Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

277
SE 7 12 4

Jan-April 2003

MAP

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

Contents **Page**

Figure List

Figure List *(continued)*

Plate List

1. Overall View of Trench 1. Facing North-west.
2. Overall View of Trench 1. Facing South - west.
3. Overall View of Trench 1. Facing North - east.
4. Feature 1004. Facing South-east
5. Feature 1006. Facing North-west.
6. Feature 1006, fully excavated. Facing South-west.
7. Features 1018 & 1019. Facing North-west.
8. Feature 1019. Facing North-east
9. Overall View of Trench 2. Facing South-south-west.
10. Feature 2003. Facing North-west.
11. Overall View of Trench 3. Facing South-west.
12. Feature 3003. Facing North-west.
13. Overall View of Trench 4A. Facing South-west.
14. Overall View of Trench 5. Facing South - west.
15. Overall View of Trench 6. Facing East.
16. Ditches 6010 & 6112. Facing North - east.
17. Overall View of Trench 7. Facing North - east.
18. Overall View of Trench 8. Facing North.
19. Overall View of Trench 8. Facing North-east.
20. Overall View of Trench 9. Facing South-east.
21. Overall View of Trench 10. Facing North - east.
22. Overall View of Trench 11. Facing North - east.
23. Overall View of Trench 12. Facing North.
24. Feature 12003. Facing East.

Plate List (continued)

25. General View of Trench 13. Facing North - east.
26. Ditches 13002 & 13004. Facing North-west.
27. General View of Trench 14. Facing East.
28. General View of Trench 15. Facing North.
29. Ditch 15002. Facing South-east.
30. General View of Trench 16. Facing North-east.
31. General View of Trench 16. Facing South-west.
32. Pit 16008. Facing North-west.
33. General View of Trench 17. Facing North-west.
34. General View of Trench 17. Facing South-east.
35. General View of Trench 18. Facing North
36. Feature 18002/18005. Facing South
37. General View of Trench 19. Facing North
38. General View of Trench 20. Facing East.

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

Non Technical Summary

During January – April, 2003 twenty evaluation trenches were excavated within areas A-F of the proposed extension to the Lafarge Aggregates quarry at Croft Road, Finningley. The site falls both in South Yorkshire (Areas A- E) and Nottinghamshire (Areas F & G).

Within South Yorkshire the investigations produced further evidence of Roman activity in the northern sector of the proposed extension (Area C) along with the confirmation that the Geophysical Survey had correctly identified a brick production site of Post medieval date (17^{th}-18^{th} century).

The majority of the evaluation trenches in both South Yorkshire and Nottinghamshire illustrated very little archaeological activity other than features associated with recent agricultural practices.

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

1. Introduction

1.1 This report has been commissioned by M J Carter Associates on behalf of Lafarge Aggregates, in advance of the proposed northern extension to Finningley Quarry, Finningley, South Yorkshire; however part of the proposed extension is in Nottinghamshire (SK 6870 9850 : Fig. 1). The site, measuring 69.2 hectares, is bounded in the west by the existing Lafarge Aggregate works, which are east of the A614 road; to the south by Low Deeps Lane and to the north by Fiftyeights Road.

1.2 This document sets out the details and results of Archaeological Trial Trenching as specified in the agreed Written Scheme of Works (Appendix 1).

1.3 All Maps within this report have been produced from The Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. License No. AL 50453A.

1.4 This report has been funded by Lafarge Aggregates Ltd.

2. Site Description

2.1 The site is presently under arable cultivation, and was either unploughed, ploughed or recently harrowed at the time of the Trial Trencing. The ground surface is relatively flat, with a slight slope from the north to the south. The fields are bounded with hedges and drains.

3. Geology and Geoarchaeology

3.1 Geology

3.1.1 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD (Fig. 2). Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe 2 Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both

these soils are poorly drained and subject to seasonal waterlogging, a fact which explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the north-west, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts- deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

3.1.2 During the Dimlington Stadial of Devensian glaciation, around 18, 000 BP an ice sheet travelled extended as far as the eastern margins of the Yorkshire and Lincolnshire Wolds and into the Vale of York and over into the Pennines (Catt 1990). The Vale of York lobe is thought to have surged as far south as Wroot, immediately to the north of the area proposed quarry extension. Natural river drainage into the North Sea by rivers in this area was prevented thus forming a large lake, Lake Humber (Gaunt 1981). Deposits of laucustrine clays, silts and sands were laid down.

3.1.3 The melting of the ice sheet at the end of the Devensian period and the silting up of Lake Humber around 11,000 BP (Gaunt et al., 1971) resulted in braided river systems developing across its surface building sand and silt levees (Gaunt 1981) with little or no vegetation cover (Ellis 1997). This factor contributed to the deposit of aeollan sedimentation in the period between 11,000-10,000 BP (Gaunt, 1981, Bateman, 1995). Low sea levels (of up to 18m or so below OD) caused the rivers of the region to incise into the freshly exposed Lake Humber sediments (Gaunt, 1981). Dating of a peat deposit at Cawood near York indicates that the braiding phase had finished by 10,500 BP (Jones and Gaunt, 1976).

3.1.4 Palaeoenvironmental survey in the Humberhead Levels (Van de Noort & Ellis 1997) has shown through bio- and lithostratigraphic analyses that channel aggradation in the Aire, Went, Idle, Thorne and the Old River Don commenced during the Late glacial/Holocene transition c. 11,000-10,2000 BP, considerably earlier than previously thought (Gaunt 1994). This also means that the palaeoenvironmental sequence spans the early Holocene and therefore the potential for early and late Mesolithic material.

3.1.5 Rises in sea level during the Holocene were not constant and during periods of still-stand vegetation colonised the poorly drained river valleys and estuarine margins, leading to the formation of peat. As the sea level rose these peat

deposits escaped erosion and became buried under alluvium. Elsewhere in the region flat poorly drained low-lying land saw the peat begin to form as at Thorne and Hatfield Moors.

3.1.6 Although some peats may have formed as early as 7000 BP (Gaunt, 1994), most peats are thought to be significantly younger. Peat development within the incised river channel at both Scaftworth and Misterton Cad is recorded from c.4000 BP and by about 3000 BP the incised channel appears to have been largely infilled with peat and alluvium (Buckland and Dolby, 1973 and Van de Noort and Ellis, 1997).

3.1.7 Forest clearance and permanent agriculture during the Late Neolithic and Bronze Age between c.4000 - 2500 BP saw the supply of fine-grained sediment to lowland river channels by soil erosion associated with agricultural activity.

3.1.8 Geological and climatic changes in the Humberhead Levels resulted in a landscape of meandering rivers, lakes, swamp fen and raised mire with woodland surviving on the better-drained higher ground. This rich and diverse ecosystem persisted until the introduction of large scale drainage in the post-medieval period.

3.1.9 The general wet weather conditions of the Roman period saw the continual growth of the flood plain mire continued to grow during the early part of the Roman period suggesting that the intensification of farming in this period was largely restricted to the drier soils of the outcropping Older River Gravels, First Terrace and Bunter Sandstones (Van de Noort and Ellis 1997). This couples with scatters of late third and fourth century Roman pottery on and adjacent to the Idle flood plain at Scawcroft may indicate improved drainage and runoff of the low lying areas allowing more intensive exploitation for pasture and small-scale arable farming.

3.1.10 There is little palaeoenvironinental material relating to the post-Roman/early medieval period but from regional trends it is probable that some woodland regeneration occurred following the decline in agriculture during this period. By the end of early medieval period, the majority of villages in the riverside lowlands were established as evidenced by their inclusion in the Domesday Book, and a renewed agricultural effort is reflected in the regional pollen diagrams with a reduction of tree pollen and a concomitant increase of cereal, arable weed and hemp pollen (Smith. 1985). From the medieval period there

were numerous attempts to reduce flooding and improve drainage within the Humberhead Levels. Embankment and drainage may have resulted in only seasonal flooding of the Idle flood plain and this would have been further reduced following the main phase of drainage associated with the Dutch engineer Cornelius Vermuyden after AD 1626 which included the diversion of the Idle downstream of the study area (Dinnin, 1997).

3.1.11 By 1800, large areas of the Humberhead Levels had been drained through a series of dykes and although flooding was no longer a serious problem, much of the land remained waterlogged.

3.1.12 The practise of warping, either dry-warping whereby land is artificially raised or by wet-warping where fine-grained sediments were introduced through floodwater management to improve the fertility of the waterlogged land. It has been calculated that up to one metre of material per year could be deposited using the wet-warping method (Van de Noort and Davies 1993).

3.1.13 The extensive Ipswichian river terrace deposits of sands and gravels around Blaxton and Finningley have been extensively quarried. The sand and gravel ridge (9m) on which Wroot is situated was deposited during the late Devensian ice surge into Lake Humber. The ridge is abutted by wind blown sands which outcrop sporadically through the Holocene peats to the south and east of Wroot, forming low ridge that frequently coincide with finds spots (Van de Noort & Ellis 1997).

3.1.14 River terrace deposits are recorded to the north-east and east of the proposed extraction area with a wide swathe of silt and clay deposits forming the bulk of the site. A small area of the site to the west contains peat (Fig. 3). A study of the mineral resource has shown continuous or almost continuous spreads of mineral beneath overburden for much of the proposed development area (Fig. 4 : Clayton 1979 : Thomas & Price 1979).

3.1.15 A number of borehole surveys have been undertaken to assess the nature and relative depths of the differing soil types on the site. Figure 5 illustrates the locations of these boreholes. Figures 6 and 7 indicates the changes in depths of the main types of geology.

3.1.16 A programme of augering at regular intervals across the site (Fig. 8) to a depth of 1.2m has produced a plan showing the categories of soils encountered (Fig. 9).

3.2 Geoarchaeology

3.2.1 Previous Watching Briefs in the area of Misson Grange by Trent and Peak Archaeological Trust (Howard 1996) revealed peat overlying sands and silts. The underlying sedimentary sequence could preserve evidence of Late Pleistocene to early Holocene landscape (13,000-7,000 BC), with the possibility of the survival of Palaeolithic artefacts or remains.

3.2.2 Ancient channels in the underlying gravel deposits, *palaeochannels*, are filled with deposits with high potential for the preservation of past environments. Aerial Reconnaissance has uncovered two possible palaeochannels to the south of Fiftyeighths Road.

3.2.3 A study of the Humberhead Levels, in which the proposed quarry extension is located, concluded that human activity had been shaped by the development of the wetlands during the Late glacial and Holocene. Strong correlation between the distribution of archaeological sites and finds could be made illustrating man's exploitation and dependence on the riverine resources of this area (Van de Noort & Ellis 1997, 456-460).

3.2.4 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD. Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both these soils are poorly drained and subject to seasonal waterlogging, a fact which explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the northwest, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts – deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

4. Historical and Archaeological Background

4.1 The site lies within an area of known Prehistoric and Romano-British significance. No archaeological evidence is known from the site itself, but this

is not surprising given that it has not been developed or subjected to intrusive groundworks within the modern period. To the south-west lies a probable Romano-British site at Crow Wood, the extent of which has never been accurately determined. To the west, development of the A614 road resulted in a number of archaeological finds of Roman date. Further Roman pottery was located during Watching / Recording briefs to the west of the site during recent expansion of the Lafarge Aggregates quarry (MAP 2000 & 2001).

4.2 The site crosses two parishes, Finningley and Misson, and both were originally in the Bassetlaw Wapentake in Nottinghamshire, Finningley is now in South Yorkshire. The site is located 0.8km southeast of the village of Finningley and 3km north of Mission village.

4.3 The name 'Finningley' derives from the Old English 'Feniglei', meaning 'woodland clearing of the dwellers in the fen' (Mills 1991). The name 'Misson' derives from the Old English 'Misna' or 'Misne' meaning 'water-arum' and dates back to the Saxon period (Gover et al 1940).

4.4 For the most part the area was nucleated villages, common fields and commons. Most land in the vales was held within strong manorial framework. The main centre of settlement was the village, and the lands of the township were frequently coterminous with lands of the manor. Communal cultivation of the fields was regulated in the manorial court, and in one-manor villages the squire and his steward had undivided authority over the community.

4.5 Medieval archives reveal ongoing improvements into water management in the general area. Charles I commissioned Cornelius Vermuyden, in the early Seventeenth century to drain the land in the Isle of Auxholme and Hatfield Chase. Charles I was selling assets, and felt certain area was suitable for drainage improvements. In 1626, Charles I awarded Vermuyden the contract to drain Hatfield Chase and the Isle of Auxholme. One of the first areas was contained within the Assessment Area. Vermuyden effectively drained Hatfield Chase and Thorn with various straightening of watercourses and drains, but ruined the water management in the Isle of Axholme and surrounding areas.

4.6 It was not until the Nineteenth century that great improvements to the low-lying lands increased fertility by a technique known as warping. "Large areas of land were embanked and criss-crossed with warping channels leading from the Trent. At high tide the sluices were opened and the silt-laden water was

allowed to flow along these channels and flood the land. The water was left to stand until it had deposited a fertile layer of silt and then drained away at low tide. Many fields in the Isle of Auxholme are now covered between several inches and several feet of fertile soil" (HAU 1989).

4.7 The field system visible today is based in the enclosure of common and wasteland in the Eighteenth century. Finningley was enclosed by Act of Parliament in 1774, and Misson was enclosed in 1760.

4.8 In addition to the existing Sites and Monuments Records of crop marks, Riley noted an extensive system of 'brickwork pattern' fields and two associated large enclosures at Austerfield to the southwest of Finningley airfield. Trail excavations by Nottingham University on similar sites in north Nottinghamshire suggest a Roman date for field systems of this type (Riley 1977).

4.9 Fieldwalking of the proposed development site produced finds of prehistoric through to recent date. This included a pieces of worked flint found in Areas B, F & G (Figs. 11-13).

The Geophysical Survey detected anomalies associated with land drains and possible linears, which may represent archaeological activity (Fig. 15).

