

# Northern Archaeological Associates

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**BELL HILL, STOURTON, NEAR LEEDS**

**SITE 2 ARCHAEOLOGICAL EVALUATION**

**for**

**AKELER DEVELOPMENTS LTD**

**November 2001**

**NAA 01/103**

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## BELL HILL, STOURTON, LEEDS,

### SITE 2 ARCHAEOLOGICAL EVALUATION REPORT

#### *Summary*

*This report presents the results of an archaeological evaluation of an area of some 14.5 hectares located to the west of the A61 Leeds to Wakefield Road near Stourton, 4km to the south-east of Leeds. The evaluation of Site 2 formed part of a scheme of archaeological trial trenching undertaken in advance of large-scale office development covering a total area of 21.53 hectares in two fields to the east and west of the A61. The objective of the evaluation was to locate the anomalies recorded by the geophysical survey and to establish the nature, date and significance of archaeological deposits that might be present on the site. The evaluation comprised the excavation of ten trial trenches and three larger areas.*

*The evaluation identified four principal archaeological phases of activity, comprising early Neolithic, Bronze Age, Romano-British and medieval/post-medieval features. The earliest evidence comprised Early Neolithic activity represented by a large oval pit. The pit contained a large assemblage of Grimston ware dating to c.4200-3800 cal BC together with worked flint. This is the first early Neolithic pottery assemblage recovered from a site in West and Pennine Yorkshire. Bronze Age remains were represented by two barrow ring ditches, some associated cremation pits and a buried soil horizon. Pottery evidence recovered some 50m to the north of these deposits included several fragments of an Enlarged Food Vessel Urn indicating that this activity may be quite extensive. The pottery is also the first example to be recovered from West Yorkshire. The third phase comprised parts of a rectilinear field system, a series of gullies and the remains of an oven/kiln. The position of this latter feature appeared to be respected by an element of the field system. The associated pottery suggested that the majority of the identified features in this phase dated to the 2nd or 3rd century AD. The final phase of activity represented in the archaeological record related to former medieval/post-medieval field systems and consisted of the remains of ridge and furrow. The whole site was heavily truncated by modern ploughing with no survival of contemporary surfaces.*

*In accordance with national planning guidance (PPG16) and draft UDP policies (ARC 4), consideration should be given in the first instance to preserving archaeological remains in-situ. It is possible that if sufficient fill material is to be deposited on this area prior to construction, that the areas of highest archaeological potential could be protected, thereby preserving features in-situ. Should preservation in-situ not be a feasible option, it is our view that development of the site should be acceptable subject to the implementation of an appropriate scheme of investigation. This work should include extending the geophysical survey undertaken in the southern part of the site, followed by a two stage programme of excavation. No further investigation of the medieval/post-medieval field systems is recommended. The project design for these investigations should be agreed in writing with the Archaeological Officer, West Yorkshire Archaeology Service.*

**BELL HILL, STOURTON**

**NEAR LEEDS**

**WEST YORKSHIRE**

**ARCHAEOLOGICAL EVALUATION REPORT  
AND STATEMENT OF POTENTIAL FOR FURTHER WORK**

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## 1.0 INTRODUCTION

- 1.1 Northern Archaeological Associates were commissioned by Akeler Developments Ltd to undertake an archaeological evaluation of a proposed office development site at Bell Hill, Stourton, 4km south-east of Leeds.
- 1.2 The site occupies a 21.53 hectare triangular area of land (centred on SE 323 297) bounded to the west by the M1 motorway, to the north by the A639 Leeds to Wakefield Road and to the south-east by the M1/A1 Link Road. The A61 running between Leeds and Wakefield separated Site 1 from Site 2 to the west (Figure 1).
- 1.3 The evaluation was undertaken in July and August 2001 and 19 trenches of varying size were excavated in both fields. The results of the five trenches excavated to the east of the A61 (termed Site 1) have previously been reported (NAA 01/77). This report presents the results of those evaluation trenches in Site 2, in the area to the west of the A61.
- 1.4 The archaeological trenches on the site were numbered Trenches 1 – 10 and Areas I – IV in the project design and for the sake of consistency this numbering has been maintained.

## 2.0 PROJECT BACKGROUND

- 2.1 The site lies on the upper Carboniferous coal measures and, up until recent times, coal mining has played an important role in the economy of the area. Several mine workings in the area are shown on the 1st edition OS map of 1850 and the location of one old mine corresponds with the western area of the proposed development site. Field names indicated in the West Yorkshire Tithe Awards are suggestive of industrial activity in the area: Bell Hill or Upper Bell Hill may be a reference to early mining bell pits, Engine Close, Clay Close, Studley Pits and Cinder Oven Hills similarly suggest industrial activity in the area of the site.

### *Geophysical survey*

- 2.2 In order to determine if any unrecorded sites of archaeological significance were present on the site, a geophysical survey was undertaken by GeoQuest Associates (Noel 1999). Four areas totalling c.7.5ha (approx. 33% of the whole site) was sampled using a fluxgate gradiometer (Figure 2). The greatest density of anomalies of probable archaeological origin were located in Site 2 to the west of the A61. These included strong linear anomalies suggestive of a relict field system, two circular anomalies of uncertain function and an area of burning or infilled mineshaft. The circular anomalies were very intense and were interpreted by the geophysicist as probable ring ditches. Two further curving anomalies were also identified within the field system but these were weaker than those in the southwest corner of the site. Two linear anomalies on the northern side of the field system were distinctly weaker than the main elements of the field system and on a slightly different alignment. A large intense dipolar magnetic anomaly was identified close to the western site boundary which was interpreted as a concentration of buried ferrous or fired material, possibly reflecting a backfilled or capped mineshaft.

### *Project design*

- 2.4 A project design detailing a scheme of evaluation on the site was prepared by Northern Archaeological Associates (NAA 2001) and approved by the archaeological advisory service to the planning authority. The evaluation was undertaken according to the methodology presented in this project design (Appendix A).

## **3.0 AIMS AND OBJECTIVE**

- 3.1 The objective of the evaluation was to gather sufficient information to establish the nature, date and significance of any archaeological features that might be present on the site. The information gained is being used to enable the planning authority to make an informed decision as to the nature of any further work required to mitigate the impact of the development on features of archaeological significance.

## **4.0 METHODOLOGY**

- 4.1 The evaluation comprised the excavation of 14 trenches located to sample anomalies identified by the geophysical survey and also 'blank' areas. Four wider area trenches were included to establish the stratigraphic sequence at the intersection of features.
- 4.2 Topsoil and modern overburden were removed by a 360° excavator, fitted with a toothless ditching bucket, under the supervision of an archaeologist. Mechanical excavation ceased when either archaeological deposits or natural geology were encountered.
- 4.3 Excavation of archaeological features and deposits was primarily undertaken by hand. A sufficient sample of the deposits/features within each trench were excavated in an archaeologically controlled and stratigraphic manner in order to understand the stratigraphic sequence down to natural deposits. Careful use of a machine to assist in the excavation of linear features was also undertaken where a feature was particularly large and not proving productive of finds.
- 4.4 Archaeological plans were drawn at a scale of 1:20, sections drawn at a scale of 1:10.. All archaeological features were photographed using both 35mm print and slide film. All levels were tied in to Ordnance Datum.

## **5.0 RESULTS**

### **Trench 1 (Figure 3)**

- 5.1 Trench 1 was an L-shaped trench measuring 37m north to south and 41m east to west. It was located to bisect two circular geophysical anomalies and the course of an east - west linear anomaly. Sandstone bedrock (134) and irregular patches of silty sand (133) lay below c.0.3m of topsoil.

Two sides of a circular ditch (106/108), which measured c.10.5m in diameter were recorded in the north to south arm of the trench (Plate 1). The northern half of the circular ditch (106) measured 2.95m wide and 0.95m deep and contained four fills (Plate 2). The primary fill (139) consisted of natural slumping of silty sand into the base of the ditch.

The secondary fill (128) consisted of brown silty sand with a concentration of medium and large rounded sandstone fragments aligned along the central axis of the ditch. The tertiary fill (138) consisted of mid-brown silty sand with frequent small angular sandstone inclusions (bulk sample 138AA). The fourth fill (105) consisted of a reddish brown silty sand with occasional small angular sandstone fragments and charcoal inclusions (bulk sample 105AA). The southern half of the circular ditch (108) measured c.2.5m wide and 0.7m deep and also contained four fills. The primary fill (121) consisted of natural slumping of silty sand into the base of the ditch. The secondary fill (127) consisted of brown silty sand with frequent small angular sandstones (bulk sample 127AB), occasional fragments of fire cracked rock (potboilers) and fragments of charcoal (charcoal sample 127AA). Two flints were also recovered from this context. The tertiary fill (124) consisted of mid-brown silty sand with frequent small angular sandstone inclusions and occasional charcoal flecking (bulk sample 124AA). The fourth fill (107) consisted of a reddish brown silty sand with frequent small angular sandstone fragments and charcoal inclusions. Within the centre of this ditch, a roughly square pit was recorded (142) measuring 0.45m wide and 0.16m deep (Plate 3). It was filled with a greyish brown silty sand (143) containing occasional fragments of charcoal and cremated bone (100% sample 143AA). From a small patch of sandy silt (133) to the immediate south of pit 142, four fragments of Bronze Age pottery were recovered. A ditch cut (102) was also recorded orientated north-west to south-east across the northern arm of the trench, cutting 134. It measured 1.2m wide and 0.45m deep and was filled with light brown sandy silt (101) from which no finds were recovered.

In the east to west arm of the trench a second circular ditch (104) measuring c.10m in diameter was recorded. Ditch 104 measured 3m wide and 1m deep and contained four fills. The primary fill (132) consisted of natural slumping of silty sand into the base of the ditch. The secondary fill (131) consisted of light brown sand with frequent small angular sandstones inclusions (bulk sample 131AA). The tertiary fill (130) consisted of light brown silty sand with occasional small angular sandstone (bulk sample 130AA). The fourth fill (103) consisted of reddish brown silty sand with occasional small angular and sub-rounded stones (bulk sample 103AA), from which a single whetstone was recovered. Within the centre of this ditch three small circular features were recorded (129, 135, 137). Pit 129 measured 0.1m wide and 0.04m deep and was filled with two deposits. The primary fill (146) consisted of mid-brown silty sand with occasional fragments of cremated bone and occasional charcoal flecking (100% sample 146AA). The secondary fill consisted of dark brown silty sand with occasional fragments of cremated bone and charcoal (100% sample 144AA) measuring 0.45m wide and 0.16m deep. Both features 135 and 137 were identified as stakeholes.

### **Trench 2**

- 5.2 Trench 2 measured 15.1m by 4.6m and was orientated north-west to south-east and was located to bisect the course of two linear anomalies identified by the geophysical survey. Sandstone bedrock (201) was encountered below c.0.35m of topsoil (200).

Two modern tyre tracks mirrored the location of the linear anomalies identified by the geophysical survey. No archaeological features or finds were identified.

### **Trench 3**

- 5.3 Trench 3 measured 9.3m by 5m and was orientated north-east to south-west and was located to bisect the course of a weak north to south aligned linear anomaly identified by

the geophysical survey. Sandstone bedrock (301) was encountered below c.0.45m of topsoil (300).

An area of root disturbance was recorded aligned north to south across the trench probably reflecting the line of an extant hedgerow. No archaeological features or finds were identified.

**Trench 4 (Figure 4)**

- 5.4 Trench 4 measured 10.4m by 4.5m and was orientated north-west to south-east and was located to bisect the course of a north to south orientated linear anomaly identified by the geophysical survey. Sandstone bedrock (401) was encountered below c.0.3m of topsoil (400).

A single ditch (402) and a square post-pit (404) were identified. Ditch 402 was orientated north to south across the trench, measured 0.5m wide and 0.1m deep and was filled with a single deposit (403) consisting of brown sandy silt. The full extent of this ditch was recorded in Areas 1 and 3. No finds were recovered from the ditch however it was clearly truncated by the remains of ridge and furrow. The post-pit (404) lay to the east of ditch 402, measured 0.15m square by 0.12m deep and was filled with a light brown silty sand (405). A single sherd of pottery was recovered from the topsoil context from this trench.

**Trench 5 (Figure 5)**

- 5.5 Trench 5 measured 25m by 4.5m and was orientated north-east to south-west and was located to bisect the course of a linear and two weak curvilinear anomalies identified by the geophysical survey. Sandstone bedrock (503) was encountered below c.0.37m of topsoil (500).

A single east to west orientated ditch (501) measuring 1.15m wide and 0.3m deep was recorded in the northern end of the trench. It was filled with a single deposit (502) consisting of brown silty sand from which a single fragment of 19th century glass was recovered. This however may have been an intrusive find as it was recovered from the top third of deposit 502. The two weak curvilinear responses recorded by the geophysical survey were shown to reflect changes in the subsurface geology.

**Trench 6 (Figure 6)**

- 5.6 Trench 6 measured 13m by 5.5m and was orientated north to south and was located to bisect the course of an east to west aligned linear anomaly identified by the geophysical survey. Sandstone bedrock (605) was encountered below c.0.4m of topsoil (600).

A single ditch (604) cutting the remains of ridge and furrow (601) was recorded. Furrow 601 was orientated north to south and measured 1.2m wide and 0.1m deep and was filled with a light brown silty sand (602). It was cut by an east to west orientated ditch (604) measuring 0.6m wide and 0.16m deep. Ditch 604 was filled with a single deposit of light brown silty sand (603) from which a single fragment of salt-glazed stoneware was recovered.

**Trench 7 (Figure 7)**

- 5.7 Trench 7 measured 10.5m by 4.5m and was orientated east to west and was located to bisect the course of a north to south orientated linear anomaly identified by the

geophysical survey. Sandstone bedrock (703) was encountered below c.0.35m of topsoil (702).

A single ditch (701) was recorded orientated north to south, measuring 0.8m wide and 0.34m deep and filled with a single deposit (700) of brown silty sand (bulk sample 700AA). Two fragments of pottery, one 17th century and one 18th century were recovered from this deposit. The southern extent of this ditch was recorded in Area 2.

#### **Trench 8**

- 5.8 Trench 8 measured 17m by 4m and was orientated north-east to south-west and was located to investigate the possible extent of the linear features recorded by the geophysical survey, to the south. Sandstone bedrock (802) was encountered below c.0.5m of topsoil (800) and 0.7m of a mid-brown silty sand subsoil (801).

Twelve sherds of post-medieval pottery, a fragment of glass and a broken brick (all ranging between the 17th and 19th century) were recovered from the topsoil. No archaeological features were identified.

#### **Trench 9**

- 5.9 Trench 9 measured 11m by 4m and was orientated north-west to south-east and was located to investigate an area of ridge and furrow and bisect the course of a north-east to south-west aligned linear anomaly identified by the geophysical survey. Natural clay (904) was encountered below c.0.25m of topsoil (900) and 0.3m of orange silty subsoil (903). A single ditch (901) was recorded orientated north-east to south-west, measuring 3.2m wide and 0.6m deep and filled with a single deposit of brownish grey sandy clay and four ceramic field drains (902). No archaeological features or finds were identified.

#### **Trench 10**

- 5.10 Trench 10 measured 27m by 4.5m and was orientated north-east to south-west and was located to investigate the possible extent of the linear features recorded by the geophysical survey, to the south. Sandstone bedrock (1002) was encountered below c.0.3m of topsoil (1000) and 0.15m of a mid-brown silty sand subsoil (1001).

Two sherds of post-medieval pottery and two fragments of glass were recovered from the topsoil. No archaeological features were identified.

#### **Area 1 (Figure 8)**

- 5.11 Area 1 measured 11.5m by 10m and was located to investigate the intersection of two linear features recorded by the geophysical survey. Frost fractured sandstone bedrock (2001) was encountered below 0.35m of topsoil (2000).

Two ditches were recorded intercutting at right angles. Ditch 2006 (see also 4004) was orientated east to west, measured 1.3m wide and 0.5m deep and was filled with two deposits. The primary deposit (2008) only occurs where a gully had been cut into the base of the ditch and consisted of redeposited natural. The secondary deposit (2007/4005) consisted of reddish brown silty sand (bulk sample 2007AA) from which a single whetstone was recovered (2007AB). Ditch 2002 cuts and terminates within ditch 2006. It was orientated north to south and measured 1m wide and 0.2m deep and was filled with light brown silty clay with moderate charcoal flecking (bulk sample 2003AA).

**Area 2 (Figure 9)**

- 5.12 Area 2 measured 25m by 20m and was located to investigate three linear anomalies identified by the geophysical survey. Frost fractured sandstone bedrock (3019) was encountered below 0.25m of topsoil (3000).

During topsoil stripping several fragments of an Early Bronze Age Enlarged Food Vessel Urn were recovered from the north-west corner of the area, on the horizon between the topsoil and the natural deposits. The earliest feature within the trench was a ditch (3001) orientated north-east to south-west, measuring 1.12m wide and 0.3m deep and filled with light brown silty sand (3002, bulk sample 3002AA) from which several fragments of Roman greyware were recovered. This ditch was cut by both the remains of ridge and furrow and a ditch orientated north to south (3003). Ditch 3003 measured 0.7m wide and 0.35m deep and was filled with a pinkish brown silty sand (3004) with occasional charcoal flecking (bulk sample 3004AA). This ditch terminates within the middle of the excavated area. At the northern limit of Area 2, two ditch terminae were recorded. Ditch 3005 was orientated north-east to south-west and measured 1.4m wide and 0.4m deep and was filled with an orange brown silty sand (3006). This ditch extends to the north and is bisected by Trench 7 (see 701). Orientated at approximately right angles to 3005 was a further ditch terminal (3020). Ditch 3020 measured 0.34m wide and 0.08m deep and was filled with light brown silty sand (3021). This ditch extends to the east and is bisected by Trench 6 (see 604). Two post holes were also recorded in the south-west corner of Area 2. Post hole 3022 measured 0.3m by 0.2m wide and 0.2m deep and was filled with mid-brown silty sand (3023). Post hole 3024 measured 0.7m by 0.45m wide and 0.28m deep and was filled with mid-brown silty sand (3025).

**Area 3 (Figure 10)**

- 5.13 Area 3 measured 10m by 10m and was located to investigate two linear anomalies and several isolated anomalies identified by the geophysical survey. Frost fractured sandstone bedrock (4001) was encountered below 0.25m of topsoil (4000).

A large oval shaped pit (4010) cut along its western edge by an east to west orientated ditch (4004) was recorded in the western corner of Area 3. The area was extended to the west to fully expose this feature (Plate 4). Pit 4010 measured 1.5m by 2.4m wide and 0.3m deep and was filled by two deposits. The primary fill (4011) consisted of greyish black silty sand with occasional small angular stone inclusions (bulk sample 4011AA) from which numerous fragments of Early Neolithic pottery (Grimston ware) and flint flakes were recovered as well as several charcoal samples (4011AC). The secondary fill (4012) consisted of a light brown sandy silt with occasional small angular stones and moderate charcoal flecking (bulk sample 4012AA). Several fragments of Neolithic pot and flint and a charcoal sample (4012AB) were also recovered from this context. Two intercutting ditches were also recorded reflecting the anomalies identified by the geophysics.

