	deposit	fill	fill of field drain [304]
304	3	6	cut	linear	field drain
305	3	6	deposit	fill	fill of field drain [306]
306	3	6	cut	linear	field drain
400	4	7	deposit	layer	topsoil in Trench 4
401	4	3	deposit	layer	sub-soil in Trench 4
402	4	1	deposit	layer	natural in Trench 4
403	4	5	deposit	fill	fill of culvert [404]
404	4	5	cut	linear	culvert
405	4	2	deposit	fill	fill of feature [406]
406	4	2	cut	linear	irregular linear feature
407	4	5	masonry	culvert	stone lining of culvert [404]
408	4	5	deposit	fill	fill of culvert [404]
409	4	2	deposit	fill	fill of feature [410]
410	4	2	cut	linear	irregular linear feature
500	5	7	deposit	layer	topsoil in Trench 5
501	5	3	deposit	layer	sub-soil in Trench 5
502	5	1	deposit	layer	natural in Trench 5
503	5	4	deposit	fill	fill of posthole [504]
504	5	4	cut	posthole	posthole
600	6	7	deposit	layer	topsoil in Trench 6
601	6	1	deposit	layer	natural in trench 6
602	6	4	cut	pit/posthole	pit/posthole
603	6	4	deposit	fill	fill of pit/posthole [602]
604	6	3	deposit	layer	sub-soil in Trench 6
700	7	7	deposit	layer	topsoil in Trench 7
701	7	3	deposit	layer	sub-soil in Trench 7
702	7	1	deposit	layer	natural in Trench 7
703	7	5	deposit	fill	fill of culvert [704]
704	7	5	cut	linear	culvert
705	7	5	deposit	fill	fill of culvert [706]
706	7	5	cut	linear	culvert
707	7	5	masonry	culvert	stone-lining of culvert [704]
708	7	5	deposit	fill	fill of culvert [704]
709	7	5	masonry	culvert	stone-lining of culvert [706]
710	7	5	deposit	fill	fill of culvert [706]
800	8	7	deposit	layer	topsoil in Trench 8
801	8	3	deposit	layer	sub-soil in Trench 8
802	8	1	deposit	layer	natural in Trench 8
803	8	5	cut	discrete	stone throw
804	8	5	deposit	fill	fill of stone throw [803]
805	8	5	cut	linear	field drain
806	8	5	deposit	fill	fill of field drain [805]
807	8	5	cut	linear	field drain
808	8	5	deposit	fill	fill of field drain [807]
900	9	7	deposit	layer	topsoil in Trench 9
901	9	3	deposit	layer	sub-soil in Trench 9
902	9	1	deposit	layer	natural in Trench 9
1000	10	7	deposit	layer	topsoil in Trench 10
1001	10	3	deposit	layer	sub-soil in Trench 10
1002	10	1	deposit	layer	natural in Trench 10

1100	11	7	deposit	layer	topsoil in Trench 11
1101	11	3	deposit	layer	sub-soil in Trench 11
1102	11	1	deposit	layer	natural in Trench 11
1200	12	7	deposit	layer	topsoil in Trench 12
1201	12	3	deposit	layer	sub-soil in Trench 12
1202	12	5	cut	linear	culvert
1203	12	5	masonry	culvert	stone lining of culvert [1202]
1204	12	5	deposit	fill	fill of culvert [1202]
1205	12	5	deposit	fill	fill of culvert [1202]
1206	12	1	deposit	layer	natural in Trench 12
1300	13	7	deposit	layer	topsoil in Trench 13
1301	13	3	deposit	layer	sub-soil in Trench 13
1302	13	1	deposit	layer	natural in Trench 13
1303	13	5	deposit	fill	fill of culvert [1306]
1304	13	5	masonry	culvert	stone lining of culvert [1306]
1305	13	5	deposit	fill	fill of culvert [1306]
1306	13	5	cut	linear	culvert
1307	13	2	deposit	fill	fill of gully [1308]
1308	13	2	cut	linear	gully
1400	14	7	deposit	layer	topsoil in Trench 14
1401	14	3	deposit	layer	sub-soil in Trench 14
1402	14	1	deposit	layer	natural in Trench 14
1403	14	5	deposit	fill	fill of culvert [1405]
1404	14	5	masonry	culvert	stone lining of culvert [1405]
1405	14	5	cut	linear	culvert
1406	14	5	deposit	fill	fill of furrow [1407]
1407	14	5	cut	linear	furrow
1408	14	5	deposit	fill	fill of furrow [1409]
1409	14	5	cut	linear	furrow
1500	15	7	deposit	layer	topsoil in Trench 15
1501	15	3	deposit	layer	sub-soil in Trench 15
1502	15	1	deposit	layer	natural in Trench 15
1600	16	7	deposit	layer	topsoil in Trench 16

APPENDIX B
STRATIGRAPHIC MATRICES

CQT 08: STRATIGRAPHIC MATRICES