5. Methodology

5.1 A total of 17 trenches were excavated in South Yorkshire (Fig. 14: Trenches 1-17 - Areas A-E).and three trenches were excavated in Area F in Nottinghamshire (Fig. 13.: Trenches 1-3)

5.2 Topsoil and overburden were removed by a tracked 360-degree excavator using a toothless bucket to the top of archaeological or natural deposits under direct archaeological supervision.

5.3 The areas were then hand cleaned to record in plan the archaeological features. All ditches and gullies were hand excavated in segments with a minimum length of 1m, isolated features such as pits were excavated in half section.

5.4 A drawn, written and photographic record was made of all features and deposits. Plans and sections were drawn at scales of 1:20 and 1:10 respectively. The written record was compiled on standard forms using a

continuous context recording system and all finds recovered were recorded by context.

5.5 A common grid was established within the trenches using a Total Station and the position of the trenches was located in relation to existing boundaries, permanent structures and roads.

6. Results South Yorkshire

6.1 A total of 17 trenches were excavated as part of the further archaeological evaluation of the site.

6.2 *Trench 1*

6.2.1 Trench 1 measured 50m x 5m and was placed to investigate strong geophysical anomalies, which related to the site of an early brick manufacture (Figs. 14 & 15).

6.2.2 Excavation revealed a topsoil of reddish brown, silty clay with occasional pebbles (Context 1001), which was between 0.30m – 0.50m in depth. This layer sealed a number of archaeological features possibly relating to brick manufacture were exposed which were cut into the reddish brown clay natural (Fig. 16 : Pls. 1-3).

6.2.3 In the centre of the trench was a linear feature (Context 1020), which was excavated in three segments (Contexts 1003/4/5; Fig. 16 g-h. I-j & k-l : Pl. 4). Measuring 8m in length, 1.3m in width and 0.20m in depth this feature was filled by Context 1002 a deposit of clay with brick inclusions which has been described as "substantial kiln debris" (Appendix 4). However, it seems unlikely that this feature was a kiln as no substantial burning or baking from the heat was observed in the sides of the feature nor associated with it, although this may have been lost due to deep ploughing. A more likely interpretation is that Feature 1020 was a pit used to dump waste material after a nearby kiln had been fired.

6.2.4 Immediately to the north of Feature 1020 was Feature 1008 which continued under the western baulk. Filled with a deposit of silty clay (Context 1007) the feature was similar to Feature 1020 and may have served a similar purpose.

6.2.5 The northern half of the Trench 1 was bisected by a linear feature (Context 1006 : Pls. 5 & 6) which measured c.4m in width, 0.5m in depth with a U-shaped profile and a flat base (Fig. 16 a-b, c-d). It was filled by the primary fill

Context 1011 a dark brown sandy silt which overlay Context 1010, a light brown clay, the final fill was Context 1009, a dark brown clay silt containing brick fragments.

6.2.6 Adjacent to Ditch 1006 were two large pits (Contexts 1018 and 1019 : Pls. 7 & 8), the full extent of which could not be ascertained as both features extended beyond the width of Trench 1.

6.2.8 Pit 1018 measured in excess of 2m in width and possessed a U-shaped profile with a flat base (Fig. 16 : m-n) and three distinct fills. The primary fill (Context 1012) was a greyish-brown silty clay which was sealed by Context 1013 a yellowish-brown sandy clay. Sealing Pit 1018 was a deposit of reddish -brown silty clay containing brick fragments (Context 1014).

6.2.9 Pit 1019 was a large feature measuring over 2m in width and over 4m in length. Excavation recorded a U-shaped profile with flat base and three distinct fills (Contexts 1015-1017 Fig. 16 m-n). The primary and most substantial fill in depth was Context 1015, a greyish brown silt with flakes of brick. This deposit was sealed by Context 1016, a yellowish brown sandy clay. And finally Context 1017, a brownish yellow silty clay with flakes of brick.

6.2.10 It is probable that the Linear 1006 and the two large pits, 1018 and 1019, were initially excavated to quarry out clay for the production of the bricks. These were then backfilled with discarded material when the site was still in use or soon after (Appendix 4).

6.2.11 At the south-eastern end of the trench were a number of modern plough scrapes aligned south-west to north-east.

6.3 Trench 2

6.3.1 Trench 2 measured 25m x 2m (Pl. 9) and was placed to established whether the brick works or related activity continued to the south of a large drainage ditch (Fig. 15).

6.3.2 Topsoil measured between 0.20m-0.30m in depth and was a very dark brown, sandy silt with occasional pebbles (Context 2001). Removal of this cultivation layer revealed a single gully cut into the natural pinkish-brown clay c.3m from the south-western end of the trench.

6.3.3 Gully 2003 (Pl. 10) was fairly steep sided, with a concave base, and was roughly 0.60m wide and 0.20m in depth (Fig. 17 - q-r). The single fill (Context 2002), a greyish brown sandy silt contained decomposed wood fragments. Given the general nature and form it seems probable that Feature 2003 represents a Post-medieval or modern hedge boundary.

6.3.4 Further features recorded in Trench 2 consisted of a tree bowl and modern plough scrapes (Fig. 17).

6.4 ***Trench 3***

6.4.1 Trench 3 measured 50m x 2m (Pl. 11) and was placed on slightly higher ground to test whether this location had attracted early settlement (Figs. 14 & 15).

6.4.2 Topsoil was c.50cm in depth and a dark reddish brown, sandy silt with occasional pebbles (Context 3001). Excavation revealed a single feature (Context 3003 : Pl. 12) cut into the natural yellow sand c.13m from the south-western end of the trench (Fig. 18).

6.4.3 The feature had fairly steep sides, a flat base, and was roughly 0.80m wide and 0.20m in depth (Fig. 18 s-t). It was filled by Context 3002, a dark greyish brown silty sand containing decomposed wood fragments.

6.4.4 The marked similarity to Context 2003 in Trench 2, suggests it too was probably a Post-medieval or modern hedge boundary.

6.4.5 Additional features recorded in Trench 3 consisted of three tree bowls and modern plough scrapes on differing alignments (Fig. 18).

6.5 ***Trench 4***

6.5.1 Trench 4 measured 50m x 2m and was placed to investigate a low lying area which may have contained a buried land surface covered by later deposits and was located outside of the Geophysical Survey grid (Figs.14 & 15 : Pl. 13)

6.5.2 This trench crossed a field drainage ditch and so was split into two trenches to not affect the drain. Topsoil was c.0.20m-0.30m in depth and a dark brown, sandy silt with occasional pebbles (Context 4001). Removal of the topsoil revealed a series of modern field drains all cut in to the natural yellow sand. This trench filled up with water quite quickly after the stripping of the topsoil.

6.6 ***Trench 5***

6.6.1 Trench 5 measured 25m x 2m and was located to investigate an area of higher ground (Figs. 14 & 15 : Pl. 14).

6.6.2 Removal of the topsoil, a dark brown silt with occasional pebbles (Context 5001) measuring c.0.40m in depth revealed only modern field drains and plough scrapes, all cut into the natural yellow sand (Fig. 19).

6.7 ***Trench 6***

6.7.1 Trench 6 measured 50m x 2m (Figs. 14 & 15) and was located to investigate an area of higher ground where Roman pottery had been collected during the fieldwalking stage of the archaeological evaluation.

6.7.2 The topsoil, a dark brown/grey silty loam with occasional pebbles (Context 6001) measured between 0.40m and 0.50m in depth. When this cultivation layer was stripped away two areas of possible archaeology were observed, one in the north of the trench and one in the south (Fig. 20 : Pl. 15).

6.7.3 Approximately 10m from the south-eastern end of Trench 6 excavation revealed a broad ditch aligned north-east to south-west. Excavation of this feature recorded the presence of two ditches (Contexts 6010 & 6012 : Pl. 16).

6.7.4 Ditch 6010, the earlier of the two features (Fig. 20 : w-x) was U-shaped in profile, 4.30m in width and 0.80m in depth. The earliest fills (Contexts 6014 & 6015) were yellowish clayey loam deposits representing erosion of the sides of the ditch.. Above this fill was Context 6009, a brownish silt with occasional pebbles and sherds of Roman pottery (Appendix 3). This fill was sealed by Contexts 6007, a greyish brown sandy silt which also contained Roman pottery and 6008, a light greyish brown sandy silty clay with occasional pebbles. Fill 6013 was identical in nature to Context 6008 and represented erosion deposits. The final fill of this ditch was Context 6006 a yellowish brown sandy silt.

6.7.5 The northern edge of Ditch 6010 had been affected by the cutting of a later Ditch (6012). On the same alignment as Ditch 6010, Ditch 6012 was also U shaped in profile but smaller measuring only 1m in width and 0.50m in depth, with a single fill (Context 6011) a light reddish brown sandy silt with occasional pebbles.

6.7.6 In the north of Trench 6 excavation revealed two further features, a ditch and a gully (Ditch 6005 and Gully 6003 respectively).

6.7.7 Ditch 6005 measured 3.60m in width and 0.15m in depth with gradually sloping sides and a flat base (Fig. 20 : u-v). The single fill (Context 6004) was a mid yellow gravely sand with occasional pebbles with associated sherds of Roman pottery.

6.7.8 Gully 6003, a U-shaped feature with a concave base measuring 0.55m in width and 0.20m in depth was cut into the fill of Ditch 6005. The single fill (context 6002) a dark brown grey gravely silt contained sherds of Roman pottery.

6.8 ***Trench 7***

6.8.1 Trench 7 measured 25m x 2m and was located on low-lying land to assess the archaeological potential of this area (Figs. 14 & 15 : Pl. 7).

6.8.2 Topsoil was c.0.30m in depth and a dark brown clay material with occasional pebbles (Context 7001). When the cultivated layer was stripped away no features were observed. The natural in this area of the site was a pinkey red clay with patches of yellow sand.

6.9 ***Trench 8***

6.9.1 Trench 8 measured 25m x 2m and was situated to test the nature of a feature located by Geophysical Survey (Fig. 15 : Pls. 18 & 19).

6.9.2 Beneath the topsoil (Context 8001 - a dark greyish brown material with occasional pebbles), which measured between 0.30m and 0.40m in depth, were three linear features located in the south of the trench, all aligned north-east south-west (Cuts 8002, 8004 & 8006).

6.9.3 Feature 8002 was 0.50m in width and 0.15m in depth with a dark greyish brown clay fill containing occasional flecks of charcoal and flecks of brick (Context 8003). The eastern side of 8002 had been cut away by Feature 8004 a steep sided linear with associated ceramic land drain (Fig. 21 : aa-ab).

6.9.4 To the north of these features was a third linear (Context 8006). This feature bisected Trench 8 and measured 0.90m in width and 0.20m in depth (Fig. 21 - y-z). Feature 8006 had a stepped profile with a flat base, its fill (Context 8007) was brownish grey clay with occasional pebble inclusions and small fragments of brick.

6.9.5 It is probable that all three of these features were constructed in the 19th century or later, to aid in the drainage of the field, and that the linear seen on the Geophysical Survey was Context 8006.

6.10 ***Trench 9***

6.10.1 Trench 9 measured 50m x 2m and was situated to test an area of higher ground (Figs. 14 & 15). The topsoil, a dark brown sandy loam containing occasional pebbles (Context 9001) was between 0.40m and 0.50m in depth. The topsoil strip in this trench only observed modern plough scrapes cut in to the natural yellow sand (Fig. 22 : Pl. 20).

6.11 ***Trench 10***

6.11.1 Trench 10 measured 25m x 2m and was placed to investigate an area of low-lying land in an attempt to establish the archaeological potential of this area of the site (Figs. 14 & 15).

6.11.2 The topsoil, a dark brown silty clay with occasional pebbles (Context 10001) was 0.35m-0.40m in depth. When the cultivated layer was stripped away only modern plough scrapes were observed cut in to the pinkey red clay natural (Fig. 23 : Pl. 21).

6.12 ***Trench 11***

6.12.1 Trench 11 measured 50m x 2m and was situated on low-lying land outside of the Geophysical Survey grid (Figs. 14 & 15).

6.12.2 The topsoil, a dark greyish brown silty clay with occasional pebbles (Context 110001) was 0.50m in depth. The only features recorded in this trench were modern plough scrapes cut into the natural yellow clay (Pl. 22). This trench became waterlogged as soon as it was pulled and only dried out sufficiently to clean after a week.

6.13 ***Trench 12***

6.13.1 Trench 12 measured 50m x 2m and was situated to investigate an area of low lying land (Figs.14 & 15).

6.13.2 The topsoil, a dark greyish brown silty clay with occasional pebbles, was 0.50m in depth. Located beneath this deposit was the yellowish-grey natural clay. A single feature was observed in Trench 12 cut into the natural clay (Pl. 23). Feature 12003 was aligned east-west and had a U-shaped profile (Pl. 24). The single fill (Context 12002) was a dark brown silty clay with occasional

pebble inclusions. It is likely that this feature was a drainage gully dating to 19th century land improvements.

6.14 ***Trench 13***

6.14.1 Trench 13 measured 50m x 2m and was placed in investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking (Figs. 11, 14 & 15 : Pl. 25).

6.14.2 Removal of the topsoil, a very dark grey silty clay with occasional pebbles (Context 13001) measuring 0.40m in depth revealed a single linear feature (Contexts 13002/13004 : Pl. 26). Excavation revealed that the feature was in fact two ditches. Aligned north-west south-east Ditch 13002 measured 1.5m in width, 0.5m in depth with a U-shaped profile, and a single fill (Context 13003) of dark brown organic material with occasional pebbles which contained one fragment of modern field drain.

6.14.3 Ditch 13002 was a re-cut of the earlier ditch (13004), however, very little survived of 13004, its fill (Context 13005) was a black organic material with occasional pebbles.

6.14.4 The nature and form of Ditches 13003 and 13004 suggested that they represented 19th or 20th century field boundaries.

6.15 ***Trench 14***

6.15.1 Trench 14 measured 25m x 2m and situated to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking (Figs. 11, 14 & 15 : Pl. 27). Topsoil in this area of the site measured 0.80m in depth and was dark grey silty clay with occasional pebbles (Context 14001). When the cultivated layer was stripped away only tree bowls and plough scrapes were observed. These features were all cut into the yellowish-grey clay natrual.

