

Archaeological Services & Consultancy Ltd

**ARCHAEOLOGICAL EVALUATION:
LAND AT WAKERLEY,
NORTHAMPTONSHIRE**

Volume 1: The Trial Trenches

*on behalf of
Burghley House Preservation Trust*



**By
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May 2007

ASC: 698/WKM/3 vol 1

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Plate 1: General view of the extension to Trench 63, showing furnaces prior to excavation. Plough scar in foreground

Site Data

<i>ASC project code:</i>	WKM	<i>ASC Project No:</i>	698
<i>Event No:</i>	N/a	<i>Accession No:</i>	
<i>County:</i>	Northampton		
<i>Village/Town:</i>	Wakerley		
<i>NGR (to 8 figs):</i>	SP 946 980		
<i>Present use:</i>	Agricultural		
<i>Planning proposal:</i>	Mineral extraction		
<i>Planning application ref/date:</i>	Pre-planning		
<i>Local Planning Authority:</i>	East Northamptonshire		
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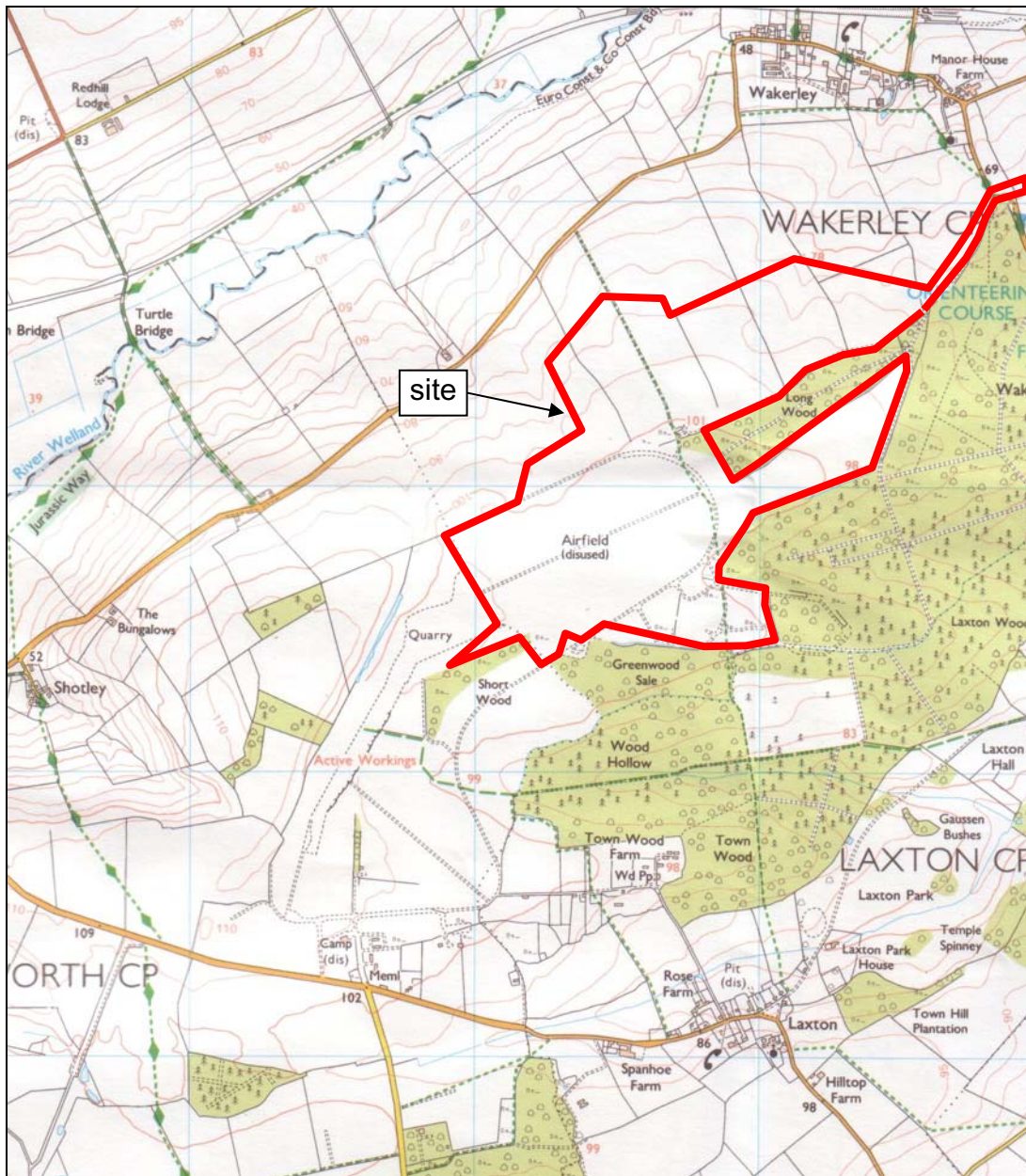


Figure 1: General location (scale 1:25,000)

Summary

In the summer and autumn of 2005 Archaeological Services and Consultancy Ltd undertook a programme of archaeological trial trenching on land at Wakerley, Northamptonshire. Following earlier phases of desk-based assessment, fieldwalking and geophysical survey, one hundred and three trenches were excavated over an area of one hundred and two hectares.

The fieldwalking and geophysical survey had identified areas of high archaeological potential, and the trial trenching confirmed and further quantified and defined the extent of archaeological remains present. In general terms the site offers good archaeological potential and the focus of interest lies with the presence of Roman and Saxon iron smelting remains. Evidence for the industry was identified across the area and comprised groups of furnaces in the north part of the site and a number of linear features, interpreted as ore roasting pits, in the southwest and north east parts of the site.

A complex of late Iron Age or early Roman furnaces was identified in the north central part of the site. Roman agricultural activity, including corn dryers and enclosure ditches were present nearby, and a substantial quarry pit was also recorded. A programme of environmental sampling was also undertaken, which indicates that the Roman landscape was dominated by agricultural and domestic settlement.

Evidence for Saxon iron smelting was also identified. This was more dispersed than the Roman features and included a substantial complex adjacent to Wakerley Great Wood. A number of features identified as possible ore roasting pits/channel hearths and furnaces were present, sealed by a large deposit of slag. Further possible ore roasting pits were identified at the west end of the airfield and the northeast end of the site, adjacent to the wood.

A number of archaeological features in the north part of the site were obscured by colluvial deposits. The destabilising of the soil may have been the result of woodland clearance, due to the need for fuel for the smelting industry.

The south part of the site comprises part of a former Second World War airfield. Construction of the airfield has probably resulted in localised disturbance, but the survival of the 'ore roasting pits' on the southwest part of the airfield indicates that archaeological remains have survived the disturbance caused by the construction of the airfield. The north part of the site is less disturbed and preservation is generally better, although all parts of the site are currently being degraded through plough action. A modest assemblage of pottery and artefacts was recorded.

1 Introduction

- 1.1 Between August and October 2005 *Archaeological Services and Consultancy Ltd* (ASC) carried out the final fieldwork phase of an archaeological evaluation at Wakerley, Northamptonshire (NGR: SP 946 980; Fig. 1). This report presents the interim results of a programme of archaeological trial trenching and was commissioned by *Mineral Surveying Services* on behalf of the *Burghley House Preservation Trust*, and was carried out according to a *brief* (Flitcroft 2002) and *trenching strategy* (Flitcroft 2005), prepared on behalf of the local planning authority (LPA), *East Northamptonshire District Council*, by their archaeological advisor (AA), *the Historic Environment Team of Northamptonshire County Council*. The general strategy for the archaeological evaluation was defined in a *project design* prepared by ASC (Fell 2004).
- 1.2 *Planning Background*
 - 1.2.1 This evaluation was required under the terms of *Planning Policy Guidance Note 16* (PPG16), in response to proposals for minerals extraction.
- 1.3 *Location and Description*
 - 1.3.1 The proposal site is situated in Wakerley, in the administrative district of East Northamptonshire (Fig. 1). It lies to the south of the village of Wakerley, and follows the south slope of the valley of the river Welland.
 - 1.3.2 The proposal site comprises an irregular area of land totalling *c.*102ha and is bounded to the north by agricultural land facing onto an unclassified road linking Wakerley with the village of Harringworth. An area of woodland, known as *Wakerley Great Wood* borders the south side of the site, and a disused limestone quarry forms the western limit of the site (Figs. 1 and 2).
- 1.4 *Geology and Topography*
 - 1.4.1 The proposal site is in a rural location and the natural soils survive across the site. These comprise predominantly the *Elmton 1 Association*, namely shallow calcareous soils over Jurassic limestone (Soil Survey 1983). Some *Ragdale Association*, comprising clayey and fine loamy soils may also be present. The site is essentially flat and lies at an elevation of *c.*100m. Land on the northern periphery slopes down to the north to form the valley of the river Welland.
- 1.5 *Existing Buildings and Access*
 - 1.5.1 Access to the proposal site is from the north, via a track surfaced with tarmac and concrete. Two brick structures are situated in the centre of the site, adjacent to Long Wood (section see 5.2.3) and a portacabin type building used by model aeroplane enthusiasts is situated towards the west end of the site.

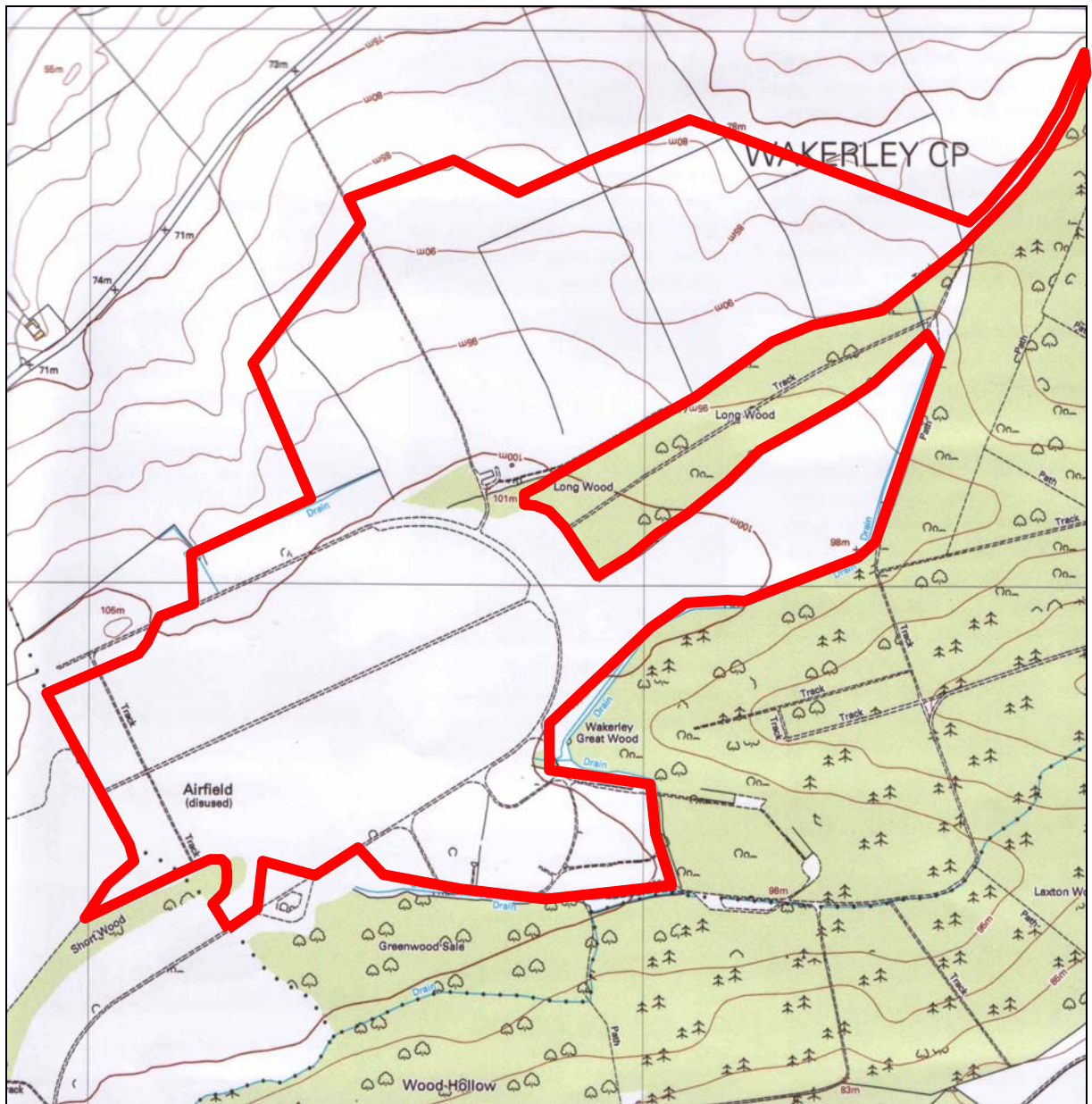


Figure 2: Site plan (scale 1:12,500)

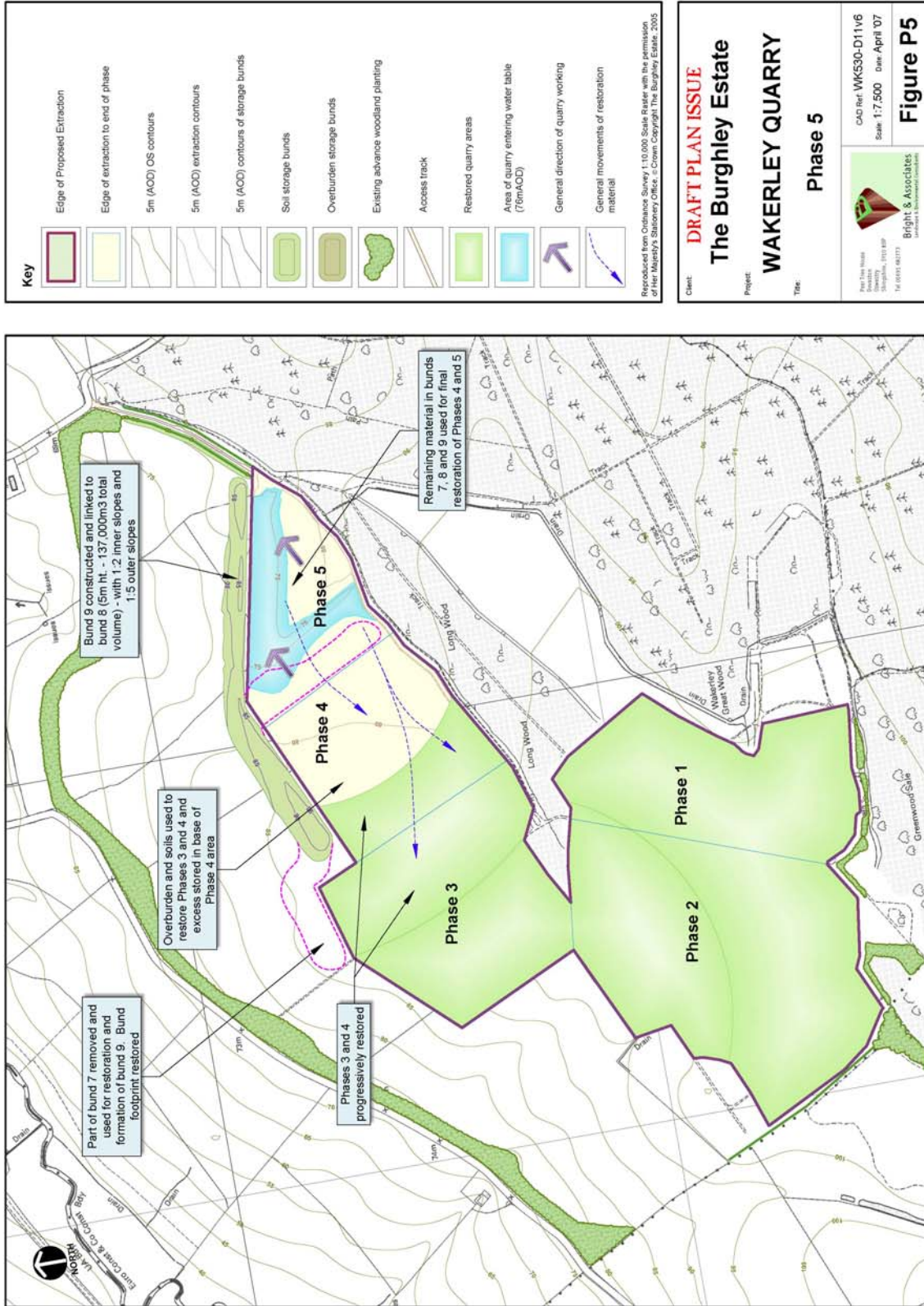


Figure 3: Plan of the proposed extraction programme

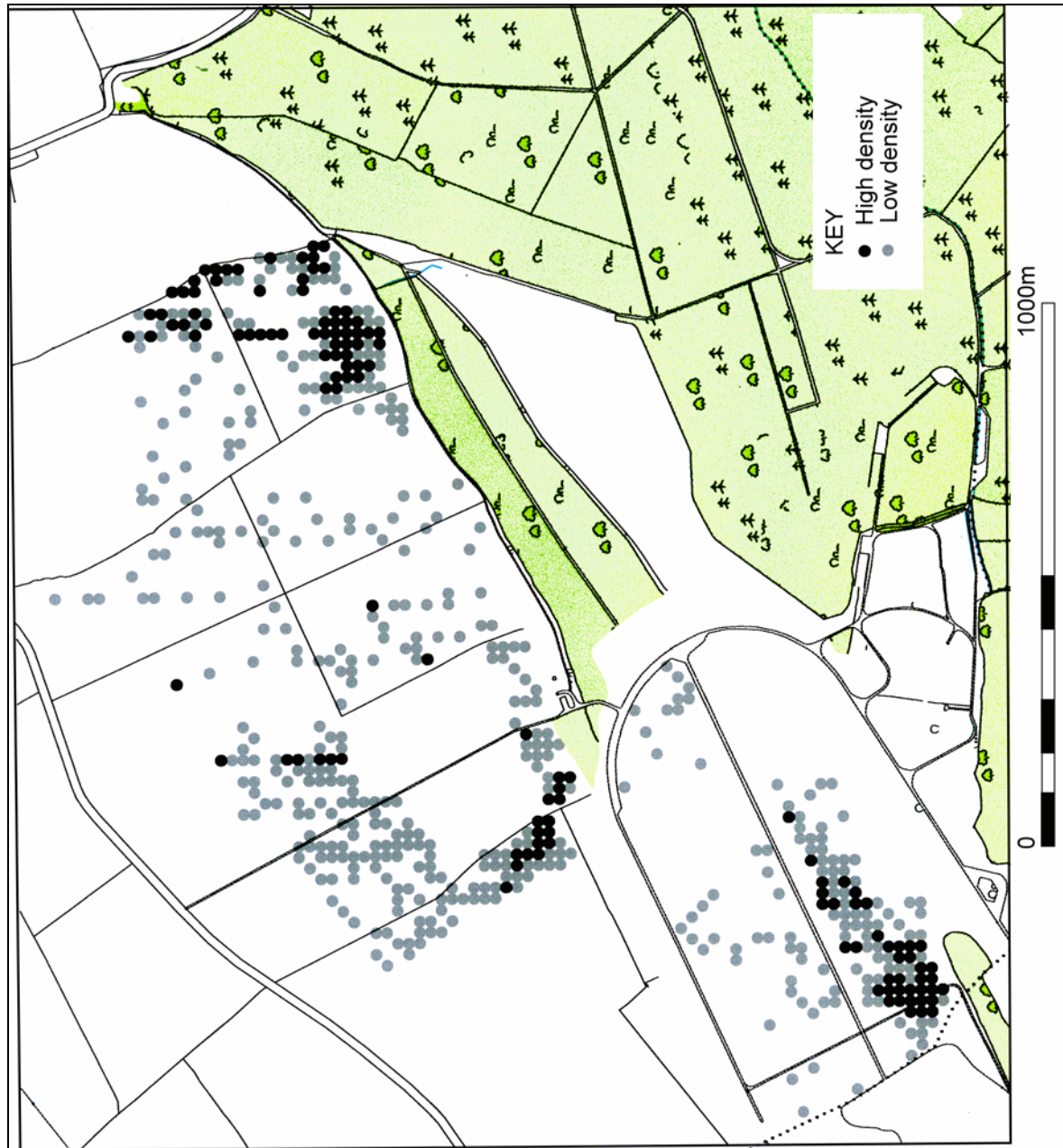


Figure 4: Distribution of slag recorded during fieldwalking in autumn 2004



Figure 5: Interpretation of Geophysical Survey Results

2 Aims and Methods

2.1 Aims

As described in the *brief* (Section 2), the aims of the evaluation were:

- to determine the extent to which archaeological remains survive on the site
- to establish the date, extent, character and state of preservation of any such remains

The detailed aims of the trial trenching were defined in the *trenching strategy* (Flitcroft 2005), which required:

- Establishment of the date, scale and nature of the iron smelting industry
- To establish the nature of enclosures and linear features identified in the geophysical survey and aerial photographs
- Investigation of the larger sinuous linear features identified in the geophysical survey
- Examination of features and slag concentrations identified in the desk-based assessment and fieldwalking
- Random trenching of non-surveyed areas to define the presence or absence of archaeological features in these areas

2.2 Standards

The work conformed to the requirements of the *brief*, *project design*, to the relevant sections of the Institute of Archaeologists' *Standard & Guidance Notes* (IFA 2001) and *Code of Conduct* (IFA 2000a) *Policy and Guidance for Archaeological Fieldwork projects in Northamptonshire*, and to the relevant sections of ASC's own *Operations Manual*.

2.3 Methods

The general methodology for the trial trenching was carried out according to 3.4 of the *brief* (Flitcroft 2002), which required:

- Trial trenching up to a maximum of 8000 square metres
- The detailed strategy and layout of the trenches to be informed by the results of the desk-based assessment, fieldwalking and geophysical survey.

The detailed methodology for the trial trenching was undertaken according to the strategy defined in the *trenching strategy* (Flitcroft 2005), which required:

- A combination of linear trenches to investigate area spreads and 5m x 5m test pits (or larger)

2.4 Constraints

2.4.1 No major constraints were encountered during the works and the majority of the trenches were situated in their stated locations and the features within them excavated according to the project design.

2.4.2 Trenches 1 and 2

Trenches 1 and 2 were intended to be situated at the west end of the site. Upon closer examination the locations of these trenches was seen to be on land reclaimed from the former quarry to the west and accordingly these trenches were not excavated.

3 Archaeological and Historical Background

- 3.1 Wakerley is an area of considerable archaeological and historical importance (RCHM 1984, 151-155; Rhodes 1994) and a full account of the archaeological and historical background was provided in the desk-based assessment (Fell 2003). The site has the potential to reveal evidence of a variety of periods, but the focus of interest is likely to lie in the Iron Age to Saxon periods.
- 3.2 *Early Prehistoric (Palaeolithic to Bronze Age) (before 600BC)*
- 3.2.1 The Welland valley is of considerable importance for the study of the early prehistoric period but remains of this period are not currently known from the site. However, its potential to reveal such remains was demonstrated by a fieldwalking survey (Sites and Monuments Record (SMR) 9495), which produced prehistoric flints from an area adjacent to the northern edge of the site.
- 3.3 *Iron Age (600BC-AD43)*
- 3.3.1 The higher ground on the south side of the river valley was settled during the Iron Age and a number of sites of this period have been recorded in the area. An important Iron Age settlement has been recorded close to the northern boundary of the proposal site (SMR 3097/2; Jackson & Ambrose 1978, fig. 4), comprising enclosures and traces of circular buildings. The settlement may have been extensive as further enclosure ditches, structures and pits of this period have been recorded 500m to the southwest, just beyond the west boundary of the proposal site (Jackson 1981).
- 3.3.2 A number of cropmarks have been identified in the northern part of the site (Fell 2003- Enclosures A & B: Myk Flitcroft *pers comm*). These have not been dated, but may be Iron Age or Roman date.
- 3.4 *Roman (AD43-c.450)*
- 3.4.1 The Iron Age settlements continued to be occupied during the Roman period and the landscape developed during the early first millennium AD. The Iron Age settlement beyond the north side of the site expanded during the Roman period (Jackson & Ambrose 1978, fig. 5) when a new enclosure containing a pottery kiln and a barn was constructed on the south side of the Iron Age enclosure. Roman pottery sherds have been identified between the northern site boundary and the Wakerley-Harringworth road (SMR 3089) and an additional site has recently been identified close to this scatter (SMR 9498- Alison Smith *pers comm*)
- 3.4.2 Roman occupation continued west from the latter site and a substantial masonry building was recorded c.500m to the west during quarrying operations (Jackson 1981, fig. 8). It comprised a rectangular structure of two phases and was associated with further enclosure ditches and furnaces.
- 3.4.3 The SMR includes a number of references to iron smelting furnaces. These were generally recorded during quarrying operations on the west side of the

proposal site (e.g. SMR 3097/2/2, 3097/2/3, 3097/2/4, 3097/2/5, 9375). A concentration was recorded in the northwest part site during earlier fieldwalking (SMR 9497) while a further spread is present on the east side, close to Wakerley Great Wood (SMR 9499). Although undated, some may be dated to the Iron Age and Roman periods. Roman period settlements of the type recorded at Wakerley have been found at a number of other locations in the Welland valley, and Branigan has emphasised the significance of iron smelting and pottery production to the economy of the area (Branigan 1987, 132-4).

3.5 Saxon (c.450-1066)

3.5.1 The Wakerley area was occupied during the Saxon period. Settlement of this period in the area is difficult to identify, but the present village of Wakerley may have originated during this period. The place name Wakerley may be derived from 'wacor' meaning 'watchful' (over the Welland?) and 'leah' meaning 'valley' i.e. 'watchful due to its location above the valley' (Gover *et al* 1975). The original village may have been situated on the east side of the existing settlement, close to the later parish church (RCHM 1984, 151). A Saxon cemetery was excavated in 1968 in advance of quarrying c.300m northwest of the proposal site (SMR 3097/1). The settlement associated with this cemetery has not been located.

3.6 Medieval and post-medieval (1066-1900)

3.6.1 Wakerley is included in the Domesday survey (1086), where it is referred to as *Wacherlei*. The land was held by *Eudo son of Hubert* and was valued at 100 shillings (Morris 1979). The village probably expanded during the 11th and 12th centuries and the parish church of St John the Baptist was probably constructed during this period (Pevsner and Cherry 1973, 440). The medieval and later manor house was situated to the north of the church (RCHM 1984, fig. 193) and a stone bridge was constructed over the river during the medieval period (Pevsner and Cherry 1973, 440).

3.6.2 Wakerley was enclosed in 1749 and it is likely that the field boundaries and hedgerows currently in existence to the north of the proposed development area were laid out as a result of the enclosure. The first edition 6" Ordnance Survey map was published during the 1880s and shows the site and the surrounding area in considerable detail. The higher land at the top of the river valley largely comprised the parkland of Long Wood and Wakerley Great Wood. A number of clearings are present within the woodland, which may have been created during the late 18th or early 19th centuries, perhaps as part of the enclosure of the parish.

3.6.3 The present (2003) northeast boundary of Long Wood had been established by the 1880s. The area to the north of the site comprised open land, divided up into arable fields. The field boundaries largely follow their present layout and comprise rectangular or square plots, created as a result of 18th century enclosure of the area.

3.7 Modern (1900-present)

- 3.7.1 The woodland to the south of the proposal site was largely unchanged since the late 19th century but minor modifications had been made to the field boundaries to the north of the proposal site.
- 3.7.2 The quarrying of ironstone has probably taken place in the Wakerley area since the Iron Age or Roman periods (section 2.4, above), but the area was worked on a large scale during the 20th century, notably to the south and west of the proposal site.
- 3.7.3 The area changed radically in 1943 when an airfield was constructed (Smith 1998, 202-211: Plate 2). Construction of the runways necessitated the removal of much of Long Wood and Short Wood and the field boundaries on the north side of the woods were moved to the north to accommodate the perimeter road. The airfield was officially known as Spanhoe and three separate runways were constructed to the west of, and partially within the proposal site and the main buildings were situated east of the minor road between Haringworth and Laxton, c.1km west of the site. The airfield remained in use until 1947 and a number of buildings and a stretch of one of the runways survive to the west of the proposal site.
- 3.7.4 The area probably remained as open land during the 1950s and early 1960s and may partially have reverted to agricultural use. The area to the west of the proposal site, including part of the former airfield site became a quarry during the 1960s and 1970s. At the present time the site largely comprises arable fields. Areas of rough grass and woodland are present, notably on the south side of the area and a small area on the west side of the area s used by model aircraft enthusiasts.

4 Results: The Airfield

4.1 Sections four and five present an interim summary of the results of the trenching. Where time as allowed, more detailed discussion is provided of a selection of the most significant trenches (63, 64, 87, etc.) and a summary is provided of blank trenches, and those of lesser significance. Full descriptions will be provided in the final evaluation report.

4.2 *The Airfield*

4.2.1 *Trenches 7, 8, 9, 10, 14, 15, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27 and 28*

No archaeological features were present in these trenches

4.3 *Trench 11*

4.3.1 *General*

Trench 11 was situated towards the west end of the airfield, north of Trench 12 and adjacent to the central track. The natural soils comprised light greyish brown silty clay (1100), which was 0.4m thick, overlaying reddish brown clay and limestone natural strata (1101).

4.3.2 *Ditch 1102 Plate 2, Section 57*

A single ditch was present towards the east side of the trench [1102]. It was aligned north to south, was 1m wide with an asymmetrical 'U' shaped profile 0.45m deep. Two fills were identified and the lower primary silting (1103), comprised orangy brown silty clay (1103). A secondary deposit of lighter brown silty clay (1104) overlay the primary silt. No artefacts or ecofacts were present in these fills and the ditch may be a continuation of Ditch [1215] in Trench 12 (below, section 4.4.6).



Plate 2: Excavated section through Ditch [1102] *Scale = 1m*

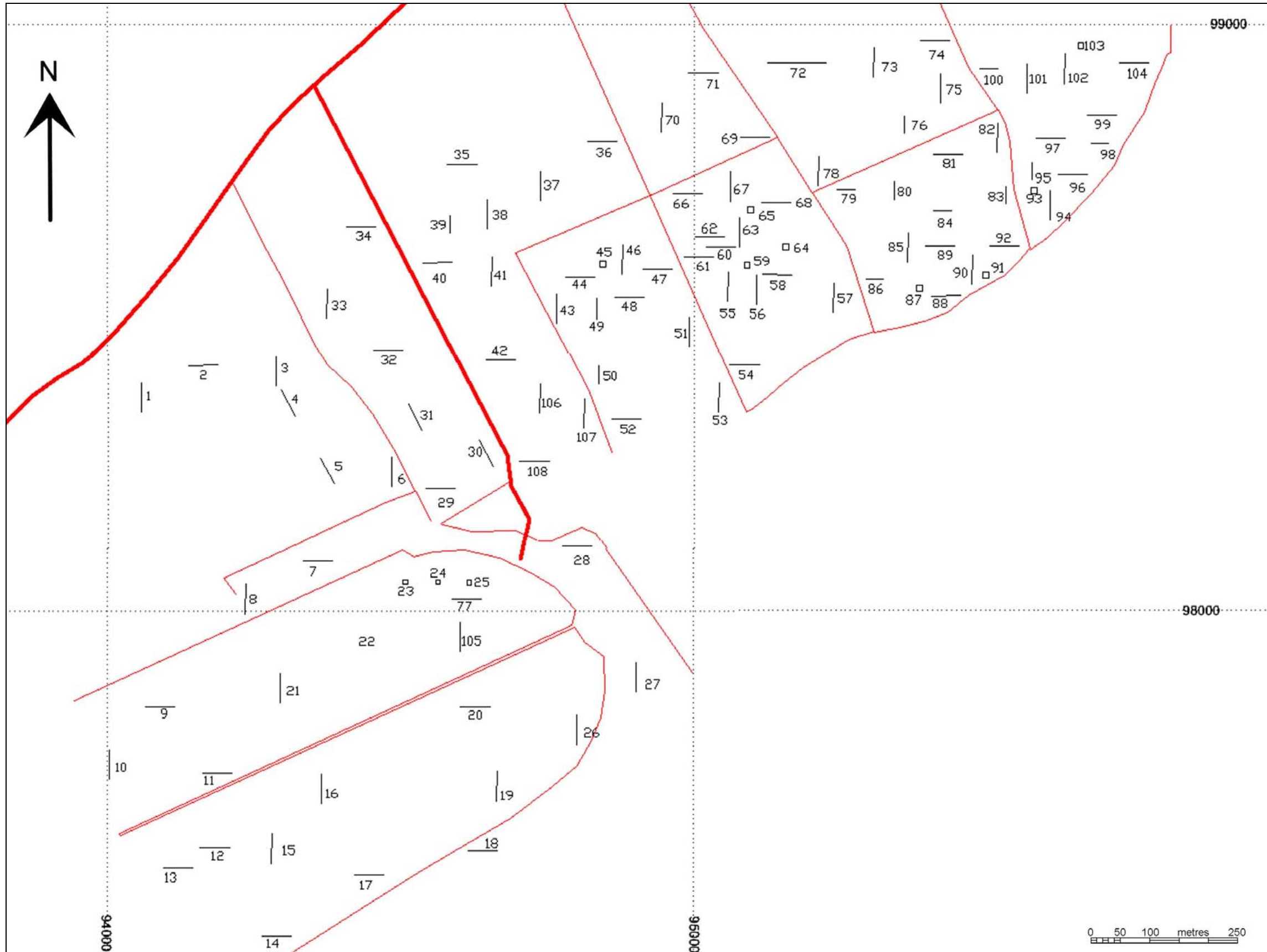


Figure 6: Trench Location Plan

4.4 Trench 12 (Figure 7)

4.4.1 General

Trench 12 was situated at the west end of the site, south of Trench 11, east of Trench 13 and targeted a concentration of slag recorded during the fieldwalking and an anomaly detected on the geophysical survey. The topsoil comprised mid greyish brown sandy silty clay (1200), which was 0.23m thick and overlay mid reddish brown clay subsoil (1201). Five archaeological features were present in this trench.