Ditch 4004 was primarily orientated north-west to south-east but also curved towards the north for c.8m (Plate 5). It measured 1.5m wide and 0.9m deep and was filled with light brown silty sand (4005, bulk sample 4005AA), from which three fragments of Grimston style ware were recovered. A total of 32 stakeholes (Group numbers 4013 and 4037) were recorded, primarily just below the break of slope of this ditch cut. They measured c.0.05m wide and 0.05m deep and were filled with deposit 4005. Ditch 4004 was cut by a north-east to south-west orientated ditch (4006) which terminated within ditch 4004. It

measured 1.35m wide and 0.43m deep and was filled with a greyish brown silty sand (4007). This ditch extends to the south-west and was bisected by Trench 4 (see 402). To the east of ditch 4004 and 4006, a kiln (4002) was recorded. This reflected the location of a strong magnetic response identified during the geophysical survey. The kiln was keyhole shaped and measured 2.65m by 1.5m wide and 0.14m deep and filled by two deposits (Plate 6). The primary fill (4003) consisted of a red sandy clay with occasional charcoal flecking (bulk sample 4003AA). The secondary fill (4008) consisted of a red silty sand with frequent charcoal flecking (bulk sample 4008AA). Several fragments of metalworking slag were recovered from this secondary context. A total of 53 stakeholes (Group number 4049) were recorded cutting through the base of the kiln. These measured c.0.04m wide and 0.05m deep and were filled with deposit 4008. No clear spatial patterning was discerned from these features suggesting a structure.

#### Area 4 (Figure 11)

- 5.14 Area 4 measured 14.5m by 5m and was orientated north-west to south-east and was located to bisect the course of two intercutting linear anomalies identified by the geophysical survey. The area of excavation was extended 5m to the East to fully expose the intersection of the two ditches. Sandstone bedrock (5005) was encountered below c.0.4m of topsoil (5004).

A ditch (5001) orientated north-east to south-west was recorded (Plate 14). It measured 1.2m wide and 0.55m deep and was filled with a reddish brown silty sand (5000). This was cut by a second ditch (5003) orientated north-west to south-east measuring 0.6m wide and 0.25m deep and filled with a light brown silty sand (5002).

## 6.0 FINDS & ENVIRONMENTAL ASSESSMENT

### 6.1 Pottery

An assemblage consisting of some 236 sherds was retrieved during the evaluation. The pottery was quantified by number and weight according to broad fabric category within archaeological context.

#### *Prehistoric* (T Manby, Appendix B)

The bulk of the prehistoric ceramic material recovered was obtained from a single oval pit (4010) and consisted of rim, shoulder and body sherds of Grimston style ware. This is the characteristic pottery of the Early Neolithic period c.4200-3800 cal BC. At least 20 vessels are represented by the shoulder and rim fragments, the series potentially characterising a domestic or occupational association. This is the first early Neolithic pottery assemblage recovered from a site in West and Pennine Yorkshire, Grimston ware having come from many sites on the Yorkshire Wolds in both pit associations and some burial monument contexts. The style has a wider national distribution extending south to East Anglia and northwards up eastern Scotland.

Bronze Age pottery was recovered from two contexts, 133 and 3000. Four body sherds of gritty orange ware were recovered from context 133, which is a common fabric in use throughout the Bronze Age. Rim and neck fragments with thick cord line imprints, from a single Enlarged Food Vessel Urn, were recovered from the topsoil context in Area 4. These urns are typical of the Early Bronze Age extending from 2050 cal BC through to 1500 cal BC, though these fragments are the first of their type to be recorded in West

Yorkshire. Enlarged Food Vessel Urns accompanying cremations are known from barrow contexts in East Yorkshire, Northumberland, the Lake District and Scotland.

**Roman** (P Didsbury, Appendix C)

A total of eight sherds of Roman pottery were recovered, all except one fragment, from the fill of an enclosure ditch (3002) within Area 2. The fragments from context 3002 bar one, originate from the same greyware vessel represented by the base and lower body of a large jar or wide-mouthed bowl. Its fine grey sand-tempered fabric is identical to those in use in the wider region throughout the Roman period, however the lack of wire marks across its base could tentatively suggest a date of the late second or third century. The remaining sherd from this context is of sand tempered blue-grey ware from a thin-walled jar with girth groove. Similar fabrics are common in the Humber Basin and Yorkshire in the second and third centuries, though not confined to that period. A single fragment of Roman colour coated ware was also recovered during topsoil stripping.

**Post-medieval** (J Vaughan, Appendix D)

A total of thirty three fragments of post-medieval pottery were recovered from topsoil contexts in trenches 1, 4, 6, 7, 8 and 10. The assemblage was very abraded and consisted primarily of 17th and 18th century material with some 19th century material in Trenches 8 and 10.

Four broad horizons of activity are discernible in the material supplied for analysis, Neolithic, Bronze Age, Roman and Post-medieval. The Neolithic material all came from within a single feature and is probably a result of domestic occupation. Only the Neolithic assemblage has significant potential for further analysis and this is set out in Appendix B.

6.2 **Cremated Bone** (J Langston, Appendix E)

The cremated bone came from three samples, 143AA, 144AA and 146AA, each sample comprising a small amount of cremated bone. Fragment size was very small. The bone fragments were all cortical bone and there were no identifying features to indicate that the bone was human. However, there were no features to indicate that it was of animal origin. The bone was cremated at a relatively high temperature and the small size of the fragments suggested further breakage of the bone after collection for burial. The assemblage has no significant potential for further analysis although the material may be suitable for radiocarbon dating.

6.3 **Flint** (P Makey, Appendix F)

The material comprised 56 struck pieces (167.5g) from three separate areas (trench 1, area 2 and area 3). Only the material from trench 1 and area 3 came from securely stratified contexts: the Bronze Age ring ditch 108 contained two flakes and the Neolithic pit (4010) contained the remainder of the assemblage. This last included some 29 flakes, 11 blades/bladelets, 2 core rejuvenation flakes, a core and a single scraper. Overall the pit assemblage appeared to be the remains of a knapping cluster. The debitage is predominated by crested forms of flakes and blades and stylistic traits such as fine parallel dorsal flaking and platform trimming are reminiscent of lithic material from the regions earlier Neolithic Grimston Ware or Towthorpe Ware associated assemblages. An early to middle Neolithic date is most probable for the majority of the material. The possible Grimston or Towthorpe Ware association is important, since stratified lithic assemblages of this date are few and the condition of the Bell Hill material is remarkably fresh.

No further analysis of this material is required unless further material is excavated. Some of the material should be illustrated within a publication report.

6.4 **Stone** (T Manby, Appendix G)

Numerous large fire-cracked pebbles were found across Site 2 within the fills of the field ditches, and have been interpreted as 'pot-boilers'. Their deposition within the ditches probably reflects nearby domestic activity associated with the Roman phase of occupation.

Two struck flakes of greenish tuff were recovered from pit fill 4011. The stone belongs to the Borrowdale volcanic series, sourced from either Langdale or Scafell and represents thinning flakes probably struck off during the re-flaking of a stone axe. No further analysis of this material is required.

6.5 **Environmental Analysis** (A Snelling, Appendix H)

A total of twenty bulk samples were submitted for environmental processing and assessment. All of the samples included small fragments of coal which likely derive from the coal measures and occur naturally in the soils.

Samples recovered from the two ring ditches in Trench 1 consisted of small quantities of charred grain and a few flint flakes. These small assemblages could be a result of the ditches function such that the activities associated with them left little or no debris. Samples recovered from the enclosure ditches in Areas 1 and 3 also contained low densities of materials, the few fragments of chaff and weed seeds suggest that crop-processing activities may have been occurring. However, the assemblages of these features is different to the ring ditches in terms of the charred material and so a different activity or processing stage may provide the origin for this material. The samples recovered from Area 3 produced the richest charred assemblage. The assemblage from the primary fill of the kiln (4003) included barley and wheat grain, with a lower diversity and density of material from the secondary fill (4008). This may represent just one use of the feature and hence less mixing, or a different function to the primary fill, given the presence of slag.

The environmental analysis suggests that from the Neolithic period some form of settlement activity was in evidence. Barley and wheat species were consumed as well as hazelnuts, which would have been gathered from a local resource. In the Bronze Age there is some evidence for settlement activity, although this is at much lower concentrations than for the previous period. This may be a result of different areas of the site functioning for different purposes and that any concentrated Bronze Age activity may be elsewhere. The other samples from prehistoric contexts are similarly sparse in their composition and require more secure phasing. The samples from the kiln feature produced a rich assemblage of charred plant material and may be of Iron Age/Roman date, providing evidence for the continuation of settlement in this area.

Although there was no animal bone survival, some of the contexts were very rich in terms of charred plant remains. The presence of such concentrations and compositionally distinct samples indicates that there is good potential for spatial patterning and that spatial patterning might be identified. The potential for further analysis is detailed in Appendix H together with sampling recommendations should further excavation be undertaken.

#### 6.6 **Fired Clay/Daub**

A total of 6 fragments were recovered from an early Neolithic deposit (4011) weighing 26 grams.

#### 6.7 **Slag**

A total of eleven pieces of slag were recovered from Site 2, all within Area 3. Nine pieces were recovered from the topsoil (4000) and a further two pieces from the surface of the secondary fill of a kiln (4008). All the pieces appear undiagnostic with no surface morphology. Two pieces of slag from 4008 could be intrusive as both ridge and furrow and modern ploughing have heavily truncated this feature.

### 7.0 **DISCUSSION**

7.1 The evaluation of Site 2 has confirmed the presence of the principal features mapped from geophysical survey in the southern part of the area. The southern part of the site would therefore appear to have considerable potential, while the northern half appears to be largely devoid of any recognisable remains on the basis of this evaluation. The two ring ditches have been confirmed as Bronze Age barrows and the rectilinear field system dated to the Roman period. A possible 'corn-drying' kiln was excavated which was associated with the field system but no other evidence of Roman occupation was identified in the evaluation. Evidence of early Neolithic occupation was also identified and, although this was represented by a single feature, there is a high probability of further and possibly more significant assemblages in the area. Similarly the identification of Bronze Age pottery some 50m to the north of the barrows would indicate that this period of activity is more extensive and not simply restricted to the two visible ring ditches.

7.2 The evaluation identified four principal archaeological phases. The earliest evidence came from a large oval pit which had been truncated by a Roman period ditch. Evidence of Early Neolithic activity was clearly identified within this pit in the form of a flint knapping deposit in combination with a large assemblage of Grimston style ware dating to c.4200-3800 cal BC. This is significant as it represents the first early Neolithic pottery assemblage recovered from a site in West and Pennine Yorkshire. Charred plant remains from this pit comprised wild and domesticated plant species including barley, wheat and hazelnut, which suggest some form of settlement activity.

7.3 The second phase comprised evidence of Bronze Age activity. This was represented by two round barrows, some associated cremation pits and a buried soil deposit. Pottery evidence recovered some 50m to the north of these deposits included several fragments of an Enlarged Food Vessel Urn indicating that this activity may be quite extensive. The fragments of Food Vessel urn are the first examples to be recovered from West Yorkshire. The deposits had been heavily truncated by medieval ridge and furrow and modern ploughing and no evidence of the barrow mounds survived. Nevertheless round barrows are relatively rare monuments in lowland West Yorkshire and few have been excavated under modern archaeological conditions. Charred plant remains from the ring ditches were sparse and the environmental potential of this phase is judged to be somewhat limited.

- 7.4 The third phase comprised parts of a rectilinear field system, a series of gullies and the remains of an oven/kiln dating to the Roman period. The position of the kiln feature appeared to be respected by an element of the field system and associated pottery suggested that the majority of the identified features in this phase dated to the 2nd or 3rd century AD. The field system ditches were limited to the south-western part of Site 2 and this may be the result of both topographic and preservational factors. There was little evidence to suggest more than a single phase of activity and no settlement remains were identified. The position of the kiln could be identified retrospectively on the geophysical survey and a number of similar anomalies could also be identified to the north and east. The charred plant remains from the kiln suggest that it functioned as a seed drying or malting kiln, however, the pattern of stakeholes within the structure requires further study. This feature contained a very rich plant assemblage which has significant potential for further analysis.
- 7.5 The fourth phase of activity represented in the archaeological record related to former medieval/post-medieval field systems and consisted of the remains of truncated ridge and furrow. Although ploughed down, the remains of the former furrows were identified in some of the sample geophysical survey blocks. These features were identified in all of the evaluation trenches where they partly truncated features associated with the earlier Roman and Bronze Age landscape.

## 8.0 MITIGATION

- 8.1 In accordance with national planning guidance (PPG16) and draft UDP policies (ARC 4), consideration should be given in the first instance to preserving archaeological remains in-situ. It is possible that if sufficient fill material is to be deposited on this area prior to construction, that the areas of highest archaeological potential could be protected, thereby preserving features in-situ.
- 8.2 Should preservation in-situ not be a feasible option, it is our view that development of the site should be acceptable subject to the implementation of an appropriate scheme of investigation. This would be in accordance with draft UDP policies ARC 5 and ARC 6. The archaeological remains identified are significant, however, these remains have been both truncated and fragmented as a result of agricultural activity and recent road construction.
- 8.3 The scheme of investigation should include extending the geophysical survey undertaken in the southern part of the site to map the remainder of the area of greatest potential (Figure 12). This should then be followed by a two stage programme of excavation. In the first stage, soil should be stripped from the southern part of the site (over the area of geophysical survey) and the extent of the archaeological remains revealed should be planned and evaluated. Although two areas can be identified, on the basis of existing information, which would require detailed excavation, it is recommended that these should be refined and if necessary extended in the light of the results of the initial stripping and recording. It should be noted that the soil stripping would need to be undertaken under continuous supervision and this supervision should control both the depth and extent such works. Ideally, such a programme of work should be undertaken in advance of construction in order to enable the work to be properly programmed and

to reduce the risk of potential delays. The project design for such a programme of investigation should be agreed in writing with the Archaeological Officer, West Yorkshire Archaeology Service. No further investigation of the medieval/post-medieval field systems is recommended.

- 8.4 Should it be possible to protect remains in-situ such that no further excavation is undertaken, it will be necessary (given the significance of some of the findings) to undertake analysis on aspects of the finds assemblage recovered by the evaluation phase of works and to publish the results in an appropriate regional journal such as *Yorkshire Archaeological Journal*.

Report: NAA 01/103  
Project: 217  
Date: November 2001  
Text: J Parry  
Illustrations: A Durkin  
Editor: R Fraser

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## **APPENDIX A**

### **SPECIFICATION FOR ARCHAEOLOGICAL EVALUATION AT BELL HILL, STOURTON, NEAR LEEDS**

#### **1.0 INTRODUCTION**

- 1.1 This document presents a specification for undertaking an archaeological evaluation on a greenfield site at Bell Hill, Stourton, 5km south of Leeds in West Yorkshire. The specification has been prepared by Northern Archaeological Associates for Akeler Developments Ltd.
- 1.2 The purpose of the specification is to identify the scope of archaeological evaluation works considered appropriate on the site and to enable archaeological contractors to provide a quotation for undertaking any such work.
- 1.3 The document has been submitted for approval to the archaeological curators of the West Yorkshire Archaeology Service (hereafter termed the 'Advisory Service')

#### **2.0 LOCATION**

- 2.1 The site occupies a 21.53 hectare triangular area of land (grid reference SE 323 297) bounded to the west by the M1 motorway, to the north by the A639 Leeds to Wakefield Road and to the south-east by the M1/A1 link road. The site is bisected by the A61. The site is currently under agricultural use although large-scale commercial and industrial plants are located close by.

#### **3.0 BACKGROUND**

- 3.1 The following information was collated as a result of a desktop assessment of the site (Abramson 1998). The site number codes referred to in the text are those used by the West Yorkshire Archaeology Service Sites and Monuments Record.
- 3.2 The site lies on the upper Carboniferous productive coal measures (Geological Survey 1979) and, up until recent times, coal mining has played an important role in the economy of the region. Several mine workings in the region are shown on the 1st edition OS map and the location of one old mine corresponds with the western area of the proposed development site. Field names indicated in the West Yorkshire Tithe Awards are suggestive of industrial activity in the area: Bell Hill or Upper Bell Hill may be a reference to early mining bell pits, Engine Close, Clay Close, Studley Pits and Cinder Oven Hills similarly suggest industrial activity in the area of the site.

### Site 5215

- 3.3 The site code 5215 is generic to the early coal workings in Rothwell township recorded on the 1st edition OS map of c.1850. Early mine workings recorded as an 'Old Coal Pit' are recorded on the 1st edition map, corresponding to SE 323 296, approximately in the centre of the western area of the proposed development site. A long rectangular building is shown next to the writing. No further evidence for the name of the pit, its period of use, the nature of the buildings, their extent and the position of associated surface workings are indicated on this map. The site probably shows as a cropmark on an oblique aerial photograph covering the study area (Ref: 44 32 29 36 - WY 99/32). An amorphous dark cropmark corresponds with the location of the coal mine as indicated on the 1st edition OS map. No buildings, shafts or associated workings can be distinguished on the photograph.

Two shafts are recorded adjacent to, and south-east of the site of the mine on a geological survey map in Leeds local studies library

### Site 4498

- 3.4 Cropmarks of ridge and furrow, field boundaries and possible drainage gullies are recorded on an oblique aerial photograph of the western area of the proposed development site (Ref: 44 32 29 36 - WY 99/32). Several of the field boundaries appear to be marked on the 1st edition OS map.

### Site 4502

- 3.5 A cropmark of an east to west aligned broad linear feature with possible curving sides is located alongside the southern boundary of the proposed development area at SE 328 296 (photograph reference: DNR 1049/35a). Whilst it is difficult to determine its dimensions precisely the cropmark appears to be c.100m long and c.10m wide. No associated features are visible.

A cropmark of a rectilinear enclosure E1 (also PRN 4502) comprising two ditches of the enclosure, is located adjacent to, and north-east of a large industrial plant (photograph reference: DNR 1049/36a) situated approximately 200m to the south-east of the development area

### Geophysical survey

- 3.6 In order to clarify the nature of the sites identified by the assessment, and to determine if any hitherto unrecorded sites of archaeological significance were present, a geophysical survey over selected areas of the site was commissioned. A total of c.7.5ha of the site (approx. 33%) was sampled using a fluxgate gradiometer. A summary of the survey results is as follows:

#### 3.7 Area 1

- Rectilinear anomalies - field boundary ditches of uncertain date
- Circular anomalies - possibly associated with WWI or WWII defences
- Small positive anomalies - possibly a row of postholes
- Concentric anomalies - very faint circular ditches

### 3.8 Area 2

- Concentration of high magnetic susceptibility - ?area of burning or infilled mineshaft
- Linear anomaly - former field boundary of uncertain date

### 3.9 Area 3

- Strong dipolar anomalies are indicative of concentrations of ferrous material (e.g. slag) within the topsoil. A linear cropmark (PRN 4502) in the area was not located by the survey.