6.16 ***Trench 15***

6.16.1 Trench 15 measured 25m x 2m and was situated to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints and ?Roman glass were found during the fieldwalking stage of the archaeological evaluation.

6.16.2 The topsoil, a black organic material with occasional pebbles was 0.50m in depth (Context 15001). Removal of this deposit located a single linear feature

(Context 15002 : Pls. 28 & 29) measuring 0.70m in width and 0.20m in depth with a wide U-shaped profile and single a black organic fill (Context 15003). This feature was most probably a 19th or 20th century field boundary.

Contingency Trenches:

The following trenches were excavated to evaluate further Geophysical anomalies possibly associated with the brickworks:

6.17 ***Trench 16***

6.17.1 Trench 16 measured 15m x 2m and was excavated to investigate further anomalies seen on the Geophysical Survey and as an extension to Trench 1 (Fig. 15).

6.17.2 Removal of a blackish brown silty clay topsoil measuring 0.45m in depth revealed two features (Contexts 16008 & 16013 : Pls. 30 -32).

6.17.3 Feature 16008 had steeply sloping sides with a flat base, was 0.80m in width and 0.35m in depth (Fig. 24 : ac-ad : Pl. 32). The single fill (Context 16006) was a dark brown sandy material containing fragments of brick

6.17.4 Feature 16013 was oval-shaped with gradually sloping sides and a concave base, 0.40m in width and 0.15m in depth (Fig. 24 : ae-af). The fill of this pit (Context16005) was a dark brown sandy material containing fragments of bricks.

6.17.5 Pits 16008 and 16013 were cut into a mixed deposit of brown and yellow sands with clay inclusions and brick fragments (Context 16009). This deposit was evaluated by three 1m x 1m sondages (Fig. 24). This material was in general 0.40m in depth and appeared to represent a general build up of waste material from the production of brick kilns. Pits 16008 & 16013 were therefore dug some time later after the brickwork activity had terminated.

6.18 ***Trench 17***

6.18.1 Trench 17 measured 10m x 2m and was excavated to investigate three possible linears seen on the Geophysical Survey (Fig. 15).

6.18.2 The topsoil, a dark red clayey material with occasional pebbles (Context 17001) was 0.40m in depth and when stripped away exposed three features (Contexts 17008, 17009 & 17011 : Fig. 25 : Pls. 33 && 34).

6.18.3 Linear 17009 aligned north-east to south-west was 1.20m wide and 0.40m in depth with a V-shaped profile and two distinct fills. The primary fill (Context 17014) was a light blue/grey silty clay probably created by natural silting up of the ditch rather than deliberate backfilling; above this was Context 17013, a mid grey/brown silty clay. Cut in to the upper fill (Context 17013) was a later linear feature (Gully 17002) which had a U shaped profile and was 0.35m wide and 0.10m in depth. The fill (Context 17002) a dark brown/grey clayey silt contained brick fragments.

6.18.4 Immediately adjacent to Ditch 17009 was a curvi-linear feature (Context 17011), measuring in excess of 4m and at its widest 0.5m in width. This feature possessed two fills, a silty clay (Context 17004) and a silty sand (Context 17006). Feature 17011 had been cut away in the south by Ditch 17009 and in the north by Feature 17010 (Fig. 25 : ag- ah). No finds were recovered and the general nature and form of Feature 17011 suggested that it may be in fact a natural feature.

6.18.5 Feature 17010 a short linear feature possessed with a single silty sand fill (Context 1705). No finds were recovered to provide a date for the feature.

6.18.6 Feature 17008 represented a possible oval pit, which extended beyond the limits of Trench 17 and was filled with a single deposit of sand (Context 17003 : Fig. 25 - ai-aj). Measuring in excess of 1m in diameter no finds were recovered from the excavated section.

7. Results Nottinghamshire

7.1 Three trenches were excavated in Area F, two were located to evaluate geophysical anomalies and a third trench was placed over the find spot of a flint flake recovered during field walking (Fig. 26).

7.2 *Trench 18*

7.2.1 Trench 18 measuring 10m x 10m was located over the exact location of a linear geophysical anomaly recorded during the Geophysical Survey of the site.

7.2.2 The topsoil consisted of a heavy waterlogged clay loam (Context 18001) approximately 0.4m deep below which was a mixed deposit of mottled reddish brown clay and gingery brown clay subsoil (Pl. 35).

7.2.3 Two features were exposed in this trench, a north south running linear band of cream to yellow clay and sand (Contexts 18002/5 : Pl. 36) and at the southern

end of this feature was a substantial deposit of black sooty material with occasional carbonised twig and charcoal inclusion which appeared to be cut by the linear feature.

7.2.4 On excavation this deposit was seen to composed of layers of sandy clays and the dark silty material, which appeared to fill a large hollow or pit (Context 18008). No finds were present in the material and the base of the pit still contained occasional charcoal flecking and further thin laminations. The general nature and form of the feature suggested that it was not archaeological but probably represented a tree trunk burnt in situ and left to decay before being incorporated into the thick natural clay. The linear deposit of yellow sandy clay had shallow sloped sides with an irregular rounded base with frequent irregular pockets and hollows. No finds were present in the fill of this feature and it is likely that it also of geological origin, perhaps a drainage stream cutting across the clay.

7.3 *Trench 19*

7.3.1 Trench 19 was placed over the find spot of a flint flake and was intended to discover whether or not there was either a sealed land surface or further artefacts within this area.

7.3.2 To aid the recovery of further flint artefacts the topsoil was to be sampled by the hand sieving of the topsoil removed from specific quadrants. The soil conditions were not suitable for this approach as there was practically no topsoil in this area of the site. A thin band of cultivated material (Context 19001) of clayey loam and usually less than 0.2m thick and with very high clay component marked the extent of topsoil.

7.3.3 The topsoil was removed by machine in four strips to enable spatial location of any finds. Approximately 10 cubic metres of material were removed and 25% of this material was riddled through a 0.01m gauge grid. The high clay component made the riddling process difficult; drier clay was broken into small fragments that passed through the grid. Wet clay was forced through the grid to extract any larger stones or artefacts. Two fragments of brick or tile, two unworked flint fragment and a small piece of clay pipe were all that was recovered from the sampling.

7.3.4 Deposits below this consisted of heavy clean geological clays. No features were observed cutting in to these clays and within minutes of excavation the trench had filled with water (Pl. 37).

7.4 ***Trench 20***

7.4.1 Trench 20 measured 10m x 10m and was located over a second linear geophysical anomaly running broadly north south.

7.4.2 Topsoil coverage was a heavy waterlogged clayey loam (Context 20001). Excavation revealed below the plough soil a heavy mottled grey to greyish brown with patches of lighter blue and gingery brown clay. At the southern end of the trench the deposits were removed in spits by machine to a depth of 2.8m in the south-western corner. Below the thick clay deposits were alternating bands of blue grey clay and waterlogged running sands. These deposits were clearly geological in origin.

7.4.3 No features were observed that could have explained the geophysical anomaly recorded in this trench. A 2m wide extension to the trench was pulled from the north-eastern corner to ensure that the anomaly had not been missed but no feature was encountered. As with Trench 19 Trench 20 quickly filled with water and became unworkable (Pl. 38).

8. Summary & Conclusions

8.1 The initial evaluation of the proposed north-eastern extension to the Lafarge Aggregates workings at Finningley had been a Desk-based Assessment which had highlighted the potential for remains of a Prehistoric and Romano-British date to survive on the site. A programme of Fieldwalking reiterated this with the observation and collection of finds of both Prehistoric and Romano-British date. Although only a very small but significant Prehistoric assemblage was recovered, the presence of worked flint strongly suggested activity of Neolithic/Bronze Age date within the proposed extension area. Likewise the occurrence of pottery and a fragment of glass of Roman date suggested that activity recorded during Watching Briefs adjacent to the A614 (MAP 1999 & 2001) extended into the extension area. Aerial photographic evidence records a concentration of linear enclosures, possible trackways and field boundaries directly to the north of Area C, a small number of these linears are shown extending in to Area C.

8.2 The aim of the programme of Trial Trenching was to extend our understanding of the site further by means of evaluation trenches located at specific locations based on either specific spot finds recovered during Fieldwalking, the topography, or geophysical anomalies recorded during the Geophysical Survey.

8.3 Flint artefacts were recovered in Areas A, F and G. Excavation in Trenches 13-15 and 19 failed to locate any features which could be equated to these finds suggesting that activity in the Neolithic/Early Bronze was transitory and that the small number of finds of this date and the lack of any obvious clustering means that the finds alone cannot be taken as conclusive evidence of sub-surface archaeological features on the site.

8.4 It is an accepted fact that the geology and topography of an area plays a significant role in the location of settlements and mans impact on the landscape. Chapter 3 has illustrated the importance of geological changes and how they would have influenced settlement patterns in this area of Yorkshire/Nottinghamshire. A consideration of the soil types has shown that the majority of the site is situated on poorly drained clayey soils (Fig. 9) and this was reflected by the excavation of Trenches 4, 11, 18 and 20 which filled with water immediately after the stripping of the topsoil. Trenches 4, 7, 10, 11 and 12 were located in low lying areas and excavation illustrated the lack of archaeological features in these areas of the site other than those associated with modern drainage and agricultural activity.

8.5 Trenches 5, 6 and 9 were situated on higher locations. Excavations in these areas were slightly more productive. No features were recorded in Trenches 5 and 9, but excavation in Trench 6 produced evidence of Romano-British activity of 2nd - 3rd century AD. The location of Trench 6 and the character of the archaeology therein suggested that the recorded linear features relate to crop mark activity recorded to the north (Fig. 11).

8.6 Trenches 8 and 17 in South Yorkshire were positioned to test geophysical anomalies, excavation in both trenches located features which could be equated to the Geophysical Survey record. However these features appeared, by associated finds, to be of a relatively recent date.

8.7 Geophysical anomalies tested in Nottinghamshire proved to be allusive, whereas the complex of features in Area C (South Yorkshire), interpreted a brick kilns were verified by excavation. Although in the main severely damaged by later agricultural activity and deliberate positioning of the excavation trenches to avoid the main concentration of enclosure features, excavation in Trenches 1 and 16 did recover ceramic building material displaying typical traits, which confirmed that the features recorded in Area C, and interpreted as brick kilns were correct. A date in the 17th-18th century has

been suggested for the main period of production (Tibbles 2003 – Appendix 5).

8.8 The proposed quarry extension site at Finningley covers an area of over 69 hectares and given the background archaeological setting for the location one would have expected a greater degree of archaeological activity than that recorded in the Trial Trenching. However, based on current information (see Chapter 3) the geological and climatic changes in the Humberhead Levels in the Prehistroic period accounted for the need to settle and utilise higher pockets of land away from a landscape of meandering rivers, lakes, swamp fen and raised mire. The wet weather conditions in the Roman period again resulted in the need to settle and work higher pockets of land. These factors may explain why large areas of the Finningley site are devoid of any activity pre the Post-medieval and modern periods. Where archaeology has been recorded it is either on the higher spots as is the case with the Roman activity or on land conducive to hunter-gatherers in the Prehistoric period.

9. References

Secondary Sources

Clayton, A.R., (1979) The sand and gravel resources of the country around Bawtry, South Yorkshire. Mineral Assessment Report 37. Institute of Geological Sciences. London

Dinnin, M. (1997) The palaeoenvironmental survey of the River Idle, Thorne and Old River Don. In Van de Noort, R & Ellis, S. Wetland Heritage of the Humberhead Levels.

Gaunt G.D., Jarvis R.A. & Mathews, B. (1971) The late Weichselian sequence in the Vale of York Proceedings of the Yorkshire Geological Society. Volume 38, 281-84.

Gaunt G.D., (1981) Quaternary history of the southern part of the Vale of York. In Neale, & Fenley, J. eds. The Quaternary in Britain.

HAU (1989) The Isle of Axholme. Man and the Landscape. Humber Archaeology Unit Booklet 10.

Jones, R.L., & Gaunt G.D., (1976) A dated Devensian organic deposit at Cawood, near Selby. The Naturalist. Volume 101, 121-123

Mackney, D. et al (1983) Soils of England and Wales. Sheet 1 Northern England. Harpenden.

MAP (1999) Croft Road, Finningley. Archaeological Desktop Study.

MAP (1999) Croft Road, Finningley, Archaeological Watching Brief Report.

MAP (1999) Proposed Extension to Finningley Quarry. Archaeological Desktop Study.

MAP (2000) Finningley III, Archaeological Watching Brief Report.

Migilton, R. (1977) The Doncaster District: An Archaeological Survey.

Mills, A.D. (1991) A Dictionary of English Place-names. Oxford.

Morris, J., ed. (1977) Domesday Book Nottinghamshire. Philimore.

Riley, D.N. (1977) *"Air Reconnaissance in Central and Southern Yorkshire in 1976"* Yorkshire Archaeological Journal Vol. 49 1977 p19-34.

Riley, D.N. (1980) Early Landscape from the Air. Studies of Cropmarks in South Yorkshire and North Nottinghamshire. University of Sheffield.

Smith, B.M., (1985) A palaeoecological study of raised mires in the Humberhead Levels. Unpublished Ph.D Thesis. University of Hull.

Thomas, D. (1979) & Price, D. The sand and gravel resources of the country around Misterton, Nottinghamshire. Mineral Assessment Report 43. Institute of Geological Sciences. London

Van de Noort, R (1997) & Ellis, S. Wetland Heritage of the Humberhead Levels. University of Hull.