4.4.2 Ditch [1213] Section 23

Ditch [1213] (Plate 3) was situated towards the west end of the trench and comprised a linear feature *c.*0.55m wide. It was orientated from northeast to south west and was 0.25m wide with a 'V' shaped profile and was filled with a single homogenous deposit of orange-brown clayey silt (1214).

4.4.3 Ditch/Drain [1203] Section 21

Ditch [1203] was oblique to Ditch [1213] and was situated in the west half of the trench (Plate 4). It had near vertical edges and a flat base 0.36m wide and 0.23m deep and contained a single deposit of greyish brown sandy clay (1202). This feature is interpreted as a modern boundary ditch or field drain and may be a continuation of Ditch [1306] in Trench 13 (section 4.5.2, below).

4.4.4 Furnace/Kiln [1205] Section 22

A circular feature [1205] was present on the south side of the trench extending beyond the baulk. The exposed area comprised a semi-circular deposit of dark grey-reddish brown charcoal and clay (1204) with a diameter of 0.97m (Plate 5). The charcoal was deposited into a 0.2m hollow in the natural strata and this feature may be the truncated remains of a circular kiln or furnace.

4.4.5 Ore Roasting Pit [1206] Section 27

An irregular rectangular feature [1206] was situated in the centre of the trench (Plate 6). It comprised a shallow cut, which had been excavated *c.*0.23m into the underlying natural strata and, although it partially extended beyond the south edge of the trench, it was *c.*0.35m long and *c.*0.5m wide. The underlying natural clay (1207) had been scorched red, probably resulting from a heating or burning process and the fill comprised burnt dark brown clayey silt (1217). This feature is provisionally interpreted as an ore roasting pit. The west end of this feature partially intersected with Ditch [1215], but the stratigraphic relationship could not be established. A sample from fill (1217) was submitted for radiocarbon dating and produced dates of AD 670 - 870 (Vol. 2, App. 4).

4.4.6 Ditch [1215]

Ditch [1215] followed a north to south orientation and was centrally located within the trench. It was 1.25m wide and *c.*0.23m deep with an asymmetrical profile containing a single deposit of dark brown clayey silt (1216). No artefacts were present and this ditch may be continuous with Ditch [1102] in Trench 11 (above, section 4.3.2).

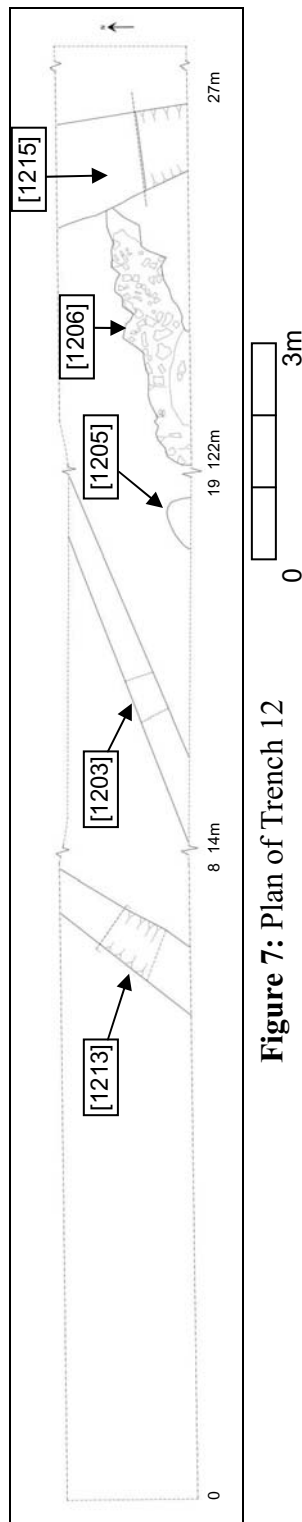


Figure 7: Plan of Trench 12



Plate 3: Ditch [1213] (Scale = 1m)



Plate 4: Ditch [1203] (Scale = 0.5m)



Plate 5: Furnace (?) [1205] (Scale = 0.5m)

4.5. Trench 13 (Figure 8)

4.5.1 General

Trench 13 was situated at the west end of the airfield and was adjacent to Trench 12. It was 49m long and 0.4m deep and the topsoil (1300), which was 0.3m deep, was a greyish brown sandy clay. The underlying natural strata comprised reddish brown silty clay (1301), into which three archaeological features had been cut.

4.5.2 Drain [1306] Section 1306

A linear feature [1306] was present at the west end of the trench (Plate 7). It was aligned northeast to southwest, 0.4m wide with a symmetrical 'U' shaped profile *c.*0.2m deep. No dating evidence was obtained and it was filled with a single homogenous deposit of brown clayey silt (1307), which was similar to the surrounded natural strata. For this reason it proved difficult to define the base and it was partially over cut. This feature is interpreted as a modern field drain and is on the same alignment, and of similar character to Drain/Ditch [1203] in Trench 12 (above, section 4.4.3).

4.5.3 Ditch [1305] Section 25

A linear ditch [1305] was present in the centre of the trench. It was orientated from north to south and was 2m wide, 0.3m deep with a well-defined, symmetrical profile (Plate 8). It was filled with a single homogenous deposit of greyish brown silty sand (1304), which contained substantial quantities of tapslag. No ceramic material was obtained to provide a date, but the quantity of slag within this ditch indicates that it may be broadly contemporary with, or post-date the smelting furnaces which are known to exist elsewhere on the site.

4.5.4 Ore Roasting Pit? [1303] Section 24

A third feature [1303] was situated towards the east end of the trench (Plate 9). It lay at the base of the south edge of the trench, extending into the field beyond. The exposed area was 0.59m wide, 70mm deep and it is clear that a heating or burning process had taken place within it, as the surrounding natural clay (1301) had been burnt to a reddish brown colour. It was filled with a mixed deposit of dark brown and black charcoal and silt, which is interpreted as fuel debris. This feature is similar to the ore roasting pits in Trench 12 (section 4.4.5) and also those in Trench 87 (section 5.13.10, etc.) and may have had a similar function.

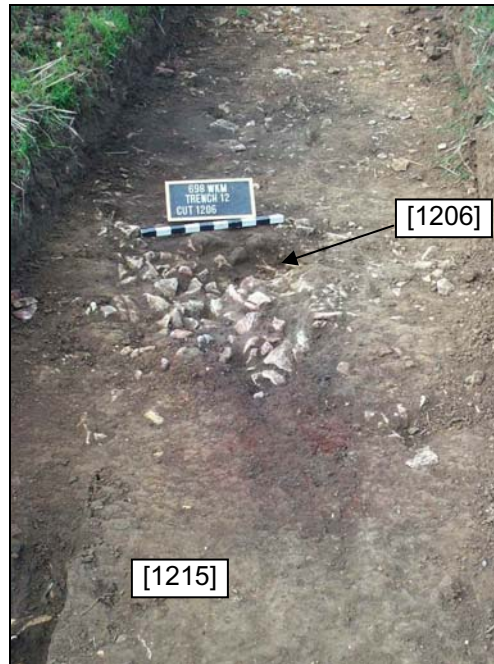


Plate 6: Ore Roasting Pit (?) [1206] (Scale = 0.5m)



Plate 7: Ditch [1306] (Scale = 0.5m)



Plate 8: Ditch [1305] (Scale = 0.5m)

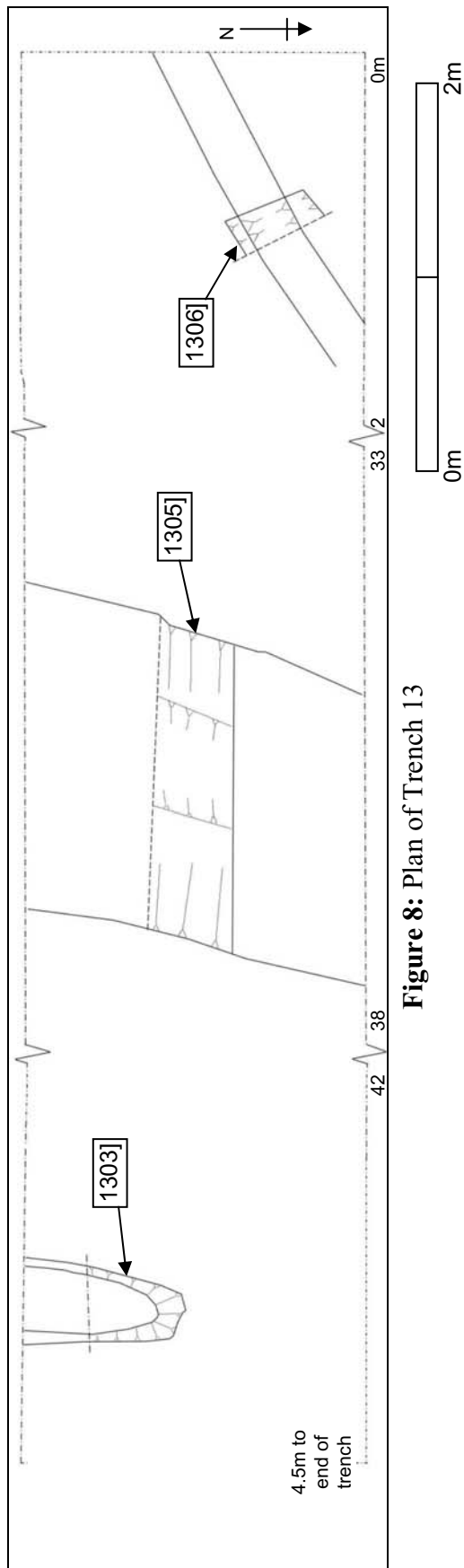


Figure 8: Plan of Trench 13

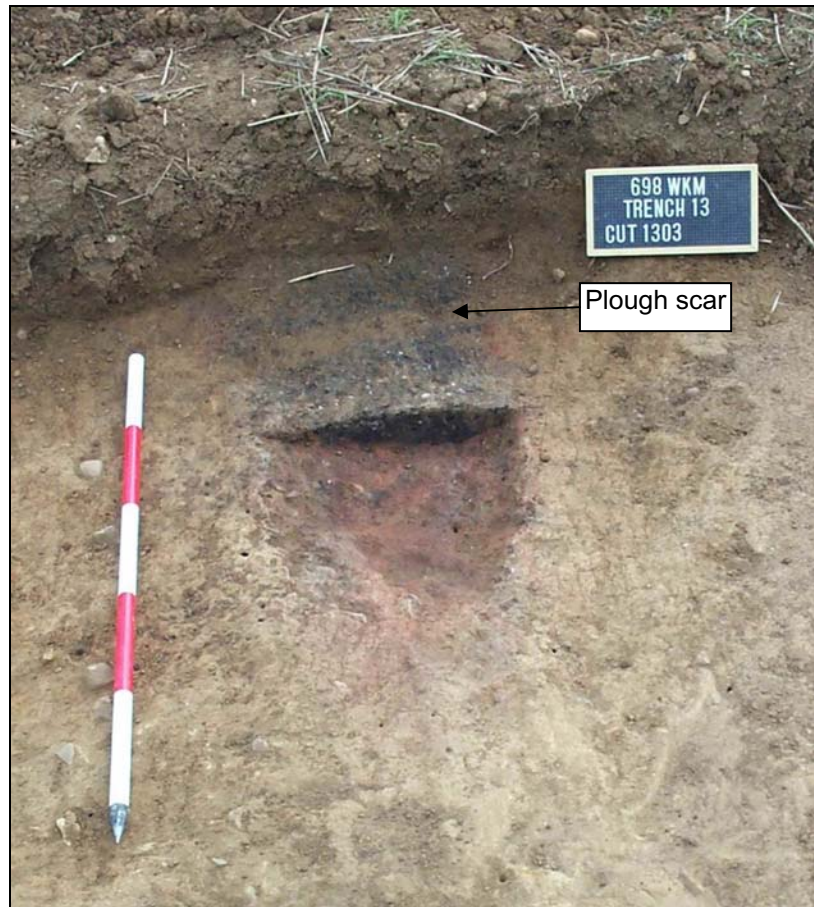


Plate 9: Ore Roasting Pit [1303] (Scale = 1m)

4.5 Trench 16

4.5.1 Trench 16 was situated in the centre of the airfield, close to the south side of the central dividing road and was 54m long and 0.6m deep. The topsoil (1601) comprised dark greyish brown silty clay and was 0.25m deep.

4.5.2 A layer of lighter coloured reddish brown clayey silt (1602) was present beneath the topsoil. It was 0.15m deep and was contemporary with a number of modern field drains, which may be associated with the former airfield. It overlay a homogenous deposit of dark greyish brown silty clay (1603), which is interpreted as a buried topsoil, and may have been concealed during ground levelling operations during the construction of the airfield. The latter layer was 0.1m thick and overlay the natural clay (1604).

4.6 Trench 22

4.6.1 General

Trench 22 lay within the north part of the airfield. It was orientated from east to west and was 46m long and 0.5m deep. The topsoil (2200) was 0.4m deep and consisted of light brown silty clay and overlay the orange-brown silty clay subsoil (2201). One archaeological feature was present in this trench.

4.6.2 Ditch [2203] Section 20

A ditch [2203] was situated at the west end of the trench (Plate 10). It was an ill-defined feature and was not recognised during the initial machining operations, but was subsequently identified in the trench edges. It was *c.*1.7m wide and 0.15m deep and was filled with a deposit of burnt red clayey silt (2202). No dating evidence was obtained. It is not possible to provide a firm interpretation of this feature, which may be the base of a shallow ditch, or an area of disturbance associated with the construction of the airfield.



Plate 10: Ditch [2203] (*Scale = 1m*)

4.7 Trench 77

4.7.1 General

Trench 77 was in the north part of the airfield, between Trenches 24 and 105 and had a north to south orientation. It aimed to test a linear anomaly defined during the geophysical survey and was 50m long and 0.35m deep. The topsoil was 0.2m deep and comprised light brown silty clay (7701). A single archaeological feature was present in this trench.

4.7.2 Pit [7702] Section 16

Pit [7702] was situated at the west end of Trench 77 and was only partially exposed within the trench (Plate 11). It was irregular in shape and *c.*0.15m deep with near vertical edges and a flat base. A deposit of black charcoal (7703), 50mm thick had been deposited at the base, but the remainder of the pit was filled with a homogenous deposit of dark grey silty clay (7704). The charcoal (7703) is interpreted as residue from a kiln or furnace, and the pit may have had an industrial function, but due to the limited area of this feature that was exposed, a more specific interpretation cannot be made.



Plate 11: Pit [7702](Scale = 0.5m)

4.8 *Trench 105*

4.8.1 *General*

Trench 105 was situated in the central part of the airfield and was 47m long and orientated from north to south. It was adjacent to Trench 77 and aimed to test a number of linear anomalies defined by the geophysical survey, which were interpreted as ridge and furrow cultivation strips. The topsoil was 0.25m deep and comprised brown silty clay, beneath which two ill-defined archaeological features were identified.

4.8.2 *Hearth/Oven [10502] Section 17*

An irregular feature [10502] was located close to the south end of the trench (Plate 12). It was situated against the base of the east side of the trench and was only partially exposed but was 1.2m wide and 50mm deep and filled with a mixed deposit of reddish/dark brown to black silty clay (10503). This feature may be the terminal of an ore roasting pit, similar to those in Trenches 12 and 13 (section 4.5) or it may be part of a hearth or oven.

4.8.3 *Hearth/Furnace Base [10504] Section 19*

The base of a badly truncated feature [10504] was also situated close to the south end of the trench and was *c.*1m west of hearth/furnace [10502]. It was subcircular in shape with a diameter of *c.*0.7m and comprised a variable deposit of dark reddish brown to black silty clay (10505), set *c.*0.2m into the natural strata (Plate 13). This feature may be the truncated base of a hearth or oven, or might be part of a more extensive structure, perhaps associated with hearth/oven [10502].



Plate 12: Hearth/Oven Base (10502) *Scale = 0.5m*



Plate 13: Hearth/Oven Base (10504) *Scale = 0.5m*

5 Results: The Northern Area

5.1 Trenches 1 and 2

During the course of the evaluation it became apparent that the proposed location of these trenches was in an area that had previously been subject to mineral extraction. Accordingly, the trenches were not excavated.

5.2 Trenches 3, 4, 5, 6, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53, 55, 56, 57, 58, 60, 61, 62, 66, 67, 69, 70, 71, 72, 73, 74, 75, 76, 78, 79, 80, 81, 82, 84, 86, 88, 89, 90, 91, 92, 95, 96, 97, 98, 99, 103, 106, 107, 108

No archaeological features were present in these trenches.

5.3 Trench 47

5.3.1 General

Trench 47 was situated in the centre of the north part of the site, adjacent to Trenches 46 and 48. It was 50.5m long, 0.33m deep and orientated from east to west and targeted an anomaly from the geophysical survey, which had been identified as a small enclosure. The topsoil was 0.3m deep and comprised brown silty clay (4701) overlying yellowish brown silty clay (4700). A single archaeological feature [4702] was situated in this trench.

5.3.2 Ditch [4702] Section 14

Ditch [4702] was situated in the centre of the trench and was orientated from north to south. It was 0.8m wide and 0.15m deep with an irregular profile and contained a deposit of mid brown silty clay (4703). A small assemblage of Roman pottery was present in this fill.

5.4 Trench 54 (Figures 9 and 10)

5.4.1 General

Trench 54 was situated close to the south boundary of the north area, and was adjacent to Long Wood. It was orientated from east to west and was 51m long and c.0.3m deep. The topsoil (5401) comprised brown silty clay and a single archaeological feature was situated at the west end of the trench.

5.4.2 Furnace (5407) Section 16

A circular feature (5407) was present in this trench (Plate 14). A shallow hollow [5405] had been excavated into the natural strata, which was c.1m in diameter and 0.17m deep (Fig. 10). The base of the hollow had been lined with flat ironstone fragments (5407), which had been affected by heat and burnt to a reddish brown colour. These stones may be part of the *in-situ* natural strata, but may equally have been imported into the hollow, in order to form a more solid base to the structure.

5.4.3 A deposit of mid to dark brown silty clay (5406) had been laid above the burnt ironstone. It was 70m thick and is interpreted as a clay base and was sealed by thin layer of black charcoal (5404). The latter is interpreted as fuel debris from

firing within the structure and was overlain by a lighter grey coloured deposit of clayey silt (5403), which may be silt or weathering products accumulated within the disused structure. This structure may have been a furnace, but the lack of slag and ore makes this interpretation tentative.

- 5.4.4 A sample from fill (5404) was submitted for radiocarbon dating and produced dates of AD 620 - 690 (Vol. 2, App. 4).



Plate 14: Furnace (5407) Scale = 0.5m

5.5 Trench 59

5.5.1 General

Trench 59 was situated in the centre of the north part of the site, between Trenches 58 and 60. It was situated within a minor valley, which followed a course from southwest to northeast across the slope of the site, towards the river Welland. The geophysical survey revealed an anomaly following the bottom of the valley, which was interpreted as colluvium and the trench aimed to investigate this material and also to test three further linear anomalies, which were interpreted as a series of parallel ditches.

- 5.5.2 The trench was 11m square and 0.4m deep and a machine excavated sondage was cut into the centre, in order to investigate the underlying strata. No archaeological features were present, but the sondage enabled the investigation of the colluvial sequence in this area.

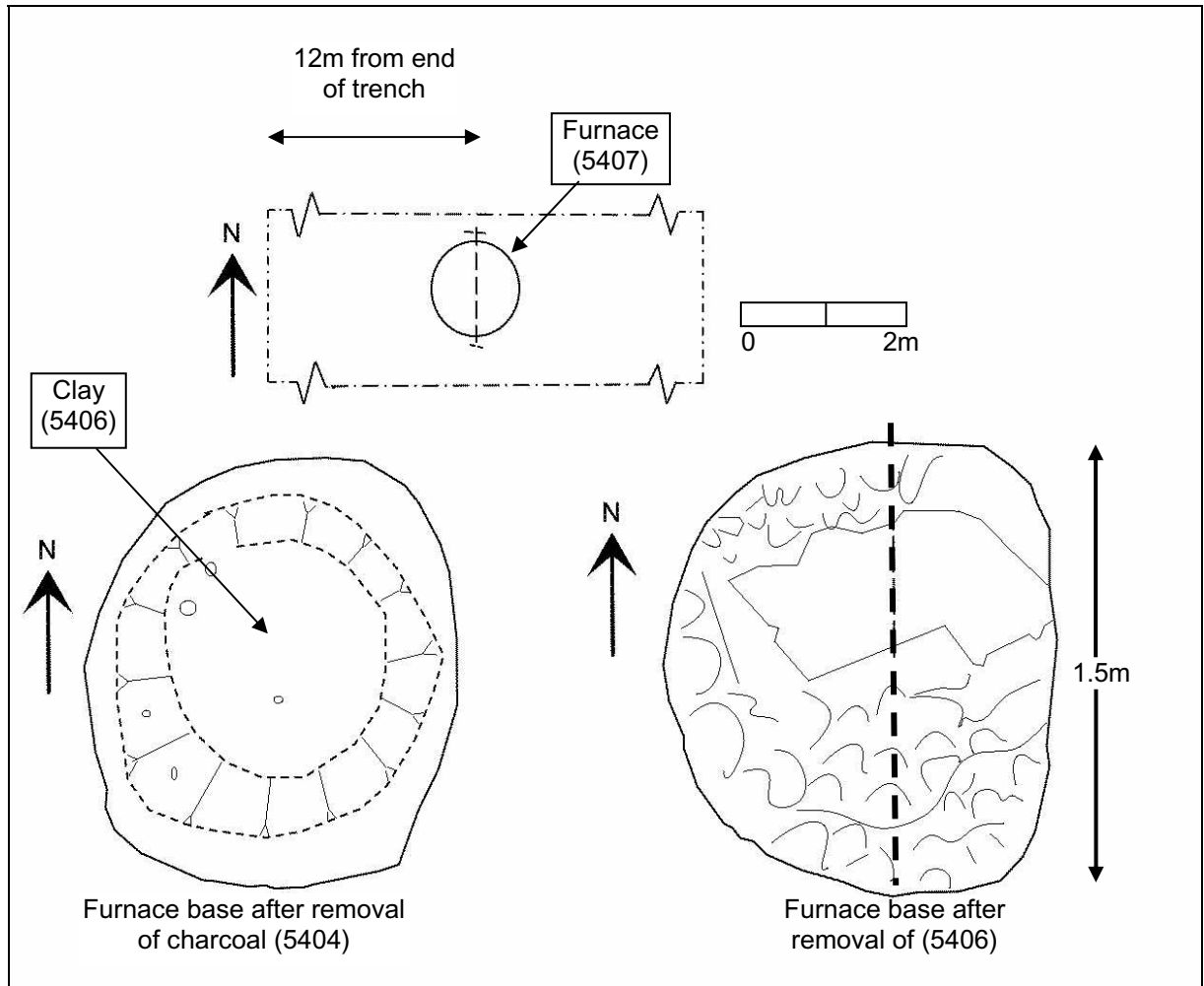


Figure 9: Plan of Furnace/Kiln (5407)

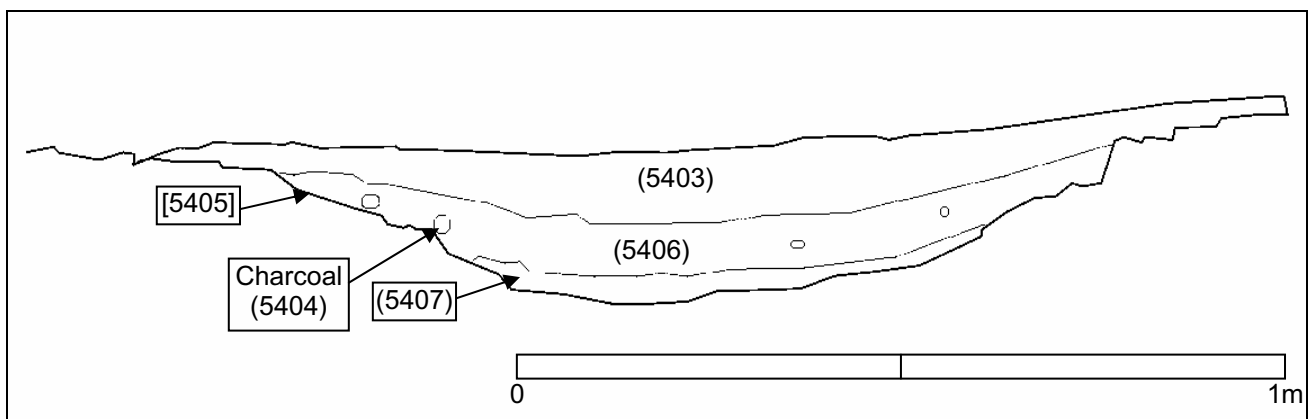


Figure 10: West facing section through Furnace/Kiln (5407)

5.5.3 Soil Sequence (Plate 15) Section 15

The topsoil (5904) comprised greyish brown sandy clay. It was 0.3m deep and overlay a deposit of reddish brown silty clay (5903). The latter was marginally deeper, having a depth of *c.*0.4m and was situated above a brighter layer of brownish orange silty clay, which contained a substantial quantity of small limestone inclusions (5902). This material was almost certainly colluvium and was also *c.*0.4m thick.

5.5.4 The colluvial sequence exhibited a degree of variation and a further deposit of orange brown clayey silt (5901), which was 0.3m thick, was situated below layer (5902). This in turn, overlay the natural strata, which comprised yellowish brown silty clay (5900).



Plate 15: Colluvial sequence in Trench 59. (Scale = 2m)

5.6 Trench 63 (Figure 11)

5.6.1 General

Trench 63 was centrally located in the northern half of the site and was opened in order to test a number of anomalies from the geophysical survey. During the soil stripping a number of furnaces were identified at the north end of the trench and this area was subsequently extended to form an open area measuring 4.6 x 6.5m in order to obtain a greater understanding of the distribution of these structures.

5.6.2 The topsoil comprised light brown silty clay (6320) and was *c.*0.3m deep. The underlying strata (6321) comprised yellowish brown silty clay and eight individual features or more complex groups of furnaces were present in the trench.

5.6.3 Ditch/Gully [6317] Section 38

A north to south orientated linear cut [6317] was present towards the south end of the trench (Plate 16). Its full extent was not established as it extended beyond the east side of the trench, but its northern terminal was identified in the trench. The exposed length measured *c.* 1m north to south and it was 0.4m wide and 0.2m deep with a slightly irregular profile. It was filled with light brown sandy silt (6318) with occasional small stones and contained an assemblage of ten late 3rd to 4th-century pottery sherds. Definite identification is not possible: the excavated part is interpreted the north end of a ditch or gully.



Plate 16: West end of Ditch [6317]
(scale = 0.5m)

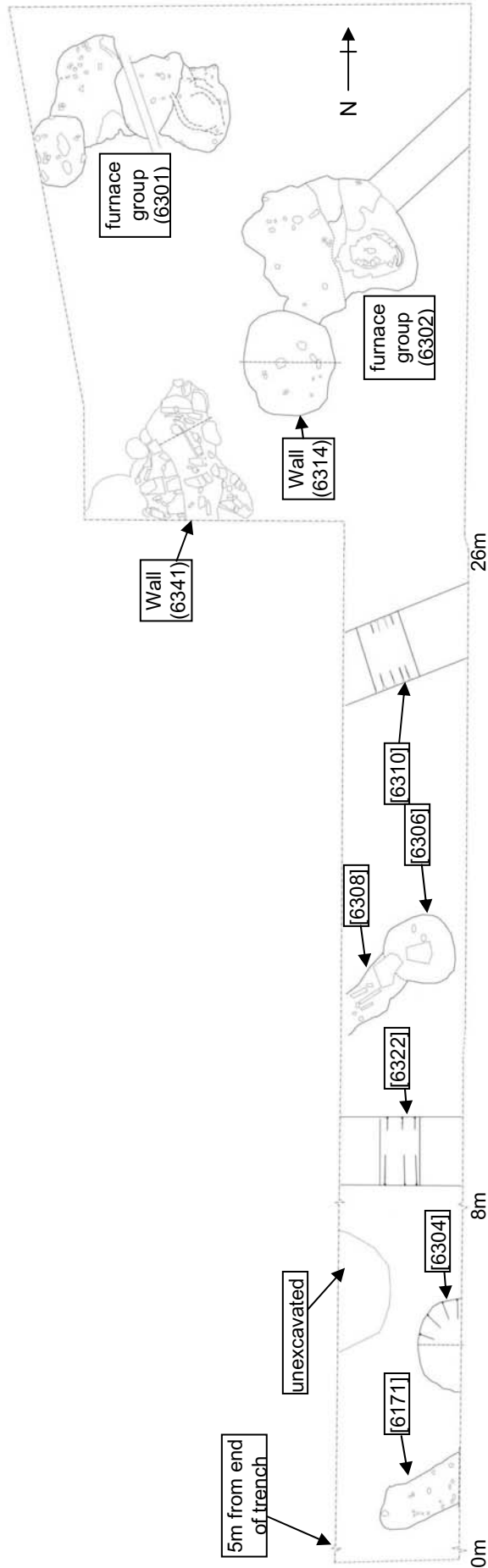


Figure 11: Plan of Trench 63

5.6.4 Industrial Feature [6304] Plate 17, Section 44

A semi-circular feature [6304] was present in the trench immediately north of gully [6317]. Only half the feature was exposed within the trench as the remainder lay beyond the east baulk (Plate 17). The exposed part was roughly semi-circular in shape with a diameter of *c.*1.1m and a section was excavated across it revealing an asymmetrical profile *c.*0.2m deep. Two separate fills were identified. The south part of the cut contained a deposit of mid greyish brown silty clay (6303), which contained quantities of limestone fragments. This was overlain by a more reddish brown clayey deposit (6309). This feature is interpreted as part of a kiln or corn drying oven and the circular cut may have been part of the firing chamber. The underlying natural clay had not been effected by heat, indicating that the firing/heating processes had not occurred directly in the base of the structure. The limestone fragments in the lower fill (6303) may be disturbed pieces of a stone lining. This feature is tentatively interpreted as an ore roasting pit.