### 3.10 Area 4

- Positive linear anomalies - probable ditches
- Positive and negative anomalies - possible metalled trackway with flanking ditches

## 4.0 AIMS AND OBJECTIVE

- 4.1 The objective of the evaluation is to gather sufficient information to establish the nature, date and significance of any archaeological features which might be present on the site. The information gained will enable the planning authority to make a reasonable and informed decision as to the nature of any further work required to mitigate the impact of the development on features of archaeological significance

### Approach

- 4.2 An evaluation strategy is recommended which comprises the excavation of 15 trenches located over anomalies identified by the geophysical survey. Four wider area trenches are also included to establish the stratigraphic sequence at the intersection of features. Three trenches are located over areas of background readings only.
- 4.3 The location of the trenches is indicated in Figure 3. The dimensions of the trenches are as follows:
- T1=25m x 4m; T2=15m x 4m; T3= 10m x 4m; T4=10m x 4m; T5=25m x 4m  
T6=10m x 4m; T7=10m x 4m; T8=30m x 4m; T9=10m x 2m; T10=30m x 4m;  
T11=30m x 4m; T12=15m x 2m; T13=10m x 2m; T14=10m x 2m; T15=20m x 4m
- Area I=10m x 10m; Area II=25m x 20m; Area III=10m x 10m; Area IV=10m x 4m
- 4.4 Trenches can be excavated down to the first archaeological horizon by the use of a machine with a toothless ditching bucket working at all times under archaeological supervision.
- 4.5 Excavation of archaeological features and deposits is to be undertaken by hand. Careful use of a machine to assist in the excavation of features may also be considered in cases where a feature is particularly large and is not proving productive of finds.

- 4.6 A sufficient sample of archaeological deposits/features within each trench will be excavated in an archaeologically controlled and stratigraphic manner in order to understand the stratigraphic sequence down to natural deposits. The amounts below are a guideline to the excavation sampling strategy:
- half section 50% postholes and pits up to 1.5m in diameter
  - half section all pits and postholes greater than 1.5m in diameter
  - a 20% sample excavation of linear features.
- 4.7 A record of the stratigraphy within each trench, even if no archaeology is encountered, must be provided.

### **Sampling & Recording**

- 4.8 After the removal of the topsoil a plan of all features within each trench will be made at a scale of 1:20 and a sample will be selected for further evaluation.
- 4.9 All archaeological features will be photographed and recorded at an appropriate scale. Sections will normally be drawn at a scale of 1:10. Archaeological plans will normally be drawn at a scale of 1:20. All levels will be tied in to Ordnance Datum.
- 4.10 A written description of features will be obtained using an appropriate context recording systems.
- 4.11 A photographic record of the trenches will be obtained using black and white prints with colour photography as a supplement where required.
- 4.12 Pottery and animal bone will be collected as bulk samples whilst significant artefacts will be three-dimensionally recorded prior to processing. Finds will be recorded and processed and submitted for post-excavation assessment.
- 4.13 Human remains, if encountered, will be recorded and left *in situ*.
- 4.14 A strategy for the recovery and sampling of environmental remains should be agreed with an environmental consultancy in advance of the project (see *Environmental Archaeology and Archaeological Evaluations - Recommendations Concerning the Environmental Archaeology Component of Archaeological Evaluations in England*: Association for Environmental Archaeology 1995). Opportunity should be afforded to the environmental specialist to visit the site during the evaluation to discuss the sample collection strategy.
- 4.15 Arrangements will be made with an appropriate museum for the storage of the site archive. Any finds recovered from the site will be stored with the site archive if the landowner so permits.
- 4.16 The terms of the treasure act of 1996 must be followed with regards any finds which might fall within its purview. Any finds must be removed to a safe place and reported to the local coroner as required by the procedures as laid down in the 'Code of Practice'. Where removal cannot be effected on the same working day as the discovery suitable security measures must be taken to protect the finds from theft.

## 5.0 POST-EXCAVATION ASSESSMENT

5.1 On completion of the excavation an assessment of the site records and finds will be undertaken in accordance with *Management of Archaeological Projects 2* guidelines. This will include:

- production of context, photographic, finds and illustration catalogues
- assessment of appropriate assemblages and spot dating of contexts with secure dating evidence
- environmental assessment of selected bulk samples
- preparation of an evaluation report prepared to professional standards which includes background information, a summary of the work undertaken, specialist assessment reports a description of major contexts together with their phasing, interpretation and assessment of their importance. This will be accompanied by trench plans, sections and photographs where appropriate.

5.2 A copy of the evaluation report should be supplied to the Advisory Service as soon as possible but not later than eight weeks after completion of the fieldwork unless specialist reports are awaited. In the event of the latter a revised date should be agreed with the Advisory Service.

### Archive

5.3 An archive will be prepared in accordance with the specification outlined in MAP2, Appendix 3

5.4 Before commencing any fieldwork the archaeological contractor must contact the relevant museum curator in writing to determine the museum's requirements for the deposition of an excavation archive. The letter should be copied to the WYAS Advisory Service. In this case the contact is Leeds Museum's and Galleries, City Museum, Municipal Buildings, Headrow, Leeds, LS1; phone 0113 247 8279. Curator of archaeology: Bryan Sitch.

5.5 It is the responsibility of the archaeological contractor to meet the museum's requirements with regard to the preparation of excavation archives for deposition.

5.6 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with the appropriate Museum.

5.7 The museum curator should be informed in writing of the time of commencement of fieldwork.

5.8 A quantified index to the site archive should be deposit with the Advisory Service.

## 6.0 SCHEDULE & STAFF

6.1 Prior to the commencement of any work the archaeological contractor should confirm in writing adherence to this specification or state with reasons any proposals to vary the

specification. Should the contractor wish to vary the specification then written confirmation of the agreement of the Advisory Service to any variations is required prior to work commencing.

- 6.2 Prior to the commencement of work on site the archaeological contractor should provide the Advisory Service with a projected timetable for the site work and with details regarding staff structure and numbers. CVs of key staff along with details of any specialist sub-contractors should also be supplied to the Advisory Service. All project staff provided by the contractor should be suitably qualified and experienced for their on-site roles.

## **7.0 HEALTH AND SAFETY AND SECURITY**

- 7.1 The appointed contractor would expect to comply with the 1974 Health and Safety Act and its subsequent amendments in all its operations.

### **Risk assessment**

- 7.2 A risk assessment for the evaluation will be sent to the archaeological manager prior to the commencement of works on the site.

### **Services**

- 7.3 The archaeological contractor will be responsible for locating any drainage pipes, service pipes, cables, etc., which may cross any of the trench lines and for taking the necessary measures to avoid disturbing such services

## **8.0 ESTIMATE**

- 8.1 In response to this document, contractors should submit costs for undertaking the specified work.
- 8.2 Costs should be broken down to indicate staff costs (e.g. management, supervisor, excavation staff) and no-staff costs (travel, accommodations, machining, overheads etc).
- 8.3 A contingency sum to cover an additional 500 square metres of trial trenching should be indicated in the estimate.

## **9.0 SURVEY INFORMATION**

- 9.1 Survey information to enable the accurate tie-in of the trench position to geophysical survey anomalies is available on request from Northern Archaeological Associates, 15E Redwell Court, Harmire Rd, Barnard Castle, DURHAM

## APPENDIX B

### PREHISTORIC POTTERY ASSESSMENT

**T Manby**  
(East Riding Archaeological Trust)

#### *Summary*

This is the first example of Early Neolithic pottery from a site in West and Pennine Yorkshire and is also the first example of Early Bronze Age Enlarged Food Vessel Urns from Western Yorkshire. The assemblage has the potential to illuminate the function of the site during these two periods of activity.

#### 1.0 INTRODUCTION

An assessment was undertaken in order to obtain preliminary information on the nature and range of the prehistoric pottery assemblage to provide information on the extent and nature of any further examination of the material. The pottery was examined in October 2001.

#### 2.0 RESULTS

**Bronze Age:**  
Context (133)

Four sherds. Gritty orange. Bronze Age

Context (3000)

Large rim and neck fragment with a second rim fragment and three flakes. Thick cord line imprints on the bevel. Exterior eroded removing all trace of any decoration. These fragments derived from an Enlarged Food Vessel Urn: Current Early Bronze Age 3: 2050-1700 cal BC extending into Early Bronze Age 4: 1700-1500 cal BC

**Distribution:** Enlarged Food Vessel Urn accompanying cremation have come from barrow context in eastern Yorkshire, Northumberland, Lake District and Scotland. This is the first example from Western Yorkshire.

Context (3002)

Three crumbs

## Neolithic

### Context (4005)

Out-curving rim fragment and three small broken off pieces. Laminated fabric. Grimston style

### Context (4012)

14 Fragments and 12 crumbs, weight 155 gins. 5 vessels represented by fragments: 1 rim and 2 shoulder fragments (carinated and rounded shoulder profiles) Grimston style.

### Context (4011)

128 sherds and 26 crumbs, weight 985 grams. at least 20 vessels represented by rims and shoulders: 5 shouldered bowls, out-turned and beaded rims. 6 globular bowls, simple rims. 6 cups, both simple and out-turned lip profiles.

There are five distinguishable fabrics including fine ware with burnished surfaces and some thick-walled course ware.

## 4.0 IMPLICATIONS

Contexts 4011 and 4012 represents a relatively large Grimston style assemblage, the characteristic pottery of the Early Neolithic period c.4200-3800 cal BC. The range of vessel types and fabrics represented a series potentially characterising a domestic or occupational association.

This is the first assemblage of early Neolithic pottery from a site in West and Pennine Yorkshire. Grimston Ware has come from many sites in the calcareous soil areas of the Yorkshire Wolds both in pits associations and in some burial monument context. The style has wider national distribution extending south to East Anglia and northwards up to eastern Scotland

## 5.0 FURTHER STUDY REQUIRED

1. This assemblage will require careful sorting for joining sherds as some profile reconstructions will be required to prepare the assemblage for a final report.
2. Sherds need macroscopic examination to determine their temper content, a means of establishing its locality of manufacture.
3. Macroscopic search can be made for encrusted residues and impressions of seeds and plant impressions.
4. A selection of sherds can be made if arrangements could be made for a programme of lipid analysis.

## APPENDIX C

### ROMAN POTTERY ASSESSMENT

**P. Didsbury**

#### **Introduction**

A total of 10 sherds of pottery, weighing 177 grams, was submitted for examination. All came from Area 2.

#### **Discussion**

Topsoil (3000) contained a single sherd of post-medieval ceramic, weighing 9 grams. It is in a hard, dark grey, essentially untempered fabric, with reddish brown exterior surface. The interior is covered with a clear light greenish-yellow lead glaze over a white slip. The sherd cannot be closely dated.

Fill (3002) of Ditch (3001) contained 9 sherds of Romano-British wheel-thrown greyware, weighing 168 grams. All but one of these come from the same vessel, represented by the base and lower body of a large jar or wide-mouthed bowl (basal diameter c. 120mm). This is in a fine grey sand-tempered fabric, with very dark grey surfaces. Such fabrics are in use in the wider region throughout the Roman period, though it may be noted that the underside of the base has been turned or smoothed, in the interests of removing the wire-marks which would have been caused by its removal from the wheel. In much of the region, wire-marks are left untreated from the early third century onwards, though it would clearly not be safe to date this vessel on such grounds alone. The remaining sherd is a 1 gram fragment in a sand-tempered blue-grey ware, coming from a thin-walled jar with girth groove. Similar fabrics are common in the Humber Basin and Yorkshire in the second and third centuries, though not confined to that period.

#### **Conclusions**

The small assemblage from Ditch (3001) consists entirely of Roman greyware. The assemblage can not be dated, though there are slight suggestions that a second or third-century date might be appropriate.

A single sherd of coarse post-medieval pottery was present in the topsoil.

## **APPENDIX D**

### **POST-MEDIEVAL POTTERY ASSESSMENT**

**J Vaughan**

#### **Introduction**

A total of 32 sherds of pottery were submitted for examination. This assemblage was collected from across Site 2, predominantly from topsoil contexts.

#### **Discussion**

The assemblage was very abraded. None of the fragments were identifiably medieval, the majority were probably 17th/18th century while some 19th century material was present in 800 and 1000. The assemblage is too fragmented to have any intrinsic value.

## APPENDIX E

### CREMATED BONE ASSESSMENT

J Langston

#### Introduction

Three samples of bone were submitted for assessment, 143AA, 144AA and 146AA. 143AA came from within a small pit (142) located in the centre of ring ditch 106/108, and samples 144 and 146AA from within the centre of ring ditch 104. Both ring ditches are of probable Bronze Age date.

#### Discussion

The samples comprise a small amount of cremated bone; fragment size is very small (no fragments are larger than 1cm x 1 cm and c. 75% are considerably smaller). The bone fragments are all cortical bone and there are no identifying features to indicate that the bone is human. However, there are also no features to indicate that it is of animal origin. The only conclusion that can be made is that the material is cremated bone. The buff/grey colour shows that burning was at a relatively high temperature. The small size of the fragments may suggest further breakage after collection for burial (i.e. deliberate smashing of larger bone pieces taken from the pyre). The low prevalence of bone is likely due to the truncation of the medieval and earlier deposits by modern ploughing.

## APPENDIX F

### FLINT ASSESSMENT

P Makey

#### 1.0 Introduction:

The material comprises 56 struck pieces (167.5g) from three separate areas (trench1, area 2, area 3). Only the material from trench 1 and area 3 comes from, securely stratified contexts. Traces of burning are evident on eleven (20%) of the pieces. Twenty four (43%) of the flints have been subjected to breakage, but in no instance can this trait be related to post depositional attrition. All breakage's would appear to be Prehistoric, and the majority of the material is in a very fresh state that suggests that it cannot have moved more than a few metres from the area of original deposition. Even the calcined (heavily burnt) material is in a very fresh state. It is probable that the material has been knapped on site. The assemblage composition and incidence is given in table 1.

#### 2.0 Reduction Sequence Technology & Raw Material:

Knapping is of a high quality and would appear geared towards the production of blades and bladelets. There are extensive traces of fine platform preparation. Some of the pieces may have been struck via the use of soft hammers. The source of the raw material is, fine grained till derived gravel pebbles.

#### 3.0 Use Wear & Burning:

Traces of use wear are remarkably light but this is consistent with the restricted range of retouched implements. Burnt pieces are found in both topsoil and stratified features. The degree of burning is consistent with the material being derived from prehistoric bonfires/cooking.

#### 4.0 The Stratified Flint:

##### Trench 1: Ring Ditch, Section 108.

This feature produced two broken flakes (1 patinated) of uncertain date. Both are still in a fresh state and do not look residual.

##### Area 3: Pit 4010.

The material from the primary (4011) and secondary (4012) fill of pit 410 can be differentiated on the basis of burning and patination. Five (71%) of the pieces from the secondary fill are patinated compared to eight (20%) of the pieces from the primary fill. The degree of patination appears to be directly related to the intensity of burning. Despite this the assemblages from the two fills is remarkably similar, suggesting a contemporaneous or near contemporaneous deposition.

The cortex of 4 different nodules is present. At least 14 pieces come from a single nodule of light olive grey flint. Overall the pit assemblage looks like a remarkably fresh knapping cluster. Pieces nearly re-fit; although none could be found.

### 5.0 Chronology

There are no clearly chrono-diagnostic implement types. The scraper from pit 4010 is a fine side (right) and end variety, a form that is ubiquitous in both middle and later Neolithic assemblages. The debitage is however predominated by crested forms of flakes and blades and stylistic traits such as fine parallel dorsal flaking and platform trimming are reminiscent of lithic material from the regions earlier Neolithic Grimston Ware or Towthorpe Ware associated assemblages. An early to middle Neolithic date is most probable for the majority of the material.

### 6.0 The Archaeological Potential of the Flint Assemblage:

The material is prehistoric. The possible Grimston or Towthorpe Ware association is important, since stratified lithic assemblages of this date are few and the condition of the Bell Hill material is remarkably fresh. There is a high probability of further and possibly more significant assemblages in the area.

### 7.0 Illustration:

Should it be required the scraper from pit 410 and a small selection of blades could be selected for illustration.

TABLE 1. Bell Hill, Stourton (Leeds); Composition of the Flint Assemblage:

Flint ID	Total Number	Number Broken	Edge -Use	Weight in gms	CONTEXT TYPE			
					Pit 4010 Fill Primary	Pit 4010 Fill Secondary	Ring Ditch 108	U/S
Cores	3	1		29.3	1			2
Core Rejuvenation Flakes	2	-		24	2			
Chunks & Chipping's	2	-		4.7	2			
Flakes	35	19	1	59.9	23	6	2	4
Blades & Bladelets	11	3	2	31.6	10	1		
<b>UTILISED</b>								
Edge Utilised Flakes	1	-	1	2.2	1			
<b>RETOUCHED</b>								
Edge Retouched Blades	1	1		3.4				1
Scrapers	1	-	1	12.5	1			
<b>Total = 56</b>		<b>24</b> (43%)	<b>5</b>	<b>167.5</b>	<b>40</b> (71%)	<b>7</b> (12.5%)	<b>2</b> (3.5%)	<b>7</b> (12.5%)

## **APPENDIX G**

### **STONE ASSESSMENT**

**T Manby**

Context (4011)      Two struck flakes of greenish tuff (macro). Sharp condition, no traces of a ground surface. These are thinning flakes probably struck off during the re-flaking of a stone axe.

Source:              Borrowdale volcanic series, Langdale-Scafell

## APPENDIX H

## ENVIRONMENTAL ASSESSMENT

A Snelling  
(The Environmental Archaeology Consultancy)**Introduction**

An evaluation excavation carried out by Northern Archaeological Associates investigated a series of ditches, pits and a kiln feature from ten trenches and four areas, near Stourton, south-east of Leeds. Twenty-six samples were collected from the various features and included charcoal as well as bulk samples, which were submitted to the Environmental Archaeology Consultancy for processing and assessment (Table 1). The five charcoal samples and one fragment of hazelnut shell, were collected during excavation for the potential of radiocarbon dating.