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

Contents **Page**

Figure List

Figure List *(continued)*

Plate List

1. Overall View of Trench 1. Facing North-west.
2. Overall View of Trench 1. Facing South - west.
3. Overall View of Trench 1. Facing North - east.
4. Feature 1004. Facing South-east
5. Feature 1006. Facing North-west.
6. Feature 1006, fully excavated. Facing South-west.
7. Features 1018 & 1019. Facing North-west.
8. Feature 1019. Facing North-east
9. Overall View of Trench 2. Facing South-south-west.
10. Feature 2003. Facing North-west.
11. Overall View of Trench 3. Facing South-west.
12. Feature 3003. Facing North-west.
13. Overall View of Trench 4A. Facing South-west.
14. Overall View of Trench 5. Facing South - west.
15. Overall View of Trench 6. Facing East.
16. Ditches 6010 & 6112. Facing North - east.
17. Overall View of Trench 7. Facing North - east.
18. Overall View of Trench 8. Facing North.
19. Overall View of Trench 8. Facing North-east.
20. Overall View of Trench 9. Facing South-east.
21. Overall View of Trench 10. Facing North - east.
22. Overall View of Trench 11. Facing North - east.
23. Overall View of Trench 12. Facing North.
24. Feature 12003. Facing East.

Plate List (continued)

25. General View of Trench 13. Facing North - east.
26. Ditches 13002 & 13004. Facing North-west.
27. General View of Trench 14. Facing East.
28. General View of Trench 15. Facing North.
29. Ditch 15002. Facing South-east.
30. General View of Trench 16. Facing North-east.
31. General View of Trench 16. Facing South-west.
32. Pit 16008. Facing North-west.
33. General View of Trench 17. Facing North-west.
34. General View of Trench 17. Facing South-east.
35. General View of Trench 18. Facing North
36. Feature 18002/18005. Facing South
37. General View of Trench 19. Facing North
38. General View of Trench 20. Facing East.

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

Non Technical Summary

During January – April, 2003 twenty evaluation trenches were excavated within areas A-F of the proposed extension to the Lafarge Aggregates quarry at Croft Road, Finningley. The site falls both in South Yorkshire (Areas A- E) and Nottinghamshire (Areas F & G).

Within South Yorkshire the investigations produced further evidence of Roman activity in the northern sector of the proposed extension (Area C) along with the confirmation that the Geophysical Survey had correctly identified a brick production site of Post medieval date (17^{th}-18^{th} century).

The majority of the evaluation trenches in both South Yorkshire and Nottinghamshire illustrated very little archaeological activity other than features associated with recent agricultural practices.

Finningley Quarry
North-Eastern Extension
South Yorkshire/Nottinghamshire
SK 4690 3985

Archaeological Evaluation

1. Introduction

1.1 This report has been commissioned by M J Carter Associates on behalf of Lafarge Aggregates, in advance of the proposed northern extension to Finningley Quarry, Finningley, South Yorkshire; however part of the proposed extension is in Nottinghamshire (SK 6870 9850 : Fig. 1). The site, measuring 69.2 hectares, is bounded in the west by the existing Lafarge Aggregate works, which are east of the A614 road; to the south by Low Deeps Lane and to the north by Fiftyeights Road.

1.2 This document sets out the details and results of Archaeological Trial Trenching as specified in the agreed Written Scheme of Works (Appendix 1).

1.3 All Maps within this report have been produced from The Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. License No. AL 50453A.

1.4 This report has been funded by Lafarge Aggregates Ltd.

2. Site Description

2.1 The site is presently under arable cultivation, and was either unploughed, ploughed or recently harrowed at the time of the Trial Trencing. The ground surface is relatively flat, with a slight slope from the north to the south. The fields are bounded with hedges and drains.

3. Geology and Geoarchaeology

3.1 Geology

3.1.1 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD (Fig. 2). Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe 2 Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both

these soils are poorly drained and subject to seasonal waterlogging, a fact which explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the north-west, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts- deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

3.1.2 During the Dimlington Stadial of Devensian glaciation, around 18, 000 BP an ice sheet travelled extended as far as the eastern margins of the Yorkshire and Lincolnshire Wolds and into the Vale of York and over into the Pennines (Catt 1990). The Vale of York lobe is thought to have surged as far south as Wroot, immediately to the north of the area proposed quarry extension. Natural river drainage into the North Sea by rivers in this area was prevented thus forming a large lake, Lake Humber (Gaunt 1981). Deposits of laucustrine clays, silts and sands were laid down.

3.1.3 The melting of the ice sheet at the end of the Devensian period and the silting up of Lake Humber around 11,000 BP (Gaunt et al., 1971) resulted in braided river systems developing across its surface building sand and silt levees (Gaunt 1981) with little or no vegetation cover (Ellis 1997). This factor contributed to the deposit of aeollan sedimentation in the period between 11,000-10,000 BP (Gaunt, 1981, Bateman, 1995). Low sea levels (of up to 18m or so below OD) caused the rivers of the region to incise into the freshly exposed Lake Humber sediments (Gaunt, 1981). Dating of a peat deposit at Cawood near York indicates that the braiding phase had finished by 10,500 BP (Jones and Gaunt, 1976).

3.1.4 Palaeoenvironmental survey in the Humberhead Levels (Van de Noort & Ellis 1997) has shown through bio- and lithostratigraphic analyses that channel aggradation in the Aire, Went, Idle, Thorne and the Old River Don commenced during the Late glacial/Holocene transition c. 11,000-10,2000 BP, considerably earlier than previously thought (Gaunt 1994). This also means that the palaeoenvironmental sequence spans the early Holocene and therefore the potential for early and late Mesolithic material.

3.1.5 Rises in sea level during the Holocene were not constant and during periods of still-stand vegetation colonised the poorly drained river valleys and estuarine margins, leading to the formation of peat. As the sea level rose these peat

deposits escaped erosion and became buried under alluvium. Elsewhere in the region flat poorly drained low-lying land saw the peat begin to form as at Thorne and Hatfield Moors.

3.1.6 Although some peats may have formed as early as 7000 BP (Gaunt, 1994), most peats are thought to be significantly younger. Peat development within the incised river channel at both Scaftworth and Misterton Cad is recorded from c.4000 BP and by about 3000 BP the incised channel appears to have been largely infilled with peat and alluvium (Buckland and Dolby, 1973 and Van de Noort and Ellis, 1997).

3.1.7 Forest clearance and permanent agriculture during the Late Neolithic and Bronze Age between c.4000 - 2500 BP saw the supply of fine-grained sediment to lowland river channels by soil erosion associated with agricultural activity.

3.1.8 Geological and climatic changes in the Humberhead Levels resulted in a landscape of meandering rivers, lakes, swamp fen and raised mire with woodland surviving on the better-drained higher ground. This rich and diverse ecosystem persisted until the introduction of large scale drainage in the post-medieval period.

3.1.9 The general wet weather conditions of the Roman period saw the continual growth of the flood plain mire continued to grow during the early part of the Roman period suggesting that the intensification of farming in this period was largely restricted to the drier soils of the outcropping Older River Gravels, First Terrace and Bunter Sandstones (Van de Noort and Ellis 1997). This couples with scatters of late third and fourth century Roman pottery on and adjacent to the Idle flood plain at Scawcroft may indicate improved drainage and runoff of the low lying areas allowing more intensive exploitation for pasture and small-scale arable farming.

3.1.10 There is little palaeoenvironinental material relating to the post-Roman/early medieval period but from regional trends it is probable that some woodland regeneration occurred following the decline in agriculture during this period. By the end of early medieval period, the majority of villages in the riverside lowlands were established as evidenced by their inclusion in the Domesday Book, and a renewed agricultural effort is reflected in the regional pollen diagrams with a reduction of tree pollen and a concomitant increase of cereal, arable weed and hemp pollen (Smith. 1985). From the medieval period there

were numerous attempts to reduce flooding and improve drainage within the Humberhead Levels. Embankment and drainage may have resulted in only seasonal flooding of the Idle flood plain and this would have been further reduced following the main phase of drainage associated with the Dutch engineer Cornelius Vermuyden after AD 1626 which included the diversion of the Idle downstream of the study area (Dinnin, 1997).

3.1.11 By 1800, large areas of the Humberhead Levels had been drained through a series of dykes and although flooding was no longer a serious problem, much of the land remained waterlogged.

3.1.12 The practise of warping, either dry-warping whereby land is artificially raised or by wet-warping where fine-grained sediments were introduced through floodwater management to improve the fertility of the waterlogged land. It has been calculated that up to one metre of material per year could be deposited using the wet-warping method (Van de Noort and Davies 1993).

3.1.13 The extensive Ipswichian river terrace deposits of sands and gravels around Blaxton and Finningley have been extensively quarried. The sand and gravel ridge (9m) on which Wroot is situated was deposited during the late Devensian ice surge into Lake Humber. The ridge is abutted by wind blown sands which outcrop sporadically through the Holocene peats to the south and east of Wroot, forming low ridge that frequently coincide with finds spots (Van de Noort & Ellis 1997).

3.1.14 River terrace deposits are recorded to the north-east and east of the proposed extraction area with a wide swathe of silt and clay deposits forming the bulk of the site. A small area of the site to the west contains peat (Fig. 3). A study of the mineral resource has shown continuous or almost continuous spreads of mineral beneath overburden for much of the proposed development area (Fig. 4 : Clayton 1979 : Thomas & Price 1979).

3.1.15 A number of borehole surveys have been undertaken to assess the nature and relative depths of the differing soil types on the site. Figure 5 illustrates the locations of these boreholes. Figures 6 and 7 indicates the changes in depths of the main types of geology.

3.1.16 A programme of augering at regular intervals across the site (Fig. 8) to a depth of 1.2m has produced a plan showing the categories of soils encountered (Fig. 9).

3.2 Geoarchaeology

3.2.1 Previous Watching Briefs in the area of Misson Grange by Trent and Peak Archaeological Trust (Howard 1996) revealed peat overlying sands and silts. The underlying sedimentary sequence could preserve evidence of Late Pleistocene to early Holocene landscape (13,000-7,000 BC), with the possibility of the survival of Palaeolithic artefacts or remains.

3.2.2 Ancient channels in the underlying gravel deposits, *palaeochannels*, are filled with deposits with high potential for the preservation of past environments. Aerial Reconnaissance has uncovered two possible palaeochannels to the south of Fiftyeighths Road.

3.2.3 A study of the Humberhead Levels, in which the proposed quarry extension is located, concluded that human activity had been shaped by the development of the wetlands during the Late glacial and Holocene. Strong correlation between the distribution of archaeological sites and finds could be made illustrating man's exploitation and dependence on the riverine resources of this area (Van de Noort & Ellis 1997, 456-460).

3.2.4 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD. Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both these soils are poorly drained and subject to seasonal waterlogging, a fact which explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the northwest, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts – deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

4. Historical and Archaeological Background

4.1 The site lies within an area of known Prehistoric and Romano-British significance. No archaeological evidence is known from the site itself, but this

is not surprising given that it has not been developed or subjected to intrusive groundworks within the modern period. To the south-west lies a probable Romano-British site at Crow Wood, the extent of which has never been accurately determined. To the west, development of the A614 road resulted in a number of archaeological finds of Roman date. Further Roman pottery was located during Watching / Recording briefs to the west of the site during recent expansion of the Lafarge Aggregates quarry (MAP 2000 & 2001).

4.2 The site crosses two parishes, Finningley and Misson, and both were originally in the Bassetlaw Wapentake in Nottinghamshire, Finningley is now in South Yorkshire. The site is located 0.8km southeast of the village of Finningley and 3km north of Mission village.

4.3 The name 'Finningley' derives from the Old English 'Feniglei', meaning 'woodland clearing of the dwellers in the fen' (Mills 1991). The name 'Misson' derives from the Old English 'Misna' or 'Misne' meaning 'water-arum' and dates back to the Saxon period (Gover et al 1940).

4.4 For the most part the area was nucleated villages, common fields and commons. Most land in the vales was held within strong manorial framework. The main centre of settlement was the village, and the lands of the township were frequently coterminous with lands of the manor. Communal cultivation of the fields was regulated in the manorial court, and in one-manor villages the squire and his steward had undivided authority over the community.

4.5 Medieval archives reveal ongoing improvements into water management in the general area. Charles I commissioned Cornelius Vermuyden, in the early Seventeenth century to drain the land in the Isle of Auxholme and Hatfield Chase. Charles I was selling assets, and felt certain area was suitable for drainage improvements. In 1626, Charles I awarded Vermuyden the contract to drain Hatfield Chase and the Isle of Auxholme. One of the first areas was contained within the Assessment Area. Vermuyden effectively drained Hatfield Chase and Thorn with various straightening of watercourses and drains, but ruined the water management in the Isle of Axholme and surrounding areas.

4.6 It was not until the Nineteenth century that great improvements to the low-lying lands increased fertility by a technique known as warping. "Large areas of land were embanked and criss-crossed with warping channels leading from the Trent. At high tide the sluices were opened and the silt-laden water was

allowed to flow along these channels and flood the land. The water was left to stand until it had deposited a fertile layer of silt and then drained away at low tide. Many fields in the Isle of Auxholme are now covered between several inches and several feet of fertile soil" (HAU 1989).

4.7 The field system visible today is based in the enclosure of common and wasteland in the Eighteenth century. Finningley was enclosed by Act of Parliament in 1774, and Misson was enclosed in 1760.

4.8 In addition to the existing Sites and Monuments Records of crop marks, Riley noted an extensive system of 'brickwork pattern' fields and two associated large enclosures at Austerfield to the southwest of Finningley airfield. Trail excavations by Nottingham University on similar sites in north Nottinghamshire suggest a Roman date for field systems of this type (Riley 1977).

4.9 Fieldwalking of the proposed development site produced finds of prehistoric through to recent date. This included a pieces of worked flint found in Areas B, F & G (Figs. 11-13).

The Geophysical Survey detected anomalies associated with land drains and possible linears, which may represent archaeological activity (Fig. 15).

5. Methodology

5.1 A total of 17 trenches were excavated in South Yorkshire (Fig. 13 : Trenches 1-17 - Areas A-E).and three trenches were excavated in Area F in Nottinghamshire (Fig. 13 : Trenches 1-3)

5.2 Topsoil and overburden were removed by a tracked 360-degree excavator using a toothless bucket to the top of archaeological or natural deposits under direct archaeological supervision.

5.3 The areas were then hand cleaned to record in plan the archaeological features. All ditches and gullies were hand excavated in segments with a minimum length of 1m, isolated features such as pits were excavated in half section.