Plate 17: Section through oven [6304]
(Scale = 0.5m)

5.6.5 Ditch [6322] Section 37

An east to west orientated ditch [6322] was present, extending beyond the trench edges *c.*10m from the south end of the trench. It was *c.*0.7m wide and *c.*0.2m deep with a 'U' shaped profile. Its fill comprised light brown sandy silt (6323) and it is interpreted as a boundary ditch, and may have been identified during the geophysical survey.

5.6.6 Corn-Drying Oven [6306], [6308] Section 45

Part of a corn-drying oven [6306], [6308] was present halfway along the trench (Plate 18). The south part was present in the trench but the northern half lay beyond the west baulk and two separate elements were identified in the trench. The south part of the structure was formed by a circular cut [6306] and is interpreted as the stokehole. This was 0.8m in diameter and 0.2m deep with a symmetrical 'U' shaped profile and had become filled with two separate deposits.

- 5.6.7 The lower fill (6319) was 70mm thick and comprised dark greyish brown silt and charcoal and is interpreted as fuel residue from the heating process taking place in the oven. The remainder of the cut was filled with a more substantial deposit of lighter greyish brown silt (6305) containing fragments of limestone, which may have been displaced fragments of the kiln lining and two sherds of 2nd-century pottery.
- 5.6.8 Linear feature [6308] extended northwest from the stokehole [6306]. It was c.0.4m wide and c.0.37m deep with a flat base and an irregular profile and extended beyond the west edge of the trench. It had probably been lined and covered with limestone slabs, as a number of displaced slabs of limestone were present within the cut (Plate 18), and are interpreted as part of the corn-drying oven flue.
- 5.6.9 The base of the flue had become scorched red due to the heating process and a deposit of dark greyish brown ash and charcoal c.0.1m had been deposited at the base (6331). This material is interpreted as fuel debris and was overlain by a more homogenous deposit of lighter brown silty clay (6307), within which the displaced limestone slabs were sitting. The upper fill had probably been laid down when the corn-drying oven had ceased to function and the disused flue lining and roof had collapsed into it. Three sherds of 2nd to 4th century pottery were present in this fill.



Plate 18: Corn-Drying Oven [6306], [6308] (scale = 1m)

5.6.10 *Ditch [6310] Section 36*

A second east to west orientated ditch [6310] traversed the northern part of the trench (Plate 19). It was c.0.7m wide and 0.15m deep with a symmetrical 'U' shaped profile and was filled with a deposit of light brown sandy silt (6311), which contained quantities of limestone fragments. This feature is interpreted as a ditch and a ditch following a similar orientation was identified at this location during the geophysical survey.



Plate 19: Ditch 6310 (*scale = 0.5m*)

5.6.11 *Wall (6324) and Robber Trench [6326] Section 56*

A badly disturbed fragment of wall (6324) was present at the southwest corner of the north extension of the trench (Plates 20 and 22). It was 0.5m wide and constructed of irregular slabs of limestone bonded with yellow mortar. It was poorly preserved but a stretch of *c.* 1m was exposed within the trench. It continued to the south, beyond the south edge of the trench and although only a limited length survived, it was clearly slightly curved indicating that it may represent the remains of a curved structure or the apsidal end of a building.

5.6.12 The edge of a trench [6326] was traced 0.5m east of the wall. The trench was 0.5m deep with near vertical edges and a flat base, and was filled with a deposit of dark yellowish brown silt (6325), which became mixed with rubble and limestone fragments towards the top of the profile (6327). Three fragments of a rotary quernstone (Vol 2; Plates 1-3) and an assemblage of late 3rd to 4th-century pottery were present in the mixed material at the top of the trench. Trench [6326] is interpreted as a robber trench.



Plate 20: Wall (6324) (*scale = 0.5m*)

5.6.13 Pit [6314] Section 46

A pit [6314] was present in the centre of the northern extension (Plate 21). It was approximately circular in shape, *c.*1.1m in diameter and 0.35m deep with a slightly asymmetrical profile. A deposit of yellowish brown silty loam (6313) was present on the west side of the base, beneath a more substantial deposit of darker greyish brown silt (6312). The latter contained significant quantities of limestone fragments, of similar character to that in robber trench [6326]. Occasional charcoal flecks were present and it contained an assemblage of eight late Iron Age or early Roman pottery sherds. It is unlikely that this feature had an industrial function and is interpreted as a rubbish pit.

5.6.14 Furnace (6302)

Two groups of furnaces (6301) and (6302) were present in the northern extension of Trench 63. Furnace (6302) was not excavated but was cleaned and recorded whereas, following advice from the archaeo-metallurgist, Furnace (6301) was fully excavated and recorded.

5.6.15 Furnace (6302) was situated in the centre of the northern extension, adjacent to Pit [6314], although as the furnace was not excavated the stratigraphic relationship between the two could not be established. The area was thoroughly cleaned, revealing a sub-circular feature with dimensions of *c.*1.7 × *c.*1.5m (Plate 21).

5.6.16 The west half of the feature comprised greyish brown silty clay with occasional fragments of slag and charcoal, and may be the location of a tapping pit. The body of the furnace lay immediately to the east and comprised a disturbed ring of light grey to pinkish brown clay with an internal diameter of *c.*0.4m. The character of the clay changed across its width, being light grey in colour on the external side and becoming increasingly redder and vitrified towards the centre. Lumps of slag were adhering to the internal surface and the centre contained a deposit of greyish brown silty clay, similar to the fill of the tapping pit.

5.6.17 This feature is currently in generally good condition, but the north and south edges had clearly been disturbed. The base of the furnace probably survives in good condition but the upper part of the surviving structure is probably being subjected to active plough damage.

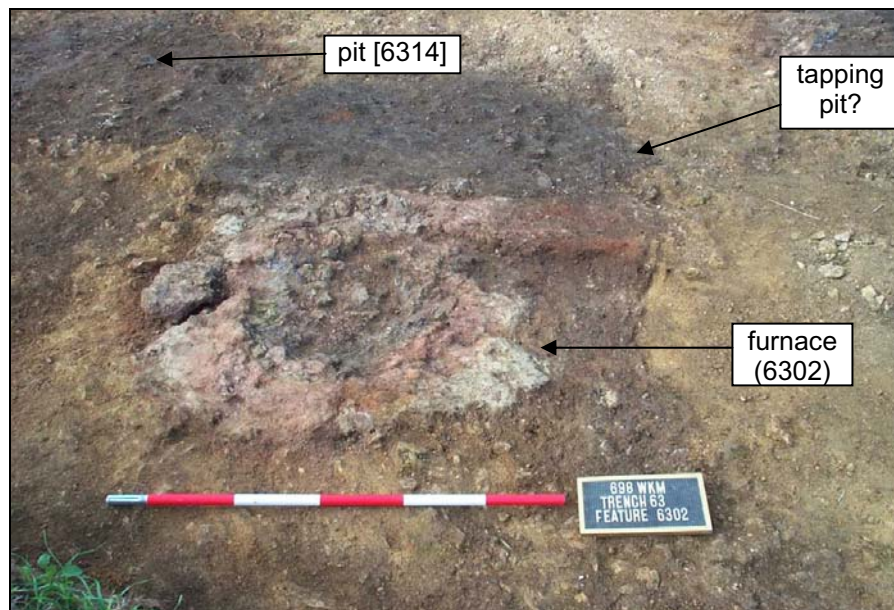


Plate 21: Furnace (6302) with Pit [6314] to rear (scale = 1m)

5.6.18 *Furnace Complex (6301)*. Figures 12 and 13

An irregular shaped feature (6301) measuring *c.*2.1 by 2m was situated at the northwest corner of the northern trench extension (Fig. 11). It comprised a complex of at least five intercutting furnaces and their associated tapping pits (Plates 23 and 24) and, following consultation with the archaeo-metallurgist, it was chosen for detailed excavation.

5.6.19 The central part of this group of furnaces was cleaned and an overlying mass of light grey clay (6328) was defined (Fig. 12; Plate 23). It was sub-circular in shape, and *c.*0.8m in diameter, but the east side had been truncated by a modern plough scar. It was probably a composite deposit having been formed from the collapsed and weathered clay walls from a number of underlying furnaces (6336), (6337), (6338) and (6339). Once the overlying clay (6328) was removed, the location and extent of the underlying furnaces was revealed.

5.6.20 *Furnace (6339)* Plates 24 and 25

The earliest furnace (6339) had a relatively well-preserved base and was present below the overlying clay mass. The natural clay had been hollowed out [6335] and a ring of clay with an external diameter of *c.*1m had been set into the ground. The clay forming the outer circumference of the structure was light grey in colour and became increasingly heat reddened towards the centre. The internal diameter was *c.*0.5m and lumps of slag were adhering to the internal surface. An area of dark soil immediately to the northeast may mark the location of an associated tapping pit (Plate 24), but this was not excavated and, following recording, the clay base of the furnace was left *in-situ*.

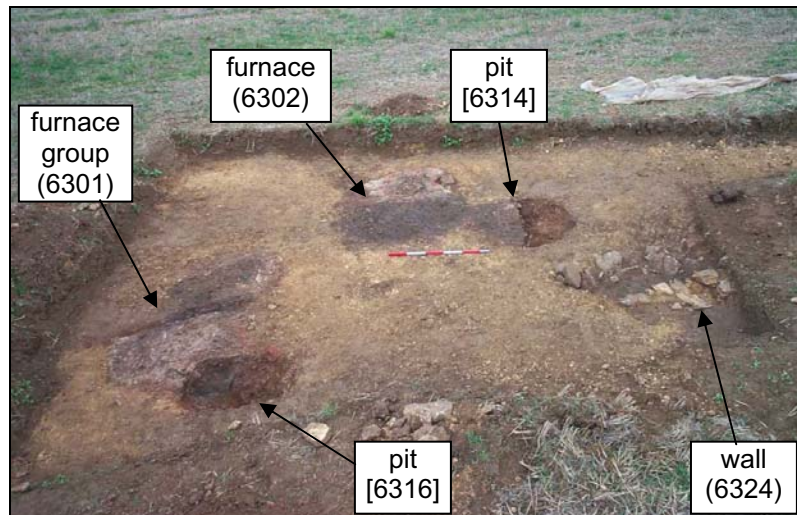


Plate 22: Trench 63 north extension, showing furnaces and wall (*scale = 1m*)

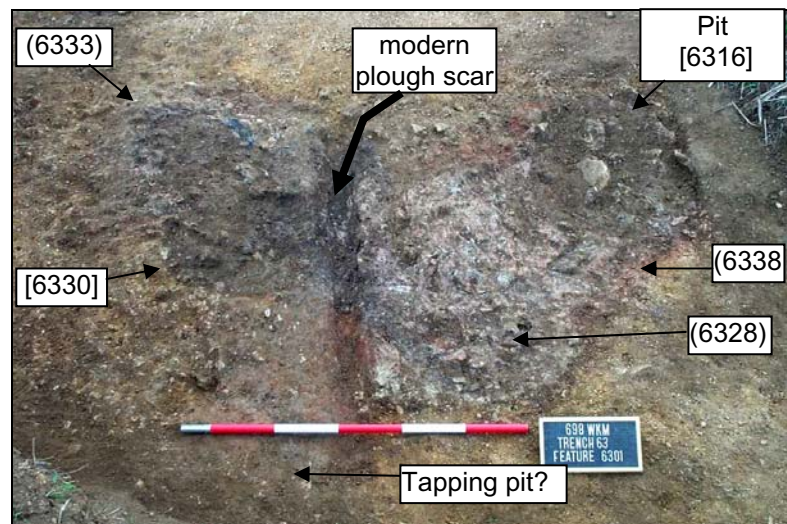


Plate 23: Furnace complex (6301) prior to excavation, with individual features labelled (*scale = 1m*)

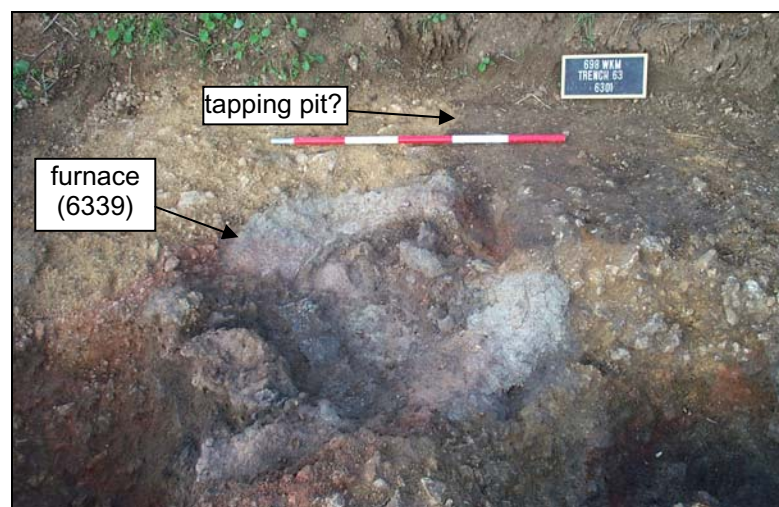


Plate 24: Furnace (6339), with postulated tapping pit to rear (*scale = 1m*)

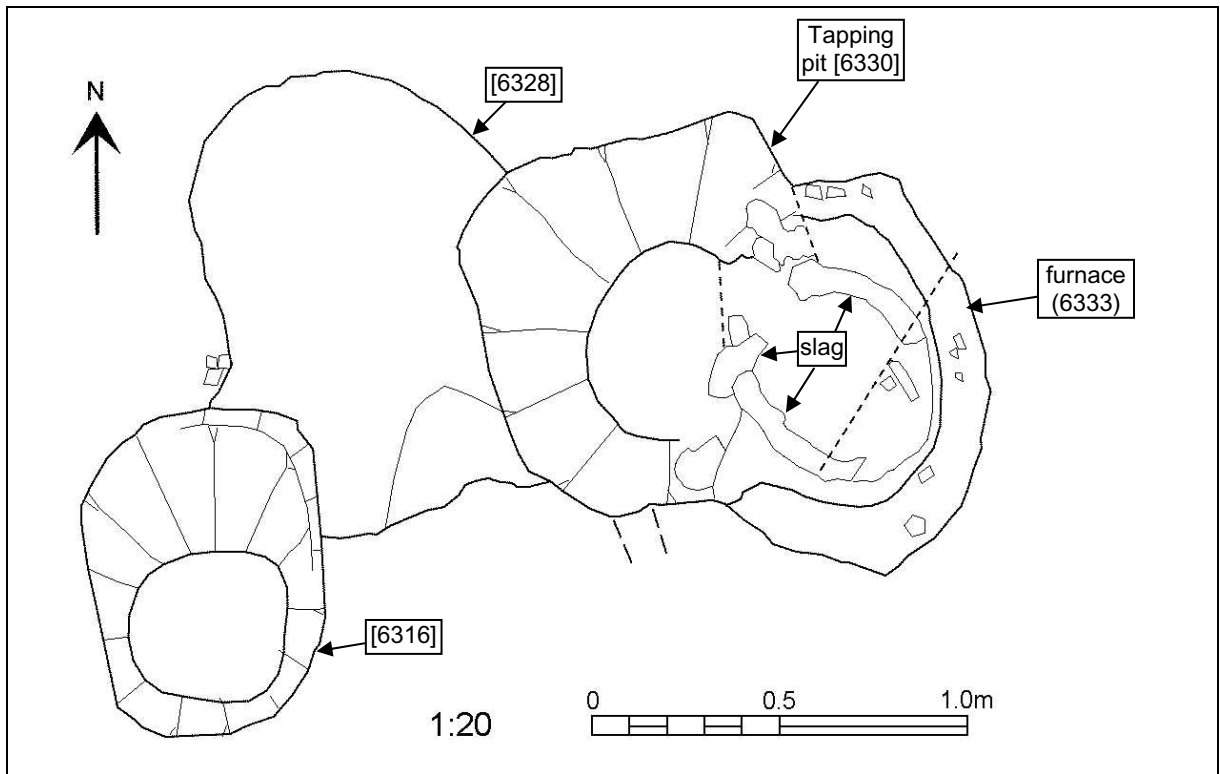


Figure 12: Furnace Group (6301)

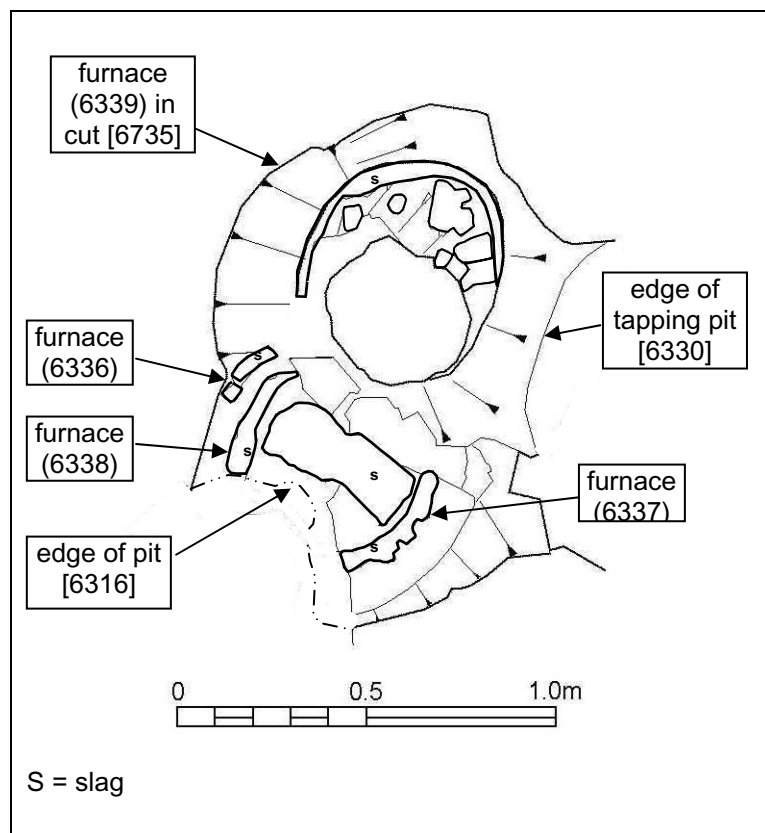


Figure 13: Detail of Furnaces (6336), (6338) and (6339)

5.6.21 Furnace (6337)/(6338) Figure 13 and Plate 25

When furnace (6339) ceased to function it was replaced by a similar structure (6337)/(6338). The latter was poorly preserved but partially overlapped the south edge of the earlier furnace (Fig. 13; Plate 25). It had been constructed in a shallow hollow in the underlying clay, the edges of which had become scotched red by heat from the firing process within the furnace. The north and south sides had been truncated by later activity, but enough of its base, east and west edges (6337) and (6338) respectively, survived to indicate that it had an internal diameter of *c.*0.5m (Fig. 13). Like the earlier furnace it had been set into a hollow in the underlying natural clay *c.*0.4m deep and was constructed of grey clay that was harder and heat reddened towards the internal face, which had quantities of slag adhering to it.

5.6.22 Furnace (6336) Figure 13 and Plate 25

A separate furnace wall (6336) had been inserted against the west internal face of furnace (6338). It was badly truncated, but a length of *c.*0.3m survived, set into a hollow in the ground *c.*0.3m deep. It is not clear whether this was a repair to Furnace (6337)/(6338) or a total rebuild, but a fragment of slag was present within Furnace (6336) which may be residue from the final firing.

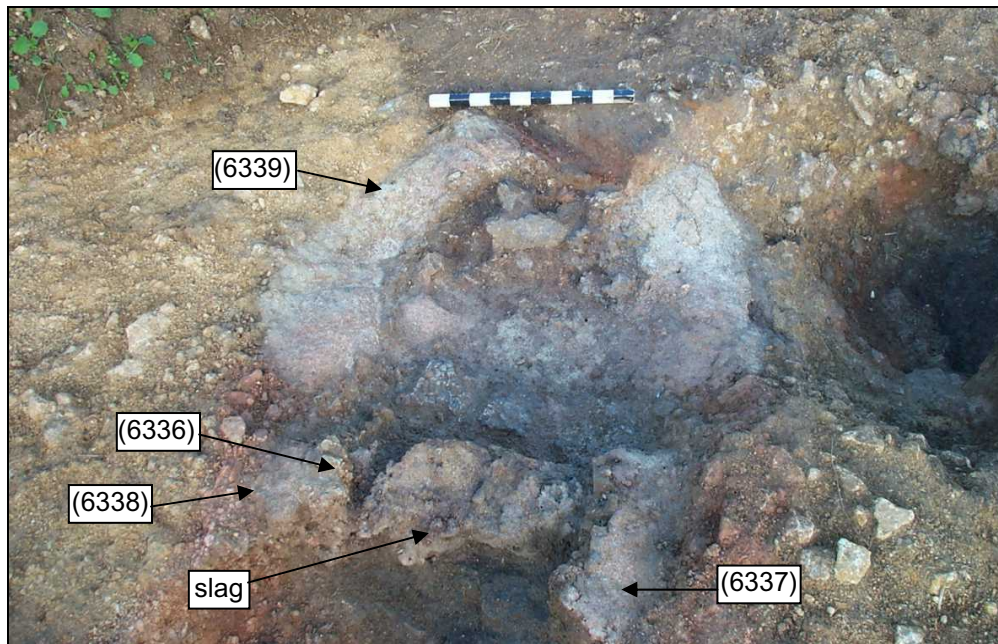


Plate 25: Furnaces (6336), (6337)/(6338) and (6339) (*scale = 0.5m*)

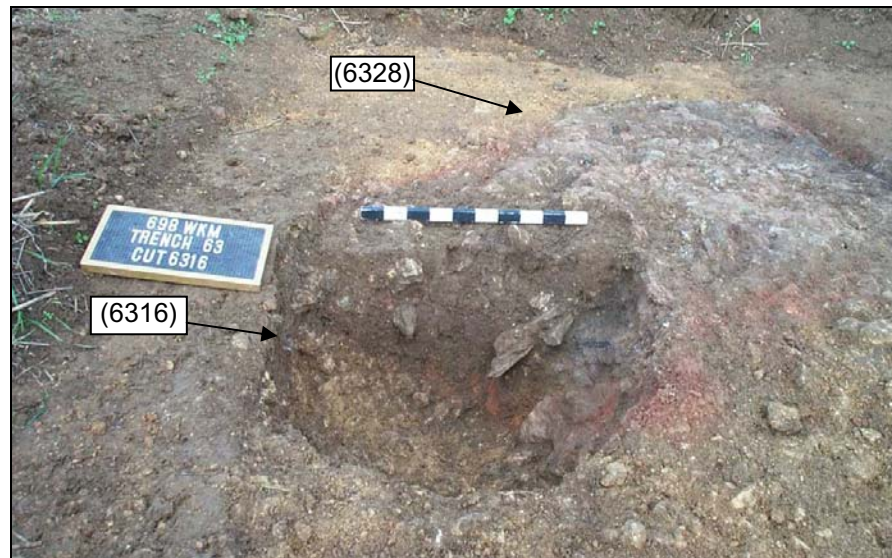


Plate 26: Pit (6316) (scale = 500mm)

5.6.23 Pit (6316) Figure 12, Plate 26 and Section 47

The south sides of Furnaces (6336) to (6339) had been truncated by a sub-circular pit [6316]. It was situated at the west side of the trench and partially extended beyond the trench edge. It was *c.*0.7m in diameter, 0.4m deep and had an asymmetrical profile, which near vertical edges to the south, but the north edge sloped at an angle of *c.*45 degrees, where it had truncated the earlier furnaces. Its fill comprised dark yellowish brown silty clay (6315), which contained a single sherd of Roman pottery, but lacked any slag or other furnace debris. The surrounding natural clay was unaffected by burning and it is likely that this pit was not associated with the furnaces, and was dug at a later date for a different function.

5.6.24 Furnace (6333) and Tapping Pit [6330] Figure 12 and Plates 27 – 29, Stn 41

The best-preserved furnace, (6333), was situated at the east side of the group (Fig. 12; Plates 27 and 29). It comprised two separate elements, namely the clay furnace structure itself (6333) and a sub-rectangular pit immediately to the southwest, which is tentatively interpreted as a tapping pit [6330].

5.6.25 Like the previous structures, Furnace (6333) had been set into a hollow [6340] excavated into the natural clay, which was *c.*0.45m deep and *c.*0.8m in diameter (Fig. 12). The clay furnace body was similar to the previous structures and comprised light grey clay with an internal diameter of *c.*0.5m, which had become heat reddened towards the centre. The effect of the heat was more apparent than on those described above and parts of the internal furnace had been burnt to a dark red colour and large lumps of dark grey slag remained *in-situ* adhering to the internal face of the walls (Plate 27). The surviving internal walls were vertical and dropped to a flat base and the west side was open, giving way to a separate semi circular pit [6330].

- 5.6.26 The clay base of the furnace survived at the bottom of the cut but was obscured by the slag deposits. The surviving fills comprised two separate deposits, namely a lower relatively homogenous layer of burnt clay and slag (6334), which was overlain by darker grey clay (6332) mixed with larger lumps of slag (Plate 28, Section 43). Analysis of an environmental sample taken from fill (6332) produced eight small sherds of 2nd to 3rd-century pottery (Vol. 2, Appendices 4 and 5).
- 5.6.27 A sample from fill (6332) was submitted for radiocarbon dating and produced dates of BC 170 – AD 40 (Vol. 2, App. 4).
- 5.6.28 Pit [6330] was situated on the west side of the furnace and comprised a sub-circular cut *c.*1.1m in diameter and *c.*0.5m deep, intersecting the west side of Furnace (6333) (Plate 29). It had an asymmetrical profile containing a deposit of dark brown sandy silt mixed with slag, and is provisionally interpreted as a tapping pit.



Plate 27: Furnace (6333) after excavation (*scale = 500mm*)

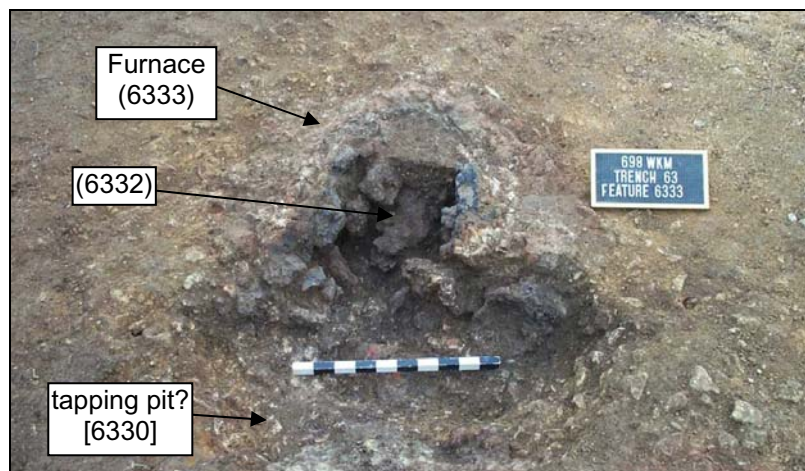


Plate 28: Furnace (6333), partially excavated with fill (6332) and postulated tapping pit [6330] (*scale = 0.5m*)

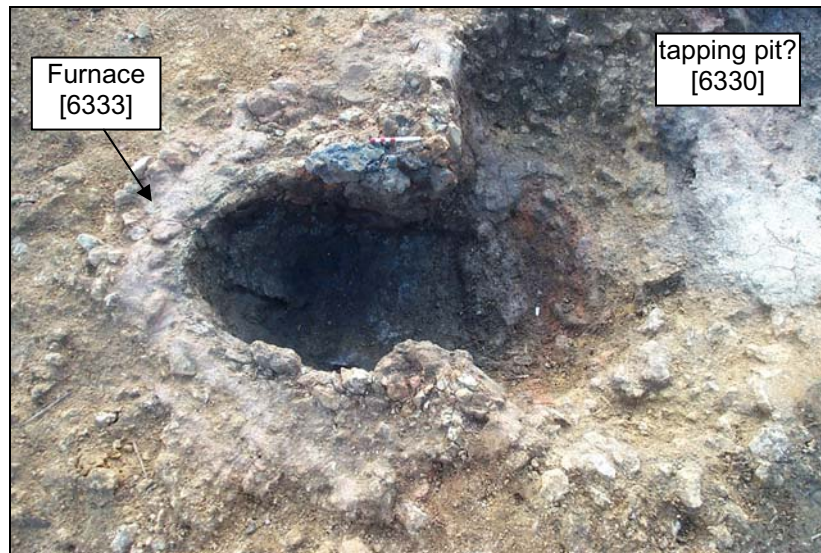


Plate 29: Overhead view of Furnace (6333) after excavation (*scale = 100mm*)

5.7 Trench 64 Figure 14

5.7.1 General

Trench 64 was situated in the centre of the north part of the site and was situated between Trenches 58 and 68. It was square in shape, measuring 13 × 11.5m, was c.0.25m deep and aimed to test an anomaly from the geophysical survey. The topsoil in this area comprised greyish brown clayey silt (6400) and was 0.3m deep. The underlying strata (6401) comprised greyish brown gravel and ironstone and two archaeological features were present.

5.7.2 Corndryer (6406) Plate 30, Section 29

A 'T' shaped corn-drying oven (6406) was situated at the north edge of the trench (Plate 30). It was built in limestone and its flue was aligned east to west and extended beyond the limit of the trench. The cross flue was 3m long and was constructed of roughly hewn limestone slabs c.0.25 square, the lowest four courses of which survived. A deposit of dark brown/ black charcoal and silt (6407), 80mm thick, was present at the base of the flue, and may be fuel debris from the last firings. A greyish brown silty clay deposit (6408) containing less charcoal was present above this deposit, and may represent silting, following the abandonment of the oven.

5.7.3 Quarry Pit [6402] Figure 15 and Plate 31

A large pit [6402] was situated at the northwest corner of the trench (Plate 31). It extended beyond the edges of the trench but was in excess of 6m wide, 1.4m deep and it is likely that this feature may be part of the anomaly detected during the geophysical survey.

5.7.4 A single section was excavated across the pit (Fig. 15). It was found to have a flat base, at a depth of c.1.4m but the edges were irregular and, on the south side, the edge sloped at an angle of 45 degrees. The exposed natural strata at the face (6416) had slumped into the side of the pit. The north face was

somewhat different in character. Although sloping at a similar angle, and partially irregular and concealed by redeposited ironstone (6417), approximately halfway up the profile a relatively smooth vertical face was exposed. This part of the face had the appearance of having been deliberately cut and this pit may have been an ironstone extraction pit, the vertical edge indicating the location of the final working face.

- 5.7.5 After the abandonment of the quarry, it became filled with ironstone weathered and collapsed from the edges, interspersed with substantial deposits of charcoal, ash and lenses of more mixed material containing animal bone (Plate 32).
- 5.7.6 The initial weathering is represented by a quantity of redeposited natural ironstone (6416) & (6417) at the base of the pit edges. Its base and parts of the adjacent slumped ironstone were sealed by a 0.2m thick deposit of dark grey ash and charcoal (6403). This is interpreted as fuel debris from an adjacent furnace or corndryer (perhaps from (6406) and contained a small assemblage of Roman pottery. The remainder of the bottom half of the pit contained was filled with layers of ash, charcoal, animal bone and redeposited ironstone fragments (6410) - (6415). These layers are interpreted as individual dumps of fuel debris, domestic waste and weathered material slumped from the upper edges of the open pit. Layer (6414), which comprised mixed grey silty clay and ash contained a number of animal bones and an assemblage of late Roman pottery.
- 5.7.7 The material at the top of the pit (6405) and (6409) was of a different character to that at the base and comprised two thicker and more homogenous deposits of grey ash (6409) overlain by greyish brown silt (6405). These deposits probably accumulated gradually, suggesting gradual accumulation at the top of the partially filled pit. The uppermost deposit (6405) contained an assemblage of 3rd and 4th-century pottery, and environmental samples were taken from a number of points through the profile.