**Table 1:** Bell Hill, Stourton. Samples taken for environmental analysis

finds code	cont. no.	samp. vol. in l.	sample weight in kg	feature	phase
AA	103	19	21	upper fill of ring ditch 104	BA
AA	105	20	25	upper fill of ring ditch 106	BA
AA	121	20	27	primary fill of ring ditch 108	BA
AA	123	34	39	fill of pit 122	BA?
AA	124	20	26	tertiary fill of ring ditch 108	BA
AA	127			charcoal from ring ditch 108	
AB	127	20	25	secondary fill of ring ditch 108	BA
AA	130	19	20	tertiary fill of ring ditch 104	BA
AA	131	20	25	secondary fill of ring ditch 104	BA
AA	136	0.2	0.22	fill of ?stakehole 137	
AA	138	20	23	secondary fill of ring ditch 108?	BA
AA	141	1.6	1.7	fill of posthole 135	
AA	2003	19	21	fill of ditch 2002	Prehistoric?
AA	2005	20	21	fill of ditch 2004	Prehistoric?
AA	2006			charcoal from ditch 2006	
AA	2007	21	25.5	secondary fill of ditch 2006	Prehistoric?
AA	3002	30	35	fill of ditch 3001	Prehistoric
AB	3002			charcoal from ditch 3001	
AA	4003	20	24	primary fill of kiln 4002	LIA/Rom
AA	4005	19	20	fill of ditch 4004	Prehistoric
AA	4008	9	10	secondary fill of kiln 4002	LIA/Rom
AA	4011	30	30	primary fill of pit 4010	Neolithic
AB	4011			hazelnut? from 4010	
AC	4011			charcoal from 4010	
AA	4012	19	20.5	secondary fill of pit 4010	Neolithic
AB	4012			Charcoal sample	

**Methods**

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet sieve of 1mm mesh for the residue. Both residue and flot were dried and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured and the volume and weight of the residue recorded. A total of 380.8 litres of soil was processed in this way. The samples from contexts 136 and 141 were incredibly small and were not floated in the 'Siraf' tank but were washed through a 0.3 mm mesh sieve. These samples were not refloated.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerstone and prill and a count made of the number of flakes or spheroids of any hammerstone collected. The residue was then discarded. The float of each sample was studied using x10 magnifications and the presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The floats were then bagged and along with the finds from the sorted residue, constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2 and 3.

## Results

The samples are considered by trench or area and will be discussed within these groups. All of the samples contained modern root fragments and moderate to abundant numbers of modern seeds, including *Chenopodium* spp (goosefoot), *Polygonum* spp (knotgrass), *Stellaria media* (chickweed) and *Fumaria officinalis* (fumitory). Occasional modern insect fragments and larvae were also noted. This material represents low levels of recent contamination and is not considered contemporary with the archaeology. A few snail shells were recorded in five of the samples which are probably also modern intrusions and only a small fragment of burnt bone was preserved, suggesting acidic or decalcified soil conditions. In general, the preservation of the charred plant remains was fairly poor, with a lot of the cereal grains unidentifiable to genus.

### Trench 1

Eleven samples were taken from Trench 1 relating to two circular ditches, post holes and a pit, which have been preliminarily dated to the Bronze Age. Three samples were associated with ring ditch 104 and were taken from the secondary, tertiary and upper fills. One small flint flake was recorded in the upper fill and all three contained small fragments of coal. A moderate to abundant quantity of charcoal was recorded, predominantly less than 2mm. Charred grain was present in all three, but in low densities only and mostly unidentifiable, although wheat (*Triticum* spp.) was recorded in the secondary fill. Of the second ring ditch, two sections have been recorded. In the northern portion, context 106, two samples were taken, relating to the secondary and upper fills. Both samples contained small fragments of glass and coal and the upper fill also produced a piece of ceramic building material (cbm). The secondary fill additionally included a small flint flake. A moderate to abundant amount of charcoal was present and unidentifiable charred cereal was recorded in the upper fill, context 105. Hazelnut shell fragments were present in both. Three samples were taken from the southern portion of the ditch, from the primary, secondary and tertiary fills, all three of which had fairly low densities of charcoal, which was predominantly less than 2mm. The tertiary fill contained a flint flake and coal was present in all three. Charred cereal and hazelnut shell fragments were recorded in the primary and tertiary fills but the former was too fragmented to confidently identify. The samples from contexts 136 and 141 came from features in the centre of ring ditch 104. Context 136, produced prehistoric pottery during excavation but no finds apart from a few fragments of burnt bone and moderate amounts of charcoal were recovered from the sample. For context 141, the fill of a possible stakehole, a few extremely degraded grains of unidentifiable cereal were recorded and an abundance of charcoal. The final sample in this trench, context 123, came from a pit adjacent to the southern portion of ring ditch 108. The few fragments of burnt bone were recovered from this pit and, other than a few bits of charcoal, no other finds were recovered from the residue. A moderate amount of

charcoal was recorded, predominantly less than 2mm as well as a fragment of charred cereal grain, which again was unidentifiable and a hazelnut shell fragment.

**Table 2: Bell Hill, Stourton. Finds from the processed samples**

finds code	cont. no.	samp vol. in l.	feature	residue vol. (l)	pot #/g	flint #/g	mag. wt. g.	glass #/g	coal	cbm (g)	Fired earth (g)	bone wt g.
<i>Tr 1</i>												
AA	103	19	upper fill of ring ditch 104	5		1/<1	13		+			
AA	130	19	tertiary fill of ring ditch 104	8			4		++			
AA	131	20	secondary fill of ring ditch 104	11			4		+			
AA	105	20	upper fill of ring ditch 106	3.5			17	1/<1	++	<1		
AA	138	20	secondary fill of ring ditch 106	8		1/<1	4	1/1	+			
AA	124	20	tertiary fill of ring ditch 108	12		1/<1	4		++			
AB	127	20	secondary fill of ring ditch 108	16			2		+			
AA	121	20	primary fill of ring ditch 108	13			2		++			
AA	123	34	fill of pit 122	18			3		++			<1
AA	136	0.2	Fill of ?stakehole 137	0.05			<1		+			1
AA	141	1.6	Fill of posthole 135	0.1			1		+			
<i>Area 1</i>												
AA	2003	19	fill of ditch 2002	4			9		+			
AA	2005	20	fill of ditch 2004	4		1/1	7		+			
AA	2007	21	secondary fill of ditch 2006	5			11		++			
<i>Area 2</i>												
AA	3002	30	fill of ditch 3001	8.5		1/<1	13		++			
<i>Area 3</i>												
AA	4003	20	primary fill of kiln 4002	5					++			
AA	4008	9	secondary fill of kiln 4002	1.75			40		++			
AA	4005	19	fill of ditch 4004	2.75			8		++			
AA	4011	30	primary fill of pit 4010	4.5	75/123	13/6	14		++		26	
AA	4012	19	secondary fill of pit 4010	2	4/5	1/2	5		++			

### Area 1

Three samples in Area 1 were taken, all concerned with the intersection of two linear features of possible Roman date. One flint flake was recorded in ditch 2004 but no other finds were recorded, other than coal fragments. A moderate amount of charcoal was recorded, predominantly less than 2mm, but there was no charred cereal grain in any of the three. Two of the samples, contexts 2003 and 2004 contained small quantities of spelt wheat chaff (*Triticum spelta*) and a few weed seeds, including heath grass (*Danthonia decumbens*) (Table 3).

### Area 2

One sample was taken from a ditch in Area 2, which contained prehistoric pottery. A flint flake was recovered from the residue and some coal fragments. A few pieces of spelt wheat chaff were identified and a weed seed and a moderate amount of charcoal was noted.

### Area 3

The remaining five samples came from Area 3 and were taken from a ditch containing prehistoric pottery, a pit of probable Neolithic date and a kiln feature. One sample was taken from the ditch, context 4004, and contained a few charred grains of unidentifiable cereal grain and heath grass (*Danthonia decumbens*). The pit, context 4010, was sampled from the primary and secondary fills, both of which contained an abundance of charcoal. The primary and secondary fills included pieces of pottery and flint flakes, in abundance for the primary fill, which also contained fired earth (Table 2). Moderate amounts of charred cereal grain were recorded in both samples, the primary fill being slightly richer and included wheat and barley as well as charred hazelnut fragments. The cereal grain was not identified from the secondary fill although hazelnut fragments were common.

Table 3: Bell Hill, Stourton. Environmental Finds from the processed samples

finds code	co nt. no.	samp vol. in l.	feature	flot vol. (ml)	char coal */<2 *	chard grain *	Chaf f *	char d seed *	Snail *	comment
AA	103	19	upper fill of ring ditch 104	16	3/5	1		1		
AA	130	19	tertiary fill of ring ditch 104	18	4/5	1		1		<i>Triticum</i> spp.
AA	131	20	secondary fill of ring ditch 104	10	4/5	1				
AA	105	20	upper fill of ring ditch 106	10	4/5	1		1	1	<i>Danthonia decumbens</i> , hazelnut fragment, other nutlet
AA	138	20	secondary fill of ring ditch 106	12	4/5			1		hazelnut fragment
AA	121	20	primary fill of ring ditch 108	2	2/4	1		1	1	hazelnut fragment
AA	127	20	secondary fill of ring ditch 108	9	2/4			1	1	
AA	124	20	tertiary fill of ring ditch 108	9	3/5	1		1		<i>Galium</i> spp, hazelnut fragment
AA	123	34	fill of pit122	10	3/5	1		1	1	hazelnut fragment
AA	136	0.2	fill of ?stakehole	4	2/4					
AA	141	1.6	fill of posthole 135	50	5/5	1				
<b>Area 1</b>										
AA	2003	19	fill of ditch 2002	10	3/5		1	1		<i>Triticum spelta</i> , <i>danthonia decumbens</i>
AA	2005	20	fill of ditch 2004	8	3/5		1	1		<i>Triticum spelta</i> , <i>Bromus</i> spp, <i>Danthonia decumbens</i> .
AA	2007	21	secondary fill of ditch 2006	12	3/5			1		
<b>Area 2</b>										
AA	3002	30	fill of ditch 3001	9	3/5		1	1		<i>Triticum spelta</i> , <i>Sparganium</i> spp
<b>Area 3</b>										
AA	4003	20	primary fill of kiln 4002	50	4/5	5		2		<i>Hordeum</i> spp, <i>Triticum spelta</i> , <i>Avena</i> spp, <i>Lapsana communis</i> , <i>Polygonum</i> , <i>Galium</i> , <i>Rumex</i> , <i>Chenopodium</i> spp, hazelnut fragment.
AA	4008	9	secondary fill of kiln 4002	4	2/3	2		1		<i>Hordeum</i> spp, <i>Avena</i> spp, <i>Lapsana communis</i> ,
AA	4005	19	fill of ditch 4004	17	3/5	1		1	1	<i>Danthonia decumbens</i> hazelnut fragment
AA	4011	30	Primary fill of pit 4010	750/200	5/5	3		2		<i>Hordeum</i> spp, <i>Triticum</i> spp, hazelnut fragment.
AA	4012	19	secondary fill of pit 4010	40	5/5	2		1		hazelnut fragment

\* = abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+

<2\* = abundance less than 2mm

The primary and secondary fills of the kiln, context 4002, were sampled and pieces of slag had been recovered from the secondary fill during excavation. No finds were recovered from the residues apart from some burnt bone in the primary fill. In this primary fill, charcoal was relatively abundant as well as charred cereal grain, which was in the highest concentration for the site. Both barley and spelt wheat were recorded as well as oat, hazelnut and a number of other wild species including nipplewort (*Lapsana communis*). In the secondary fill, several small fragments of slag were recovered and the flots contained a moderate amount of charred cereal grain including barley and oat. Nipplewort was again recorded among the wild species but a much lower volume of charcoal was recorded.

The charcoal and hazelnut samples were taken from each of the areas sampled: Ring ditch 108 in Trench 1, the fill of ditch 2006 in Area 1, the fill of ditch 3001 in Area 2 and the fill of pit 4010 in Area 3. Several pieces of charcoal were collected from the listed fills, the majority of which are no bigger than 2mm in diameter. This material could be used for radiocarbon dating, where individual pieces may be suitable, although further work is required to identify the charcoal. This material would not necessarily date the features however, and where available it is recommended that other charred fragments, such as hazelnut shell be used if dating evidence is required.

### **Discussion**

All of the samples included small fragments of coal, which either are a result of modern inclusions or more likely come from the coal measures and occur naturally in the soils. In general, the material from the twenty bulk samples is indicative of domestic debris, with low levels of charred grain, some pottery and flint debitage, with the possibility of some form of crop processing activities.

The two ring ditches of Bronze Age date, sampled in Trench 1 produced similar assemblages of material, with small quantities of charred grain and a few flint flakes. The small assemblages from these samples could be a result of the function of the ring ditches such that the activities associated with them left little or no debris, for example their use as barrows. Alternatively, they could be a result of rubbish being dumped in specific areas of the feature, which were not sampled. In such a case only a low density of 'background' material would be represented as opposed to the material that could identify the function of the feature. It is quite often the case that within these structures that debris is concentrated in one or two areas only. The two fragments of glass and the piece of cbm in the fills of ring ditch 106 are most likely to be modern intrusions. The pit sampled inside the ring ditch, context 122 and the posthole/stakehole features, contexts 141 and 136, contained similarly low concentrations of material to the ditch features, suggesting that debris was not dumped or accumulating in any great quantity in this area and is typical for prehistoric assemblages.

The ditches sampled in Area 1 again contained low densities of material. The few fragments of chaff and weed seeds suggest that crop-processing activities may have been occurring although with such a small amount of evidence, this is not particularly clear. As with the ring ditches above, specific areas within a ditch/feature may have been targeted for the dumping of debris and so unless this area is chanced upon, the function of a particular feature cannot be ascertained. However, the assemblages of these features is different to the ring ditches discussed above, in terms of the charred material and so a different activity or processing stage may provide the origin for this material.

The one sample from Area 2 suggests a similar pattern, such that chaff and weed seeds are the only charred plant remains represented and could be indicative of crop processing activities somewhere on the site.

The five samples from Area 3 produced the richest charred assemblages of the sampled features. The residues from the primary and secondary fills of the kiln feature contained no finds but the flots from the primary deposit were rich and from the secondary deposit were moderate. For the primary fill, barley and wheat were both in evidence, although the exact ratio of each has not been calculated at this stage. A small number of weed seeds and other wild species were recorded but no chaff. The concentration of material in the primary deposit of this feature would suggest that the fill is likely to directly relate to the structure and its function as opposed to some secondary form of dumping. It is possible that the feature may have functioned for crop processing activities and given the relatively clean nature of the grain, this could imply that the

grain was being dried prior to being stored or roasted for milling purposes. Differential preservation also needs to be taken into account, however, such that chaff may have been present prior to charring but conditions were such that it did not survive. Of course the material may be representative of more than one use of the feature which has subsequently become mixed. All of these factors make interpretation very difficult. For the secondary fill there is a lower diversity and density of charred material, this however may represent just one use of the feature and hence less mixing, or a different function to the primary fill, given the presence of slag. If the feature were not securely dated, then the charred cereal or hazelnut shell from the primary fill would be suitable for radiocarbon assay.

The ditch sample, context 4005, produced a low frequency of material, which may be a product of background levels of activity.

The pit, context 4010 contained a diverse and relatively rich concentration of material that would be typical of dumped domestic debris such as pottery, fired earth, and charred cereal remains. Evidence for both wild and cultivated plant species was present including barley, wheat and hazelnut.

In terms of the chronology of the site, the evidence recovered from the samples suggests that from the Neolithic period some form of settlement activity was in evidence. Barley and wheat species were consumed as well as hazelnuts, which would have been gathered from a local resource. Into the Bronze Age and there is some evidence for settlement activity, although this is at much lower concentrations than for the previous period. This may be a result of different areas of the site functioning for different purposes and that any concentrated Bronze Age activity may be elsewhere. The other samples from prehistoric contexts are similarly sparse in their composition and require more secure phasing. The samples from the kiln feature produced a rich assemblage of charred plant material and may be of Iron Age/Roman date, providing evidence for the continuation of settlement in this area.

The charred material from some of the flots may be suitable for radiocarbon dating, although in most cases, the small size of the charcoal fragments is not sufficient for single pieces to be submitted for dating. Ashmore (1999) has highlighted problems regarding the bulking up of material in order to obtain sufficient carbon for standard analysis and is therefore not recommended. AMS dating could however be used on individual fragments, although this would give a date for the charcoal and not necessarily date the feature, but hazelnut shell, which is present in a number of primary contexts, would be ideal.

### **Conclusions and recommendations**

The environmental evidence obtained from the twenty bulk samples has provided an indication of preservation and the type of activities occurring across the excavated area, from Neolithic to Iron Age/ Roman times. There was no bone survival on site, apart from a few fragments of burnt bone and so the majority of the interpretations presented, are based upon the charred plant and charcoal remains only. The preservation of the charred plant remains was variable, but a majority of the material was unidentifiable even to genus. Despite this, some of the contexts were very rich and others contained just a few unidentifiable fragments but all contained at least some charred material. The presence of such concentrations and compositionally distinct samples indicates that there is the potential for good spatial patterning and that specific activity areas may be identified

The Neolithic pit (context 4010) and the Iron Age/Roman kiln feature (context 4002) produced the richest charred plant assemblages on site with evidence for some activity, which may include crop processing, in-between times. Preservation of material across such a time span could allow changes in crop plants and potentially weed assemblages to be recognised and therefore, any long-term chronological pattern could emerge. This however, would be dependent on the quality of preservation, in trying to identify individual species.

The assessment of the environmental evidence from the evaluation has indicated those areas with the greatest potential for study if further excavations are proposed at the site. The most informative area is likely to be the charred plant remains. These have the potential to inform on the spatial distribution of activities across the site, the agricultural crops being grown, whether these are being processed at the site, and depending upon the quality of the evidence perhaps the soils that are being cultivated and the season of planting. If any industrial activities are recognised during further work then it may be appropriate to study the charcoal for evidence of fuel use and resource management.

The environmental sampling strategy for any future excavation on the site should focus on identifying the function of the site and isolating any domestic or industrial activities for each period. Environmental sampling will be required to assist in the interpretation of the features and the spatial patterning of activities across the site. The preservation of botanical remains was variable but with an improved data set should provide information on palaeo-economic practices from the Neolithic to the Iron Age/Roman period.

A program of bulk sampling, should be instituted for the recovery of environmental and industrial evidence, and should be whole earth samples with no finds removed (a minimum of 30 litres is recommended for all samples where sufficient deposit survives, preferably collected in 10 l. lidded, plastic tubs. It may be appropriate to increase this sample size to 50 litres for the Neolithic contexts, which is the size of sample currently recommended by English Heritage for sites of this period). Sampling should be restricted to features that can be dated by archaeological artefacts or stratigraphic relationships or where it is felt that the samples will provide information on the function of specific features. A range of feature types should be sampled across as wide a spatial extent as the archaeological features permit, with stratigraphically distinct layers individually sampled and linears sampled at each excavated section. Primary and secondary fills should be targeted in pits and linears.

Further work should be conducted on the particularly rich samples highlighted in this assessment and should be incorporated into the post-excavation program of any further work on the site.

### **Acknowledgements**

I should like to thank Alison Foster, Trude Maynard and Jeremy Dubber for the sample processing and sorting and James Rackham for his comments.