5.4 A drawn, written and photographic record was made of all features and deposits. Plans and sections were drawn at scales of 1:20 and 1:10 respectively. The written record was compiled on standard forms using a

continuous context recording system and all finds recovered were recorded by context.

5.5 A common grid was established within the trenches using a Total Station and the position of the trenches was located in relation to existing boundaries, permanent structures and roads.

6. Results South Yorkshire

6.1 A total of 17 trenches were excavated as part of the further archaeological evaluation of the site.

6.2 *Trench 1*

6.2.1 Trench 1 measured 50m x 5m and was placed to investigate strong geophysical anomalies, which related to the site of an early brick manufacture (Figs. 14 & 15).

6.2.2 Excavation revealed a topsoil of reddish brown, silty clay with occasional pebbles (Context 1001), which was between 0.30m – 0.50m in depth. This layer sealed a number of archaeological features possibly relating to brick manufacture were exposed which were cut into the reddish brown clay natural (Fig. 16 : Pls. 1-3).

6.2.3 In the centre of the trench was a linear feature (Context 1020), which was excavated in three segments (Contexts 1003/4/5; Fig. 16 g-h. I-j & k-l : Pl. 4). Measuring 8m in length, 1.3m in width and 0.20m in depth this feature was filled by Context 1002 a deposit of clay with brick inclusions which has been described as "substantial kiln debris" (Appendix 4). However, it seems unlikely that this feature was a kiln as no substantial burning or baking from the heat was observed in the sides of the feature nor associated with it, although this may have been lost due to deep ploughing. A more likely interpretation is that Feature 1020 was a pit used to dump waste material after a nearby kiln had been fired.

6.2.4 Immediately to the north of Feature 1020 was Feature 1008 which continued under the western baulk. Filled with a deposit of silty clay (Context 1007) the feature was similar to Feature 1020 and may have served a similar purpose.

6.2.5 The northern half of the Trench 1 was bisected by a linear feature (Context 1006 : Pls. 5 & 6) which measured c.4m in width, 0.5m in depth with a U-shaped profile and a flat base (Fig. 16 a-b, c-d). It was filled by the primary fill

Context 1011 a dark brown sandy silt which overlay Context 1010, a light brown clay, the final fill was Context 1009, a dark brown clay silt containing brick fragments.

6.2.6 Adjacent to Ditch 1006 were two large pits (Contexts 1018 and 1019 : Pls. 7 & 8), the full extent of which could not be ascertained as both features extended beyond the width of Trench 1.

6.2.8 Pit 1018 measured in excess of 2m in width and possessed a U-shaped profile with a flat base (Fig. 16 : m-n) and three distinct fills. The primary fill (Context 1012) was a greyish-brown silty clay which was sealed by Context 1013 a yellowish-brown sandy clay. Sealing Pit 1018 was a deposit of reddish -brown silty clay containing brick fragments (Context 1014).

6.2.9 Pit 1019 was a large feature measuring over 2m in width and over 4m in length. Excavation recorded a U-shaped profile with flat base and three distinct fills (Contexts 1015-1017 Fig. 16 m-n). The primary and most substantial fill in depth was Context 1015, a greyish brown silt with flakes of brick. This deposit was sealed by Context 1016, a yellowish brown sandy clay. And finally Context 1017, a brownish yellow silty clay with flakes of brick.

6.2.10 It is probable that the Linear 1006 and the two large pits, 1018 and 1019, were initially excavated to quarry out clay for the production of the bricks. These were then backfilled with discarded material when the site was still in use or soon after (Appendix 4).

6.2.11 At the south-eastern end of the trench were a number of modern plough scrapes aligned south-west to north-east.

6.3 Trench 2

6.3.1 Trench 2 measured 25m x 2m (Pl. 9) and was placed to established whether the brick works or related activity continued to the south of a large drainage ditch (Fig. 15).

6.3.2 Topsoil measured between 0.20m-0.30m in depth and was a very dark brown, sandy silt with occasional pebbles (Context 2001). Removal of this cultivation layer revealed a single gully cut into the natural pinkish-brown clay c.3m from the south-western end of the trench.

6.3.3 Gully 2003 (Pl. 10) was fairly steep sided, with a concave base, and was roughly 0.60m wide and 0.20m in depth (Fig. 17 - q-r). The single fill (Context 2002), a greyish brown sandy silt contained decomposed wood fragments. Given the general nature and form it seems probable that Feature 2003 represents a Post-medieval or modern hedge boundary.

6.3.4 Further features recorded in Trench 2 consisted of a tree bowl and modern plough scrapes (Fig. 17).

6.4 ***Trench 3***

6.4.1 Trench 3 measured 50m x 2m (Pl. 11) and was placed on slightly higher ground to test whether this location had attracted early settlement (Figs. 14 & 15).

6.4.2 Topsoil was c.50cm in depth and a dark reddish brown, sandy silt with occasional pebbles (Context 3001). Excavation revealed a single feature (Context 3003 : Pl. 12) cut into the natural yellow sand c.13m from the south-western end of the trench (Fig. 18).

6.4.3 The feature had fairly steep sides, a flat base, and was roughly 0.80m wide and 0.20m in depth (Fig. 18 s-t). It was filled by Context 3002, a dark greyish brown silty sand containing decomposed wood fragments.

6.4.4 The marked similarity to Context 2003 in Trench 2, suggests it too was probably a Post-medieval or modern hedge boundary.

6.4.5 Additional features recorded in Trench 3 consisted of three tree bowls and modern plough scrapes on differing alignments (Fig. 18).

6.5 ***Trench 4***

6.5.1 Trench 4 measured 50m x 2m and was placed to investigate a low lying area which may have contained a buried land surface covered by later deposits and was located outside of the Geophysical Survey grid (Figs.14 & 15 : Pl. 13)

6.5.2 This trench crossed a field drainage ditch and so was split into two trenches to not affect the drain. Topsoil was c.0.20m-0.30m in depth and a dark brown, sandy silt with occasional pebbles (Context 4001). Removal of the topsoil revealed a series of modern field drains all cut in to the natural yellow sand. This trench filled up with water quite quickly after the stripping of the topsoil.

6.6 ***Trench 5***

6.6.1 Trench 5 measured 25m x 2m and was located to investigate an area of higher ground (Figs. 14 & 15 : Pl. 14).

6.6.2 Removal of the topsoil, a dark brown silt with occasional pebbles (Context 5001) measuring c.0.40m in depth revealed only modern field drains and plough scrapes, all cut into the natural yellow sand (Fig. 19).

6.7 ***Trench 6***

6.7.1 Trench 6 measured 50m x 2m (Figs. 14 & 15) and was located to investigate an area of higher ground where Roman pottery had been collected during the fieldwalking stage of the archaeological evaluation.

6.7.2 The topsoil, a dark brown/grey silty loam with occasional pebbles (Context 6001) measured between 0.40m and 0.50m in depth. When this cultivation layer was stripped away two areas of possible archaeology were observed, one in the north of the trench and one in the south (Fig. 20 : Pl. 15).

6.7.3 Approximately 10m from the south-eastern end of Trench 6 excavation revealed a broad ditch aligned north-east to south-west. Excavation of this feature recorded the presence of two ditches (Contexts 6010 & 6012 : Pl. 16).

6.7.4 Ditch 6010, the earlier of the two features (Fig. 20 : w-x) was U-shaped in profile, 4.30m in width and 0.80m in depth. The earliest fills (Contexts 6014 & 6015) were yellowish clayey loam deposits representing erosion of the sides of the ditch.. Above this fill was Context 6009, a brownish silt with occasional pebbles and sherds of Roman pottery (Appendix 3). This fill was sealed by Contexts 6007, a greyish brown sandy silt which also contained Roman pottery and 6008, a light greyish brown sandy silty clay with occasional pebbles. Fill 6013 was identical in nature to Context 6008 and represented erosion deposits. The final fill of this ditch was Context 6006 a yellowish brown sandy silt.

6.7.5 The northern edge of Ditch 6010 had been affected by the cutting of a later Ditch (6012). On the same alignment as Ditch 6010, Ditch 6012 was also U shaped in profile but smaller measuring only 1m in width and 0.50m in depth, with a single fill (Context 6011) a light reddish brown sandy silt with occasional pebbles.

6.7.6 In the north of Trench 6 excavation revealed two further features, a ditch and a gully (Ditch 6005 and Gully 6003 respectively).

6.7.7 Ditch 6005 measured 3.60m in width and 0.15m in depth with gradually sloping sides and a flat base (Fig. 20 : u-v). The single fill (Context 6004) was a mid yellow gravely sand with occasional pebbles with associated sherds of Roman pottery.

6.7.8 Gully 6003, a U-shaped feature with a concave base measuring 0.55m in width and 0.20m in depth was cut into the fill of Ditch 6005. The single fill (context 6002) a dark brown grey gravely silt contained sherds of Roman pottery.

6.8 ***Trench 7***

6.8.1 Trench 7 measured 25m x 2m and was located on low-lying land to assess the archaeological potential of this area (Figs. 14 & 15 : Pl. 7).

6.8.2 Topsoil was c.0.30m in depth and a dark brown clay material with occasional pebbles (Context 7001). When the cultivated layer was stripped away no features were observed. The natural in this area of the site was a pinkey red clay with patches of yellow sand.

6.9 ***Trench 8***

6.9.1 Trench 8 measured 25m x 2m and was situated to test the nature of a feature located by Geophysical Survey (Fig. 15 : Pls. 18 & 19).

6.9.2 Beneath the topsoil (Context 8001 - a dark greyish brown material with occasional pebbles), which measured between 0.30m and 0.40m in depth, were three linear features located in the south of the trench, all aligned north-east south-west (Cuts 8002, 8004 & 8006).

6.9.3 Feature 8002 was 0.50m in width and 0.15m in depth with a dark greyish brown clay fill containing occasional flecks of charcoal and flecks of brick (Context 8003). The eastern side of 8002 had been cut away by Feature 8004 a steep sided linear with associated ceramic land drain (Fig. 21 : aa-ab).

6.9.4 To the north of these features was a third linear (Context 8006). This feature bisected Trench 8 and measured 0.90m in width and 0.20m in depth (Fig. 21 - y-z). Feature 8006 had a stepped profile with a flat base, its fill (Context 8007) was brownish grey clay with occasional pebble inclusions and small fragments of brick.

6.9.5 It is probable that all three of these features were constructed in the 19th century or later, to aid in the drainage of the field, and that the linear seen on the Geophysical Survey was Context 8006.

6.10 ***Trench 9***

6.10.1 Trench 9 measured 50m x 2m and was situated to test an area of higher ground (Figs. 14 & 15). The topsoil, a dark brown sandy loam containing occasional pebbles (Context 9001) was between 0.40m and 0.50m in depth. The topsoil strip in this trench only observed modern plough scrapes cut in to the natural yellow sand (Fig. 22 : Pl. 20).

6.11 ***Trench 10***

6.11.1 Trench 10 measured 25m x 2m and was placed to investigate an area of low-lying land in an attempt to establish the archaeological potential of this area of the site (Figs. 14 & 15).

6.11.2 The topsoil, a dark brown silty clay with occasional pebbles (Context 10001) was 0.35m-0.40m in depth. When the cultivated layer was stripped away only modern plough scrapes were observed cut in to the pinkey red clay natural (Fig. 23 : Pl. 21).

6.12 ***Trench 11***

6.12.1 Trench 11 measured 50m x 2m and was situated on low-lying land outside of the Geophysical Survey grid (Figs. 14 & 15).

6.12.2 The topsoil, a dark greyish brown silty clay with occasional pebbles (Context 110001) was 0.50m in depth. The only features recorded in this trench were modern plough scrapes cut into the natural yellow clay (Pl. 22). This trench became waterlogged as soon as it was pulled and only dried out sufficiently to clean after a week.

6.13 ***Trench 12***

6.13.1 Trench 12 measured 50m x 2m and was situated to investigate an area of low lying land (Figs.14 & 15).

6.13.2 The topsoil, a dark greyish brown silty clay with occasional pebbles, was 0.50m in depth. Located beneath this deposit was the yellowish-grey natural clay. A single feature was observed in Trench 12 cut into the natural clay (Pl. 23). Feature 12003 was aligned east-west and had a U-shaped profile (Pl. 24). The single fill (Context 12002) was a dark brown silty clay with occasional

pebble inclusions. It is likely that this feature was a drainage gully dating to 19th century land improvements.

6.14 ***Trench 13***

6.14.1 Trench 13 measured 50m x 2m and was placed in investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking (Figs. 11, 14 & 15 : Pl. 25).

6.14.2 Removal of the topsoil, a very dark grey silty clay with occasional pebbles (Context 13001) measuring 0.40m in depth revealed a single linear feature (Contexts 13002/13004 : Pl. 26). Excavation revealed that the feature was in fact two ditches. Aligned north-west south-east Ditch 13002 measured 1.5m in width, 0.5m in depth with a U-shaped profile, and a single fill (Context 13003) of dark brown organic material with occasional pebbles which contained one fragment of modern field drain.

6.14.3 Ditch 13002 was a re-cut of the earlier ditch (13004), however, very little survived of 13004, its fill (Context 13005) was a black organic material with occasional pebbles.

6.14.4 The nature and form of Ditches 13003 and 13004 suggested that they represented 19th or 20th century field boundaries.

6.15 ***Trench 14***

6.15.1 Trench 14 measured 25m x 2m and situated to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking (Figs. 11, 14 & 15 : Pl. 27). Topsoil in this area of the site measured 0.80m in depth and was dark grey silty clay with occasional pebbles (Context 14001). When the cultivated layer was stripped away only tree bowls and plough scrapes were observed. These features were all cut into the yellowish-grey clay natrual.

6.16 ***Trench 15***

6.16.1 Trench 15 measured 25m x 2m and was situated to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints and ?Roman glass were found during the fieldwalking stage of the archaeological evaluation.

6.16.2 The topsoil, a black organic material with occasional pebbles was 0.50m in depth (Context 15001). Removal of this deposit located a single linear feature

(Context 15002 : Pls. 28 & 29) measuring 0.70m in width and 0.20m in depth with a wide U-shaped profile and single a black organic fill (Context 15003). This feature was most probably a 19th or 20th century field boundary.