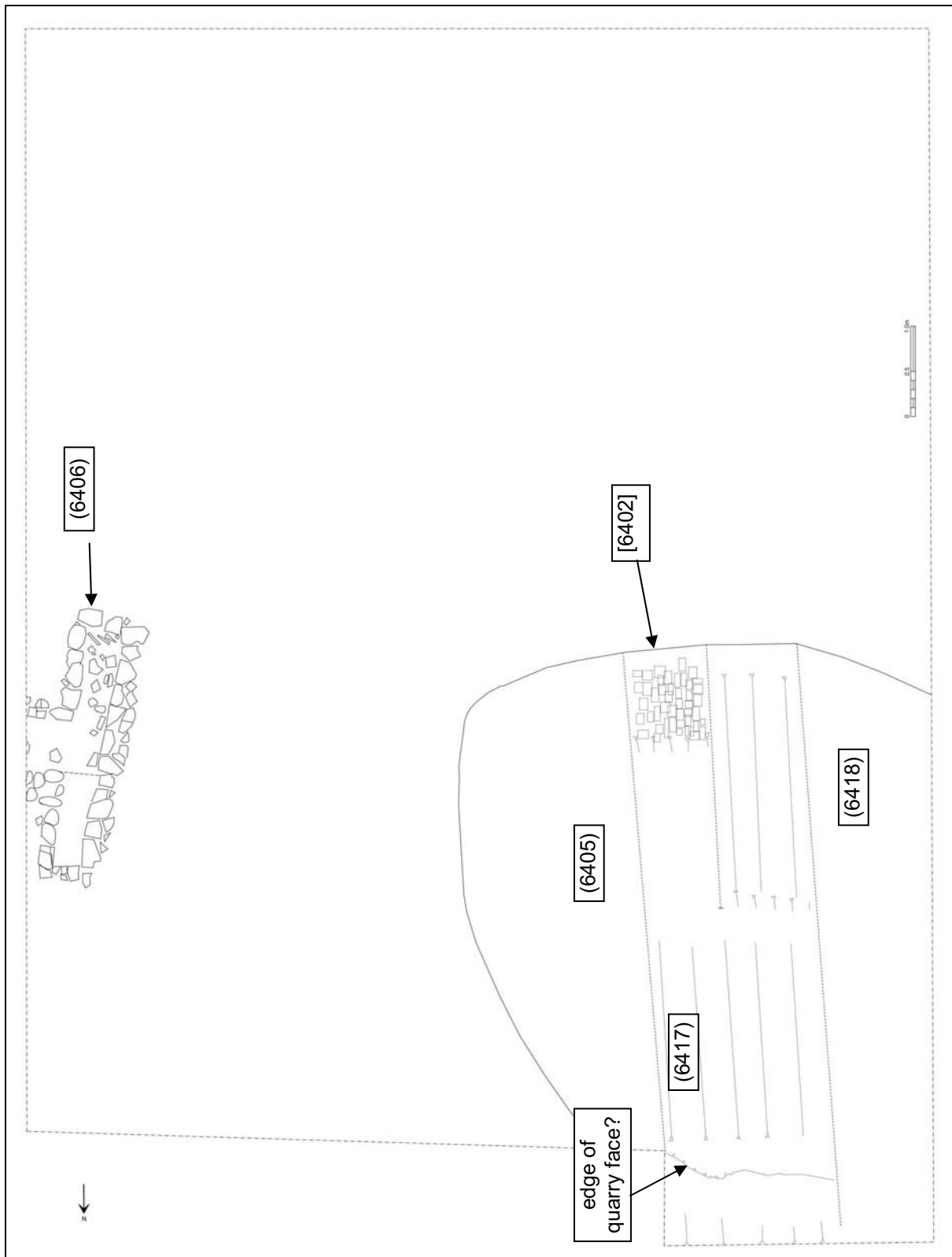


Figure 14: Plan of Trench 64



Plate 30: Corndryer (6406) Scale = 1m



Plate 31: Quarry Pit (6402) Scale = 1m

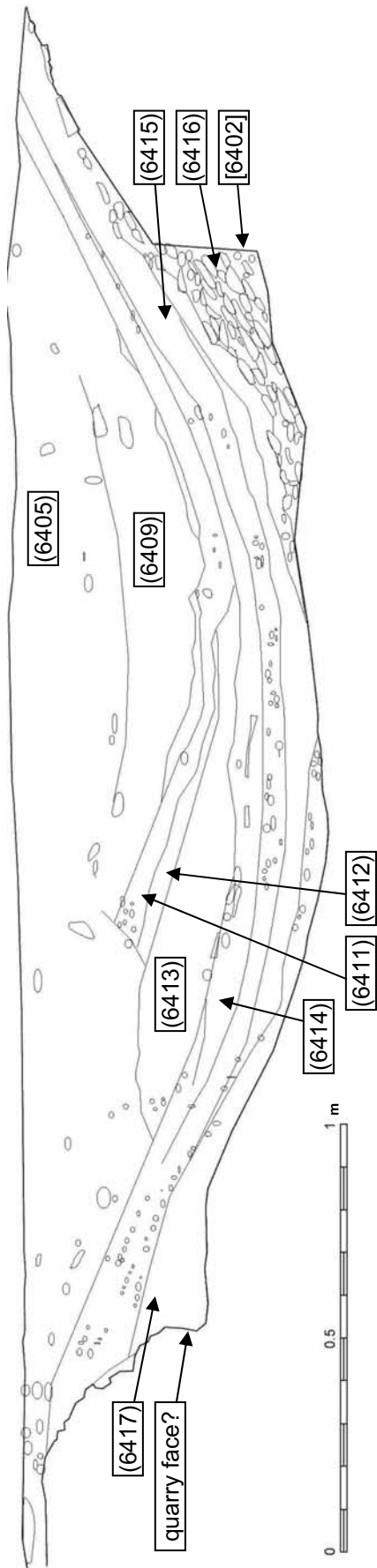


Figure 15: West facing section through Pit [6402]



Plate 32: Section through Quarry Pit (6402) Scale = 1m

5.8 Trench 65 Figure 16

5.8.1 General

Trench 65 was located in the northern half of the site and was adjacent to Trenches 63 and 68. It was opened in order to test a number of anomalies from the geophysical survey, including two linear features, which had been interpreted as ditches (Fig. 5). During the soil stripping a large feature [6508] was identified at the north end of the trench and this area was subsequently extended to the north in order to reveal the north extent of this feature.

5.8.2 The topsoil was light brown silty clay (6320), c.0.3m deep. The underlying strata (6321) comprised yellowish brown silty clay, and eight individual features or more complex groups of furnaces were present in the trench.

5.8.3 Pit [6508] Figure 16, Section 33

A large feature was present in the north part of the site and extended beyond the edge of the trench. The west side of the trench was subsequently extended, in order to reveal the west side of this feature. Its full extent was not established, but the part exposed in the trench was sub-rectangular in shape and was 2.9m wide, terminating in a butt end to the south. A segment was excavated across the east half of the exposed area, revealing that it was 0.63m deep and had an irregular profile. A thin layer of charcoal (6511) containing late 3rd and 4th-century pottery was present at the base. This was sealed by a mixed dark greyish brown deposit (6510), comprising silt, lenses of gravel/limestone fragments and ash, and containing pottery of similar date. The gravel may be decayed material, which had weathered from the edges and the ash and charcoal is interpreted as fuel waste, dumped into the pit from elsewhere. The top of the pit was filled with a more homogenous deposit of dark grey clayey silt (6509) the west side of which contained a number of burnt stones and 4th-century pottery sherds. The concentration of stones at the

top of the west part of the pit indicates that they may have been debris from a building or structure that had burnt down, or was associated with a heating or burning process.

5.8.4 *Ditch [6501]* Figure 16, Plate 33 and Section 34

Two ditches [6501] and [6504] were present in the west part of the trench. Ditch [6501] was stratigraphically the earliest and was aligned from northeast to southwest. It was 0.55m wide and 0.25m deep and had a symmetrical 'U' shaped profile (Plate 33). A deposit of yellowish brown stony silt (6507) was present at the base, which is interpreted as primary silting mixed with weathered stones, probably derived from weathering of the ditch edges. The upper part of the ditch profile was filled with a less stony deposit of yellowish brown silty clay (6502) and this ditch may be one of the ditches revealed during the geophysical survey in this area (Fig. 5).

5.8.5 *Ditch [6504]* Ditch 35

Ditch [6504] was aligned north to south and was adjacent to the west edge of the trench (Plate 34). It was 0.9m wide and 0.4m deep with an asymmetrical profile and contained single fill comprising greyish brown silty clay (6503) which contained an assemblage of 2nd century pottery. This ditch appears to be the anomaly revealed by the geophysical survey, and it cut the earlier ditch [6501] close to the northwest corner of the trench.

5.8.6 *Pits [6506], [6513], [6514], [6516], [6518], [6520], [6524] and [6527]*

Eight circular features were present in the east part of the trench. They were generally circular in shape, randomly distributed across this part of the trench, and usually contained a substantial fragment of ironworking slag in their centres. The presence of slag in these features suggests that they were associated with iron smelting but the natural strata at the bases were unburnt, indicating that the bases may not have been directly affected by any heating processes.

5.8.7 *Pit [6524]*

Pit [6524] was situated at the northeast corner of the trench and extended beyond the eastern trench edge. It was not excavated but its exposed area had a diameter of 1m and contained a deposit of greyish brown silty clay (6525).

5.8.8 *Pit [6527]* Plate 35, Section 49

Pit [6527] was situated in the north extension of the trench, between pits [6524] and [6508]. It was circular with a diameter of 0.85m and was 0.45m deep with almost vertical edges and a flat base (Plate 35). The function of this pit is unclear, but it contained a single deposit of grey silty clay (6528), which contained quantities of animal bone, which had been deposited around the edge of the pit. A piece of iron slag c.0.2m in diameter and several smaller fragments had been placed in the centre of this feature.

5.8.9 *Pit [6514]* Section 52

Pit [6514] was sub-rectangular in shape and located adjacent to the south edge of Pit [6508]. It was *c.*0.45m deep, 0.12m deep with a symmetrical 'U' shaped profile and contained a single deposit of greyish brown silty clay (6515).

5.8.10 *Pit [6516]*

A circular feature [6516] was situated in the centre of the trench, *c.*1.5m southwest of Pit [6508]. It was not excavated, but was *c.*0.15m in diameter and filled with a deposit of greyish brown silty clay (6517). No slag was present. This was the smallest of the features in Trench 65 and may be a posthole rather than a pit or furnace base.

5.8.11 *[Pit 6513]*

Pit [6513] was situated in the centre of the trench and was circular in shape with a diameter of *c.*0.3m. It was the shallowest feature in this area, being 0.1m deep with a symmetrical profile, and was filled with greyish brown silty clay (6526), which contained a number of slag fragments.

5.8.12 *Pit [6518]*

A circular pit [6518] was situated *c.*1m west of Pit [6513] and was not excavated. It was circular in shape with a diameter of 0.3m and was filled with greyish brown silty clay, but no slag was observed. Although not excavated, Pit [6518] was of similar size and appearance to its neighbour [6513] and the two may have been structurally related.

5.8.13 *Pit [6506] Plate 36, Section 40*

Pit [6506] was the southernmost feature of the group and was circular with a diameter of 0.7m and depth of 0.12m (Plate 36). A number of small lumps of slag were visible in the centre, within a fill of greyish brown silty clay (6505).

5.8.14 *Pit [6520] Plate 37, Section 39*

A sub-circular pit [6520] was situated northwest of Pit [6506]. It was of a different character to others in the group, being *c.*0.35m in diameter and 0.35m deep with vertical edges and a flat base (Plate 37). It contained a single deposit of greyish brown clayey silt (6521) with a large centrally positioned lump of slag at the top. The size and shape of this feature suggest that it may have been a posthole, but the presence of the slag may indicate a more specialist function.

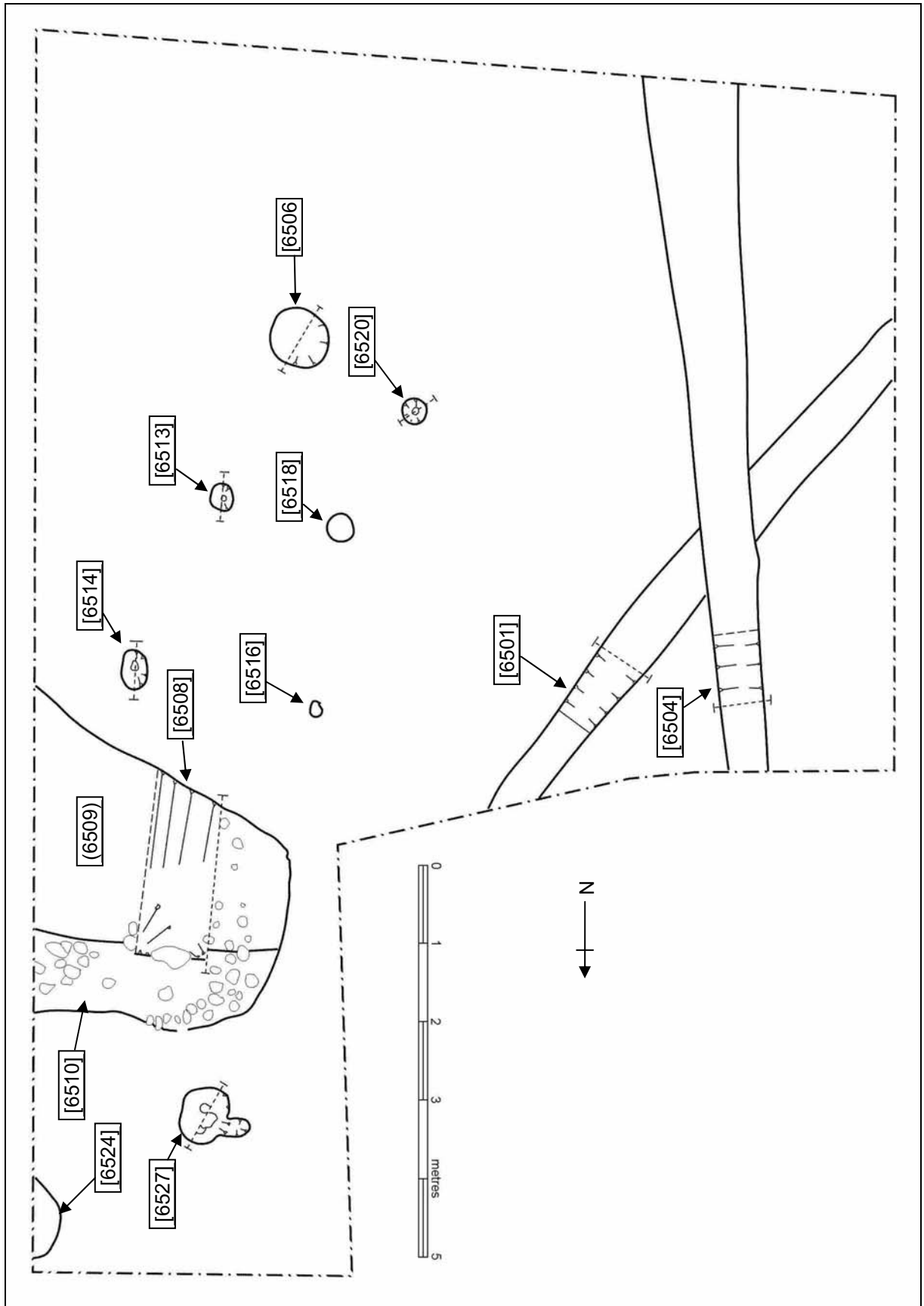


Figure 16: Plan of Trench 65



Plate 33: Section across Ditch [6501] (*Scale = 0.5m*)



Plate 34: Section across Ditch [6504] (*Scale = 1m*)



Plate 35: Pit [6527] (*Scale = 0.5m*)



Plate 36: Pit [6506] (Scale = 0.5m)



Plate 37: Pit [6520] (Scale = 0.5m)

5.9 Trench 68 Figure 17

5.9.1 General

Trench 68 was situated in the central part of the northern area and was adjacent to Trench 65. A substantial anomaly, interpreted as a geological feature, was revealed during the geophysical survey in this area and Trench 68 targeted this feature and a less substantial anomaly, aligned northeast to southwest. During the machining several significant archaeological features were revealed at the west end of the trench, adjacent to the features in Trench 65, and the west end of Trench 68 was extended to allow further investigation of these features.

5.9.2 The topsoil (6800) was 0.3m deep and comprised mid brown silty clay and overlay the natural strata which comprised lighter orange-brown clay silt (6812). A number of intermediate layers of colluvium were present in the east part of the trench (below, section 5.5.9) and five archaeological features were also revealed.

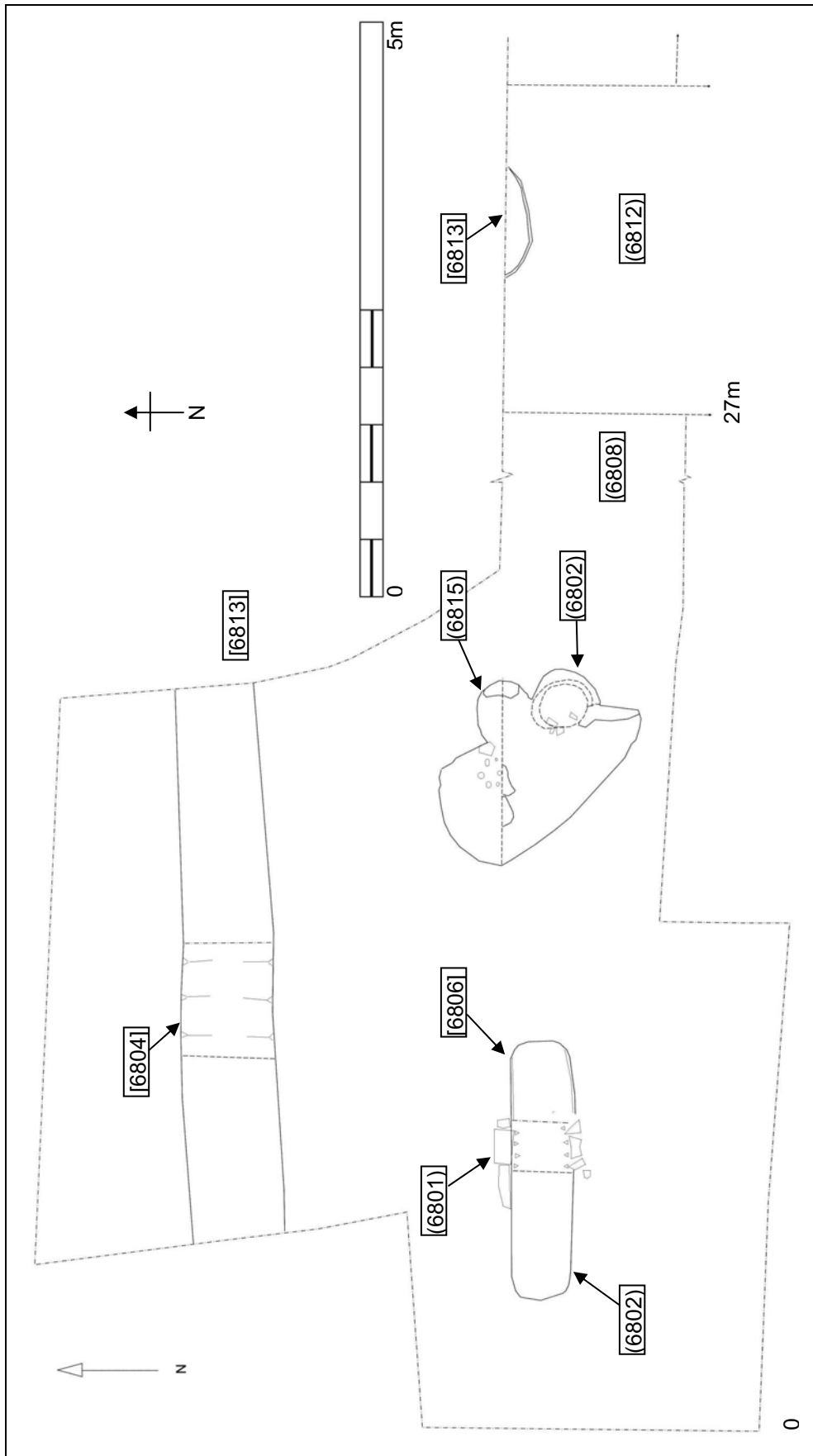


Figure 17: Plan of Trench 68

5.9.3 *Structure (6801) Plate 38*

The west end of Trench 68 contained a number of archaeological features, probably part of the same complex identified in Trench 65 (Section 5.8). A stone-lined structure (6801) was found adjacent to the west end of the trench (Plate 38). It was rectangular, orientated east - west, 2.3m long and 0.6m wide and had been set into a 0.4m deep cut [6806] in the underlying natural strata.

5.9.4 The north and south edges of the cut were lined with three to four courses of roughly hewn limestone blocks (6801). No bonding material was present and the upper courses on the north side were burnt to a brownish red colour, probably as the result of a heating process within the structure. A section was excavated across the centre of the structure and the underlying natural strata (6808) was revealed at a depth of 0.4m. Stonework was not present at the base and the east and west ends were not exposed.

5.9.5 Two separate deposits were present at the base. A deposit of dark grey silt 20mm thick, mixed with slightly lighter coloured ash (6803) was present at the base, containing four sherds of Roman pottery. This was overlain by a more substantial deposit of mid greyish brown silty clay (6802).

5.9.6 The presence of the ash and charcoal and traces of burning on the stonework suggests that this structure may have been an oven or accommodated some other heating process. It may have been a corn-drying oven, but lacked the 'T' shaped form commonly associated with this type of structure (above, Section 5.7.2).

5.9.7 *Furnaces (6807) and (6815) Figure 17*

An irregular feature comprising at least two furnaces was situated *c.*2m east of structure (6801) (Plate 39). They were not excavated but were of similar character to furnaces (6301) and (6302) in Trench 63. The complex comprised an irregular area of darker coloured soil with a width of *c.*1.9m, which is interpreted as the possible location of one or more tapping pits. Two furnaces (6807) and (6815) were identified on the east side of the dark area, with internal diameters of *c.*0.4m. Furnace (6807) was well defined and, after cleaning, the complete outline was visible, and comprised a circle of red burnt clay surrounded by lighter grey clay, which had been less effected by heat. Furnace (6815) was less well defined, but was of the same size and shape and both furnaces contained lumps of slag.

5.9.8 *Ditch [6804] Plate 40, Section 50*

An east - west aligned ditch [6804] was situated north of the furnaces. It was 0.8m wide, 0.3m deep with a regular 'U' shaped profile (Plate 40) and contained a single deposit of mid grey silty clay (6804). A single sherd of Roman pottery was present in this material. This ditch is interpreted as a boundary or enclosure ditch, delimiting the metalworking or agricultural processing area a working area, indicated by the furnaces and ovens.



Plate 38: Structure (6801) (*Scale = 0.5m*)

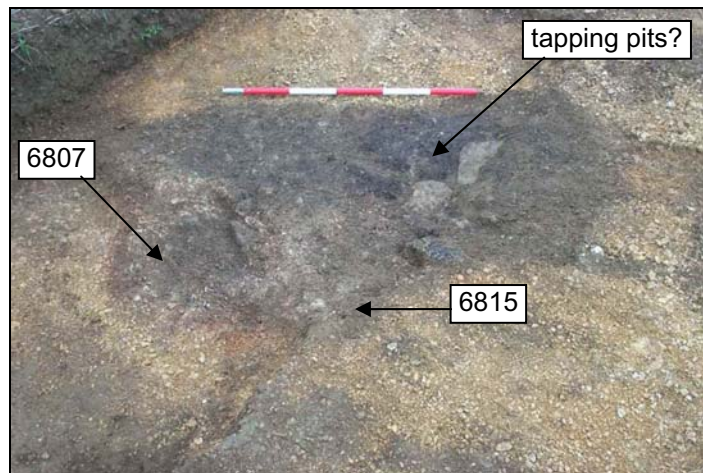


Plate 39: Furnaces (6807) and (6815) (*Scale = 1m*)



Plate 40: Ditch 6804 (*Scale = 0.5m*)

5.9.9 *Colluvium (6808)-(6811) Plate 71, Section 42*

The nature of the underlying natural strata varied along the length of this trench and towards the east end it became significantly darker in colour. The east half of the trench was situated at the base of the shallow valley, which had been sampled in Trench 65 (section 5.5.3; Plate 15) and a machine-excavated sondage was also cut in the east part of Trench 68, in order to investigate the strata in this area. The sondage was cut to a depth of 1.8m below the modern turf line and a sequence of five separate layers was present.

5.9.10 In this area the topsoil was above a layer of mid greyish brown clayey silt (6808). This was 0.25m thick and sealed a 0.12m thick layer of darker brown deposit of clayey silt (6809), which contained a sherd of Roman pottery. In turn this overlay a layer of dark brown clayey silt (6810), which it is interpreted as a former topsoil layer. The former topsoil sealed a deposit of light greyish brown clayey silt (6811), which was 0.25m deep and is interpreted as colluvium.

5.9.11 The base of the colluvium lay at a depth of 1.4m and sealed a sub-circular feature [6813], which may be the base of an industrial feature, possibly an oven or hearth. It was half exposed in the north side of the trench and was 0.8m in diameter and 0.3m deep. A deposit of greyish green clayey silt (6814) had been deposited within it, with contained occasional fragments of charcoal and slag.

5.9.12 The industrial feature [6813] had been cut into the underlying natural strata, which comprised light orange brown clayey silt (6812). Within the sondage in the east part of the trench, the top of this material lay at a depth of *c.*1.4m, but it followed the natural undulation at the side of the valley and, at the west end of the trench, was exposed beneath the topsoil, at a depth of *c.*0.3m.

5.10 *Trench 72*

5.10.1 *General*

Trench 72 was situated close to the edge of the north part of the site, in the area of the proposed screening bund and was located across the base of a shallow valley. It was orientated from east to west and was 100m long. Its general depth was 0.3m but a sondage was mechanically excavated in the centre of the trench, in order to test the nature of the underlying deposits (Plate 41). The topsoil comprised greyish brown silty clay and was 0.3m deep.

5.10.2 *Colluvium (7202)*

A deposit of reddish brown clayey silt (7202) was present beneath the topsoil, in the centre of the trench. The location of this material coincided with the base of the shallow valley and the deposit was *c.*50m wide and is interpreted as colluvium. A sondage was excavated through it halfway along the trench, where the deposit was seen to be 2m deep, overlying a 0.3m deep layer of dark brown clay (7204). The latter may be water-deposited material at the

base of the valley and/or a former topsoil/subsoil layer, and contained occasional fragments of iron ore and charcoal. The natural strata, which comprised orange brown sand and limestone fragments, was observed at a depth of *c.*2.3m.



Plate 41: Sondage in Trench 72 illustrating the depth of the underlying colluvium (*Scale = 4m*)

5.11 Trench 83

5.11.1 General

Trench 83 was situated in the northeast part of the north area and was aligned from north to south. It was 31m long and aimed to test a concentration of slag located during the fieldwalking and an anomaly detected during the geophysical survey. The topsoil comprised greyish brown silty clay (8201) and was 0.28m deep.

5.11.2 Colluvium (8702)

The topsoil overlay a discontinuous deposit of greyish brown clayey silt (8302). This deposit was not excavated but was interpreted as colluvium. One archaeological feature was present in this material.

5.11.3 Hearth/Furnace (8303) Plate 42

A badly truncated feature was situated at the south end of the trench (Plate 42). It was situated at the base of the west edge of the trench and was only partially exposed, but was 2m in diameter and comprised purplish pink burnt clay. Due to the truncated nature of this feature it was not possible to provide a definite interpretation, but it may have been a hearth, or possibly the base of a furnace.



Plate 42: Hearth (8303) (*Scale = 1m*)

5.12 Trench 85 Figure 18

5.12.1 General

Trench 85 was situated in the southern half of the northern area of the site and was orientated from north to south. It was 52m long and targeted a group of linear anomalies revealed during the geophysical survey, which were interpreted as part of an enclosure ditch. The light brown sandy clay topsoil (8501) was 0.29m deep. Two archaeological features were present in this trench.

5.12.2 Ditch [8503] Section 12

A badly truncated cut feature [8503] was present close to the south end of the trench (Plate 43). It was aligned from northeast to southwest, was 1.6m wide and *c.*80mm deep. The material within it (8502) comprised orange brown silty clay. This feature is interpreted as the base of a truncated ditch. It may coincide with part of the linear anomaly revealed during the geophysical survey.

5.12.3 Ditch [8504] Section 13

A more substantial ditch [8504] was present at the north end of the trench (Plate 44). It was well defined and aligned from northwest to southeast and was 1.45m wide and 0.28m deep, with a symmetrical 'U' shaped profile. A 170mm thick deposit of orange brown silty clay (8505) was present at its base, which is interpreted as silting at the base of the ditch. The remainder of the ditch profile was filled with lighter orange brown silty clay (8506), which was probably deposited after the ditch had gone out of use. This ditch is

interpreted as part of the north section of the linear anomaly defined during the geophysical survey.

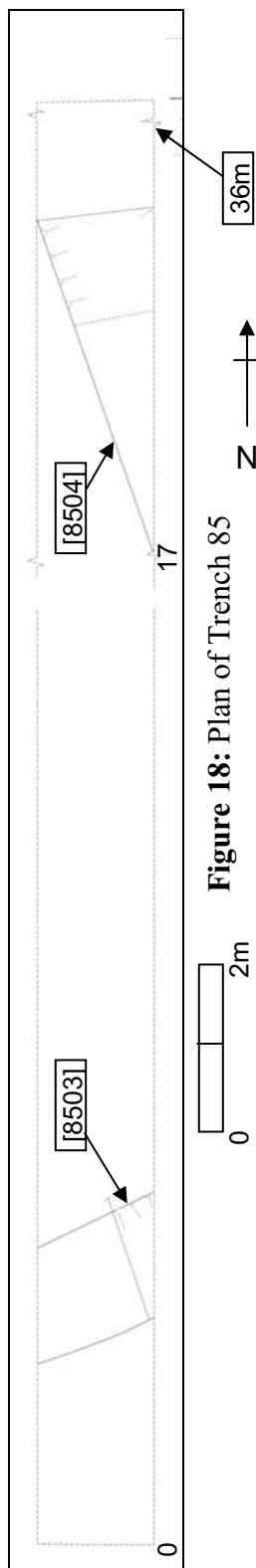


Figure 18: Plan of Trench 85



Plate 43: Ditch (?) [8503] (Scale = 1m)



Plate 44: Ditch (?) [8504] (Scale = 1m)

5.13 Trench 87 Figure 19; Plates 45-53

5.13.1 General

Trench 87 was situated in the east part of the northern half of the site, close to Long Wood, and was located there to test an anomaly recorded during the geophysical survey. A 10m square trench was opened and, due to the presence of a substantial archaeological feature, was extended to the north.

5.13.2 The topsoil comprised brown sandy clay *c.*0.25m deep. When this had been removed, the underlying deposit was lightly matted and trowelled (Plate 45).

5.13.3 Slag (8703) and (8704) Sections 31 and 32

An irregular area of slag and charcoal (8703) (8704) was present in the north part of the trench. It measured *c.* 6m × 11m, extending in an easterly direction beyond the limit of the trench. It comprised primarily slag and other debris associated with iron smelting and exhibited a degree of variability. The

material directly below the soil (8703) was light brown in colour and comprised 80% slag in a matrix of silty clay. Its depth varied up to a maximum of *c.*0.1m and a concentration of larger pieces of tapslag (up to 0.2m in diameter) was present in the southwest part. The proportion of tap slag decreased towards the centre, where the underlying material was darker grey in colour (8704) and higher proportion of ash and charcoal was observed. A number of underlying features were identified and the lower slag deposit (8704) filled the upper parts of the underlying features.



Plate 45: Iron smelting debris (8703) and (8704) after cleaning
(scales = 2m)

5.13.4 *Furnace Bases (?)*

The slag and charcoal debris (8704) was *c.*0.3m deep and had accumulated over a number of negative features that had been cut into the underlying natural strata (8701). This comprised yellowish brown sandy clay, with occasional patches of gravel and ironstones. The group as a whole [8702] comprised a number of subcircular features, interpreted as furnace bases, surrounding a central pit. Three linear features, probably ore roasting pits, were present to the east, cut by a later ditch. Separate cut and fill numbers were assigned to the individual features and are described in the following paragraphs. The natural strata beneath these features (8729) had been scorched, and was light reddish brown in colour.