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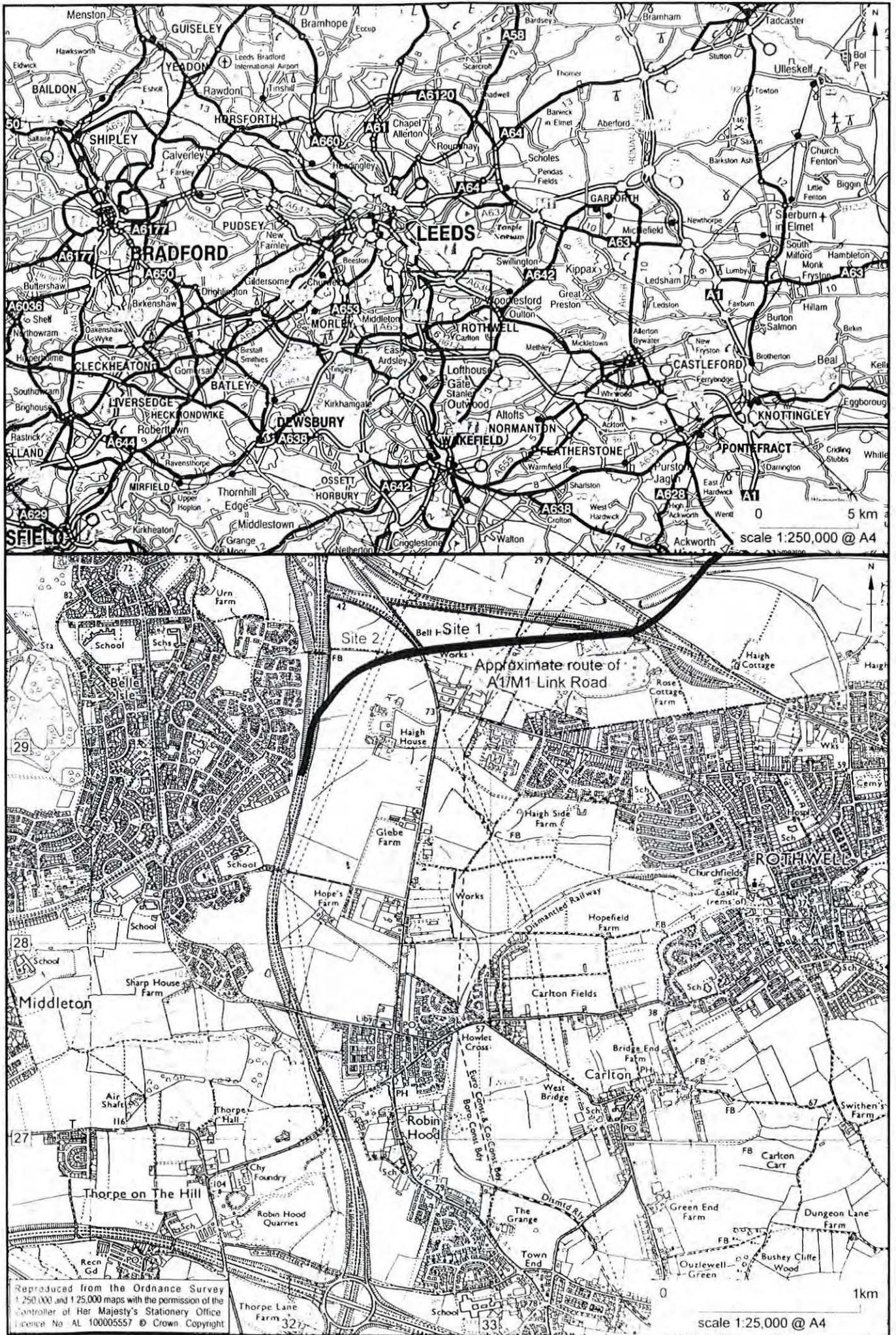


Figure 1 Bell Hill, Stourton: site location plan

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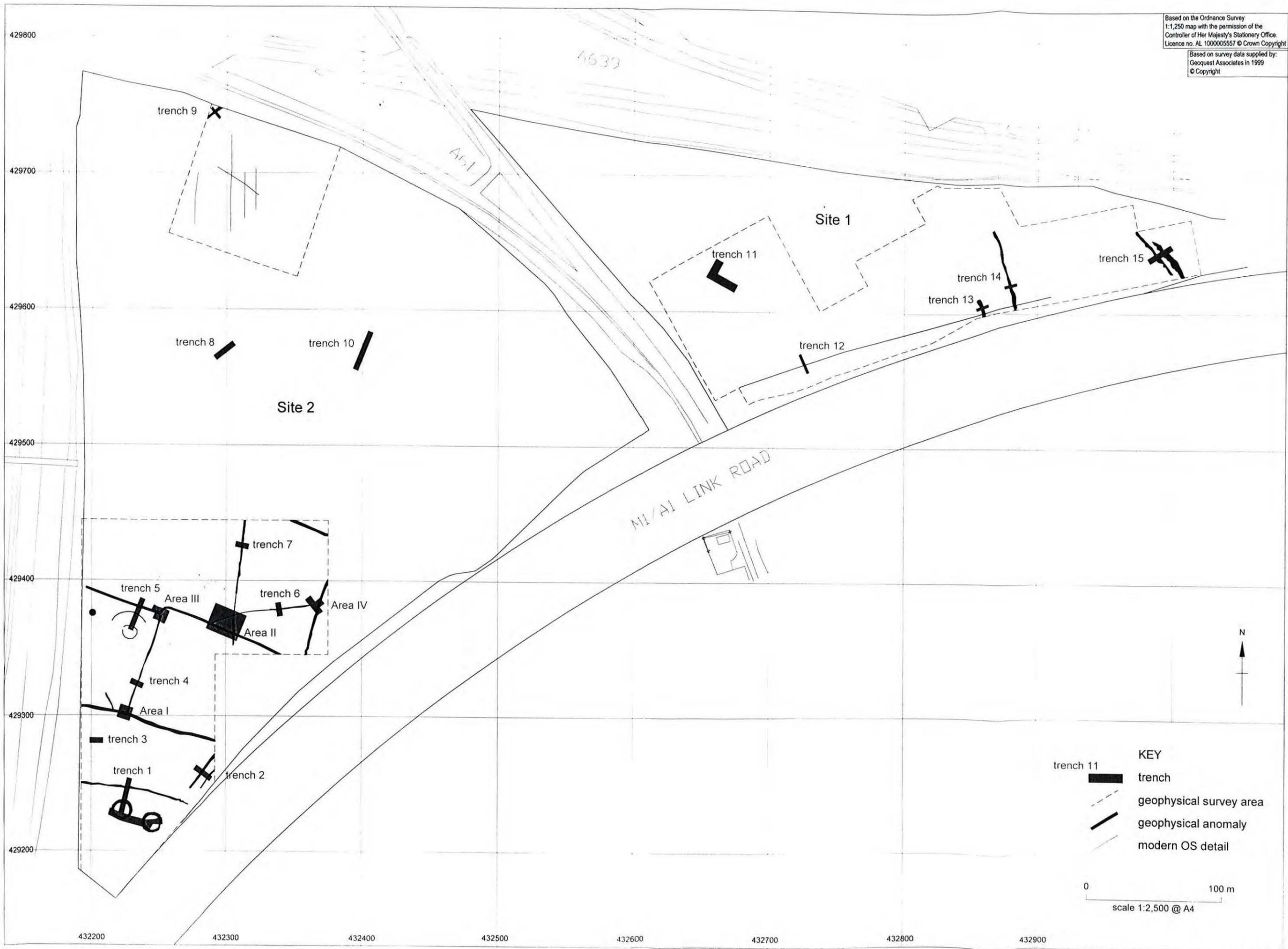