Contingency Trenches:

The following trenches were excavated to evaluate further Geophysical anomalies possibly associated with the brickworks:

6.17 ***Trench 16***

6.17.1 Trench 16 measured 15m x 2m and was excavated to investigate further anomalies seen on the Geophysical Survey and as an extension to Trench 1 (Fig. 15).

6.17.2 Removal of a blackish brown silty clay topsoil measuring 0.45m in depth revealed two features (Contexts 16008 & 16013 : Pls. 30 -32).

6.17.3 Feature 16008 had steeply sloping sides with a flat base, was 0.80m in width and 0.35m in depth (Fig. 24 : ac-ad : Pl. 32). The single fill (Context 16006) was a dark brown sandy material containing fragments of brick

6.17.4 Feature 16013 was oval-shaped with gradually sloping sides and a concave base, 0.40m in width and 0.15m in depth (Fig. 24 : ae-af). The fill of this pit (Context16005) was a dark brown sandy material containing fragments of bricks.

6.17.5 Pits 16008 and 16013 were cut into a mixed deposit of brown and yellow sands with clay inclusions and brick fragments (Context 16009). This deposit was evaluated by three 1m x 1m sondages (Fig. 24). This material was in general 0.40m in depth and appeared to represent a general build up of waste material from the production of brick kilns. Pits 16008 & 16013 were therefore dug some time later after the brickwork activity had terminated.

6.18 ***Trench 17***

6.18.1 Trench 17 measured 10m x 2m and was excavated to investigate three possible linears seen on the Geophysical Survey (Fig. 15).

6.18.2 The topsoil, a dark red clayey material with occasional pebbles (Context 17001) was 0.40m in depth and when stripped away exposed three features (Contexts 17008, 17009 & 17011 : Fig. 25 : Pls. 33 && 34).

6.18.3 Linear 17009 aligned north-east to south-west was 1.20m wide and 0.40m in depth with a V-shaped profile and two distinct fills. The primary fill (Context 17014) was a light blue/grey silty clay probably created by natural silting up of the ditch rather than deliberate backfilling; above this was Context 17013, a mid grey/brown silty clay. Cut in to the upper fill (Context 17013) was a later linear feature (Gully 17002) which had a U shaped profile and was 0.35m wide and 0.10m in depth. The fill (Context 17002) a dark brown/grey clayey silt contained brick fragments.

6.18.4 Immediately adjacent to Ditch 17009 was a curvi-linear feature (Context 17011), measuring in excess of 4m and at its widest 0.5m in width. This feature possessed two fills, a silty clay (Context 17004) and a silty sand (Context 17006). Feature 17011 had been cut away in the south by Ditch 17009 and in the north by Feature 17010 (Fig. 25 : ag- ah). No finds were recovered and the general nature and form of Feature 17011 suggested that it may be in fact a natural feature.

6.18.5 Feature 17010 a short linear feature possessed with a single silty sand fill (Context 1705). No finds were recovered to provide a date for the feature.

6.18.6 Feature 17008 represented a possible oval pit, which extended beyond the limits of Trench 17 and was filled with a single deposit of sand (Context 17003 : Fig. 25 - ai-aj). Measuring in excess of 1m in diameter no finds were recovered from the excavated section.

7. Results Nottinghamshire

7.1 Three trenches were excavated in Area F, two were located to evaluate geophysical anomalies and a third trench was placed over the find spot of a flint flake recovered during field walking (Fig. 26).

7.2 *Trench 18*

7.2.1 Trench 18 measuring 10m x 10m was located over the exact location of a linear geophysical anomaly recorded during the Geophysical Survey of the site.

7.2.2 The topsoil consisted of a heavy waterlogged clay loam (Context 18001) approximately 0.4m deep below which was a mixed deposit of mottled reddish brown clay and gingery brown clay subsoil (Pl. 35).

7.2.3 Two features were exposed in this trench, a north south running linear band of cream to yellow clay and sand (Contexts 18002/5 : Pl. 36) and at the southern

end of this feature was a substantial deposit of black sooty material with occasional carbonised twig and charcoal inclusion which appeared to be cut by the linear feature.

7.2.4 On excavation this deposit was seen to composed of layers of sandy clays and the dark silty material, which appeared to fill a large hollow or pit (Context 18008). No finds were present in the material and the base of the pit still contained occasional charcoal flecking and further thin laminations. The general nature and form of the feature suggested that it was not archaeological but probably represented a tree trunk burnt in situ and left to decay before being incorporated into the thick natural clay. The linear deposit of yellow sandy clay had shallow sloped sides with an irregular rounded base with frequent irregular pockets and hollows. No finds were present in the fill of this feature and it is likely that it also of geological origin, perhaps a drainage stream cutting across the clay.

7.3 *Trench 19*

7.3.1 Trench 19 was placed over the find spot of a flint flake and was intended to discover whether or not there was either a sealed land surface or further artefacts within this area.

7.3.2 To aid the recovery of further flint artefacts the topsoil was to be sampled by the hand sieving of the topsoil removed from specific quadrants. The soil conditions were not suitable for this approach as there was practically no topsoil in this area of the site. A thin band of cultivated material (Context 19001) of clayey loam and usually less than 0.2m thick and with very high clay component marked the extent of topsoil.

7.3.3 The topsoil was removed by machine in four strips to enable spatial location of any finds. Approximately 10 cubic metres of material were removed and 25% of this material was riddled through a 0.01m gauge grid. The high clay component made the riddling process difficult; drier clay was broken into small fragments that passed through the grid. Wet clay was forced through the grid to extract any larger stones or artefacts. Two fragments of brick or tile, two unworked flint fragment and a small piece of clay pipe were all that was recovered from the sampling.

7.3.4 Deposits below this consisted of heavy clean geological clays. No features were observed cutting in to these clays and within minutes of excavation the trench had filled with water (Pl. 37).

7.4 ***Trench 20***

7.4.1 Trench 20 measured 10m x 10m and was located over a second linear geophysical anomaly running broadly north south.

7.4.2 Topsoil coverage was a heavy waterlogged clayey loam (Context 20001). Excavation revealed below the plough soil a heavy mottled grey to greyish brown with patches of lighter blue and gingery brown clay. At the southern end of the trench the deposits were removed in spits by machine to a depth of 2.8m in the south-western corner. Below the thick clay deposits were alternating bands of blue grey clay and waterlogged running sands. These deposits were clearly geological in origin.

7.4.3 No features were observed that could have explained the geophysical anomaly recorded in this trench. A 2m wide extension to the trench was pulled from the north-eastern corner to ensure that the anomaly had not been missed but no feature was encountered. As with Trench 19 Trench 20 quickly filled with water and became unworkable (Pl. 38).

8. Summary & Conclusions

8.1 The initial evaluation of the proposed north-eastern extension to the Lafarge Aggregates workings at Finningley had been a Desk-based Assessment which had highlighted the potential for remains of a Prehistoric and Romano-British date to survive on the site. A programme of Fieldwalking reiterated this with the observation and collection of finds of both Prehistoric and Romano-British date. Although only a very small but significant Prehistoric assemblage was recovered, the presence of worked flint strongly suggested activity of Neolithic/Bronze Age date within the proposed extension area. Likewise the occurrence of pottery and a fragment of glass of Roman date suggested that activity recorded during Watching Briefs adjacent to the A614 (MAP 1999 & 2001) extended into the extension area. Aerial photographic evidence records a concentration of linear enclosures, possible trackways and field boundaries directly to the north of Area C, a small number of these linears are shown extending in to Area C.

8.2 The aim of the programme of Trial Trenching was to extend our understanding of the site further by means of evaluation trenches located at specific locations based on either specific spot finds recovered during Fieldwalking, the topography, or geophysical anomalies recorded during the Geophysical Survey.

8.3 Flint artefacts were recovered in Areas A, F and G. Excavation in Trenches 13-15 and 19 failed to locate any features which could be equated to these finds suggesting that activity in the Neolithic/Early Bronze was transitory and that the small number of finds of this date and the lack of any obvious clustering means that the finds alone cannot be taken as conclusive evidence of sub-surface archaeological features on the site.

8.4 It is an accepted fact that the geology and topography of an area plays a significant role in the location of settlements and mans impact on the landscape. Chapter 3 has illustrated the importance of geological changes and how they would have influenced settlement patterns in this area of Yorkshire/Nottinghamshire. A consideration of the soil types has shown that the majority of the site is situated on poorly drained clayey soils (Fig. 9) and this was reflected by the excavation of Trenches 4, 11, 18 and 20 which filled with water immediately after the stripping of the topsoil. Trenches 4, 7, 10, 11 and 12 were located in low lying areas and excavation illustrated the lack of archaeological features in these areas of the site other than those associated with modern drainage and agricultural activity.

8.5 Trenches 5, 6 and 9 were situated on higher locations. Excavations in these areas were slightly more productive. No features were recorded in Trenches 5 and 9, but excavation in Trench 6 produced evidence of Romano-British activity of 2nd - 3rd century AD. The location of Trench 6 and the character of the archaeology therein suggested that the recorded linear features relate to crop mark activity recorded to the north (Fig. 11).

8.6 Trenches 8 and 17 in South Yorkshire were positioned to test geophysical anomalies, excavation in both trenches located features which could be equated to the Geophysical Survey record. However these features appeared, by associated finds, to be of a relatively recent date.

8.7 Geophysical anomalies tested in Nottinghamshire proved to be allusive, whereas the complex of features in Area C (South Yorkshire), interpreted a brick kilns were verified by excavation. Although in the main severely damaged by later agricultural activity and deliberate positioning of the excavation trenches to avoid the main concentration of enclosure features, excavation in Trenches 1 and 16 did recover ceramic building material displaying typical traits, which confirmed that the features recorded in Area C, and interpreted as brick kilns were correct. A date in the 17th-18th century has

been suggested for the main period of production (Tibbles 2003 – Appendix 5).

8.8 The proposed quarry extension site at Finningley covers an area of over 69 hectares and given the background archaeological setting for the location one would have expected a greater degree of archaeological activity than that recorded in the Trial Trenching. However, based on current information (see Chapter 3) the geological and climatic changes in the Humberhead Levels in the Prehistroic period accounted for the need to settle and utilise higher pockets of land away from a landscape of meandering rivers, lakes, swamp fen and raised mire. The wet weather conditions in the Roman period again resulted in the need to settle and work higher pockets of land. These factors may explain why large areas of the Finningley site are devoid of any activity pre the Post-medieval and modern periods. Where archaeology has been recorded it is either on the higher spots as is the case with the Roman activity or on land conducive to hunter-gatherers in the Prehistoric period.

9. References

Secondary Sources

Clayton, A.R., (1979) The sand and gravel resources of the country around Bawtry, South Yorkshire. Mineral Assessment Report 37. Institute of Geological Sciences. London

Dinnin, M. (1997) The palaeoenvironmental survey of the River Idle, Thorne and Old River Don. In Van de Noort, R & Ellis, S. Wetland Heritage of the Humberhead Levels.

Gaunt G.D., Jarvis R.A. & Mathews, B. (1971) The late Weichselian sequence in the Vale of York Proceedings of the Yorkshire Geological Society. Volume 38, 281-84.

Gaunt G.D., (1981) Quaternary history of the southern part of the Vale of York. In Neale, & Fenley, J. eds. The Quaternary in Britain.

HAU (1989) The Isle of Axholme. Man and the Landscape. Humber Archaeology Unit Booklet 10.

Jones, R.L., & Gaunt G.D., (1976) A dated Devensian organic deposit at Cawood, near Selby. The Naturalist. Volume 101, 121-123

Mackney, D. et al (1983) Soils of England and Wales. Sheet 1 Northern England. Harpenden.

MAP (1999) Croft Road, Finningley. Archaeological Desktop Study.

MAP (1999) Croft Road, Finningley, Archaeological Watching Brief Report.

MAP (1999) Proposed Extension to Finningley Quarry. Archaeological Desktop Study.

MAP (2000) Finningley III, Archaeological Watching Brief Report.

Migilton, R. (1977) The Doncaster District: An Archaeological Survey.

Mills, A.D. (1991) A Dictionary of English Place-names. Oxford.

Morris, J., ed. (1977) Domesday Book Nottinghamshire. Philimore.

Riley, D.N. (1977) *"Air Reconnaissance in Central and Southern Yorkshire in 1976"* Yorkshire Archaeological Journal Vol. 49 1977 p19-34.

Riley, D.N. (1980) Early Landscape from the Air. Studies of Cropmarks in South Yorkshire and North Nottinghamshire. University of Sheffield.

Smith, B.M., (1985) A palaeoecological study of raised mires in the Humberhead Levels. Unpublished Ph.D Thesis. University of Hull.

Thomas, D. (1979) & Price, D. The sand and gravel resources of the country around Misterton, Nottinghamshire. Mineral Assessment Report 43. Institute of Geological Sciences. London

Van de Noort, R (1997) & Ellis, S. Wetland Heritage of the Humberhead Levels. University of Hull.