- 5.13.5 Five sub-circular features [8709], [8721], [8724], [8726] and [8728] had been cut into the natural strata. They were situated on the periphery of the scorched area in an irregular arc, and comprised shallow depressions between *c.*0.6 and 1.8m in diameter. They were identified by their fills (8710, (8719), (8723), (8725) and (8727), which comprised deposits of burnt clay, charcoal and slag ranging in colour between black (8720) and yellow (8727). The westernmost example [8709] was excavated.

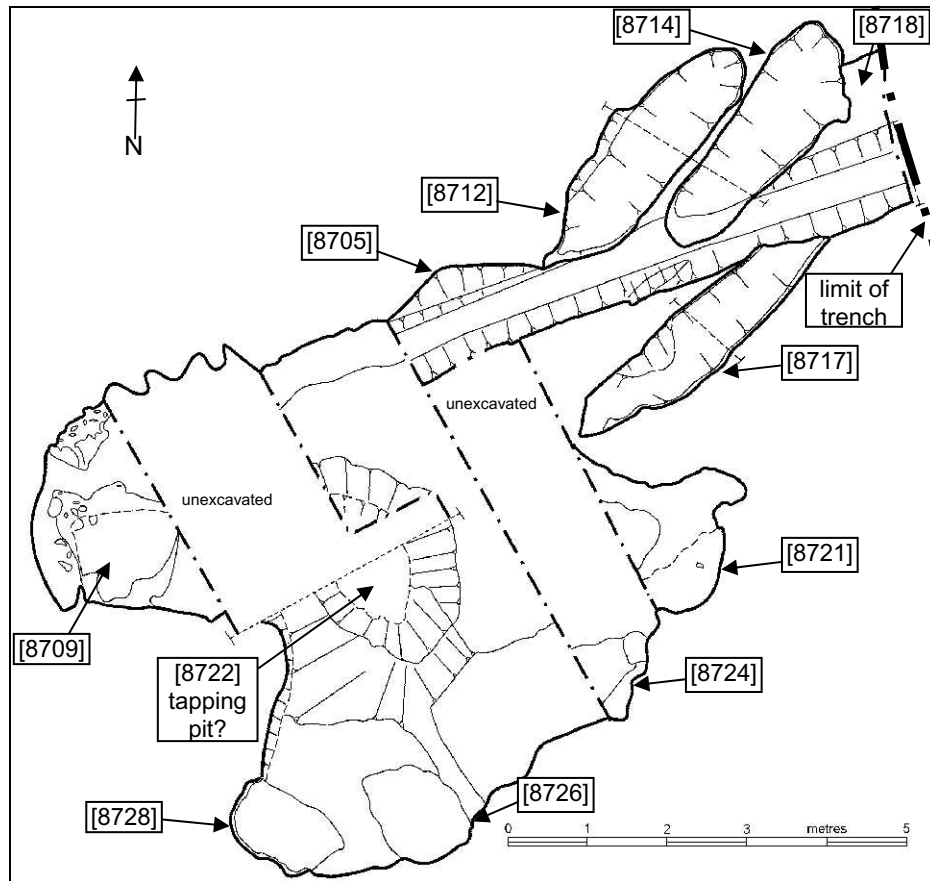


Figure 19: Plan of Trench 87, north side



Plate 46: The base of Furnace [8709] (Scale = 1m)

5.13.6 *Furnace [8709] Figure 19, Section 48*

Furnace [8709] was situated close to the west side of the trench. The west side of the feature was excavated, revealing the underlying scorched natural strata (Plate 46). The excavated portion comprised a semicircular cut *c.*1.8m in diameter and 0.3m deep, which contained two separate deposits. The lower fill (8710) comprised a mixed deposit of charcoal and small lumps of tapslag

in a matrix of grey clay. The tapslag fragments were relatively small and the overlying material (8704), which was part of the wider deposit across the whole complex (above, Section 5.13.3), contained significantly larger fragments. The feature is interpreted as the truncated base of an iron smelting furnace. The clay structure did not survive.

5.13.7 A sample from fill (8710) was submitted for radiocarbon dating and produced dates of AD 690 - 900 (Vol. 2, App. 4).

5.13.8 *Pit [8722] Section 53*

The furnaces surrounded an irregular pit [8722] (Plate 47). It was positioned approximately centrally within the complex and was *c.*1.4m in diameter and 0.5m deep. The underlying natural material had also been subjected to heat and had been burnt to a reddish brown colour. A mixed deposit of dark grey charcoal and clay (8707) *c.*50mm thick had accumulated around and at the base of this pit. The rest of the profile of the pit was filled by the more extensive slag layer (8704).

5.13.9 It is not possible to provide a definite interpretation of this pit [8722], but it is provisionally identified as a tapping pit, serving the surrounding furnaces [8709], etc. It was filled by the same slag and charcoal deposit (8704), which covered the remaining part of the complex.

5.13.10 When the upper layers of slag (8703) (8704) were cleared from northeast part of the complex, four linear features [8705], [8712], [8714] and [8717] were revealed. Features [8712], [8714] and [8717] were of similar width and depth and were parallel on northeast to southwest alignment. They had all been cut by gully [8705] and are provisionally interpreted as ore roasting pits.

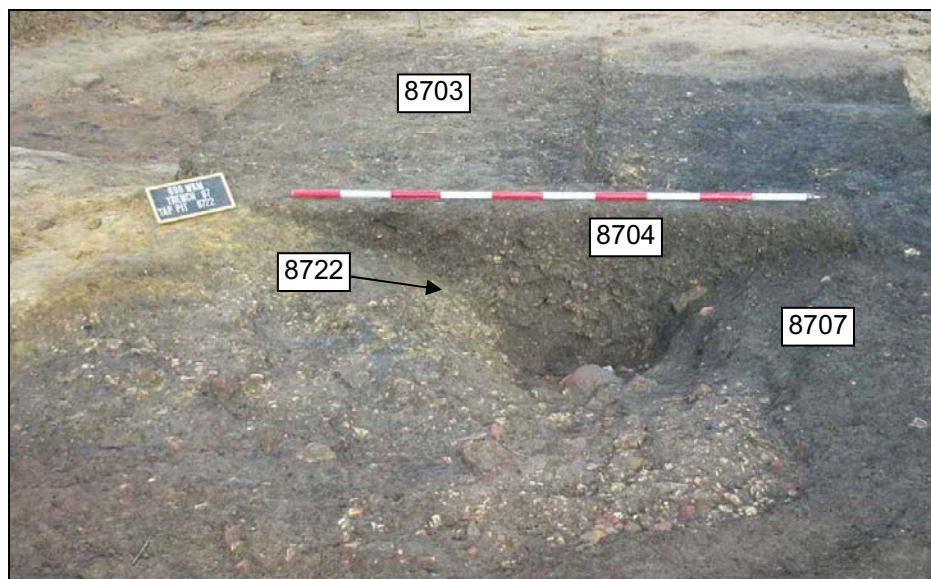


Plate 47: Central pit [8722] (*Scale = 2m*)

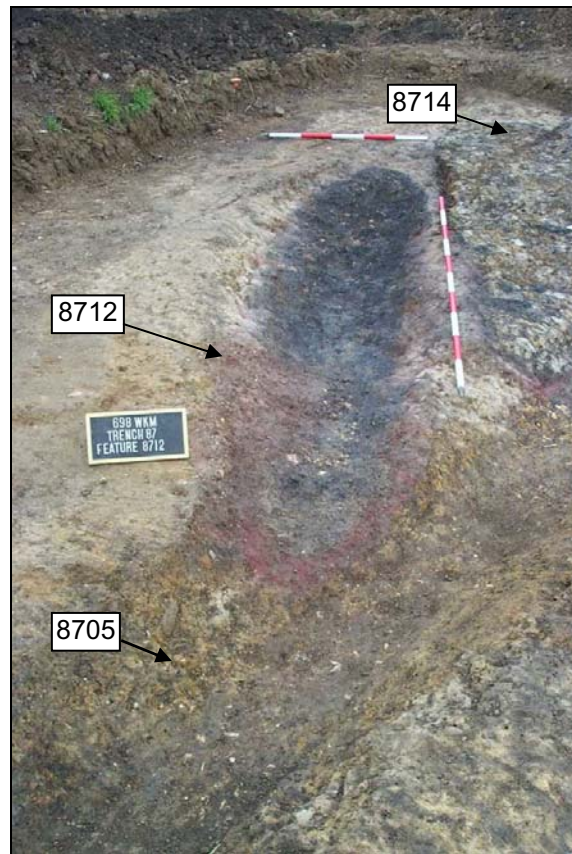


Plate 48: Pit [8712] (*Scales = 1 and 2m*)

5.13.11 *Ore Roasting Pit [8712] Section 54*

Pit [8712] was the northernmost of the group (Plate 48) and was *c.*3.4m long and *c.*1.4 wide with a smooth symmetrical profile. It had been cut directly into the underlying natural strata (8701), which had been burnt to a dark purple red colour. Its fill comprised dark grey silt and charcoal (8711) and may be fuel debris from the last firing, or debris derived from surrounding features.

5.13.12 A sample from the fill was submitted for radiocarbon dating and produced dates of AD 790 - 990 (Vol. 2, App. 4).

5.13.13 *Charcoal (8718)*

A deposit of dark grey charcoal (8718) was present near the northeast corner of the trench (Plate 49), which extended to the east beyond the trench edge. The exposed area measured 1.3 by 1m. It was not excavated but had been cut by Pit [8715] and Ditch [8705]. A modern plough-mark was noted in the top of the deposit.

5.13.14 *Ore Roasting Pit [8714] Section 54*

A second pit [8714] (Plate 49) was situated immediately northeast of Pit [8712]. It was of similar size and shape to its neighbour, being *c.*4 in length and *c.*1m wide, with a similar profile. The south half of the pit had been

truncated by later ditch [8705], and the southern terminal of Pit [8714] was visible on the south edge of this ditch.

5.13.15 The surrounding natural strata had been burnt to the same reddish colour, but the fills were of a different character. The edges of the pit were sealed by a c.30mm thick deposit of dark grey charcoal (8715). This material directly overlay the scorch reddened natural clay and is interpreted as fuel debris, either from the last firing within the pit, or similar material deposited into the pit from elsewhere. The charcoal was sealed by a more substantial deposit of yellowish brown clay (8713), similar to the surrounding natural strata. Like the charcoal in Pit [8709] it filled the entire profile of the pit, but was of an entirely different character. It is interpreted as natural clay that had either been deliberately deposited, or had gradually accumulated, within the pit when it ceased to be used for roasting. It was sealed by the more extensive slag spread (8704), indicating that iron production continued in the area, after the abandonment of Pit [8715].

5.13.16 *Ore Roasting Pit [8717] Section 55*

A third pit [8717] (Plate 50) was present south of Pit [8714]. It was c.3.9m long and 0.8m wide and was parallel to its neighbours. It had a similar profile, was 0.2m deep, and terminated with a butt end to the north, a small part of which had been marginally cut by the later ditch [8705].

5.13.17 In common with the previous roasting pits, the surrounding natural strata had been scorched red and a 30mm thick layer of dark grey charcoal (8716) was present above the natural clay (Plate 50). The upper part of the pit was filled with the wider slag deposit (8704), indicating that this roasting pit was partially open or still in use, at the time of deposition of the slag.

5.13.18 The relative chronology of these pits could not be established. All three had been cut by a ditch [8705], indicating that they had gone out of use prior to the construction of the ditch and may have been early elements in the development of the smelting complex. The charcoal layer (8718) may have been derived from fuel debris from Pits [8712] and [8717]. The charcoal had been cut by Pit [8715], indicating that the latter may post date Pits [8712] and [8717].

5.13.19 *Ditch [8705] Section 30*

The three pits were cut by a later ditch [8705] (Plates 49 & 51-53). This was cleaned and defined for a distance of 6.5m and extended in an easterly direction beyond the boundary of the trench. The west end was not located, but its north edge was defined for an addition 1.5m, where it defined the northern limit of an unexcavated part of slag spread (8704). If it continued on the same alignment it would have met furnace [8709] or, alternatively, it may have been associated with the central pit [8722].

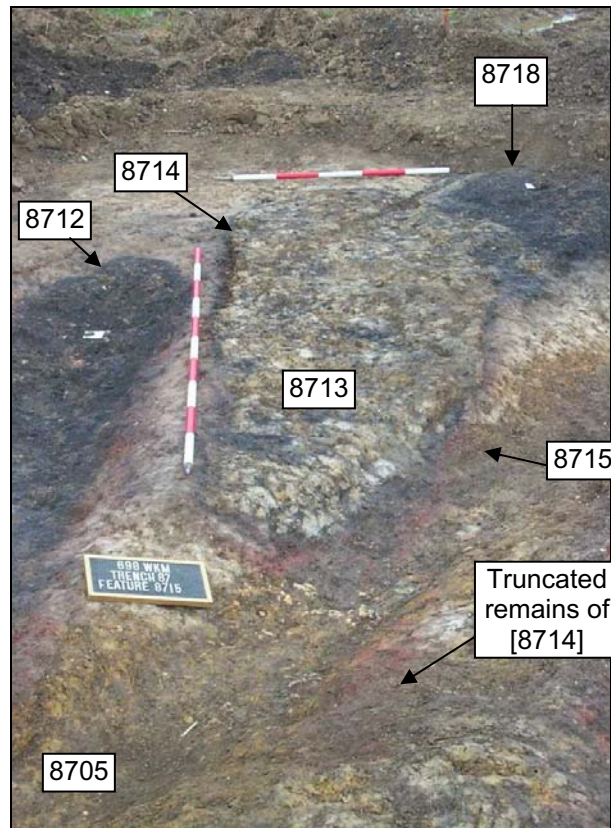


Plate 49: Pit [8714] prior to excavation
(Scales = 1 and 2m)

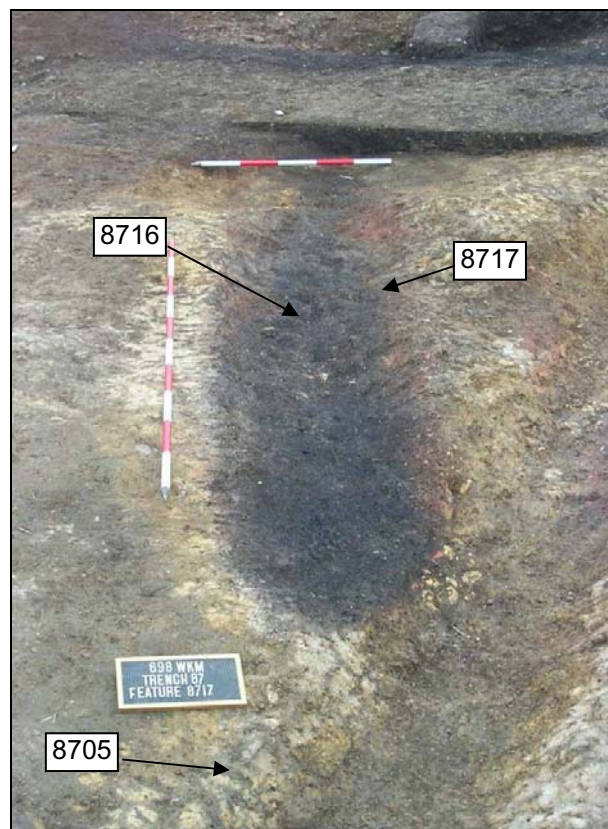


Plate 50: Pit [8717] prior to excavation (Scales = 1 and 2m)

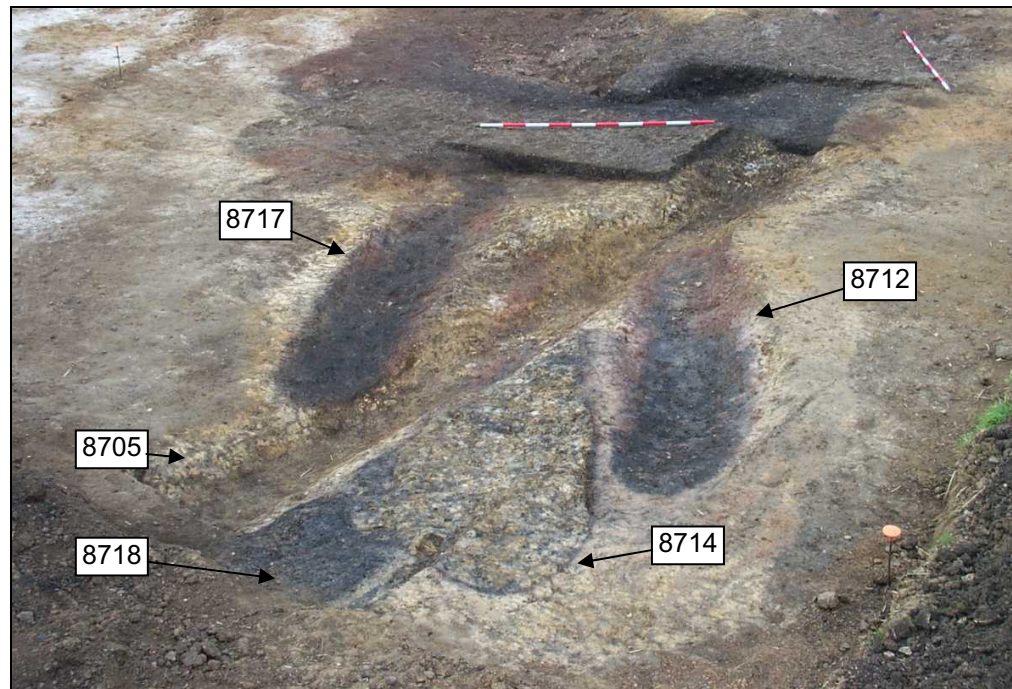


Plate 51: Ditch [8705] and Pits [8712], [8714] and [8717] (Scales = 2m)

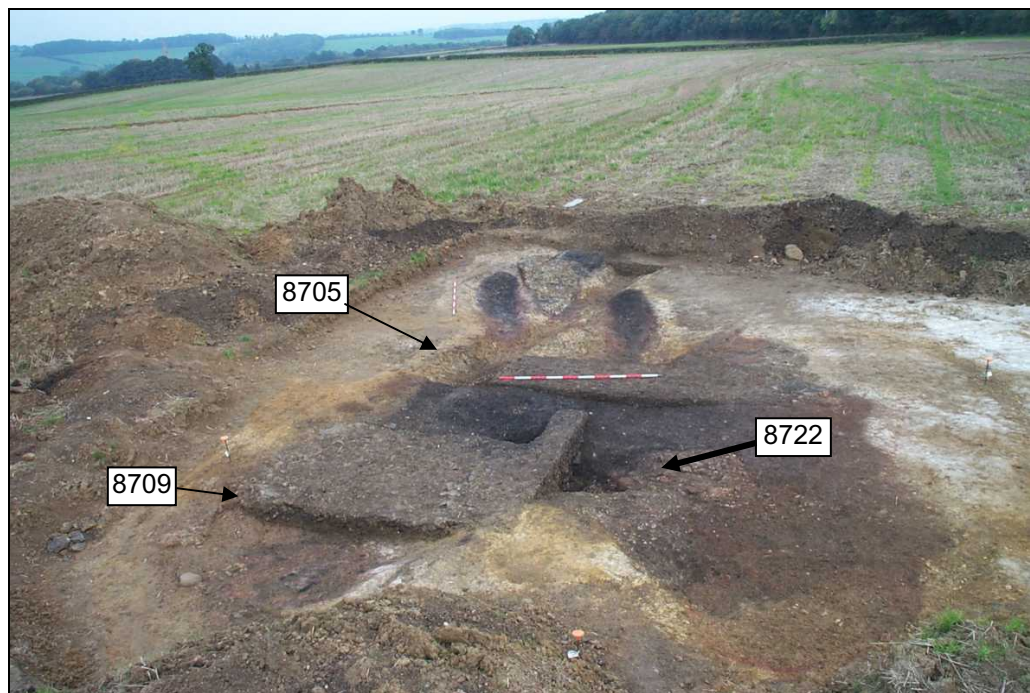


Plate 52: Ditch [8705], Furnace [8709] and Pit [8722] (Scale = 2m)



Plate 53: Section through Ditch [8705] (Scale = 1m)

5.14 Trench 93 Figure 20

5.14.1 General

Trench 93 was situated close to Wakerley Great Wood, in the northeast part of the site. It targeted an anomaly revealed during the geophysics and a concentration of slag defined during the fieldwalking. It initially comprised a rectangular area measuring $c.9 \times 11\text{m}$. An initial inspection revealed two archaeological features extending beyond the north edge of the trench and, in order to understand these features more fully, a 12m linear extension was cut leading north from the north edge of the trench. The topsoil (9301) was 0.26m deep and five archaeological features were present in the area.

5.14.2 Ore Roasting Pit (9309)

An irregular oval shaped feature (9309) was present in the northern extension to the trench. It was $c.1.4\text{m}$ long and 0.49m wide and was aligned from north to south. This feature was not excavated but comprised a deposit of charcoal within a depression set into the natural strata. The natural material at the edges had become burnt red as a result of a heating process within the feature, which is interpreted as a badly truncated ore roasting pit.

5.14.3 Ore Roasting Pit (9302) Plate 54, Section 8

This feature was situated at the south end of the linear extension to the trench and comprised a linear feature orientated from northeast to southwest, extending beyond the edges of the trench (Plate 54). It was 0.6m wide and $c.0.1\text{m}$ deep with a shallow 'U' shaped profile. The surrounding natural strata had become burnt red (9303) and the profile had become filled with a mixed deposit of dark brown silty clay and charcoal (9304). This feature is

interpreted as an ore roasting pit and the charcoal (9304) may be the remains of fuel from the last firing.

5.14.4 Ore Roasting Pit (9305) Plate 55, Section 9

Ore roasting pit (9305) was situated *c.*2m south of Pit (9302) and was also aligned northeast to southwest (Plate 55). A butt end was present at the southwest end, but the northeast end lay beyond the edge of the trench. It was similar to Pit (9302) being 0.6m wide and 0.3m deep with a symmetrical 'U' shaped profile. The surrounding natural strata had become burnt red and the base of the feature contained a layer of dark grey charcoal (9306), which may be fuel debris. A sample of this material was submitted for radiocarbon dating and produced dates of AD 670 - 880 (Vol. 2, App. 4). The charcoal was overlain by a deposit of orange brown sandy clay (9307), which may be silt accumulated in the partially filled pit. The top of the profile contained a second deposit of burnt clay and charcoal (9308), which may indicate that the pit was brought back into use for a final firing, before being abandoned.

5.14.5 Ore Roasting Pits (9310) and (9311)

Two further northeast to southwest aligned pits (9310) and (9311) were present in the trench. They were not excavated and had been badly truncated by plough action, but were of the same general character as pits (9302) and (9305). Pit (9310) was adjacent to pit (9305) and was sub-rectangular in shape and was *c.*1.4m and *c.*0.25m wide. Pit (9311) was on the west side of the trench and was 1.7m long and 0.4m wide. The underlying natural strata in both pits had been burnt red and both are interpreted as truncated ore roasting pits.



Plate 54: Ore Roasting Pit (?) [9302] (Scale = 1m)

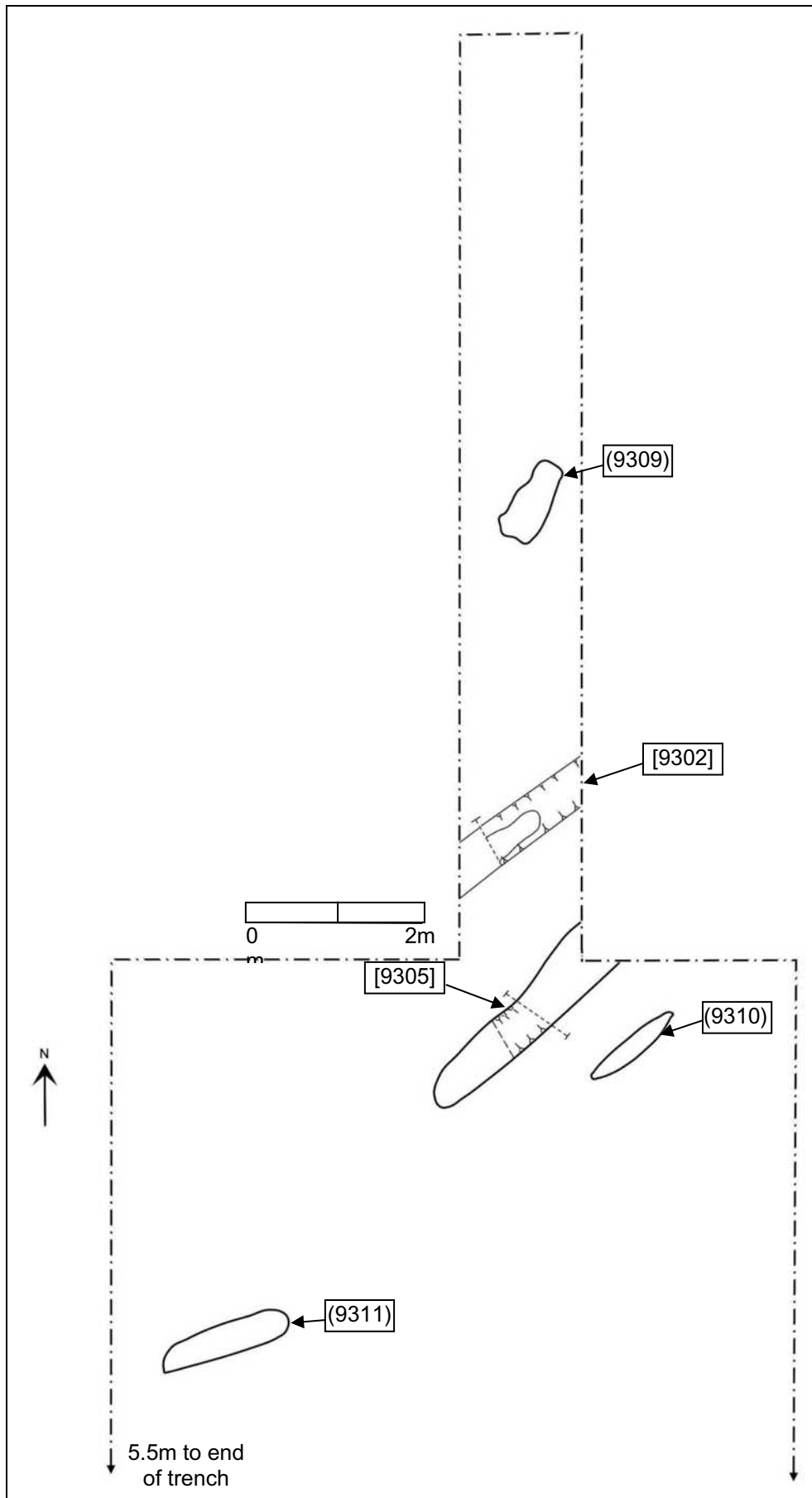


Figure 20: Plan of Trench 93



Plate 55: Ore Roasting Pit (?) [9305] (Scale = 1m)

5.15 Trench 94 Figure 21

5.15.1 General

Trench 94 was situated in the northeast part of the site, adjacent to Wakerley Great Wood, and targeted two curved anomalies from the geophysical survey. It was aligned north to south and was 44m long but, following the identification of two ore roasting pits in the centre of the trench, an additional length was opened, extending west for a distance of 22m. The topsoil (9401) was 0.3m deep and comprised light brown silty clay over natural yellowish brown clay (9400) and two archaeological features were present.

5.15.2 Ore Roasting Pit (9402) Plate 56, Section 11

Pit [9402] was situated in the centre of the trench and was a linear feature aligned northeast to southwest, extending beyond the trench edges (Plate 56). It was 0.75m wide and 0.2m deep with a symmetrical 'U' shaped profile. In common with the ore roasting pits in Trench 93, the underlying natural strata had been burnt red (9403) and a thin layer of burnt clay and charcoal (9404), possibly fuel from the last heating, was present at the base. The remainder of the feature was filled with a lighter brown deposit of silty clay. This feature is on the same alignment as the pits in Trench 93 and is also interpreted as an ore roasting pit.



Plate 56: Ore Roasting Pits (9402) and (9406) *scale = 2m*

5.15.3 Ore Roasting Pit (9406) Plate 56, Section 10

Ore roasting pit (9406) was situated 2m south of Pit (9402) and was also aligned from northeast to southwest (Plate 56). Its west end was present in the west extension to the trench, but the east part extended beyond the edge of the trench. It was 0.4m wide and 0.15m deep with a symmetrical 'U' shaped profile. Like its neighbour (9402), the surrounding natural strata had been heat reddened (9403) and was overlain by a thin layer of charcoal (9404). The charcoal may be fuel debris from the last heating and was sealed by a homogenous deposit of brown silty clay (9405), which is probably silt accumulated into the top of the disused pit.

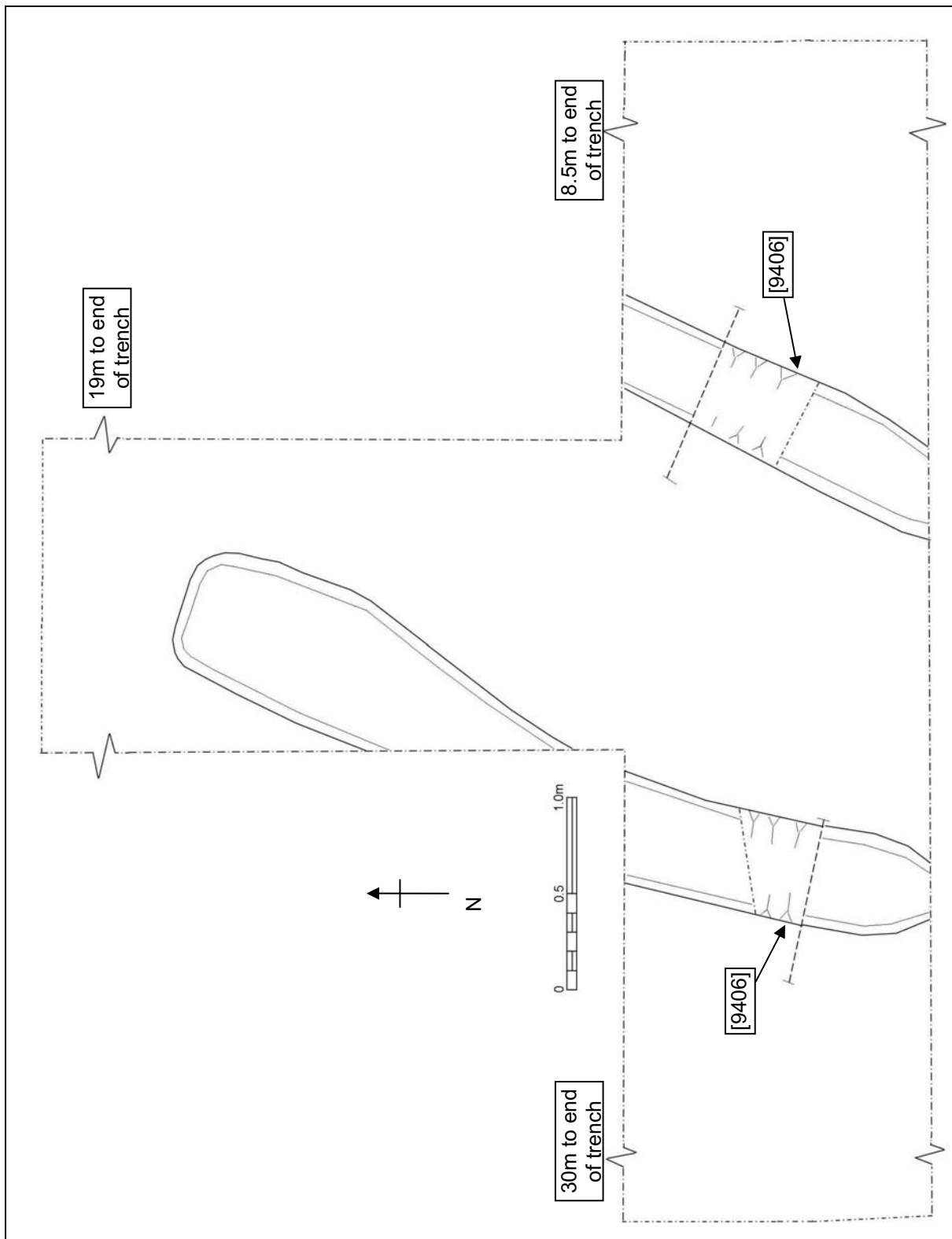


Figure: 21 Plan of Trench 94

5.16 Trench 100

4.16.1 General

Trench 100 was situated towards the northeast corner of the site, was 35m long, and orientated from east to west. The topsoil in this area (10006) was *c.*0.35m thick and comprised dark greyish brown sandy clay over natural light reddish brown sandy clay (10007). The trench aimed to test a group of linear anomalies detected during the geophysical survey and three features were present.