Figure 2 Roll Hill, Stoupton: trench locations

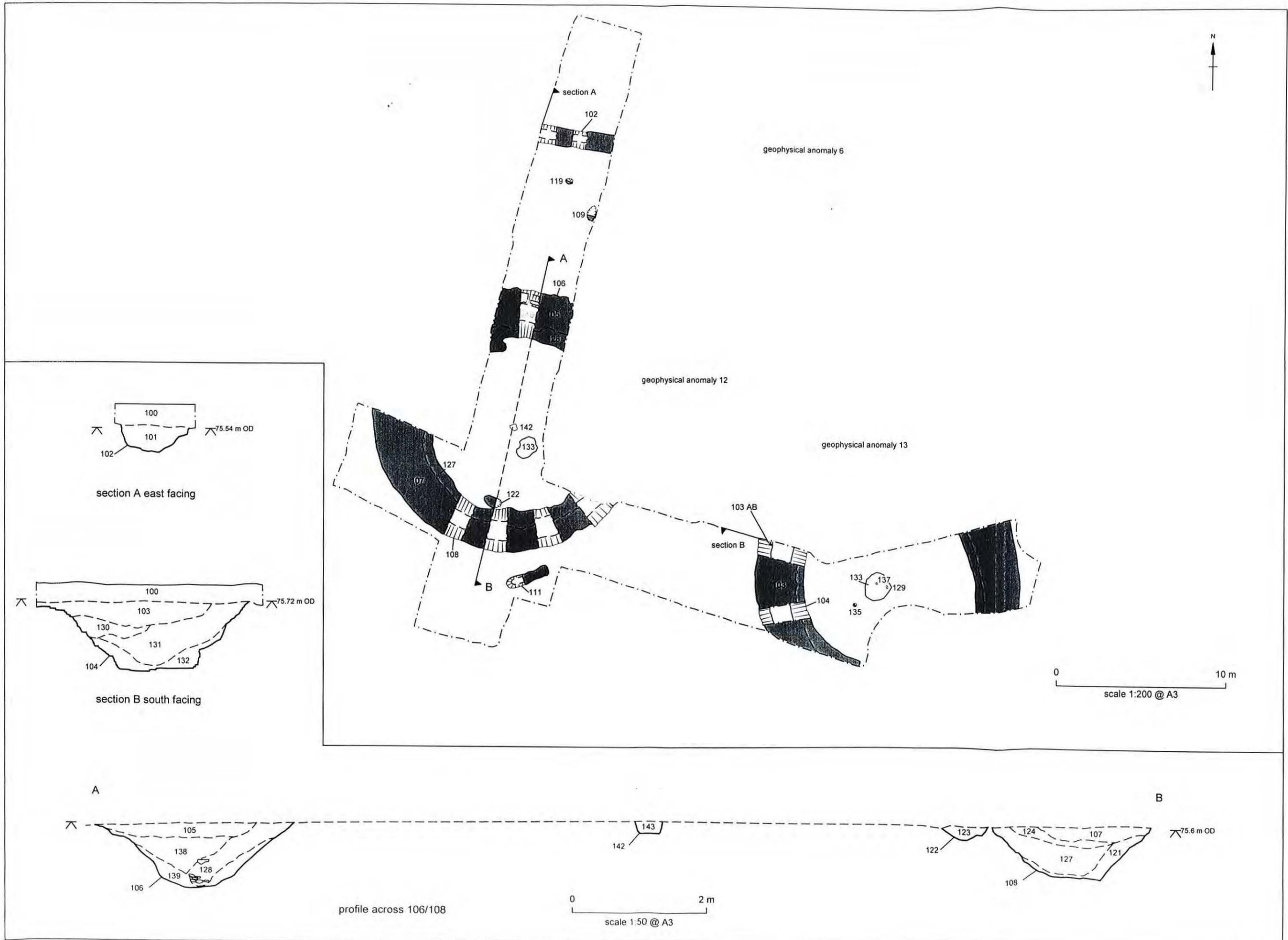


Figure 3 Bell Hill: Trench 1

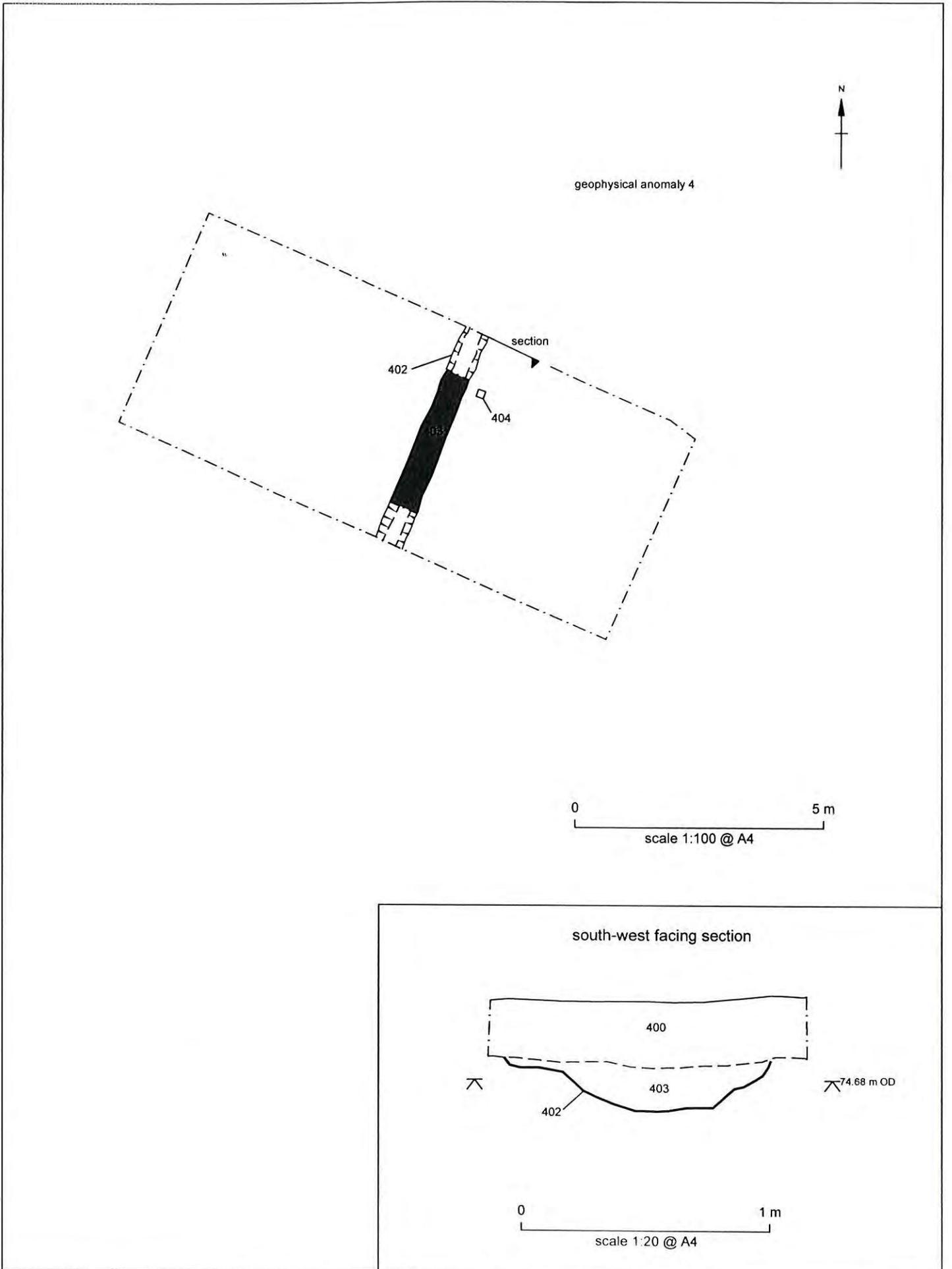


Figure 4 Bell Hill: Trench 4

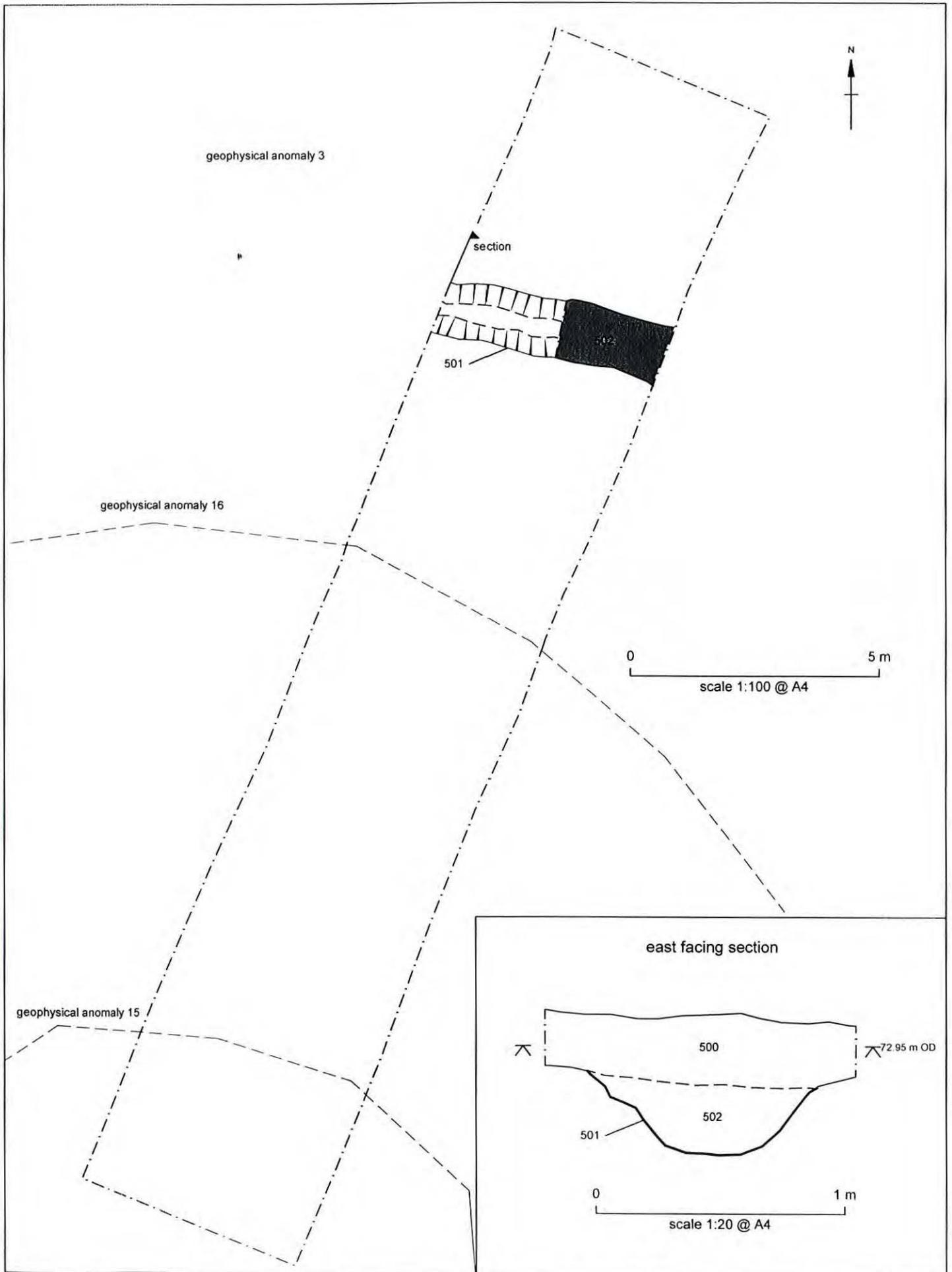


Figure 5 Bell Hill: Trench 5

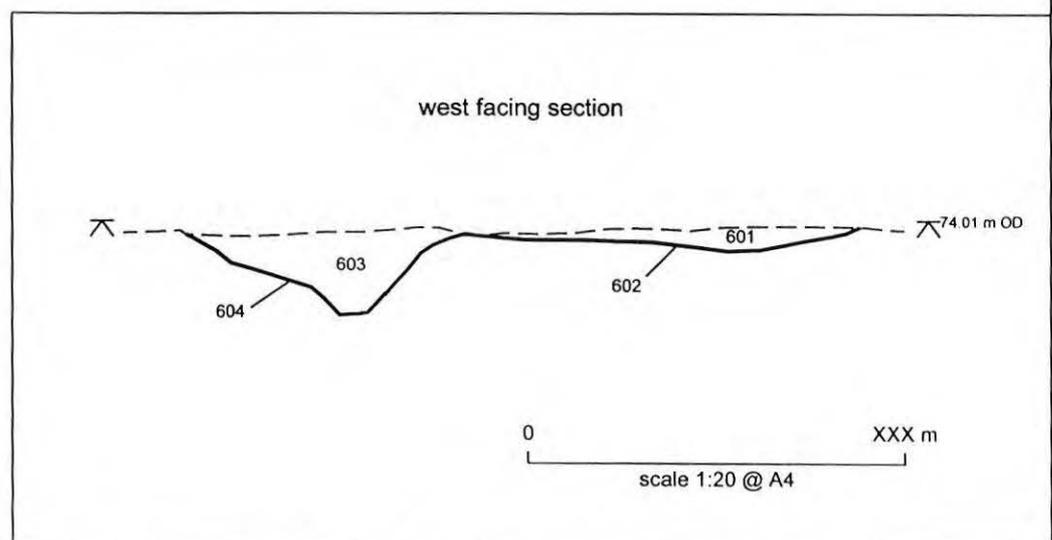
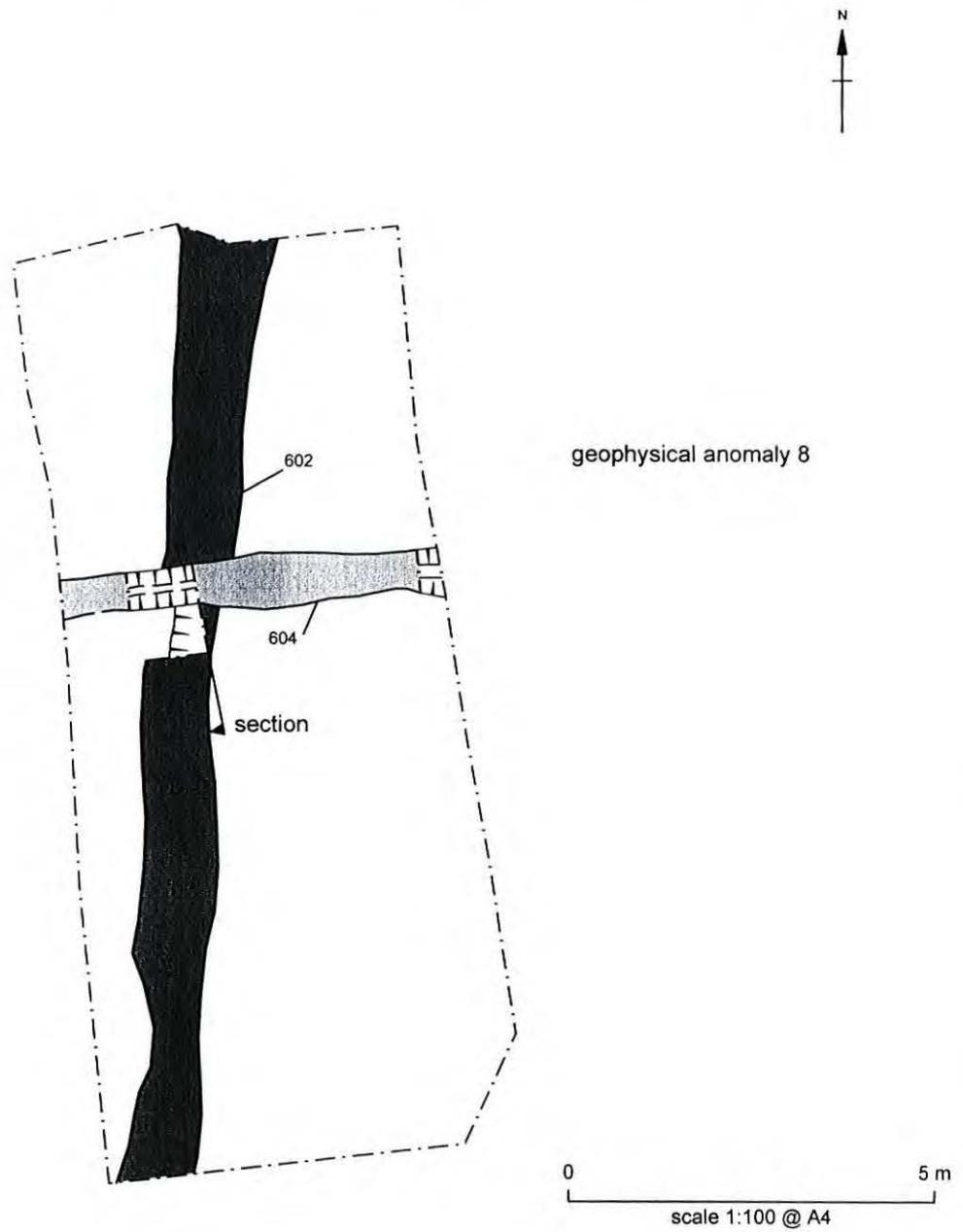


Figure 6 Bell Hill: Trench 6



geophysical anomaly 7

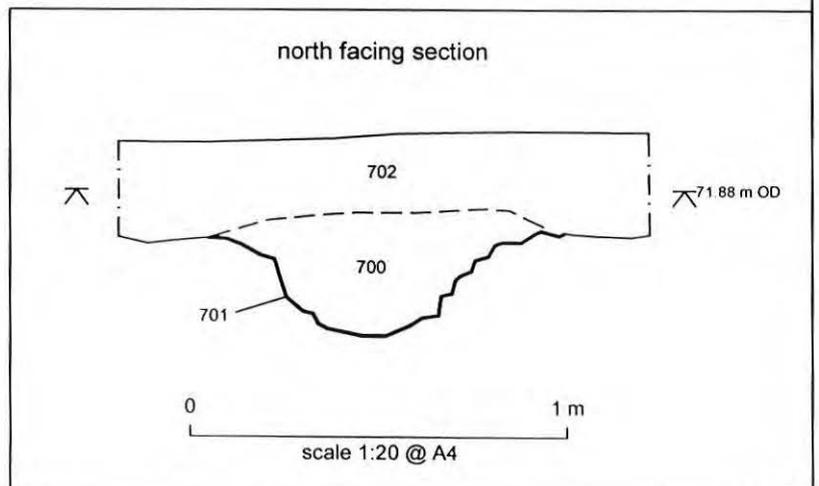
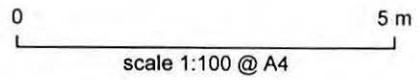
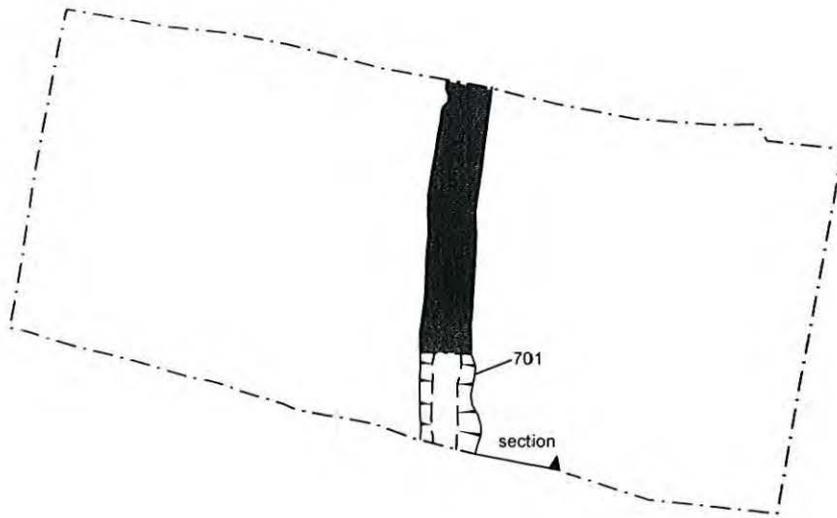


Figure 7 Bell Hill: Trench 7

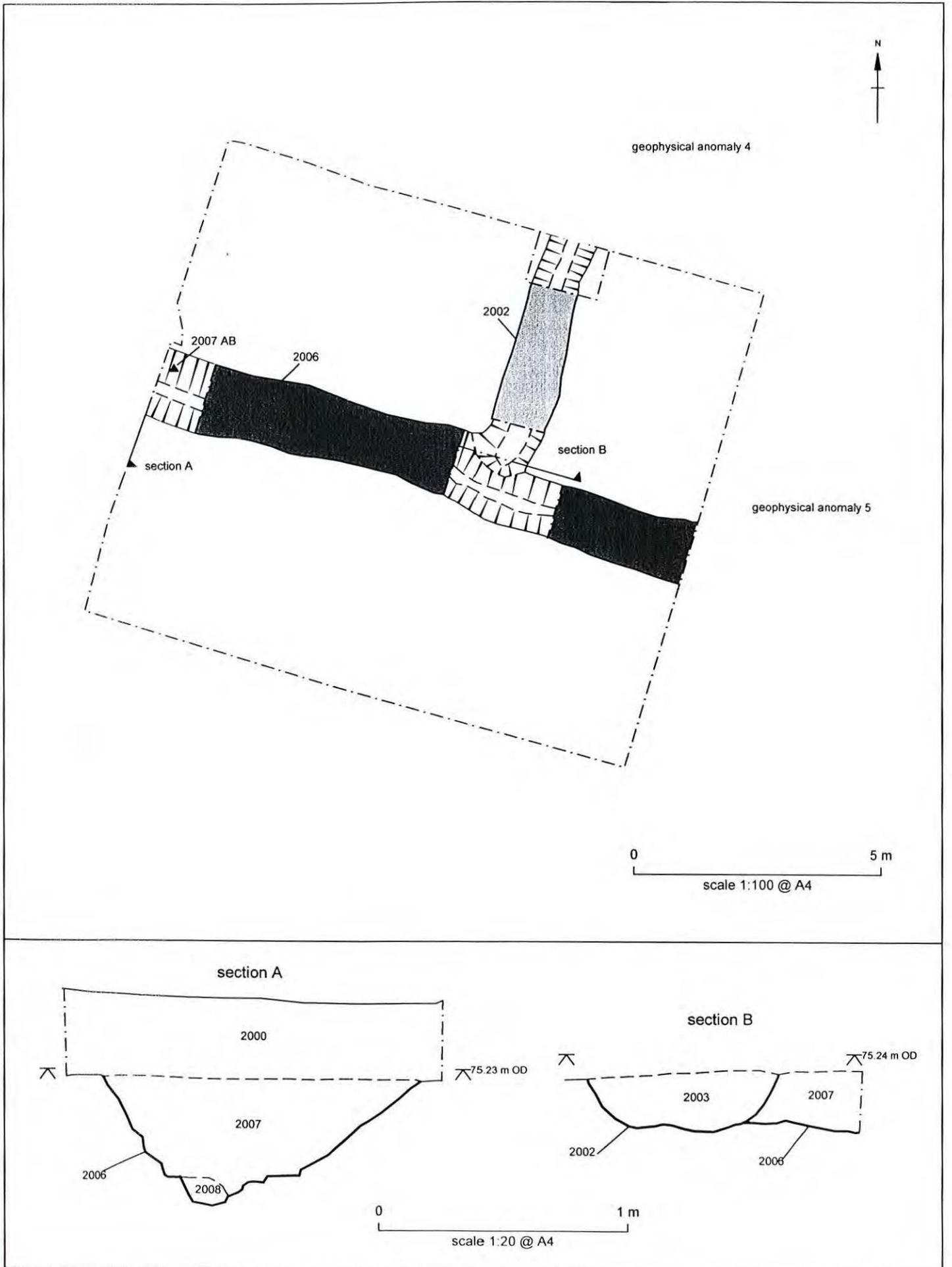


Figure 8 Bell Hill: Area 1

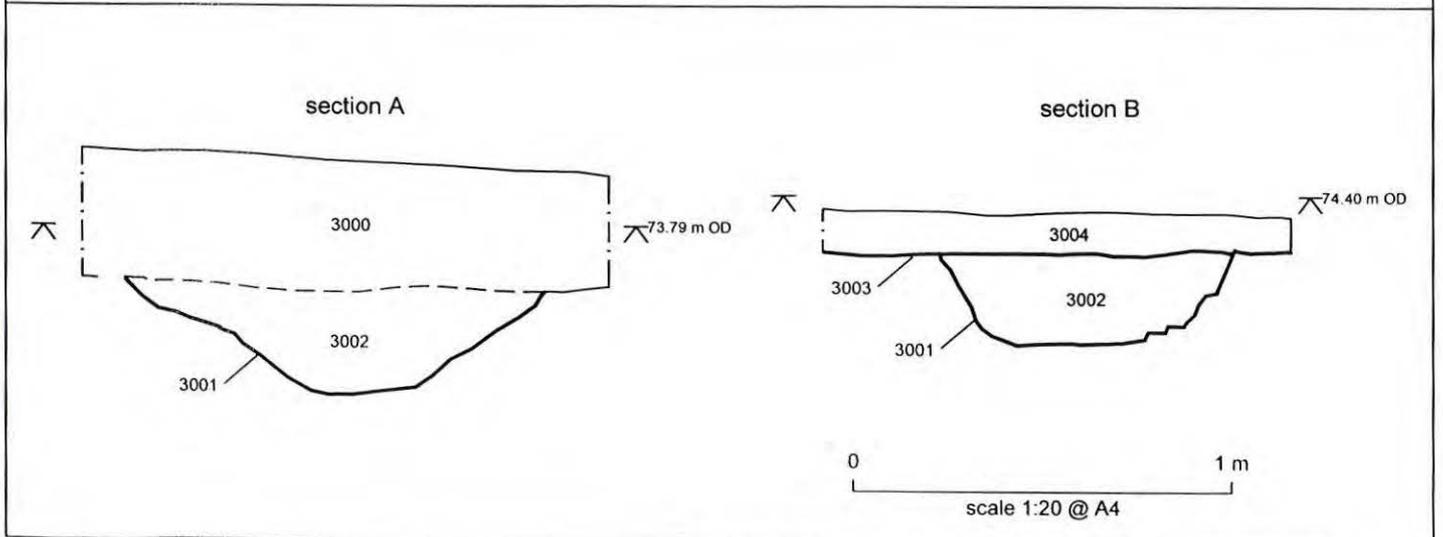
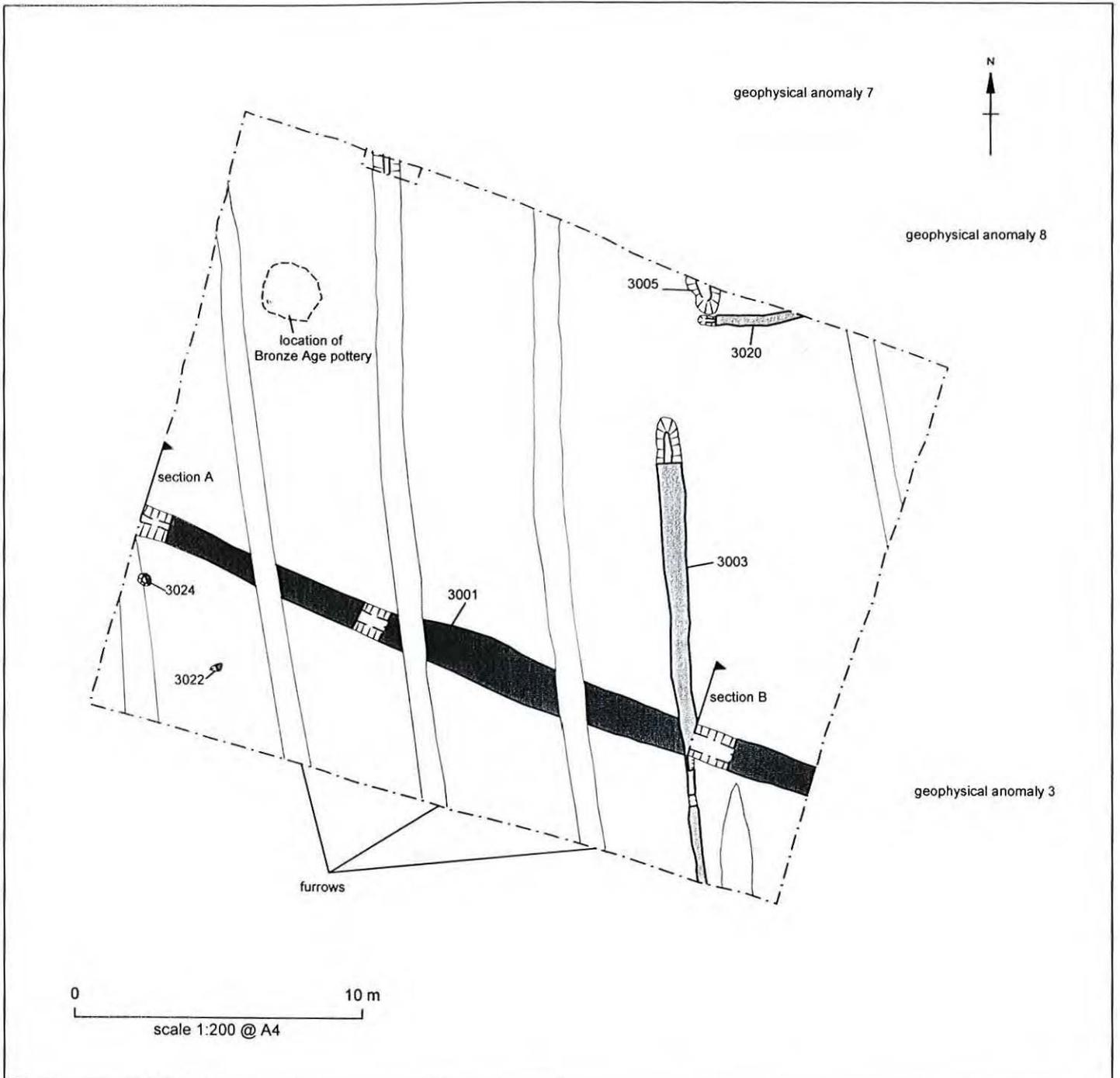