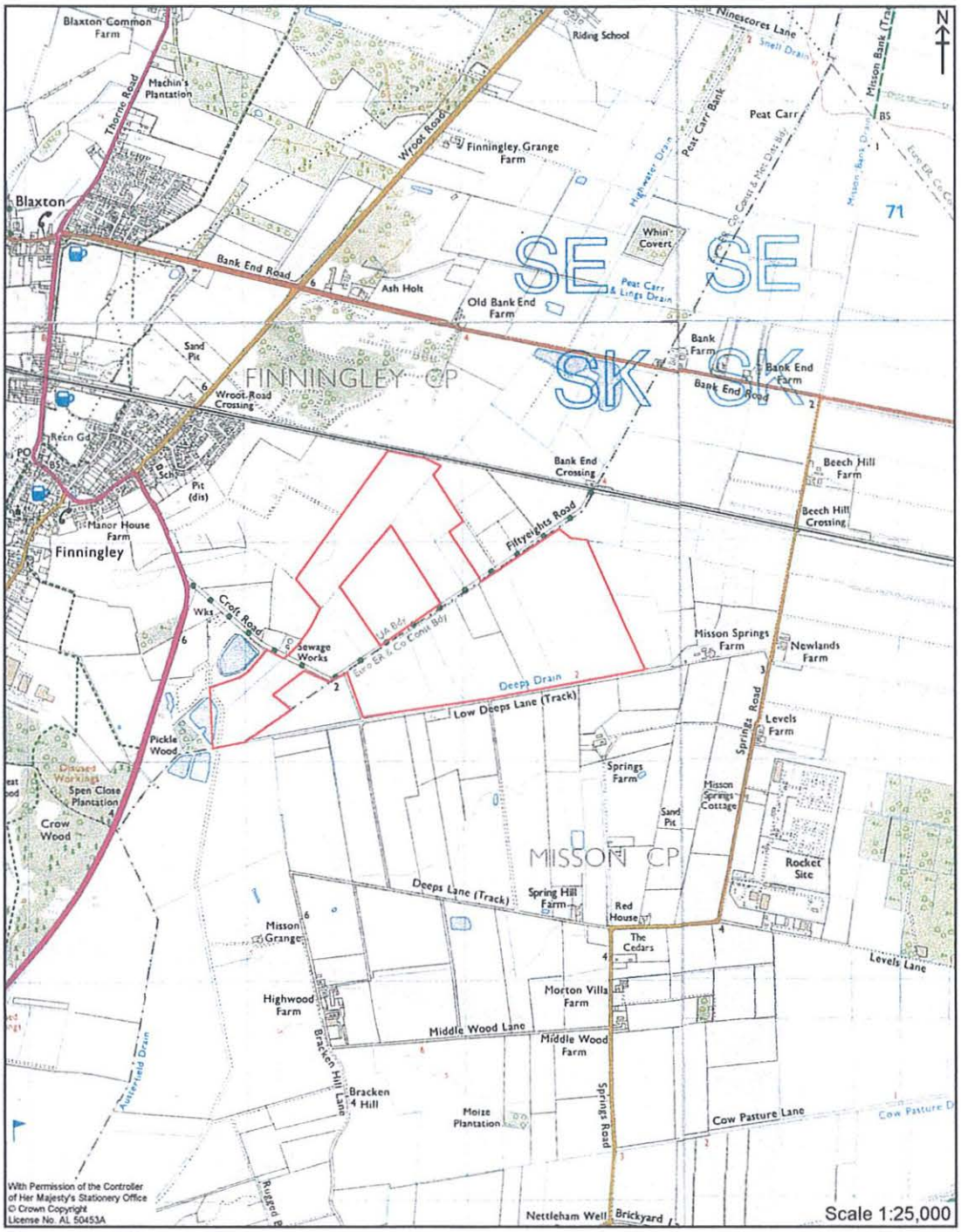


Figure 1. Site Location.

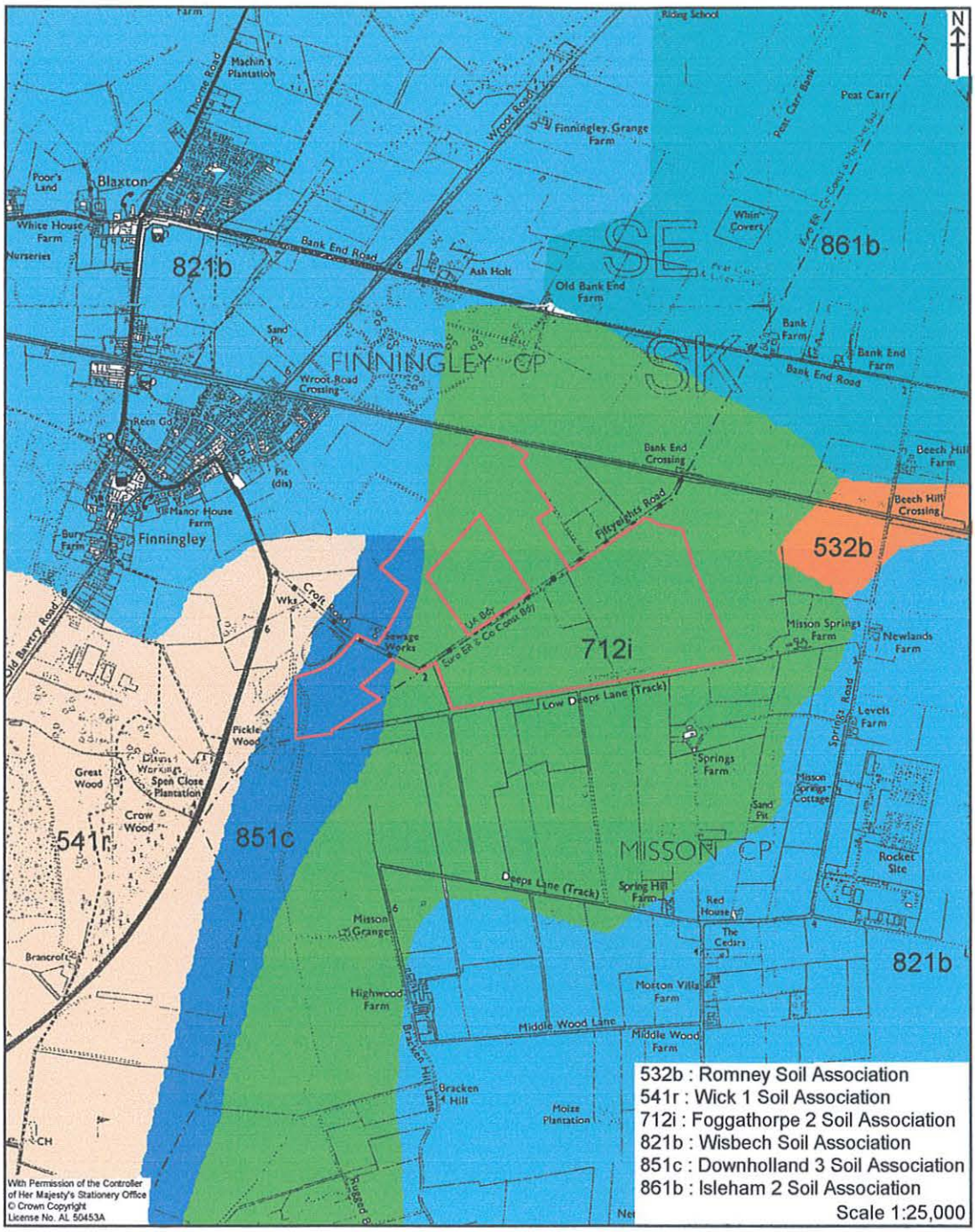


Figure 2. Plan of Soil Geology.

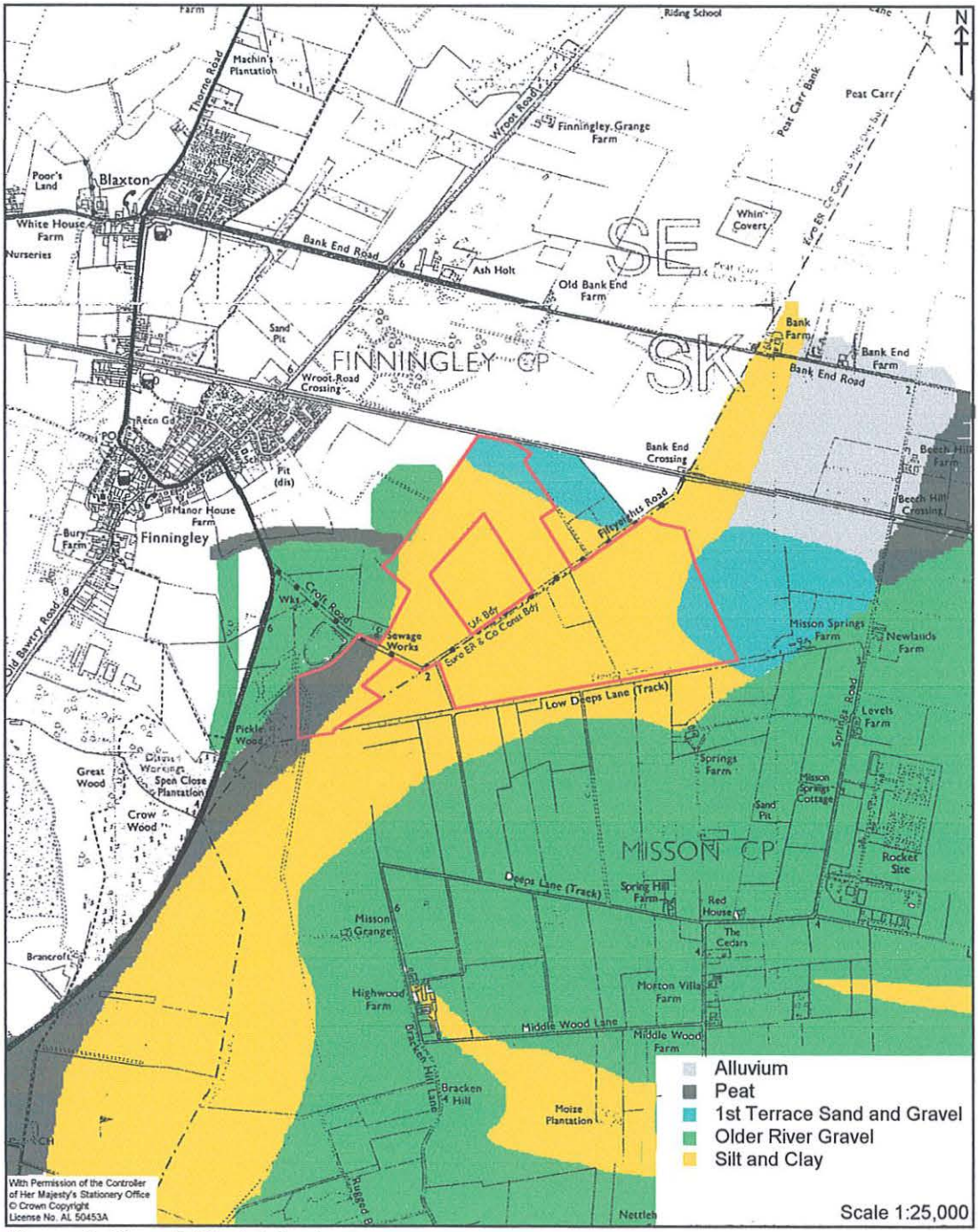


Figure 3. Plan of Alluvial Geology.

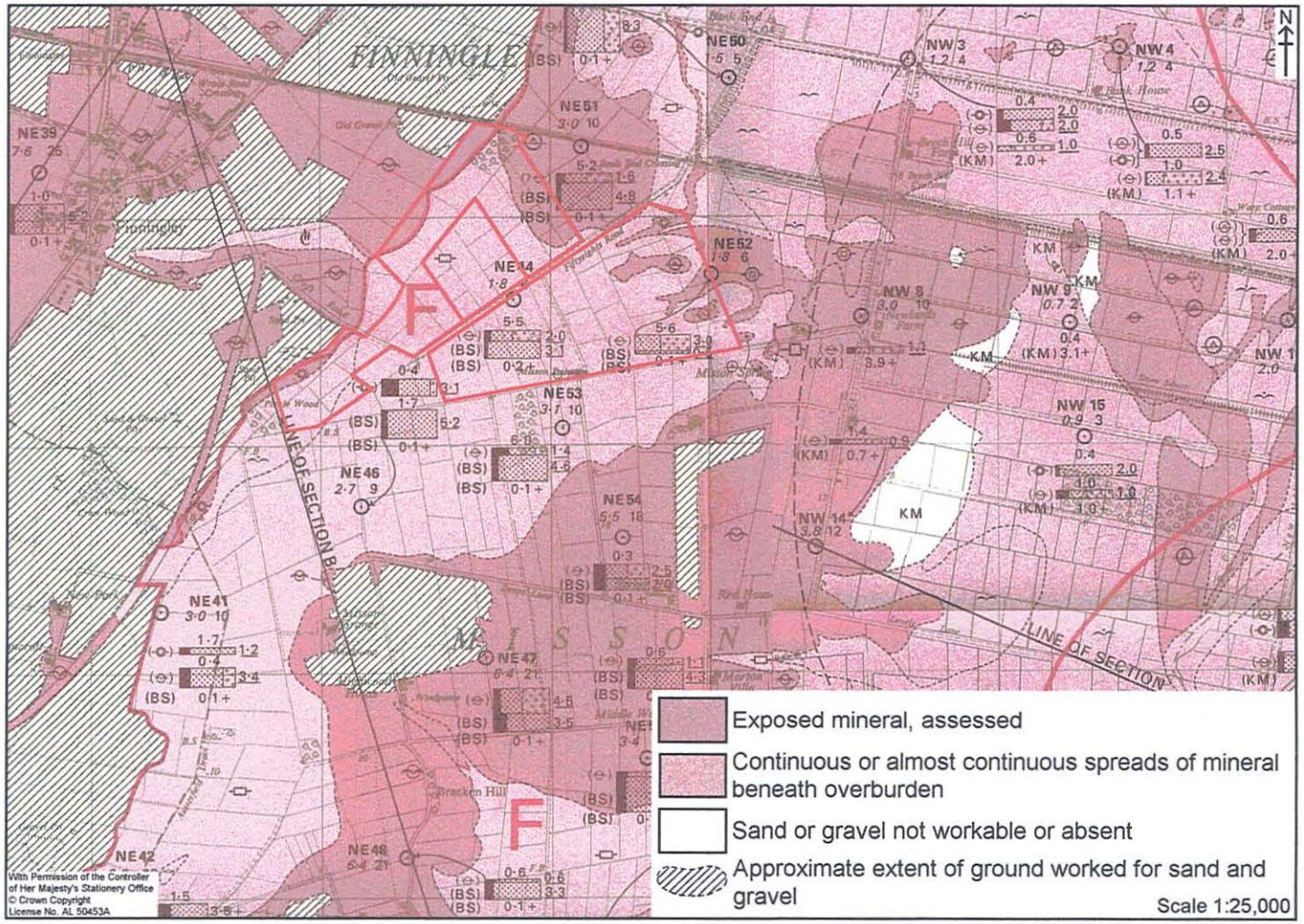


Figure 4. Extract from the Institute of Geological Sciences Sand and Gravel Resources Map (SK69 and SK79).