4.16.2 Ditch [10005] Section 3

A ditch [10005] was situated in the centre of the trench. It was orientated from northeast to southwest and was 1.4m wide and 0.25m deep with a symmetrical 'U' shaped profile. The ditch was filled with a single deposit of mid reddish brown sandy clay (10004) and was parallel to Ditch [10001]. It may correspond to the linear anomalies defined by the geophysical survey.

4.16.3 Pit [10003] Section 2

A circular feature was present *c.*3m east of the ditch, which extended beyond the southern trench edge. It was *c.*2m in diameter and *c.*0.26m deep with an irregular asymmetrical profile filled with dark reddish brown sandy clay (10002). This feature is interpreted as an irregular pit but, alternatively, it may be a ditch butt end.

4.16.4 Ditch [10001] Section 1

Ditch [10001] was situated east of Pit [10003] and was aligned from northeast to southwest. It was *c.*0.8m wide and 80mm deep with a symmetrical 'U' shaped profile and was filled with a homogenous deposit of brownish grey sandy clay (10000). The shallow depth of this feature indicates that it may be the base of a truncated furrow but furrows, elsewhere on the site are on a different alignment, being orientated from northwest to south. Accordingly, this feature is interpreted as a shallow ditch and is parallel to ditch [10005].

5.17 Trench 101 Figure 22

5.17.1 General

Trench 101 was located in the northwest part of the site and was adjacent to Trench 100. It was orientated from north to south and was 50m long. The topsoil (10100) was *c.* 0.3m thick and comprised dark reddish brown sandy clay overlying natural sandy clay and the trench targeted two linear anomalies, of possible archaeological origin, identified during the geophysical survey. Two ditches were present in this trench.

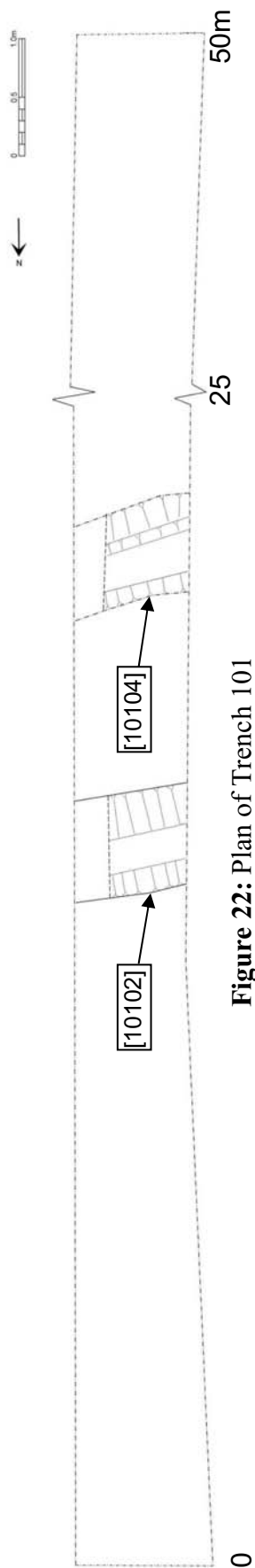


Figure 22: Plan of Trench 101

5.17.2 Ditch [10102] Section 6

Ditch [10102] was situated in the northern part of the trench and was orientated from east to west. It was 1.3m wide and 0.38m deep and had a regular 'U' shaped profile, containing two separate deposits. The lower fill (10101) comprised mid orange brown sandy clay and is likely to be primary silting material. This was overlain by a deposit of deeper reddish brown sandy clay (10105), which filled the top of the ditch profile. This ditch is interpreted as the east-west aligned ditch revealed by the geophysical survey and is probably continuous with Trench [10201] in Trench 102.

5.17.3 Ditch [10104] Section 7

Ditch [10104] was situated *c.*3m south of Ditch [10102]. Ditch [10104] was also aligned north to south and was 1.4m wide and 0.45m deep with an irregular profile. It contained a single deposit of greyish brown silty clay (10103) and is interpreted as the second of the anomalies revealed during the geophysical survey.

5.18 Trench 102

5.18.1 General

Trench 102 was adjacent to Trench 101 in the northeast corner of the site. It targeted two linear anomalies from the geophysical survey, was 52m long and orientated from north to south. The topsoil comprised a 0.25m deep deposit of dark greyish brown sandy clay (10204) overlying light reddish brown silty sand (10205). Two archaeological features were present in this trench.

5.18.2 Ditch [10201] Section 5

A ditch was present in the centre of the trench [10201]. It was aligned east-northeast to west-southwest and was 1.5m wide and 0.56 m deep with an irregular profile. Two separate fills were identified, namely a lower layer of orange brown sandy clay (10200), which is interpreted as primary silt, overlain by reddish brown silty clay (10206). This ditch is interpreted as the anomaly revealed during the geophysical survey and is probably continuous with Ditch [10102], in Trench 101.

5.18.3 Ditch [10203] Section 4

Ditch [10203] was situated *c.*2m south of Ditch [10201] and was an irregular feature aligned east to west. It was *c.*1m wide but only 80mm deep. It was filled with mid greyish brown silty clay (10202) and may be the base of a truncated shallow ditch, or the base of a marginally deeper area, or undulation in the topsoil.

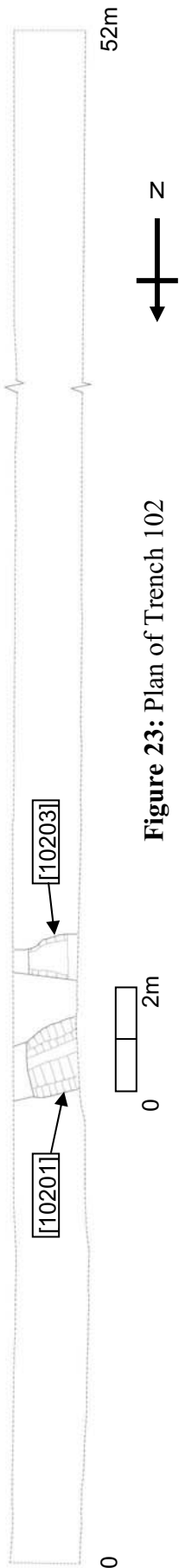


Figure 23: Plan of Trench 102

5.19 Trench 104

5.19.1 General

Trench 104 was the most easterly of all the trenches and was situated at the northeast tip of the north area. It aimed to test an extensive sinuous anomaly defined during the geophysical survey and was orientated from east to west. It was 52m long and 0.4m deep and the topsoil, which was 0.4m deep comprised greyish brown silty clay (10401). A machine-cut sondage was excavated at the centre of this trench, in order to investigate the underlying layers.

5.19.2 Colluvium Plate 57

The underlying natural strata in this trench (10400) comprised light grey sand and ironstone fragments, but a spread of orange clayey silt *c.*1.5m wide was situated in centre of the trench. This was interpreted as colluvium and a sondage was cut into it, in the centre of the trench, in order to investigate its thickness (Plate 57).

5.19.3 The colluvium (10402) was *c.*0.7m thick. It was relatively homogenous and lacked the fragments of ironstone that were present in the surrounding strata. A second layer, slightly more grey in colour (10403) was present beneath the brown colluvium. This contained small ironstone flecks and may be colluvial in origin. The latter was *c.*0.2m deep and overlay the natural strata (10400). Within the sondage, the top of the natural strata lay at a depth of *c.*1.5m, but this layer rose closer to the surface towards the east and west ends of the trench. It is likely that a shallow valley was situated in this area and that layers (10402) and (10403) are colluvium, which has accumulated at the base of this valley.

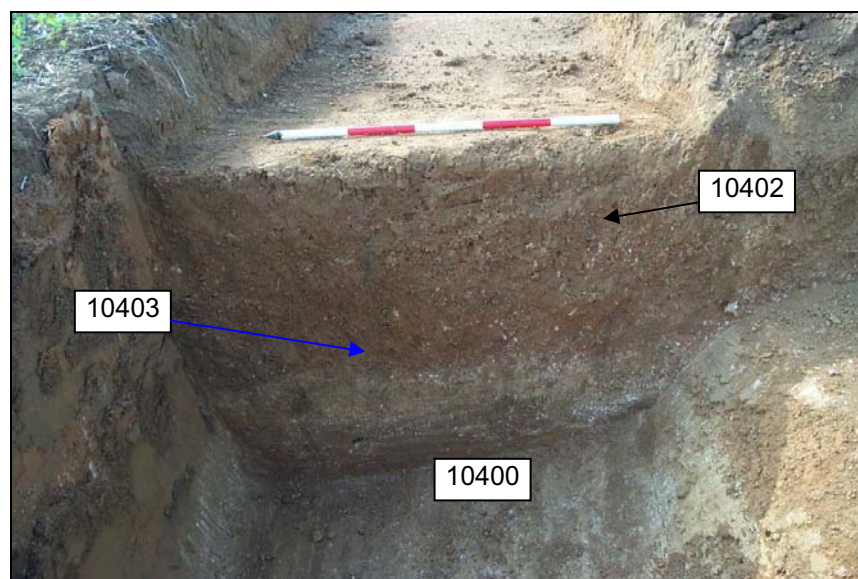


Plate 57: Sondage cut in Trench 104 illustrating depth of colluvium (*Scale = 1m*)

6. Conclusions

6.1 Introduction

6.1.1 The trial trenching has confirmed the results of the earlier phases of the evaluation. The desk-based assessment (Fell 2003) summarised the existing state of knowledge and the fieldwalking (Wilson 2004) and geophysical survey (Stratascan 2005) have substantially added to the dataset. The trial trenching has built significantly on these earlier works and allows more detailed consideration of the nature, extent, distribution and condition of the archaeological features present.

6.2 Distribution of features

6.2.1 The desk-based assessment provided an overview of the existing knowledge and indicated that archaeological remains were known both within and adjacent to the site. The fieldwalking indicated the presence of concentrations of slag, notably at the west end of the airfield and the east and west ends of the northern area. The geophysical survey confirmed these results and, in addition, provided further evidence for enclosures, and sinuous features, interpreted as palaeochannels or former valleys, in the centre of the northern area.

6.2.2 The trial trenches provided a sample of all areas of the site and tested areas of interest defined by both the fieldwalking and geophysical survey. They also tested apparently 'blank areas'. The results indicate that a substantial number of archaeological features are present across the site, but that these are concentrated in specific areas.

6.2.3 Twenty-four trenches were excavated on the site of the former airfield. The fieldwalking survey had indicated that a linear spread of slag was present at the west end of the airfield. This was most concentrated at the west end but extended and fell away towards the centre of the airfield. The geophysical survey confirmed these results and three anomalies were identified, corresponding with the west end of the slag concentration. Two trial trenches targeted this area (Trenches 12 and 13) and a number of archaeological features were present, including possible ore roasting pits and ditches and confirmed the significance of the west end of the airfield. Little was found elsewhere on the airfield, indicating that the remainder of this area may be of less significance.

6.2.4 A further concentration of slag was present at the east end of the northern part of the site. A number of anomalies from the geophysical survey coincided with the highest slag concentrations and these areas were interpreted as having good potential for the presence of ironworking remains. Accordingly, a number of trial trenches were excavated in this area (Trenches 82-92). The trenches confirmed the results of the earlier phases of work and significant archaeological remains were found in the trenches, notably in Trench 87 where substantial traces of ironworking were present.

6.2.5 A background scatter of slag was present in the centre of the north part of the site but the fieldwalking did not identify individual areas of potential in this

area. In this respect the geophysical survey was considerably more successful in this area as a number of ditches, possible areas of iron smelting and palaeochannels were identified. Trenches 55-68 targeted anomalies from the geophysical survey and significant results were gained. Remains of iron smelting furnaces were present in Trenches 63, 65 and 68 and the corndrying oven and quarry pit present in Trench 64 provide an indication of the range and of activity that is likely to be present in this area.

- 6.2.6 The west side of the north part of the site is considered to offer relatively low archaeological potential. A background scatter of slag was recorded during the fieldwalking, with evidence of a minor concentration at the southwest end. The geophysical survey indicated the presence of former ridge and furrow cultivation strips and field boundaries but the anomalies were considerably sparser than the areas to the east indicating that less ground disturbance had taken place. The trial trenching operations supported these conclusions. Trenches 4 and 5 were close to the Iron Age and Roman enclosures identified during the earlier quarrying operations (SMR 3097), and while the presence of isolated archaeological remains in this area cannot be excluded, it is less likely that large quantities of archaeological remains are present in the northwest part of the site.

6.3 Discussion of Fieldwalking and Geophysics

- 6.3.1 The fieldwalking and geophysical surveys provided a substantial quantity of new information. In general terms the surveys were complimentary but the results of the trial trenching indicate that the results must be used with caution.
- 6.3.2 The fieldwalking was generally successful at identifying concentrations of slag, but did not define specific areas of activity within these. The geophysical survey results complemented this information and identified smaller areas that could be targeted with trial trenches. Trench 87 was located in this way and significant information was obtained as a result (Section 5.13). The same strategy was adopted for Trenches 91 and 92 but these trenches proved to be negative. While this may be due to factors such as surveying errors it is clear that the geophysical anomalies identified as archaeological in origin and may be the result of non-archaeological activity.
- 6.3.3 The fieldwalking successfully identified the concentrations of slag overlying the mid Saxon industrial features (*e.g.* Trenches 12, 87, etc) but was less successful in identifying the earlier furnaces in the central area (*e.g.* Trenches 63 and 65). The latter produced relatively small quantities of slag, making the features less visible in the fieldwalking. The Saxon features were also identified in the geophysical survey, but geophysics failed to locate the smaller late Iron Age/Roman furnaces in Trenches, 63, 65, etc.
- 6.3.4 Many of the linear anomalies identified during the geophysical survey were interpreted as enclosure ditches and field boundaries. Notably, anomalies investigated in Trenches 59-65, 85 and 89 were identified as enclosure ditches. A number of excavated ditches coincided with geophysical anomalies (*e.g.* Ditches [8503] and [8504] in Trench 85), but many of the linear features in the

geophysical survey were not identified in the trial trenches (e.g. Trenches 56, 61, etc.). Trench 59 targeted linear anomalies interpreted as three parallel ditches but, following excavation, these were discovered to be parts of a single more extensive feature which extended into Trenches 51, 68 and 72. The results of the trenching have shown that, while the linear anomalies are indicators of the general presence of archaeological features, their interpretation as ditches in the geophysical survey report cannot always be justified. In many cases this has proved to be too specific an interpretation for these anomalies.

6.4 *Furnaces.*

- 6.4.1 Several features interpreted as iron smelting furnaces were identified in the trenches. The most substantial group was present in the centre of the north part of the site, notably in Trenches 63 and 65. Pottery and radiocarbon dates indicate that they are likely to be late Iron Age or Roman in date.
- 6.4.2 The furnaces in Trenches 63 and 65 comprised subcircular areas of grey clay [6301], [6302], [6807] and [6815]. Following consultation with the specialist consultant (Jane Cowgill) all were cleaned, defined and planned, and a single example [6301] was selected for more detailed excavation. The development of this furnace was shown to be complex and it had been rebuilt on a number of occasions, the location of the rebuild generally being slightly offset from its predecessor. Nothing survived above ground level, but below the level of the topsoil the remains were relatively well preserved, and it proved possible to record and interpret these structures in some detail.
- 6.4.3 The main furnace structures comprised grey clay with internal diameters of c.0.4m. The inner face of the furnace walls had been burnt red but the outer edges had been less affected by heat and maintained their original light grey colour. The clay at the outer edges was also softer and the exact edge of the furnaces was often difficult to define, due to slumping of the clay. Charcoal and slag was present at the bases of the furnaces and two separate pits [6316] and [6330], provisionally interpreted as tapping pits, were identified. This group of furnaces is being actively damaged by ploughing, as a plough scar was observed cutting across one of the furnaces (6333) and its tapping pit [6330].
- 6.4.4 The clay-lined furnaces were restricted to Trenches 63 and 65, but furnaces were present in Trenches 54, 87 and possibly also 65. A single circular feature as recorded in Trench 54 (5405). This was c.1m in diameter with charcoal at the base (5406) and although it lacked a clay lining, it is interpreted as the base of a structure associated with the iron smelting industry. Similar structures were present in Trench 12 [1205] and Trench 83 (8303), but these were less well preserved and require further investigation before more specific interpretations can be offered.
- 6.4.5 A more substantial group of features associated with iron smelting was present in Trench 87. This complex group of intercutting features was rapidly sampled. Within the context of the evaluation it was not possible to fully understand this

area and further work is required. A group of five subcircular features [8709], [8721], [8724], [8728] and [8728] interpreted as furnaces was present, surrounding a central pit [8722]. A single example [8709] was selected for excavation, which was *c.* 1.8m in diameter with a deposit of ash and charcoal at the base. The central pit is interpreted as a tapping pit, which collected slag from the surrounding furnaces. A radiocarbon date indicates that this complex dates to the mid Saxon period.

6.5 Ore Roasting Pits/Channel Hearths

- 6.5.1 A number of rectangular features, interpreted as ore roasting pits, were present in the trial trenches. They occurred in groups in Trenches 12 and 13, 87, 93 and 94, and were typically 1-2m long, 0.3m wide and 0.2m deep. The underlying natural strata had been burnt to a pink or red colour and deposits of ash and charcoal were present at the base. Those in Trench 87, [8712], [8714] and [8717], were situated adjacent to the furnaces and tapping pits and may have provided the treated fuel for the furnaces.

6.6 Settlement Type

- 6.6.1 Concentrations of slag identified during the fieldwalking survey provided ample evidence that remains associated with iron smelting were likely to be present on the site. This was confirmed by the geophysical survey, which also identified features interpreted as enclosure ditches. Two enclosures were known in the northeast part of the site, having been identified through aerial photography and which were discussed in the desk-based assessment (Fell 2003, fig. 3). Enclosure 2 (*ibid*, Plate 4) is probably part of the same enclosure identified by the geophysical survey. The function of these enclosures is not known and while they may be associated with the iron smelting industry they may have had other functions, including settlement or agriculture.
- 6.6.2 The trial trenching has demonstrated the range of activity that took place on the site. In addition to the ore roasting and iron smelting, extraction of the iron ore was probably took place. Ironstone outcrops on the sloping land in the north part of the site and an extraction quarry [6402] was located in this area, in Trench 64 (Fig. 15; Plates 31 and 32). A second pit [6508] was situated *c.* 100m to the northwest in Trench 65. This was smaller than that in Trench 64 and may also have been an extraction pit, but further investigation of this feature is required before a firm interpretation can be provided. Both pits are adjacent to the furnaces in Trenches 63 and 68, and were within or adjacent to Enclosure 2. This area was clearly a focus of activity.
- 6.6.3 A group of subcircular pits was also identified in Trench 65 ([6506], [6518], [6520], [6528], etc). They were concentrated on the north side of the trench (Fig. 16), adjacent to Pit [6508]. Each contained one or more lumps of slag, centrally placed at the top of the filling material (Plates 36 and 37). They varied in diameter between 0.25m [6516] and 0.7m [6506], and in depth between 0.12m [6506] and 0.45m [6527]. The latter contained a deposit of animal bone placed on its base and sides. The presence of the centrally placed slag in each of these features suggests a common industrial function, although the absence of ash and charcoal from the fills suggests that they are unlikely to

have been furnaces. The deeper and vertical sided examples, *e.g.* [6520], have the appearance of postholes and the presence of animal bone at the base and edges of [6527] is currently unexplained.

- 6.6.4 The pits described above may have had an agricultural function as a number of structures were present, indicating that agricultural activity, and in particular corndrying or malting was taking place. A well-preserved stone-built 'T shaped' corndrying or malting oven [6406] was present at the east side of Trench 64 (Plate 30) and similar structures were present in Trenches 63 [6304] and [6306]. The interpretation of [6304] is uncertain as only a small part of the structure was exposed within the trial trench, but oven [6308] comprised a stone-lined flue [6308] with a subcircular stokehole in the centre of the trench (Plate 18). The cross-flue probably lies beyond the west side of the trench. A further structure, of possible similar function, but without the cross flue was situated in Trench 68 (6801); Plate 38). Further evidence for the presence of cereal processing is provided by fragments of a rotary quernstone from Trench 63.
- 6.6.5 The quernstone fragments were found within the fill of a robber trench adjacent to Wall (6324) in Trench 63. Only a small area of the structure of which this wall formed a part was exposed at the side of the trench, and the wall was constructed of limestone blocks on a curvilinear alignment. It had been partly robbed and disturbed but may have formed part of a circular building. With the exception of the stone-built corndrying ovens no other stone structures were found, but the presence of extraction pits and outcropping stone in the north part of the site indicates that building stone was available, and further stone buildings may be expected elsewhere on the site.

6.7 *Dating*

- 6.7.1 A relatively modest assemblage of artefacts was collected from the trial trenches and no 'high status' items were present. Most of the assemblage comprised low-status pottery (Appendix 2) which, with the radiocarbon dates, provides the dating evidence. A few other objects were found, including three quernstone fragments (Vol. 2, Appendix 3).

6.7.2 *Radiocarbon Dates*

Six radiocarbon dates were obtained from the industrial features (Vol. 2, Appendix 4). A single late Iron Age/ early Roman date (Cal BC 170-AD40) was obtained from the fill of Furnace [6333]. The remaining samples provided calibrated dates between AD 670-990, indicating that most of the industrial remains are mid Saxon in date.

6.7.3 *Ceramic Dates*

The ceramic assemblage (Vol. 2, Appendix 2) comprised 205 sherds of predominantly 2nd and 3rd to 4th-century pottery, with a small number of unstratified post-medieval and modern sherds. Most of the sherds were from features in the centre of the north part of the site, predominantly Trenches 63, 64, 65 and 68. A small number were found in Trench 47.

- 6.7.4 The earliest feature to contain dateable pottery was Pit [6314] in Trench 63, which contained eight sherds of late pre-Roman Iron Age pottery in its top fill. (6312). This pit is adjacent to Furnace [6333], which provided a similar radiocarbon date, although mid Roman pottery was also present in the upper fill (above, section 5.6.26). This was the only area where late Iron Age/ early Roman features were identified, and may indicate a localised concentration of activity of this date in this area.
- 6.7.5 Occupation may have intensified during the 2nd century. Ditch 6501 in Trench 65 may have been constructed during this period, as it was cut by a 2nd-century ditch, [6504], on a different alignment. The latter was at right angles to Ditch [6804] in Trench 68 and these may have formed part of an enclosure, laid out during the second century. Ditch [6311] in Trench 63 may also have been cut during that period.
- 6.7.6 Occupation continued into the mid Roman period, and it is likely that most of the agricultural features date to this period. The large pit in Trench 64 [6402] was probably excavated during the 3rd or 4th centuries and the presence of late Roman pottery in the upper fills indicates that it was filled in by the end of the Roman period. The uppermost fill (6405) contained a sherd of possible early Saxon pottery.
- 6.7.7 The radiocarbon dates indicate that the industrial features in Trench 87, the east end of the northern area and at the west end of the airfield are likely to be mid Saxon in date. The extent to which iron smelting was being undertaken during the later Roman period is not known, but the radiocarbon dates suggest activity on a large scale during the mid Saxon period.

6.8 *Impact of the Airfield*

- 6.8.1 The south part of the site comprised part of the former airfield, and ground disturbance was anticipated (Fell 2003, 28-9). This area was investigated in twenty-four trenches, and although disturbance has taken place archaeological features were identified on the airfield.
- 6.8.2 The airfield occupies the edge of the raised ground overlooking the valley of the river Welland. It comprises a flat area and the airfield construction probably involved levelling the land for the runway and perimeter roads, etc. It is likely that ground reduction may have taken place and earth has been deposited in the centre of the area, probably to raise any marginally lower areas. This was demonstrated in Trench 16, where a layer of dark greyish brown silty clay (1603) beneath the subsoil is interpreted as a buried topsoil layer. The latter may have been buried during groundworks associated with the airfield.
- 6.8.3 A number of field drains were present in the airfield area. Many of these are likely to be modern agricultural drains, but drainage works associated with the airfield may also be expected. Field drains have the potential to disturb archaeological remains and, although no instances of such disturbance was

noted within the trial trenches, field drain disturbance may be present elsewhere on the airfield.

- 6.8.4 Archaeological remains in the form of buried features and a substantial spread of slag in the topsoil were present in the west half of the airfield site. The spread of slag (Fig. 4) was well defined, and has survived any earth-moving operations.
- 6.8.5 Archaeological features were present beneath the slag in Trenches 12 and 13 where features were interpreted as ore roasting pits [1206], [1303], a hearth/furnace [1205] and ditches [1213], [1305]. The bases of these features survive in generally good condition, but they had clearly been truncated from above, perhaps through modern ploughing (below, section 5.9) or as a result of the construction of the airfield. For example, on the airfield ore roasting pit [1206] survived to a depth of 0.15m, whereas comparable but less truncated features in the north part of the site, *e.g.* [8705, [8712], etc., survived to a depth of 0.28m.

6.9 *Colluviation* Figure 24, Sections 15 and 42

- 6.9.1 Several trenches in the north part of the site contained substantial spreads of homogenous orange brown clayey silt. This is interpreted as colluvium and was present in Trenches 51, 52, 53, 55, 56, 59, 68, 72, 79, 81, 81, 97 and 104.
- 6.9.2 A slightly sinuous but pronounced valley was present in the centre of the north part of the site (Fig. 24; Plate 58). The trenches in the base of this valley (55, 56, 59, 68, 72) all contained substantial deposits of colluvium, and it is likely that the valley may have been deeper and has been subject to colluviation. This material was also identified during the geophysical survey.
- 6.9.3 Destabilisation of the soils may have been the result of woodland clearance, perhaps in order to provide fuel for the smelting industry, or to provide further open ground for arable agriculture (Volume 3, Appendix 5). The full extent of the colluvial channels is shown on aerial photography recently made available on *Google Earth* (www.google.com: 31/05/07).



Plate 58: Dry valley with Trench 58 in the foreground and 59 in the centre

- 6.9.3 Trench 72 was situated at the base of the valley, on the north side of the site, and contained a substantial deposit of colluvium, *c.*2m thick (Plate 41). It sealed a layer of dark brown clay, which contained fragments of charcoal and iron ore (above, section 5.10.2), which may be waste from the Roman iron smelting. Accordingly, the colluvium may be late or post Roman in date, and is probably contemporary or later than the archaeological features on the site.
- 6.9.4 Colluvium was traced further up the dry valley in Trench 68 (above, section 5.9.9). The depositional sequence in this trench is more complex than that in Trench 72. The underlying natural strata was reached at a depth of 1.65m, but the colluvium was more varied and divided into four separate deposits (6808-6811), with a total width of *c.*0.75m. One of the intermediate layers (6810) was significantly darker than the layers above and below it, and this may be a former topsoil layer, indicating a break in the colluvial sequence. The material immediately above this layer (6809) contained a sherd of Roman pottery, providing further evidence for the onset of the colluvial sequence during the Roman period.
- 6.9.5 A similar sequence of colluvium was recorded in Trench 59, where the deposits were 1.1m thick (above, section 5.5.3). South of this trench, the dry valley becomes less pronounced and is not visible at the top of the river valley, by Long Wood. Nevertheless Trenches 51, 52 and 53 all contained alluvial deposits and it is likely that the valley becomes wider and shallower towards the centre of the site, and swings further to the west (Fig. 24). The industrial and agricultural features and ditches in Trenches 63, 65 and 68 form a concentrated group immediately west of this valley, which may have been a significant feature of the Roman landscape and possibly formed the east limit of the iron smelting industry in this area.

6.9.6 A further deposit of colluvium (10402) was present at the northeast end of the site, and was investigated in Trench 104 (above, section 5.19.2; Plate 57). It was 15m wide and c.0.9m thick and, although no depression was visible on the surface, it may be masking a former valley or stream channel. Further possible colluvial deposits or palaeochannels were identified during the geophysical survey: the locations are shown on Fig. 24.

6.10 *Plough Damage*

6.10.1 Archaeological remains on the site are generally well preserved, although section 6.8 concludes that some disturbance may have been caused by the construction of the airfield in the south part of the site.

6.10.2 The site is currently under arable cultivation and is subject to ploughing. Plough scars are visible in several of the trenches, indicating that ploughing is penetrating below the topsoil, with the potential for causing degradation to the archaeological remains. The effect of the ploughing regime is seen in Trench 63, when the plough has disturbed furnace groups (6301) and (6302) and cut into the top of tapping pit [6330]. The effect of this is shown in Plate 23.

6.10.3 The site is currently utilised for arable cultivation and plough scars were visible in many of the trenches. This indicates that ploughing is penetrating below the topsoil and the evaluation has demonstrated that archaeological remains are being actively degraded by the effects of ploughing.

6.10.4 Plough damage was also observed in the northeast part of the site in Trench 87, where plough scars were visible in charcoal layer (8718) and also in Trench 13, across ore roasting pit [1303] (above, section 4.5.4; Plate 9).