Figure 9 Bell Hill: Area 2

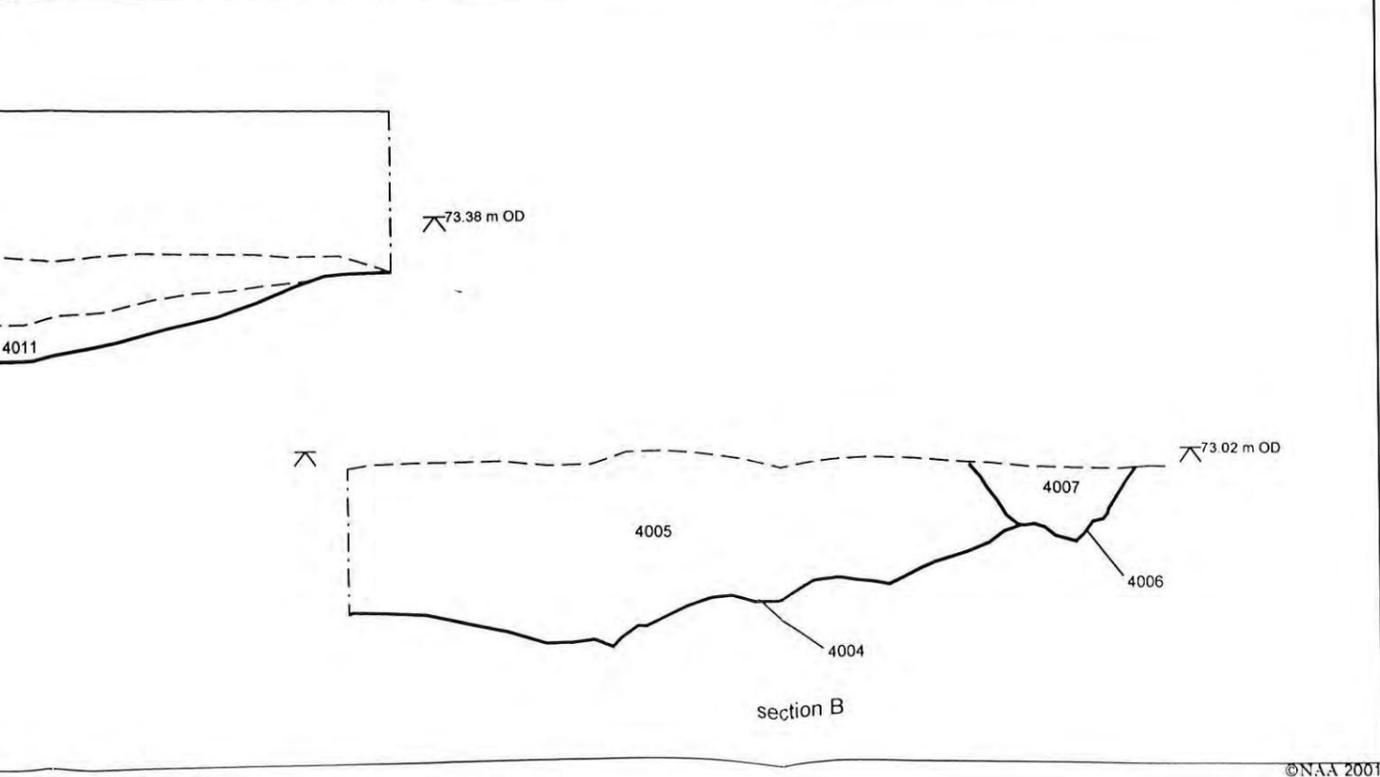
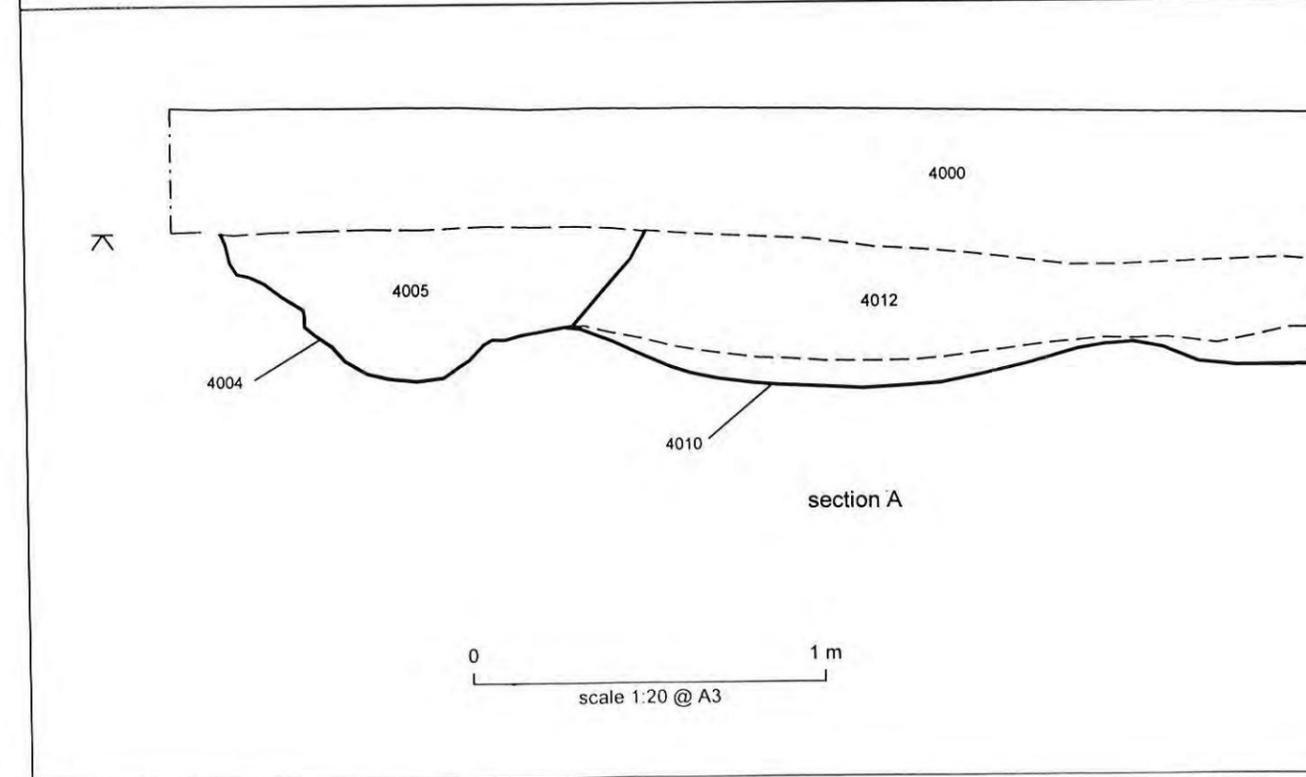
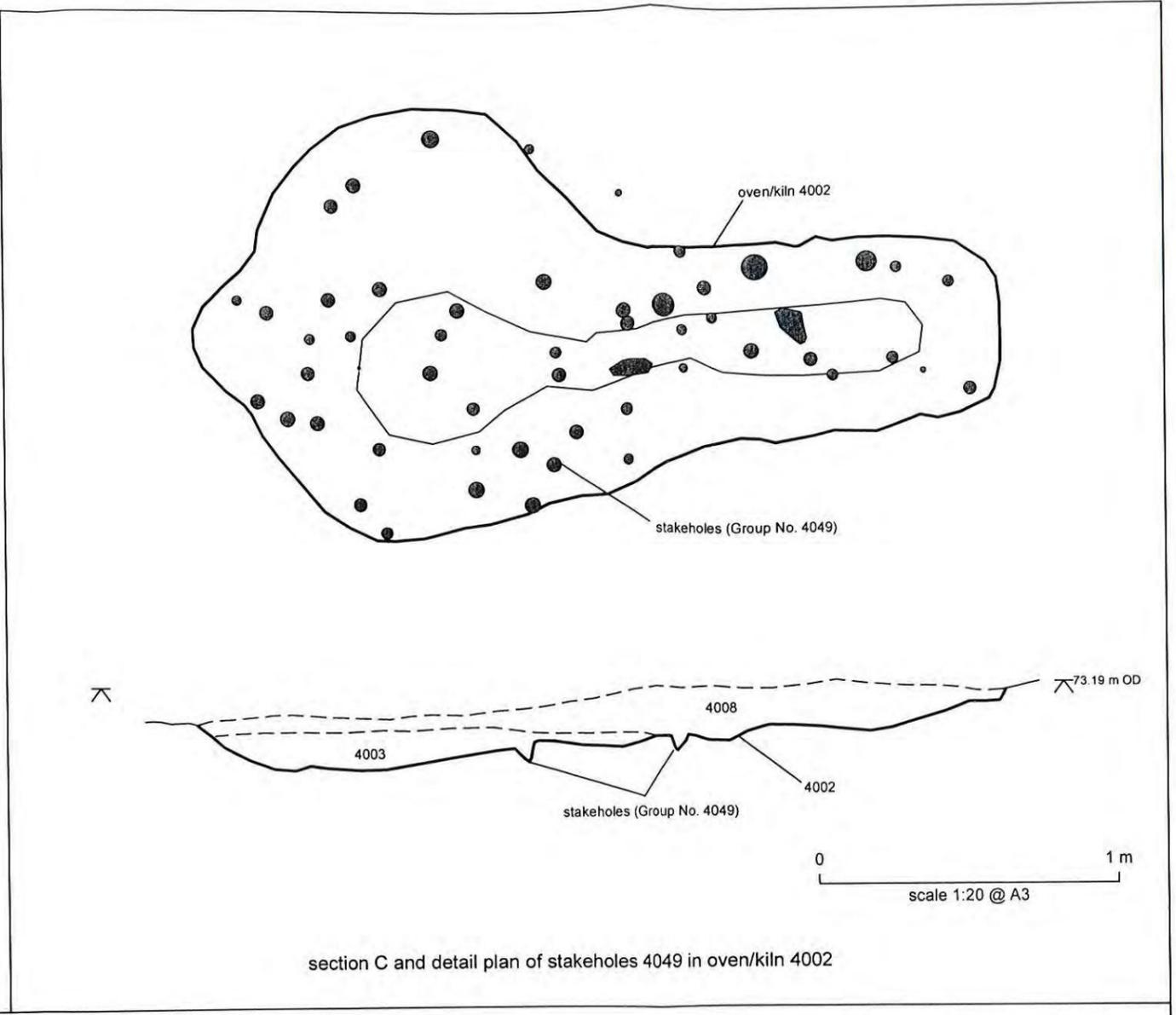
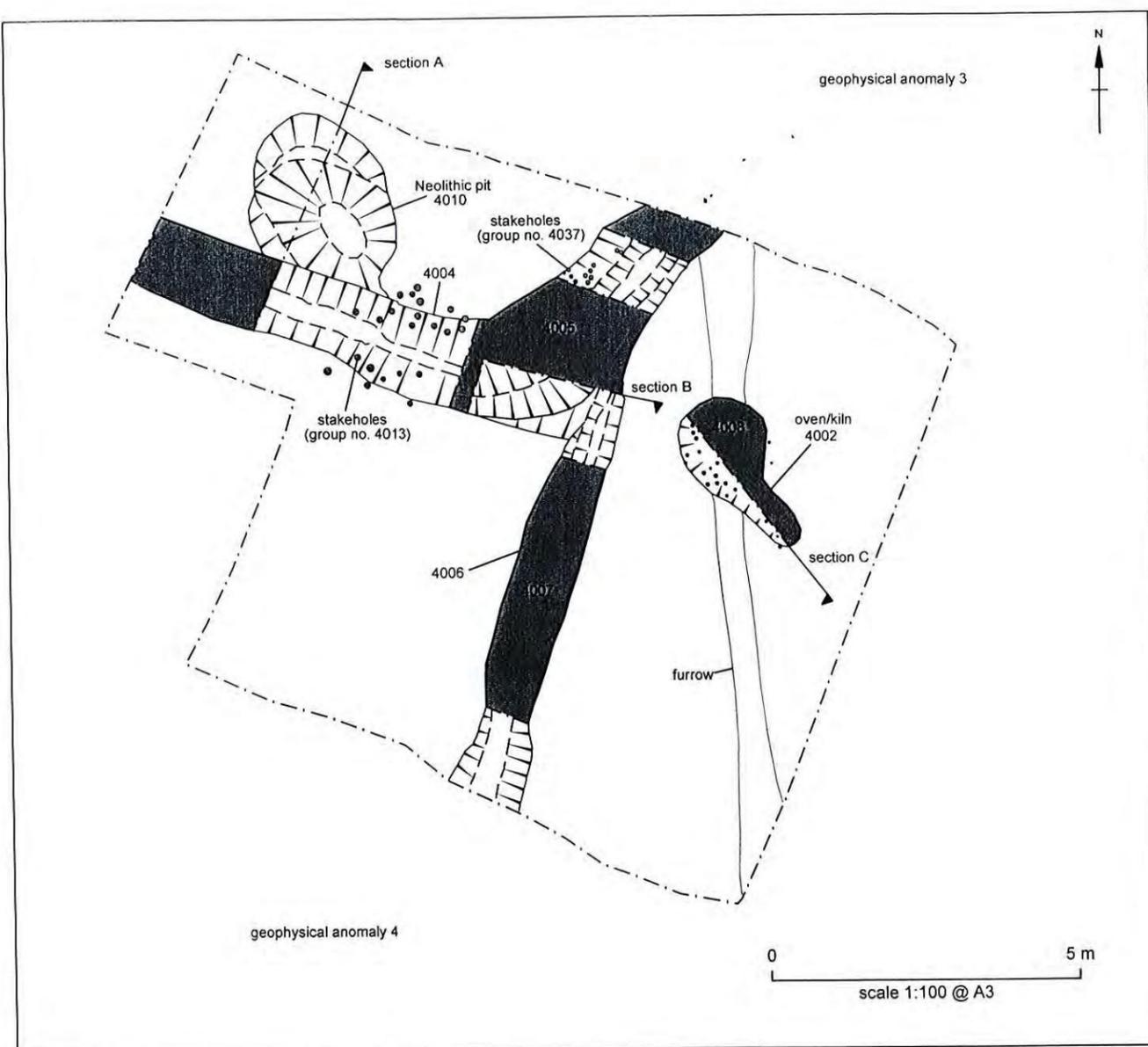


Figure 10 Bell Hill: Area 3

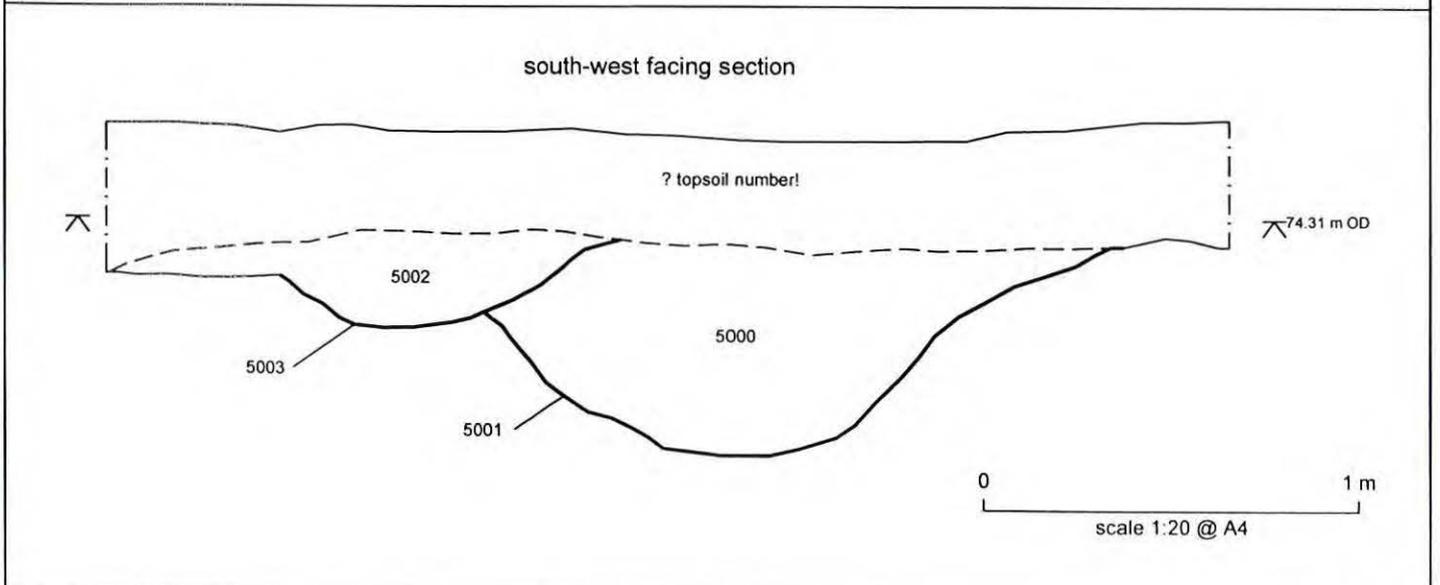
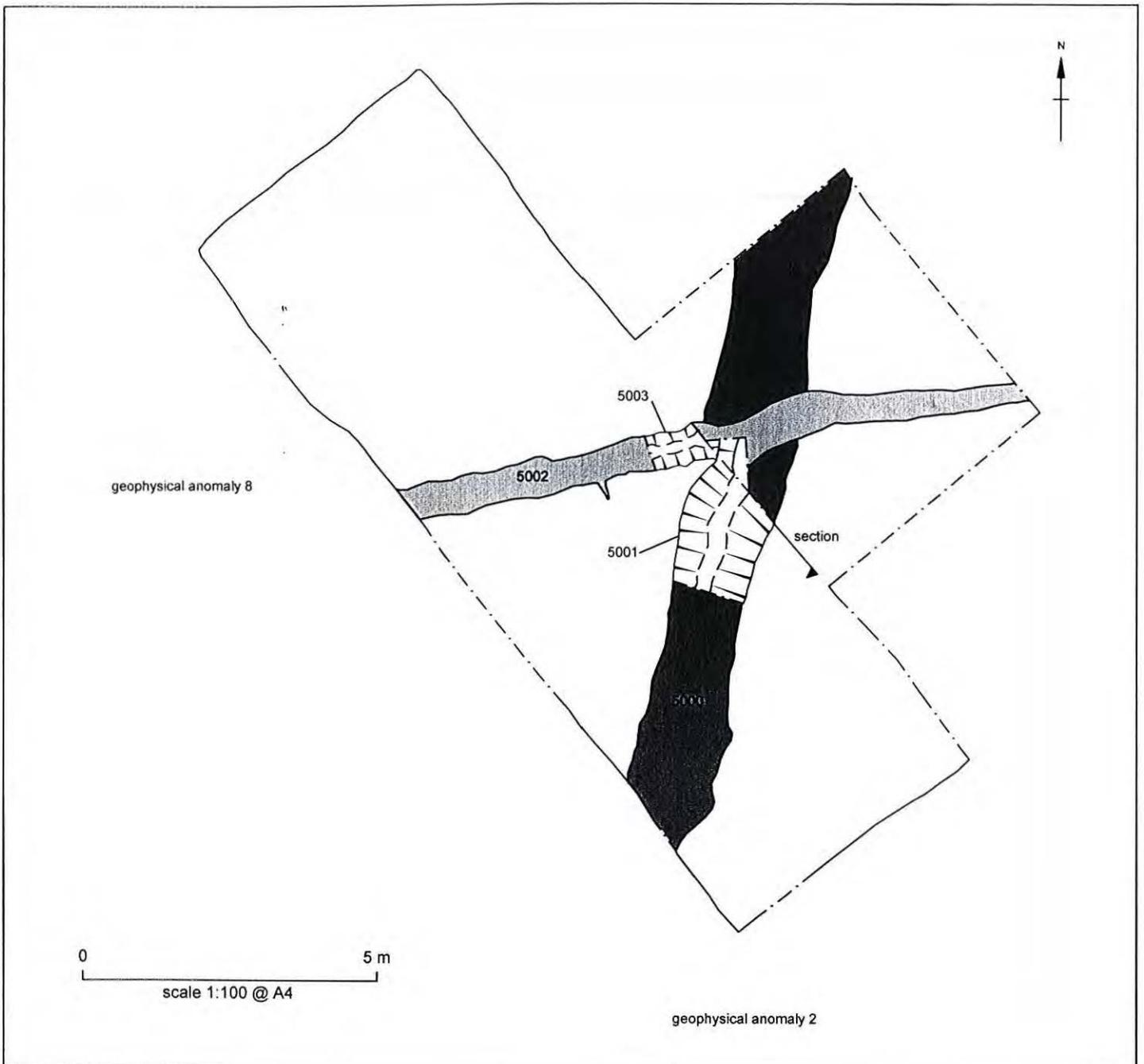