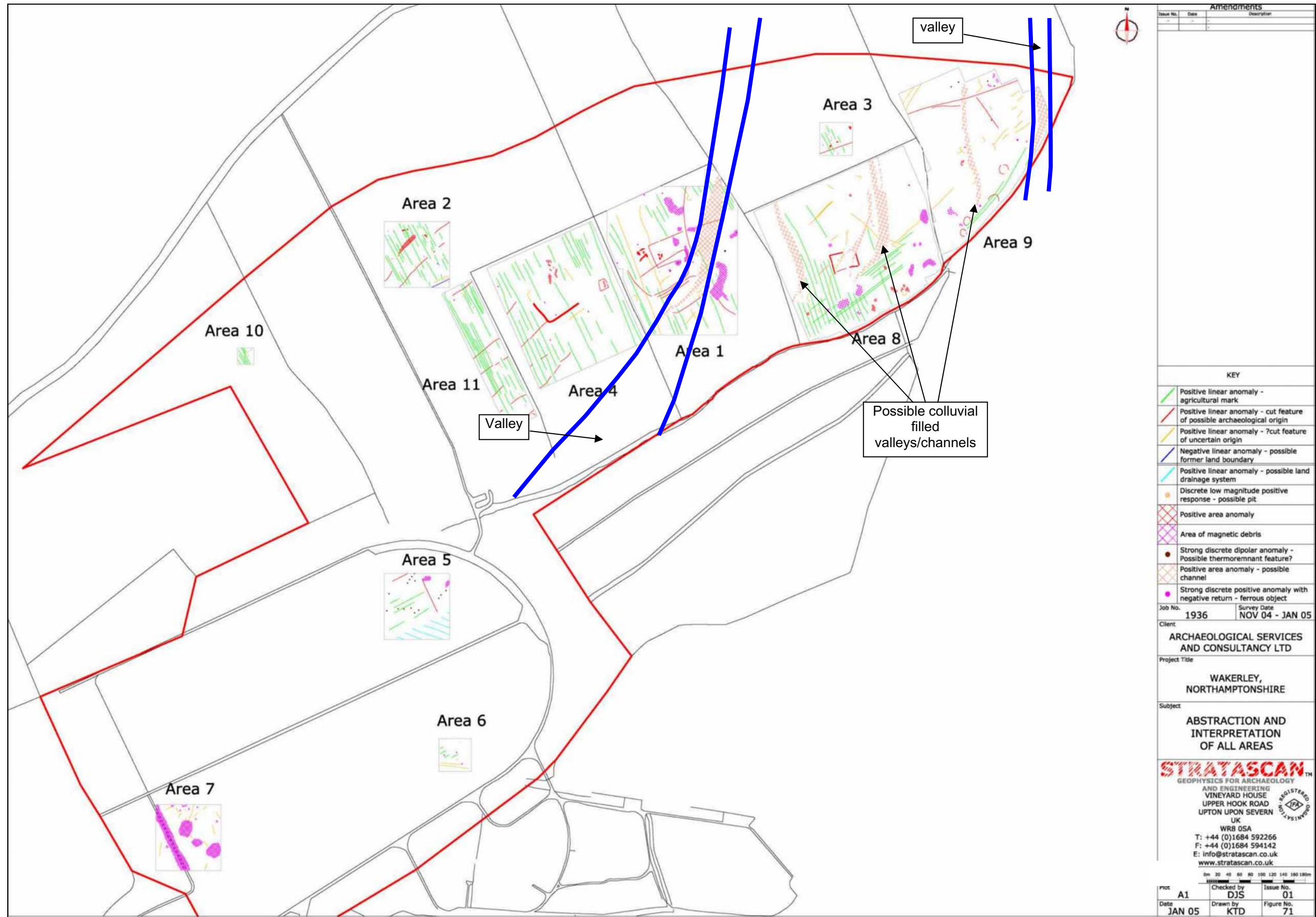


Figure 24: Interpretation of colluvium and dry valleys

7. Acknowledgements

- 7.1 The writer is grateful to Mr Mark Oldridge of *Mineral Surveying Services* and to Mr Philip Ling for commissioning the project on behalf of the *Burghley House Preservation Trust*. Access to the land was facilitated by Mr Ling and Mr M A Jacques, *Regional Property Manager* of *Corus*. Myk Flitcroft BA MSc MIFA, then *Historic Environment Team Leader* of *Northamptonshire County Council*, acted as curatorial monitor. Dr Jim Williams AIFA, *English Heritage Regional Archaeological Science Advisor*, and Sarah Paynter provided specialist advice. Thanks are also due to Jane Cowgill and James Rackham of the *Environmental Archaeology Consultancy*.
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- 7.3 The fieldwork was led for *ASC Ltd* by David Fell BA MA MIFA, with supervisory assistance from Kevin Wooldridge AIFA. The fieldwork was undertaken by Mike Coxah BA, Martin Cuthbert BA, Lynn Gardiner, Hanne Rendall-Wooldridge BA PIFA and Calli Rouse BA PIFA. The specialist reports were compiled by Jane Cowgill, Andy Fawcett, James Rackham and Bob Zeepvat BA MIFA. This report was prepared by David Fell and edited by Bob Zeepvat BA MIFA.

8. Archive

- 8.1 The project archive will comprise:
1. Brief
 2. Project Design
 3. Initial Report
 4. Clients site plans
 5. Site records
 6. Finds records
 7. Finds
 8. Sample records
 9. Site record drawings
 10. List of photographs/slides
 11. Colour slides
 12. B/W prints & negatives
 13. Original specialist reports and supporting information
 14. CDROM with copies of all digital files.
- 8.2 There are currently no arrangements in place for deposition of archaeological archives in Northamptonshire. The archive will be retained by *ASC Ltd* until arrangements for deposition can be made.

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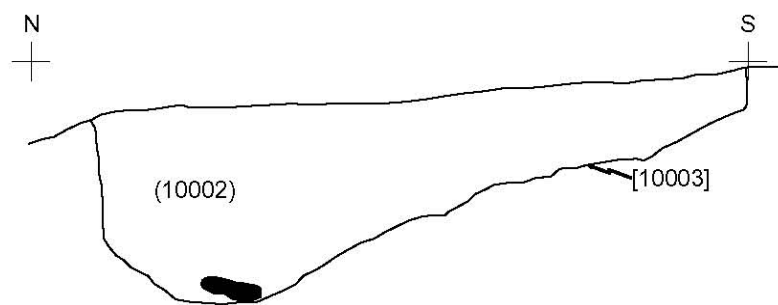
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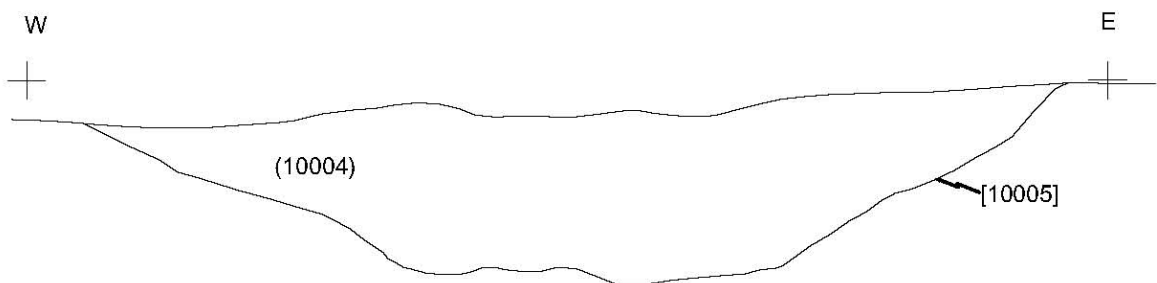
SECTION DRAWINGS



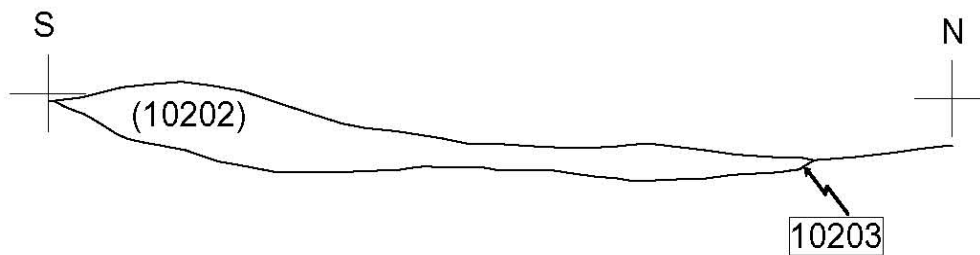
Section 1: South facing section through Ditch [1000] (Scale = 1: 10)



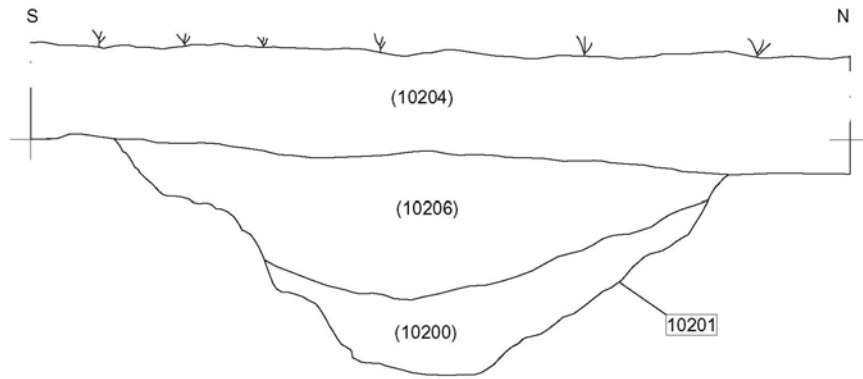
Section 2: West facing section through Pit [10003] (Scale = 1: 10)



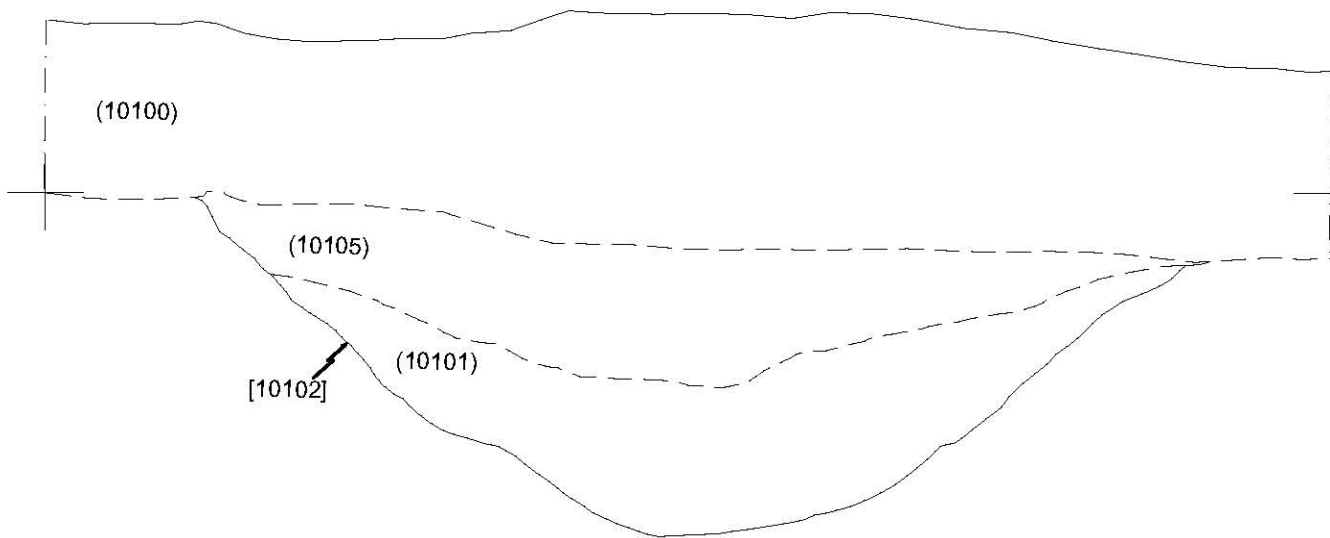
Section 3: South facing section through Ditch [10005] (Scale = 1: 10)



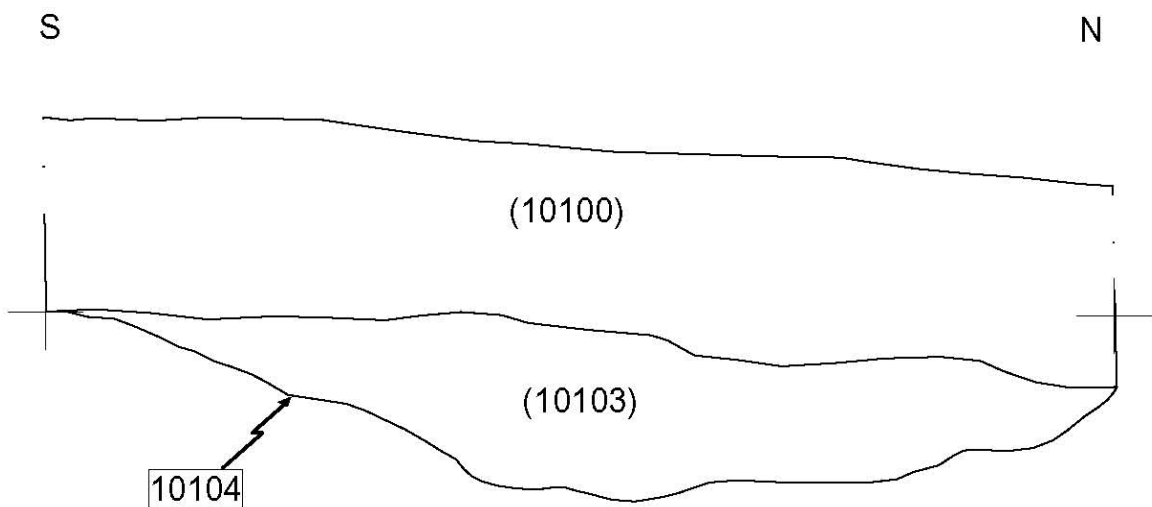
Section 4: East facing section through Ditch [10203] (Scale = 1: 10)



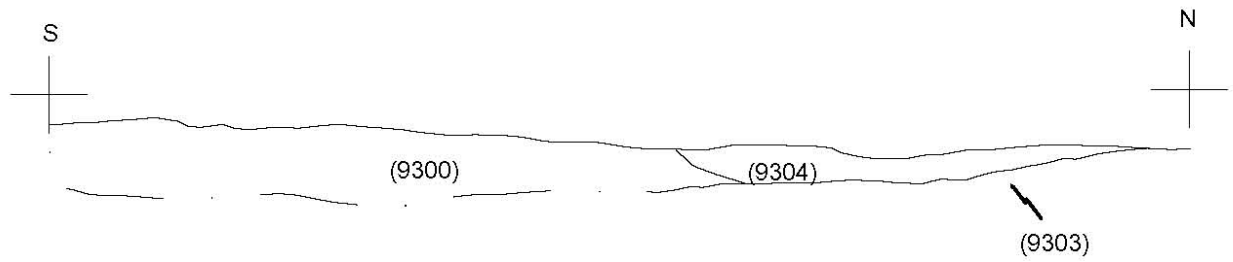
Section 5: East facing section through Ditch [10201] (Scale = 1: 10)



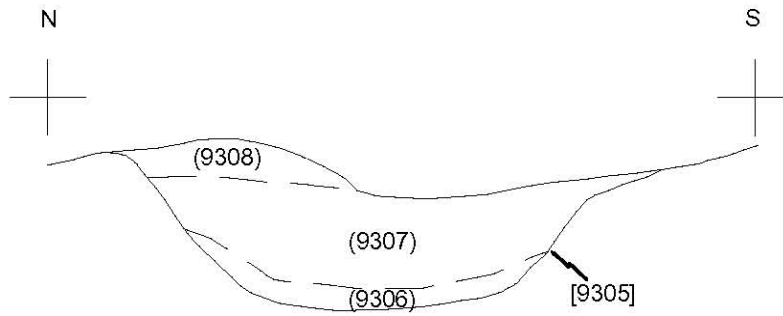
Section 6: East facing section through Ditch [10102] (Scale = 1: 10)



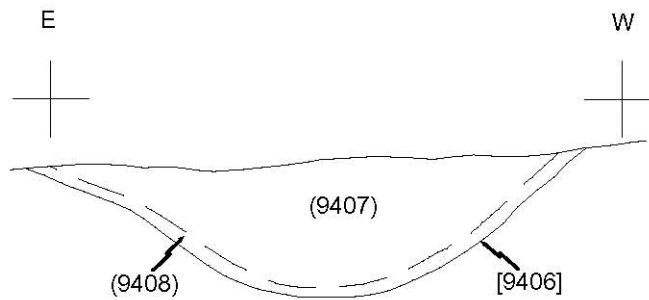
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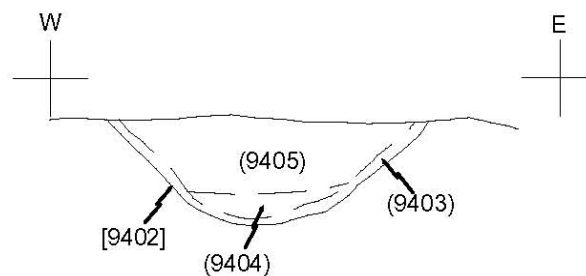
Section 8: East facing section through Ore Roasting Pit [9303] (Scale = 1: 10)



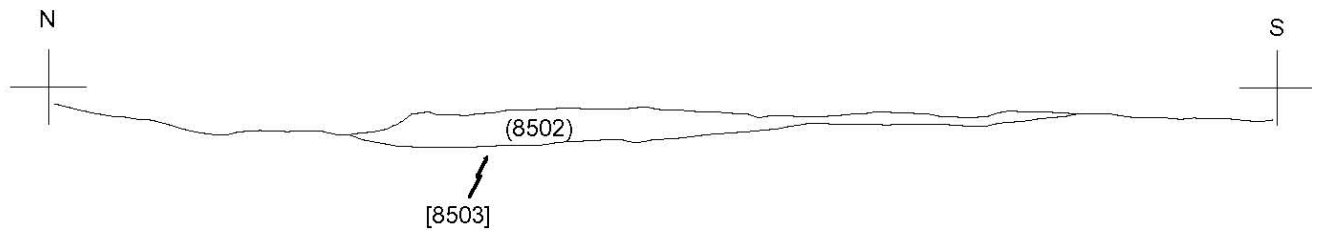
Section 9: West facing section through Ore Roasting Pit [9305] (Scale = 1: 10)



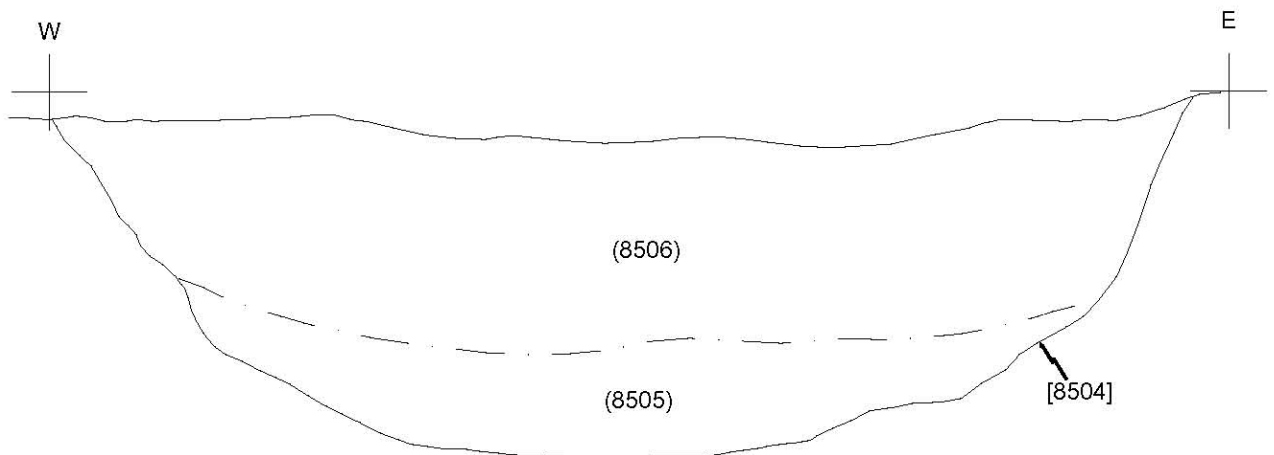
Section 10: North facing section through Ore Roasting Pit [9406] (Scale = 1: 10)



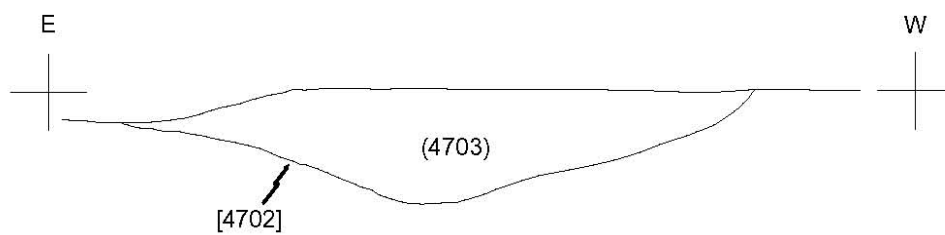
Section 11: South facing section through Ore Roasting Pit [9402] (Scale = 1: 10)



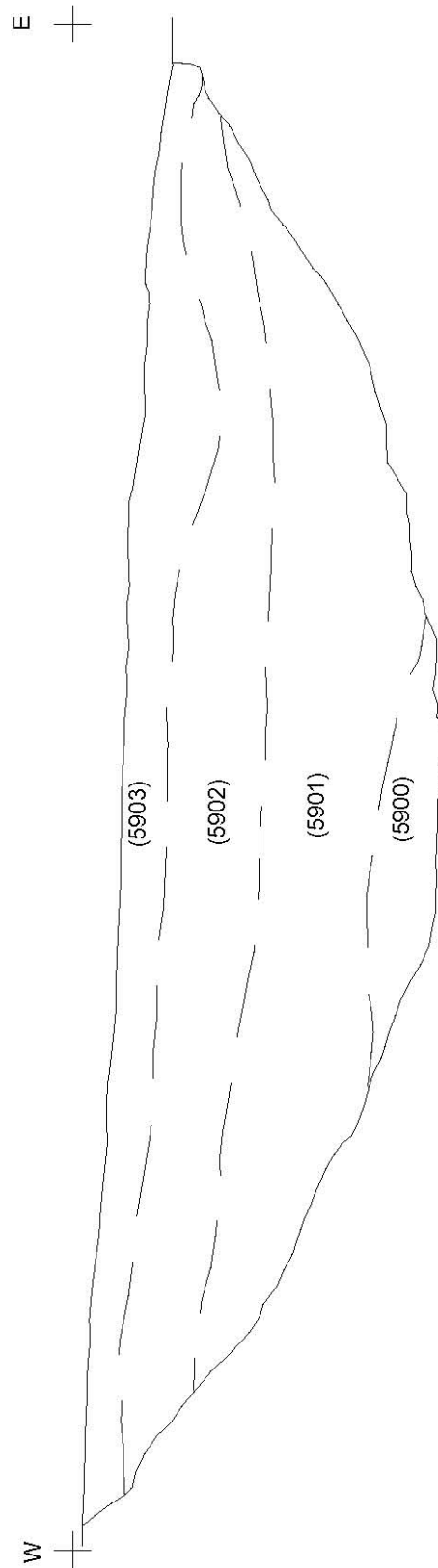
Section 12: West facing section through Ditch [8503] (Scale = 1: 10)



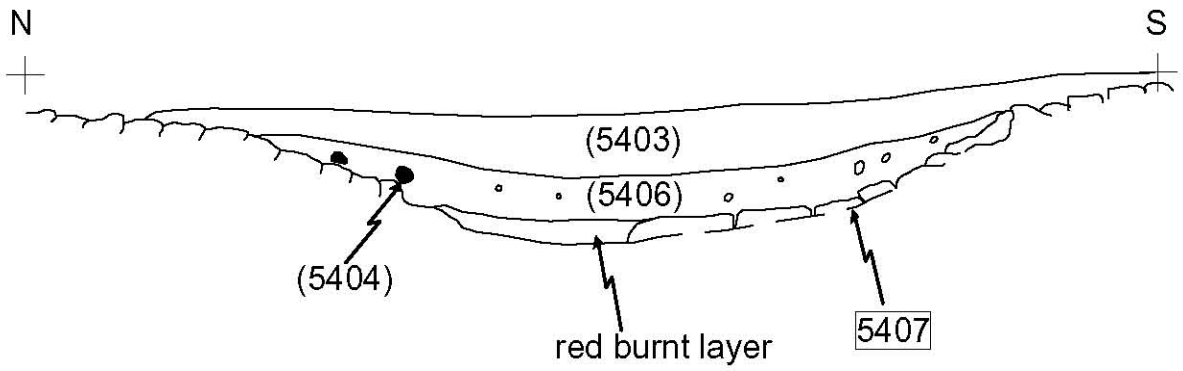
Section 13: South facing section through Ditch [8504] (Scale = 1: 10)



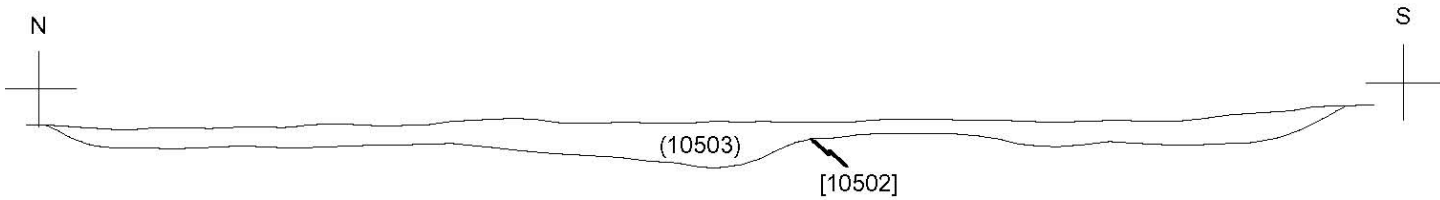
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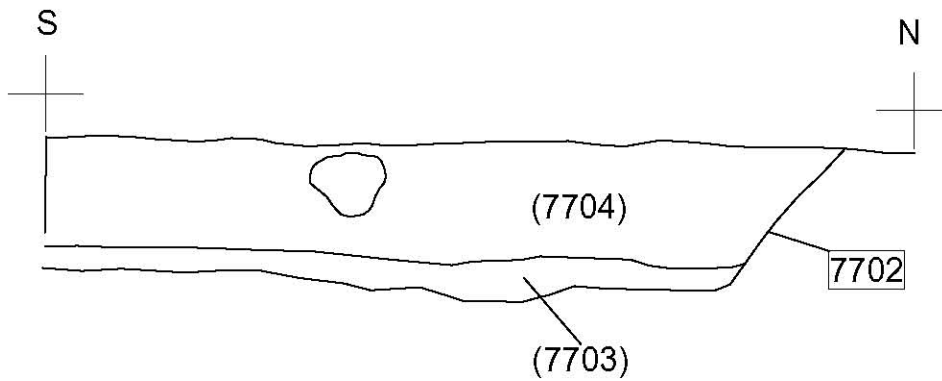
Section 15: South facing section through the colluvial deposits in Trench 59 [(Scale = 1: 20)



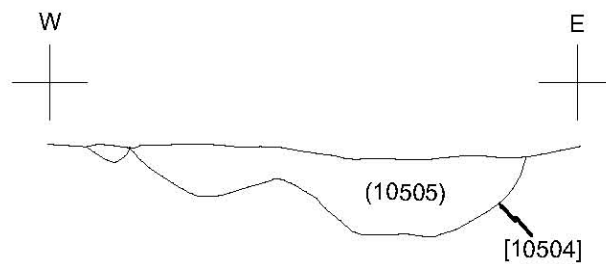
● charcoal
Section 16: West facing section through Furnace (?) [5407] (Scale = 1: 10)



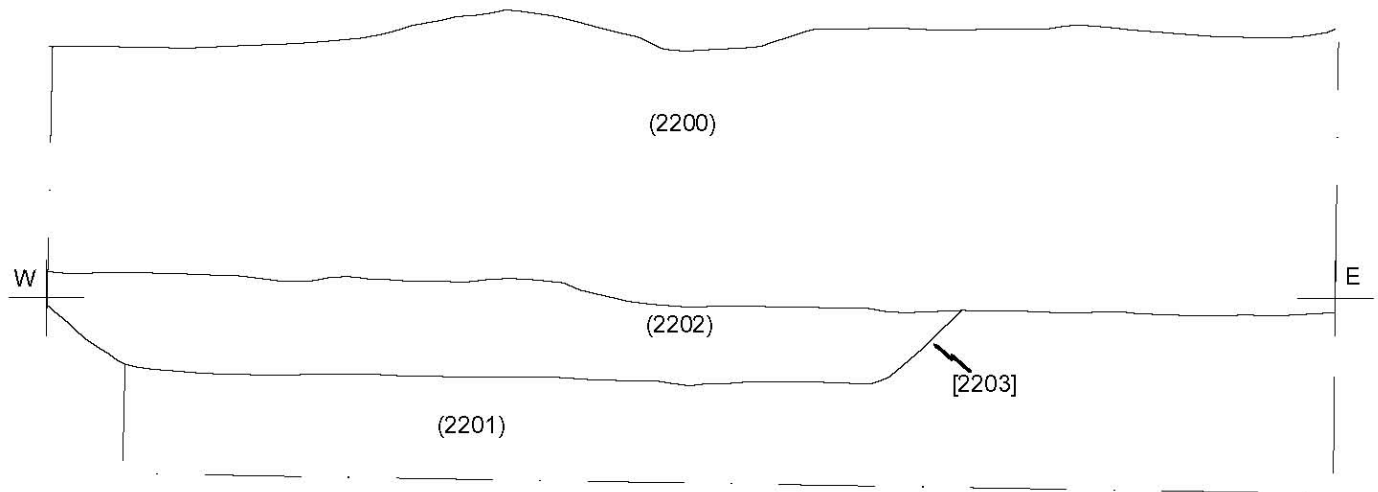
Section 17: West facing section through Hearth/Oven [10502] (Scale = 1: 10)



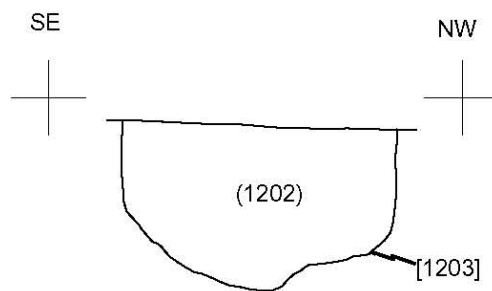
Section 18: East facing section through Pit [7702] (Scale = 1: 10)



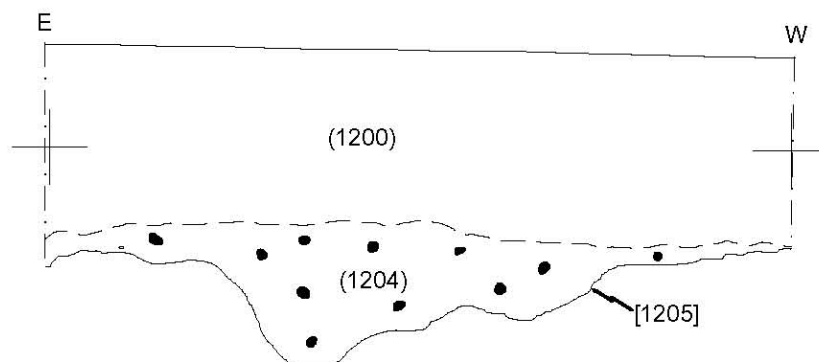
Section 19: South facing section through Hearth/Furnace [10504] (Scale = 1: 10)



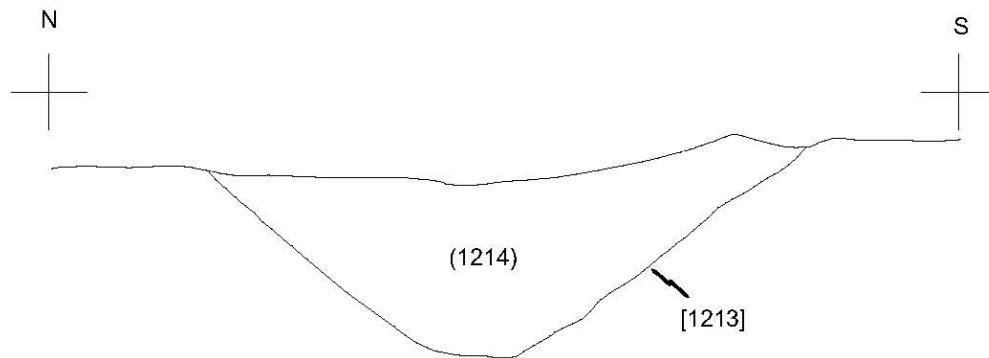
Section 20: South facing section through Ditch [2203] (Scale = 1: 10)



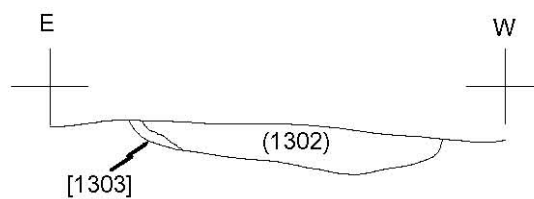
Section 21: Northeast facing section through Ditch/Drain [1203] (Scale = 1: 10)



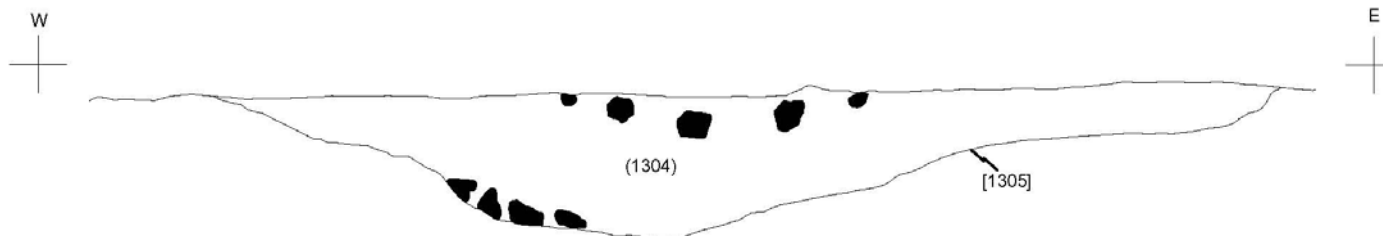
Section 22: North facing section through Furnace/Kiln [1205] (Scale = 1: 10)



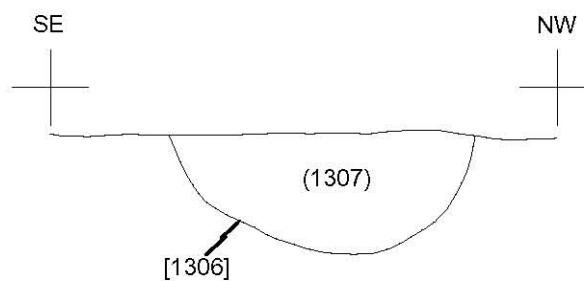
Section 23: West facing section through Ditch [1213] (Scale = 1: 10)



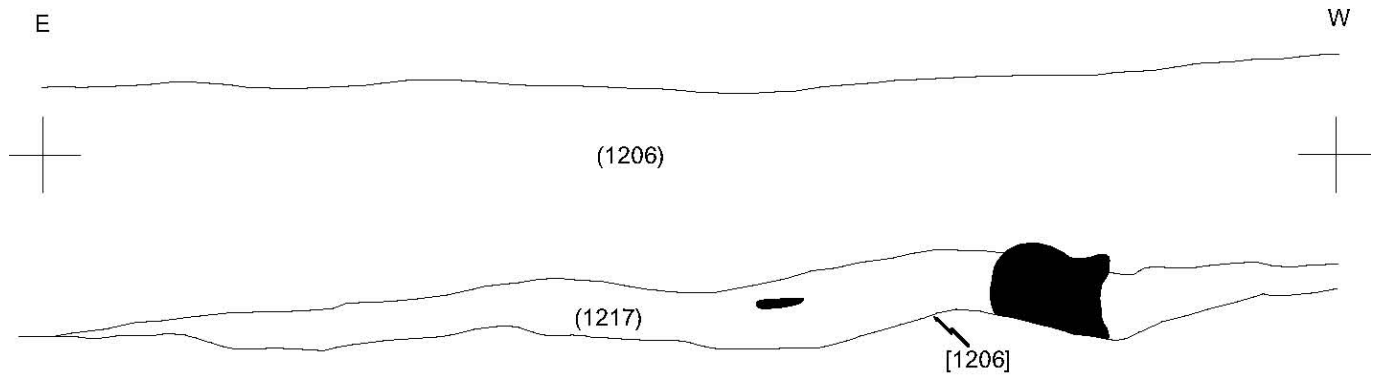
Section 24: North facing section through Ore Roasting Pit [1303] (Scale = 1: 10)



Section 25: South facing section through Ditch [1305] (Scale = 1: 15)

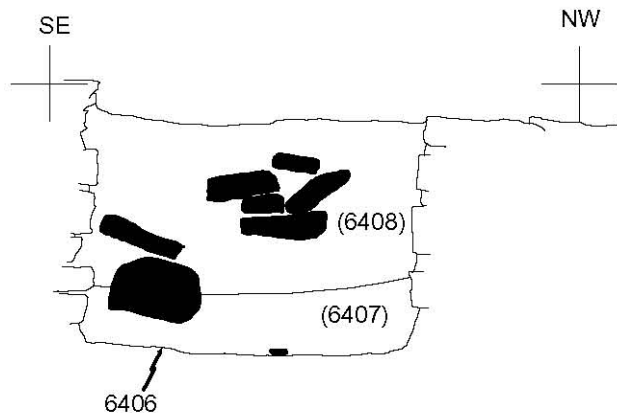


Section 26: Northeast facing section through Drain [1306] (Scale = 1: 10)

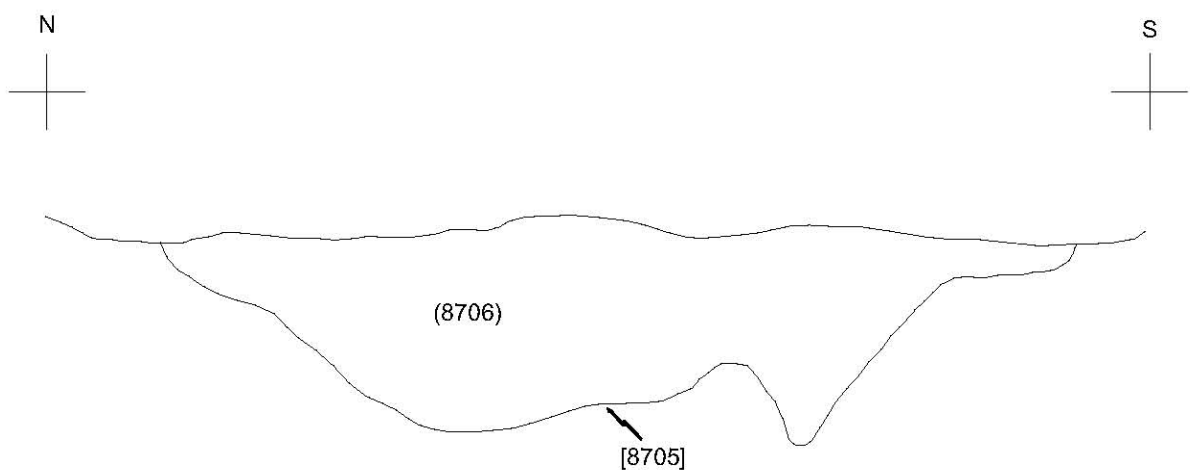


Section 27: North facing section through Ore Roasting Pit [1206] (Scale = 1: 10)

For section 28 see Figure 15



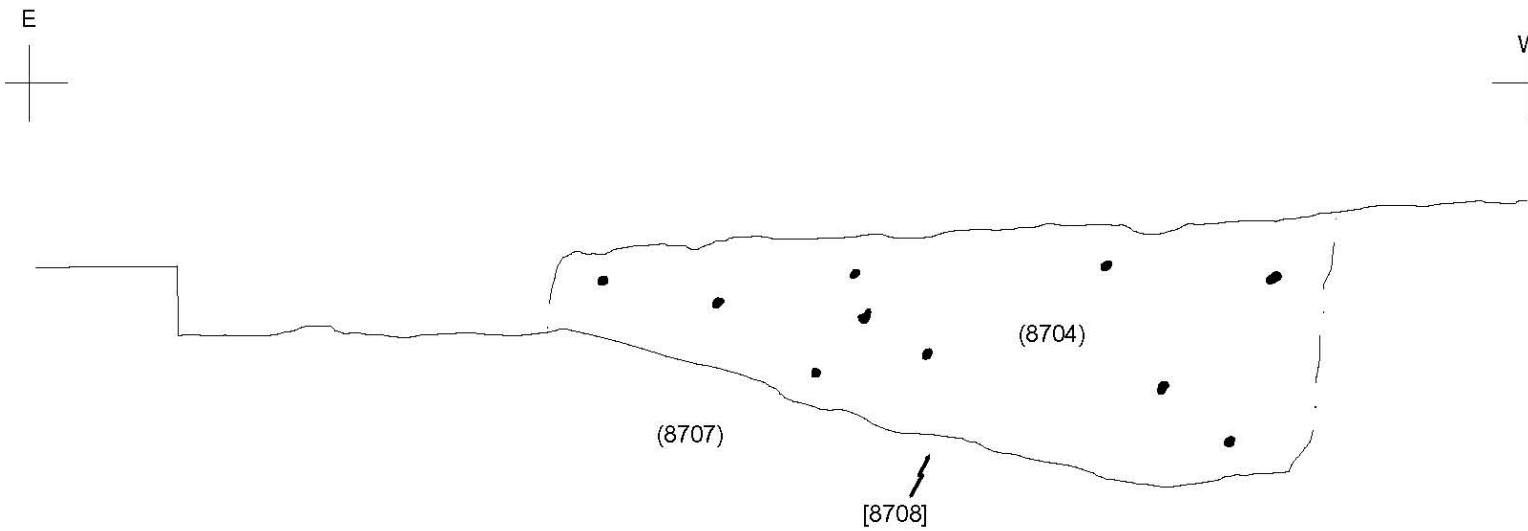
Section 29: Northeast facing section through Corndryer [6406] (Scale = 1: 10)



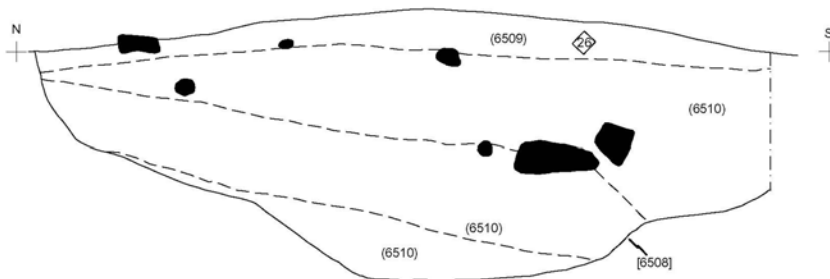
Section 30: West facing section through Ditch [8705] (Scale = 1: 10)



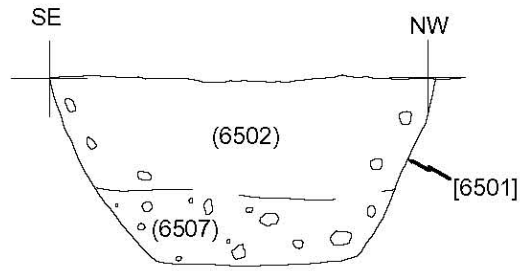
Section 31: South facing section through Slag and Pit [8708] (Scale = 1 to 15)



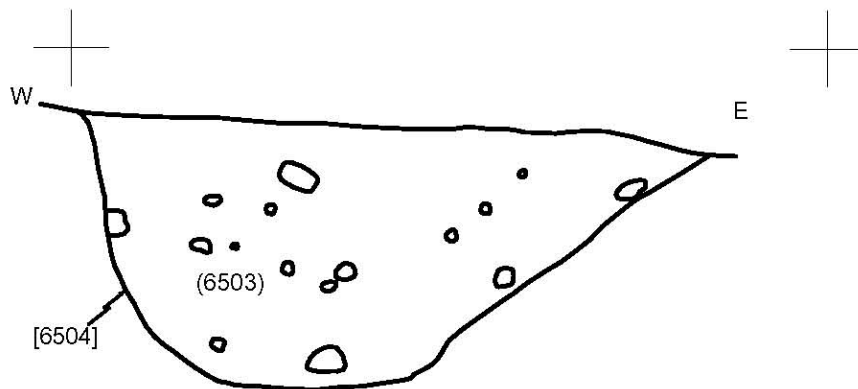
Section 32: North facing section through Slag and Pit [8708] (Scale = 1: 10)



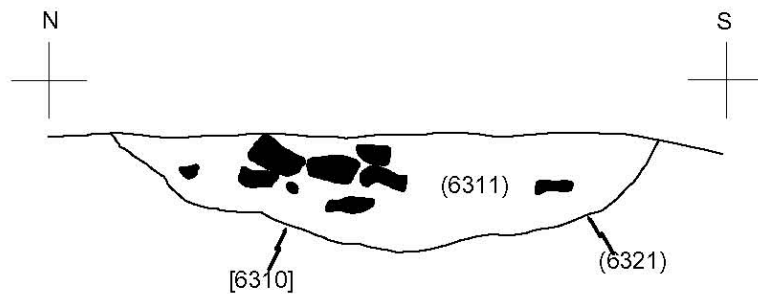
Section 33: West facing section through Pit [6508] (Scale = 1: 20)



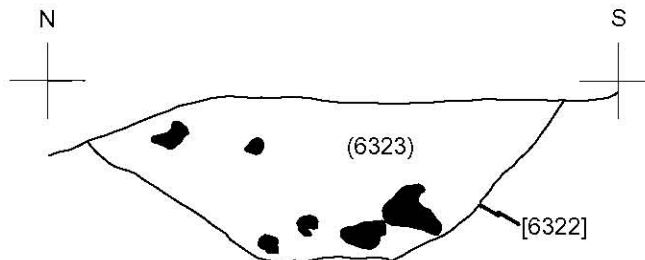
Section 34: Northeast facing section through Ditch [6501] (Scale = 1: 10)



Section 35: South facing section through Ditch [6504] (Scale = 1: 10)



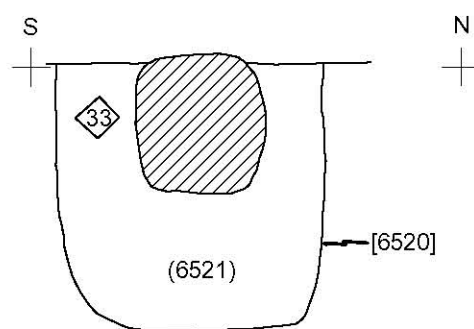
Section 36: West facing section through Ditch [6310] (Scale = 1: 10)



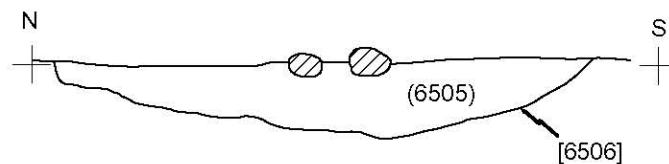
Section 37: West facing section through Ditch [6322] (Scale = 1: 10)



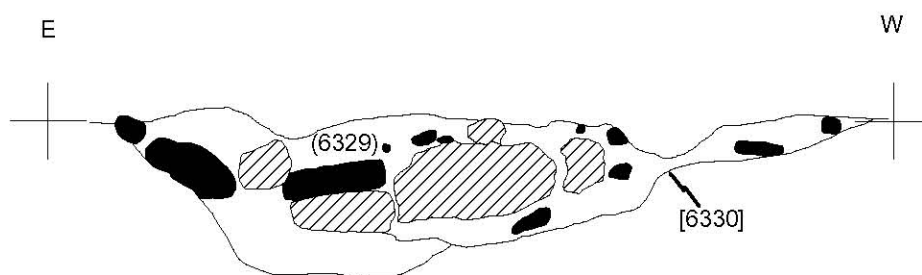
Section 38: West facing section through Ditch/Gully [6317] (Scale = 1: 10)



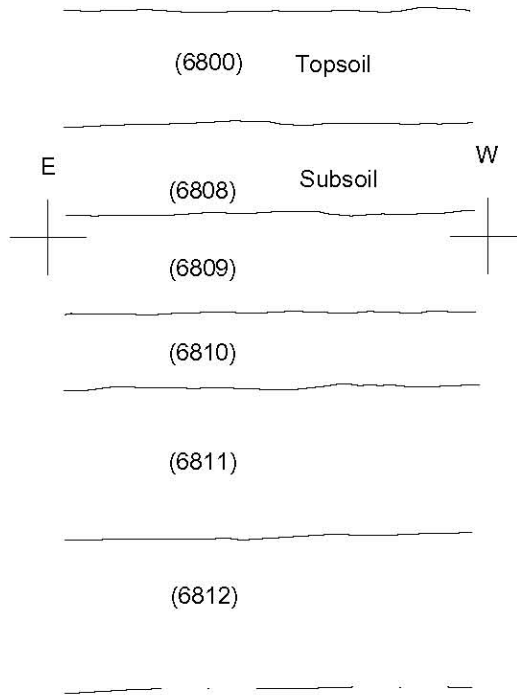
Section 39: East facing section through Pit [6520] (Scale = 1: 10)



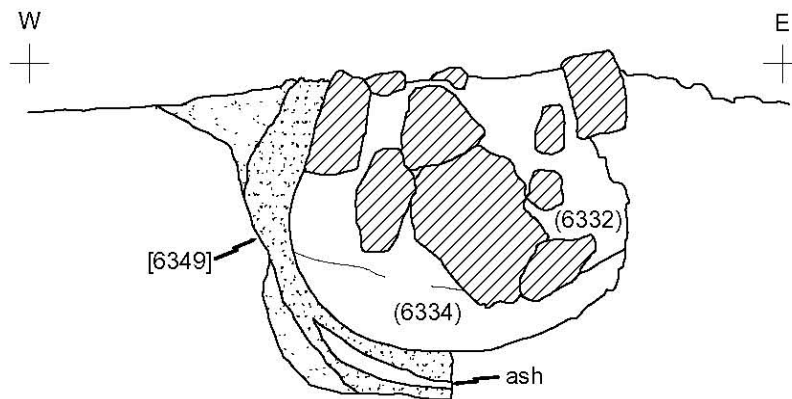
Section 40: West facing section through Pit [6506] (Scale = 1: 10)



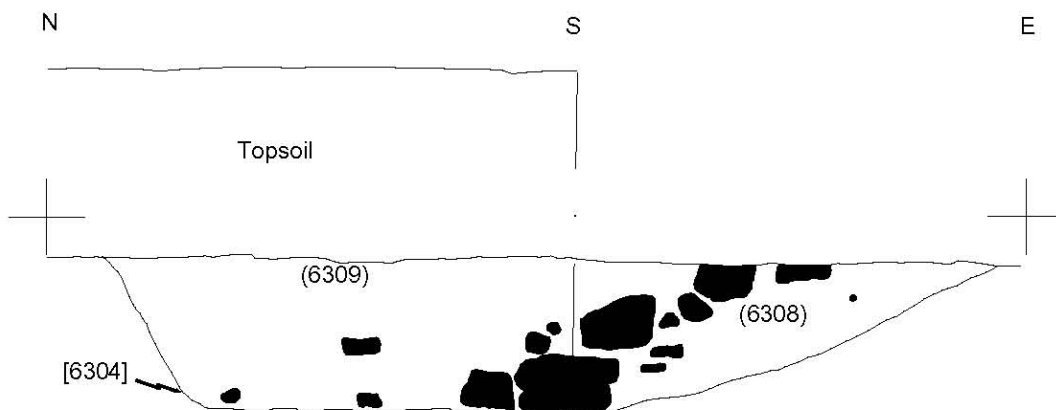
Section 41: North facing section through Tapping Pit (?) [6330] (Scale = 1: 10)



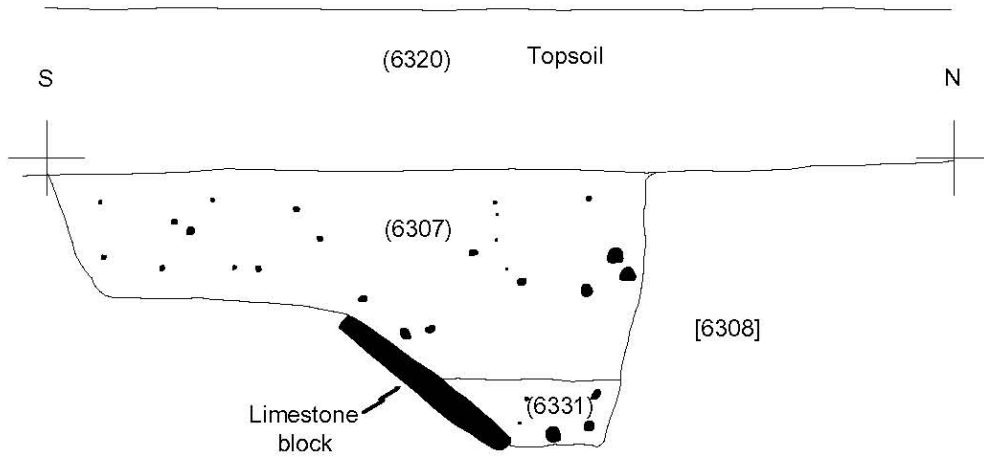
Section 42: North facing section through Colluvial Deposits (6812), etc. (Scale = 1: 20)



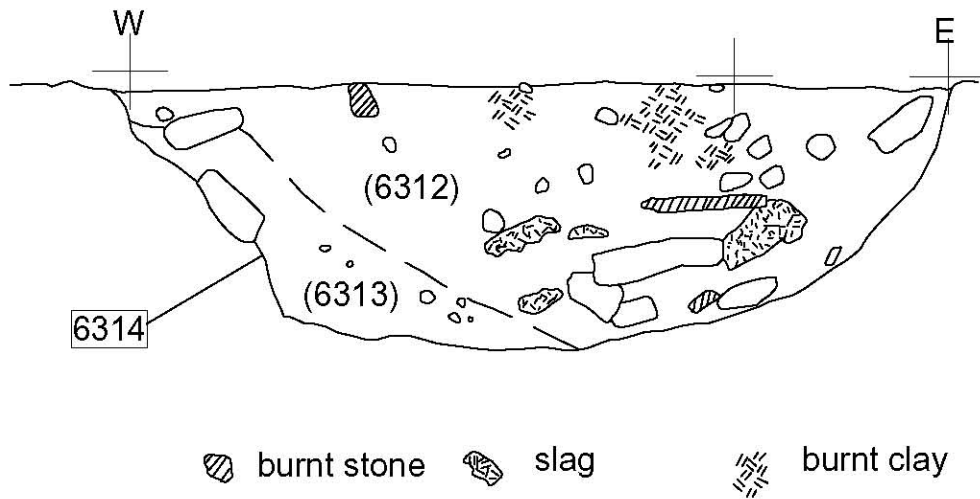
Section 43: South facing deposits through Furnace 6349] (Scale = 1: 10)



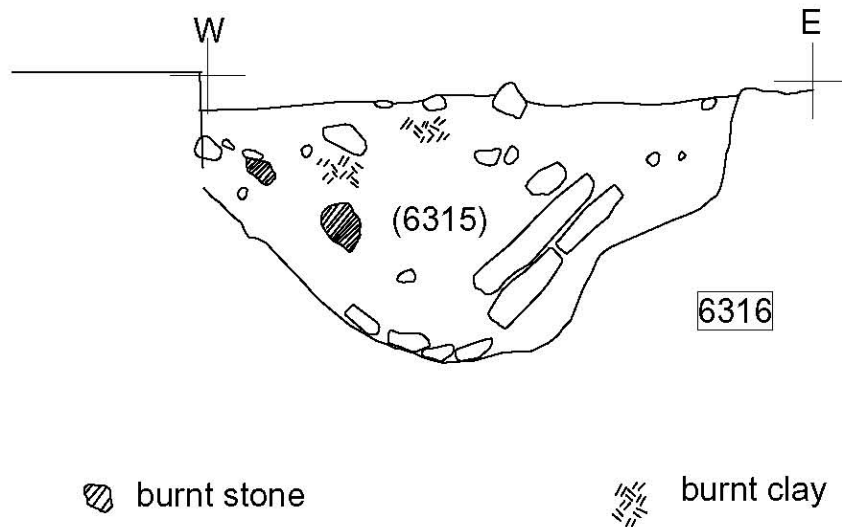
Section 44: West facing section through Industrial Feature [6304] (Scale = 1: 10)



Section 45: East facing section through Corn drying Oven [6308] (Scale = 1: 10)



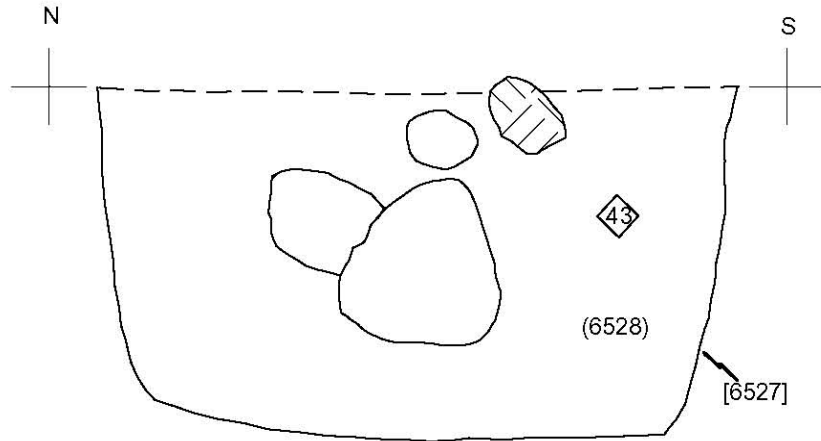
Section 46: South facing section through Pit [6314] (Scale = 1: 10)



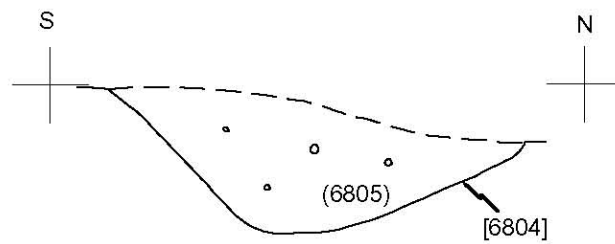
Section 47: South facing section through Pit [6316] (Scale = 1: 10)



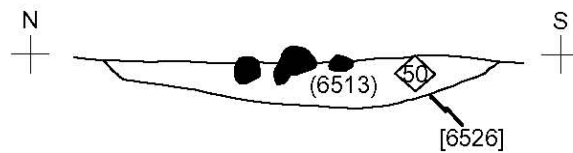
Section 48: North facing section through Pit [8709] (Scale = 1: 20)



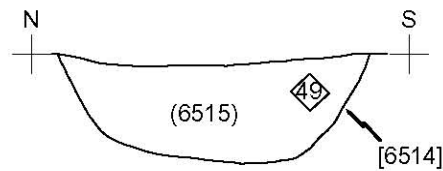
Section 49: West facing section through Pit [6527] (Scale = 1: 10)



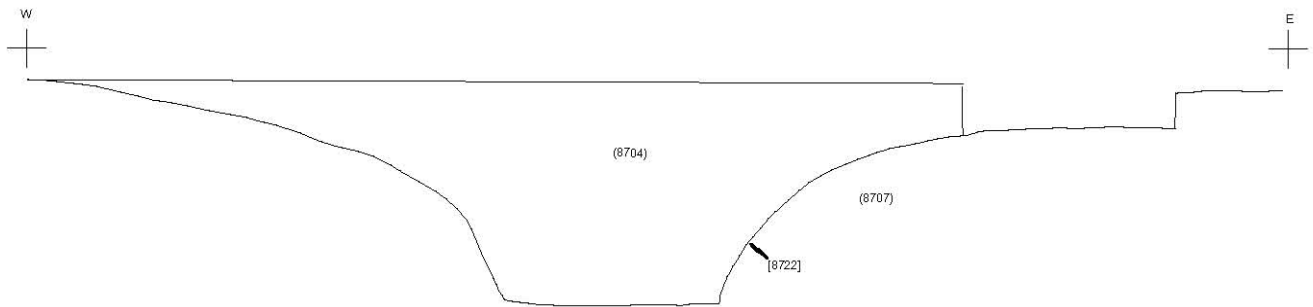
Section 50: East facing section through Ditch [6804] (Scale = 1: 10)



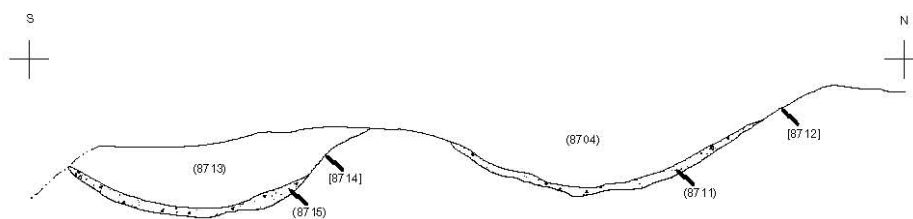
Section 51: West facing section through Pit [6526] (Scale = 1: 10)



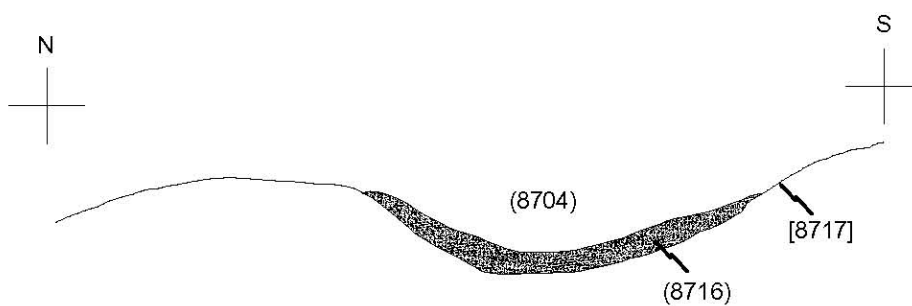
Section 52: West facing section through Pit [6514] (Scale = 1: 10)



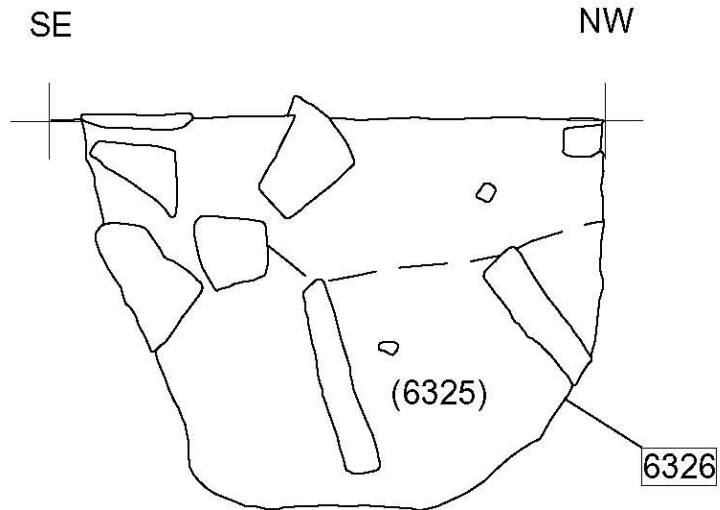
Section 53: South facing section through Pit [8722] (Scale = 1: 10)



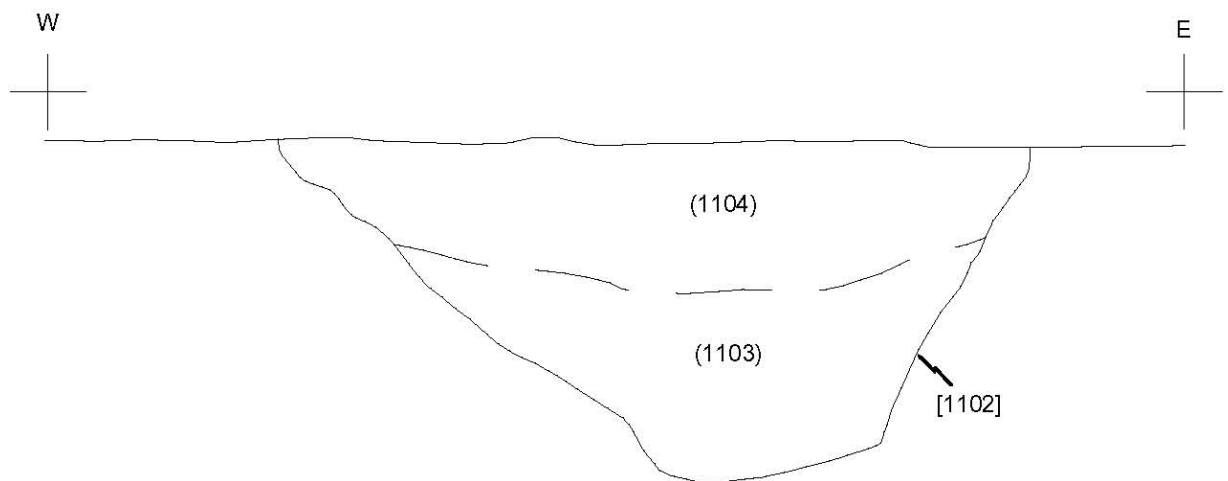
Section 54: West facing section through Ore Roasting Pits [8712] & [8714] (Scale = 1: 10)



Section 55: West facing section through Ore Roasting Pit [8717] (Scale = 1: 10)



Section 56: Northeast facing section through Robber Trench [6326] (*Scale = 1: 10*)



Section 57: South facing section through Ditch [1102] (*Scale = 1: 10*)