Figure 11 Bell Hill: Area 4

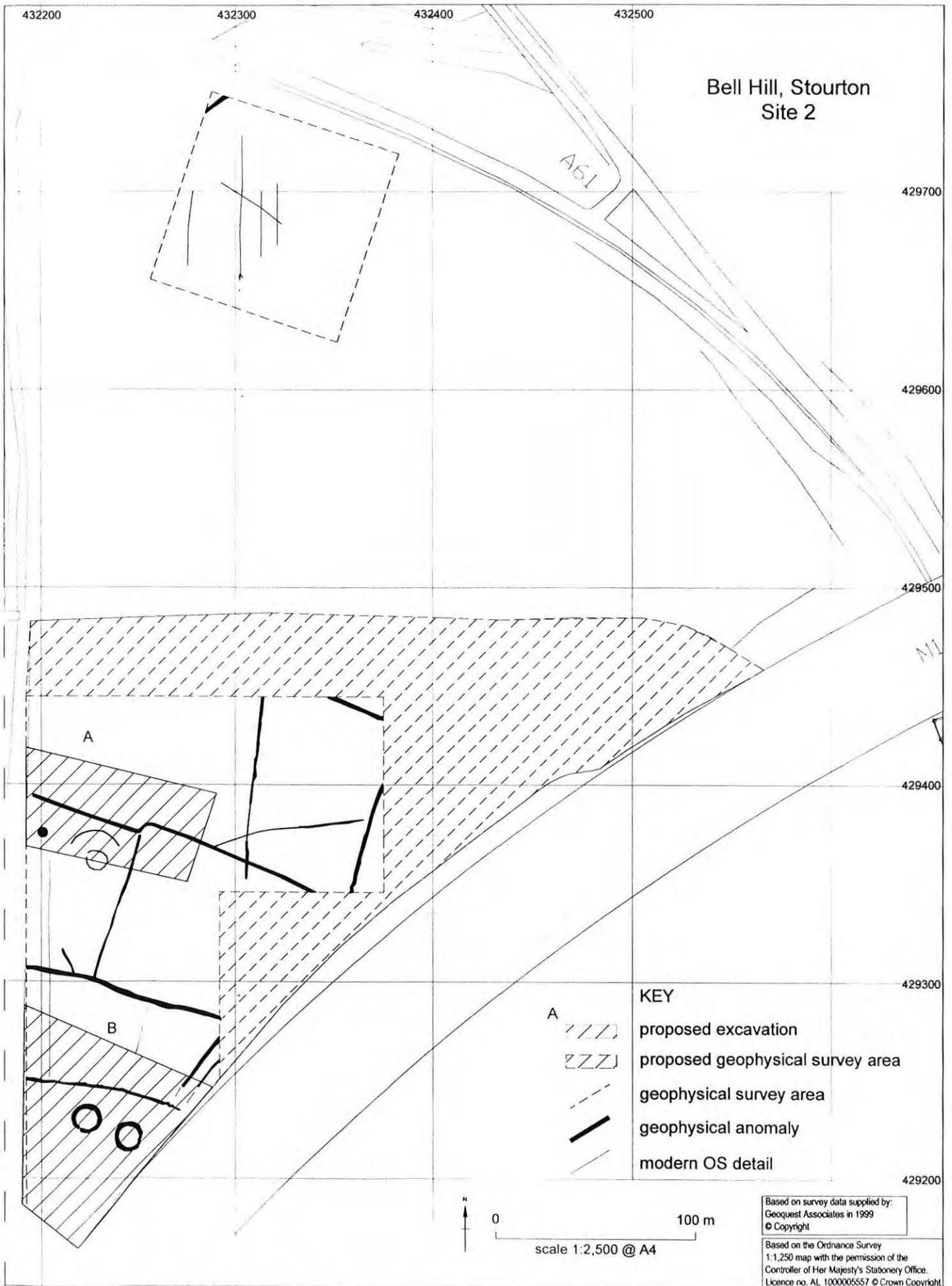
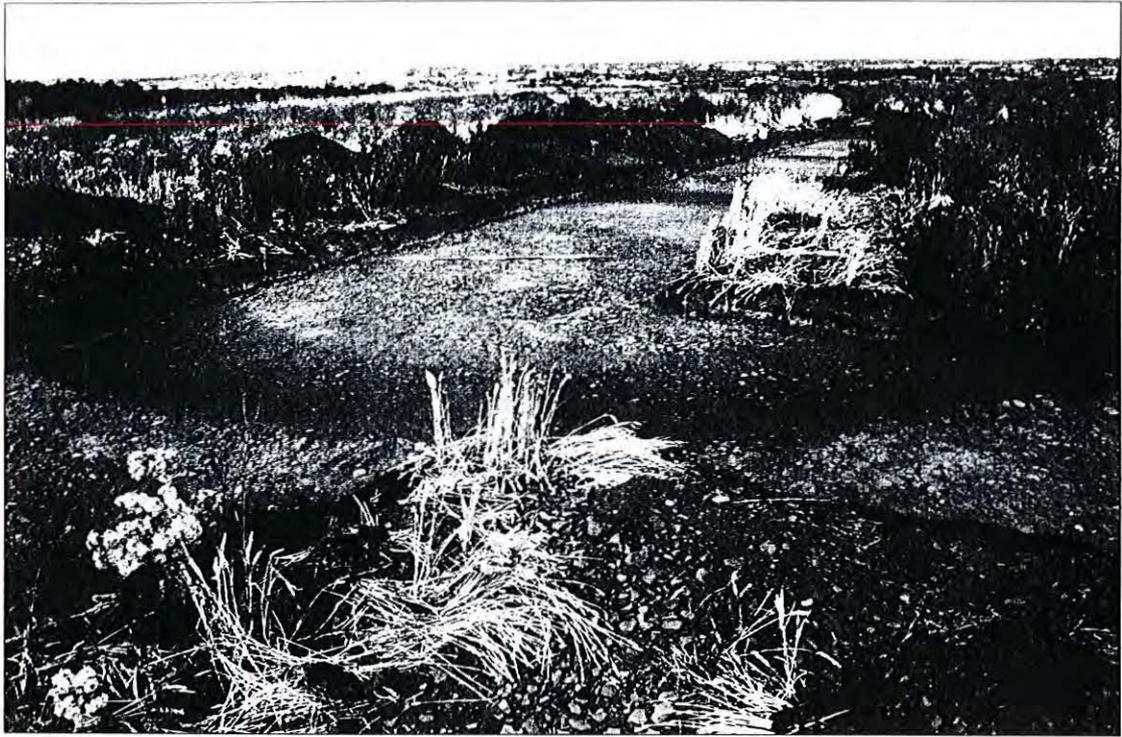
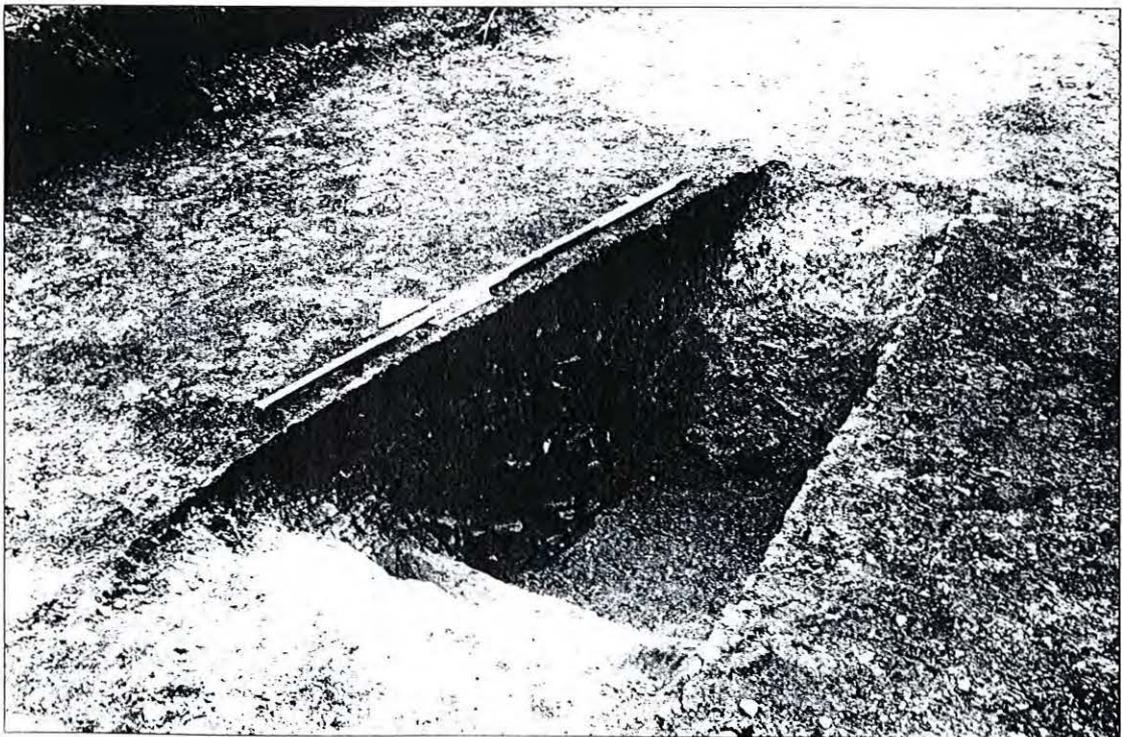


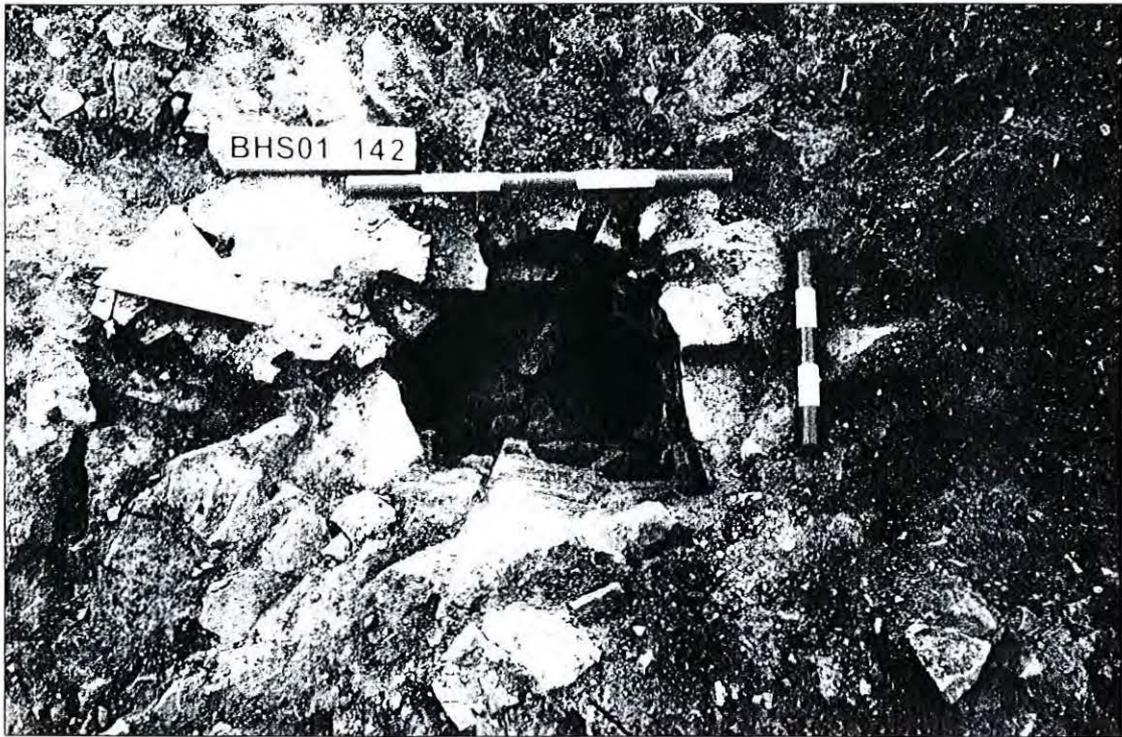
Figure 12 Bell Hill, Stourton: Areas of proposed additional geophysical survey and excavation



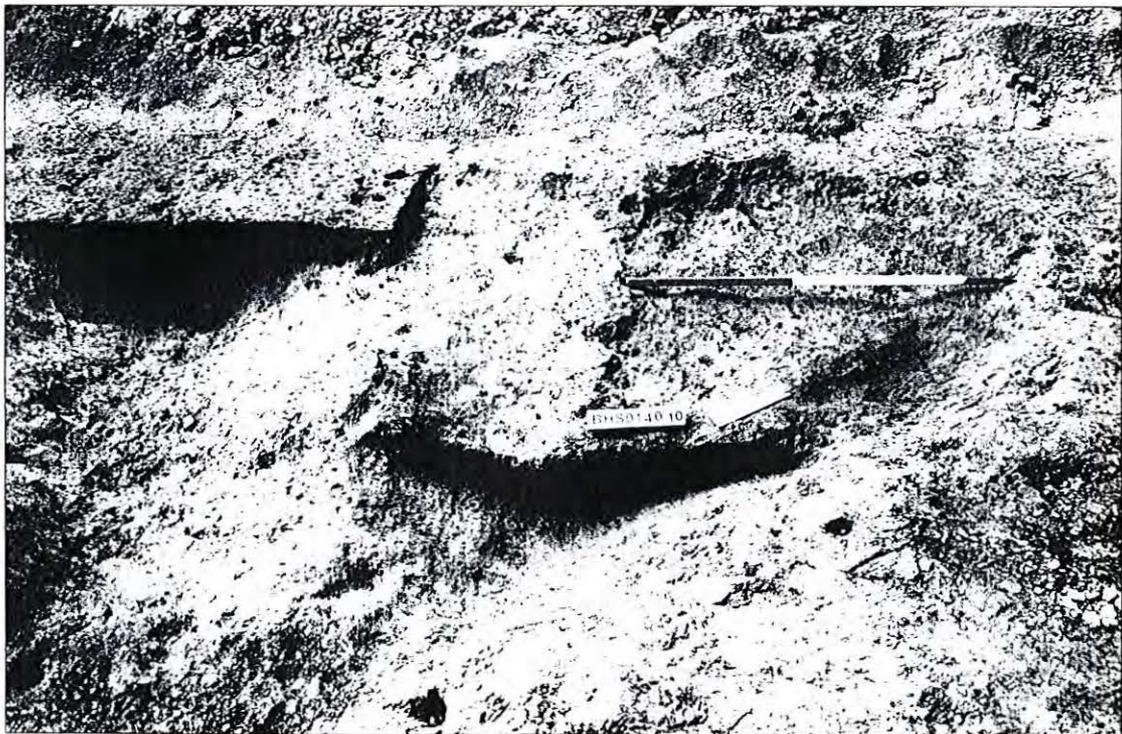
*Plate 1 General view of Trench 1 showing ring ditch 106, from the south*



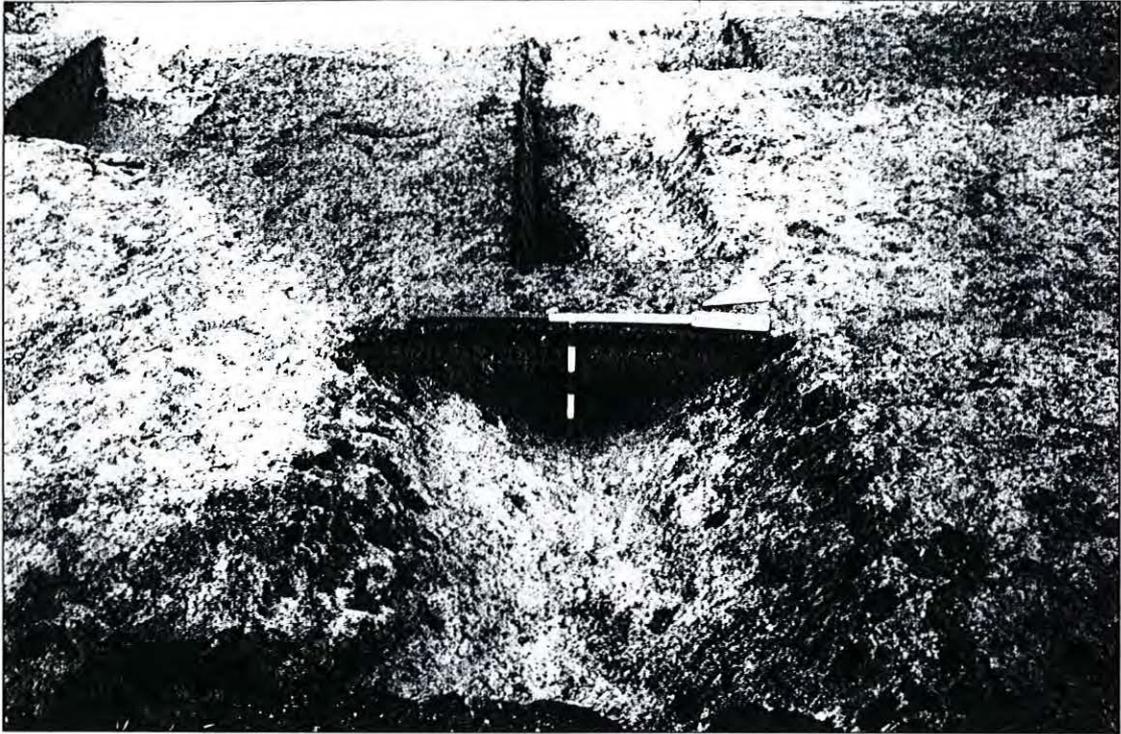
*Plate 2 Section across ring ditch 106, from the north*



*Plate 3 Cremation pit within ring ditch 106*



*Plate 4 Section across enclosure ditch (4004) and Neolithic pit (4010)*



*Plate 5 Intercutting enclosure ditches 4004 and 4006 showing stakeholes along the top of the ditch edges, from the west*



*Plate 6 Excavated kiln 4002, from the south-east*