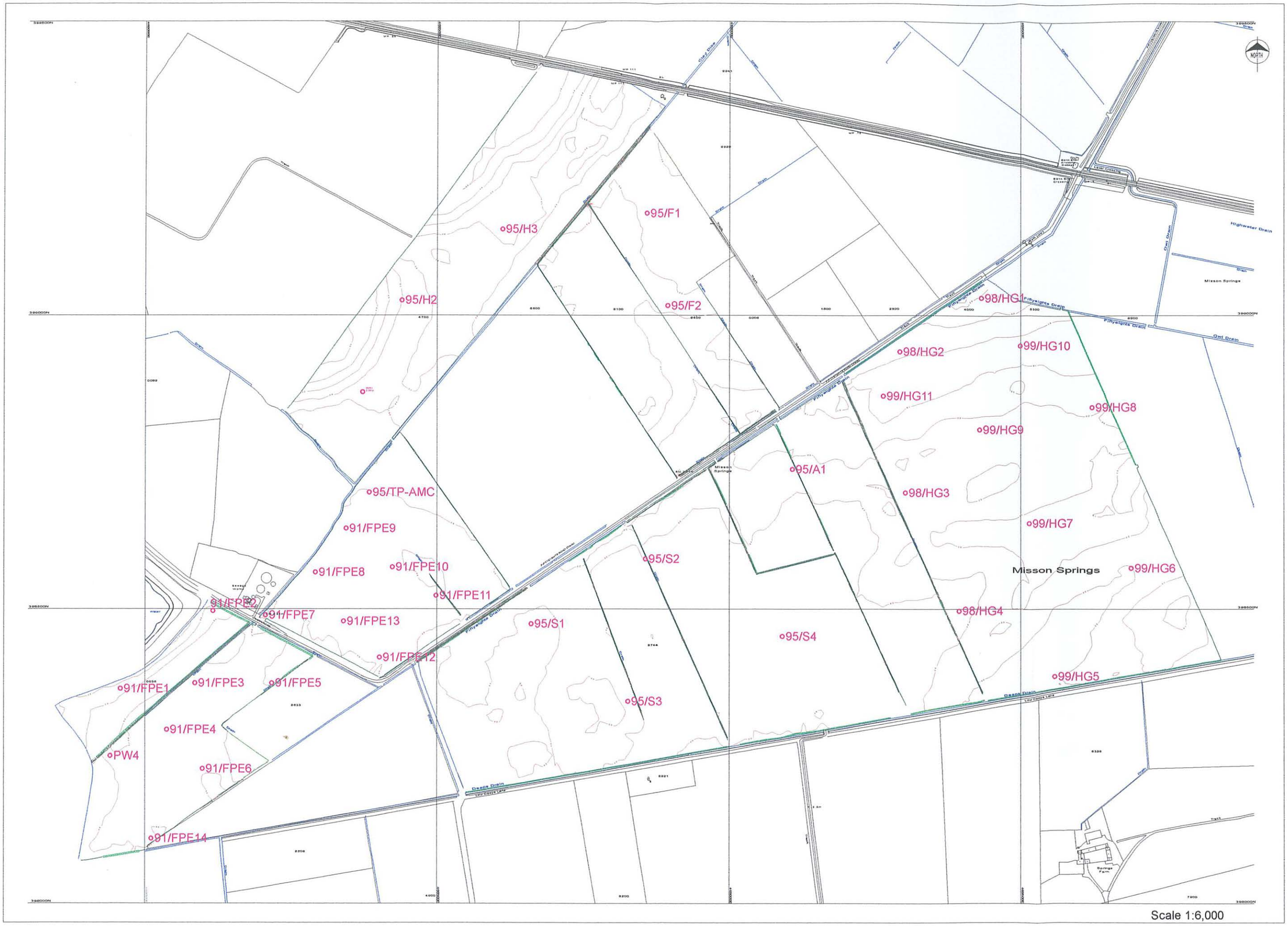


Figure 5. Location of Boreholes FPE1 to HG11.

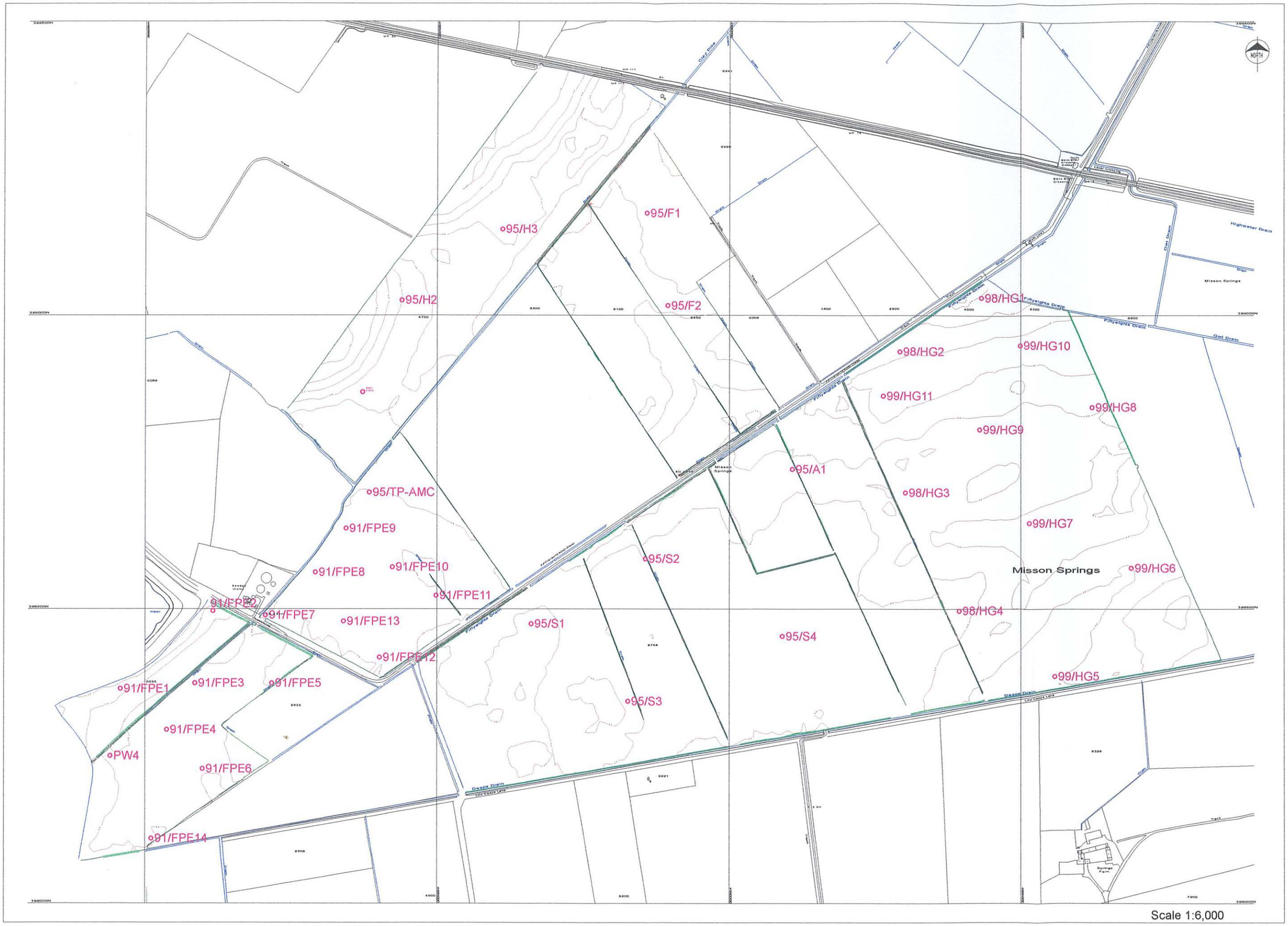
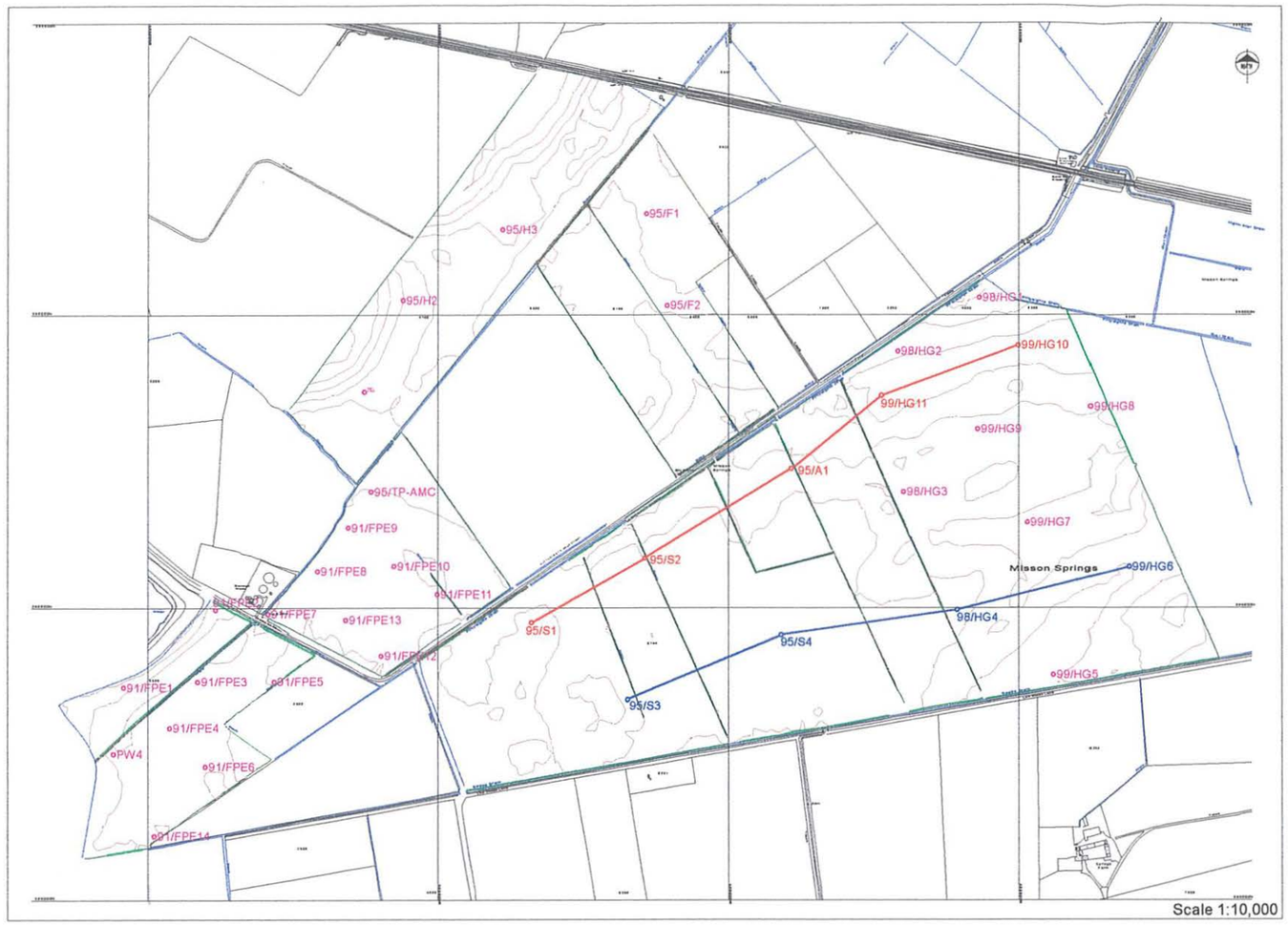
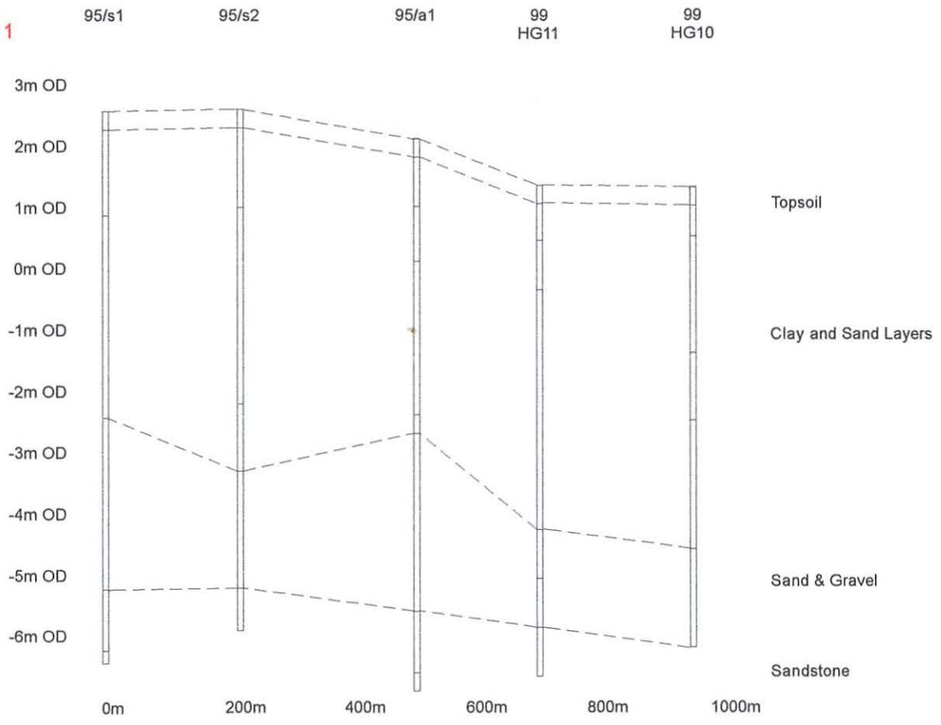


Figure 5. Location of Boreholes FPE1 to HG11.



Transect 1



Transect 2

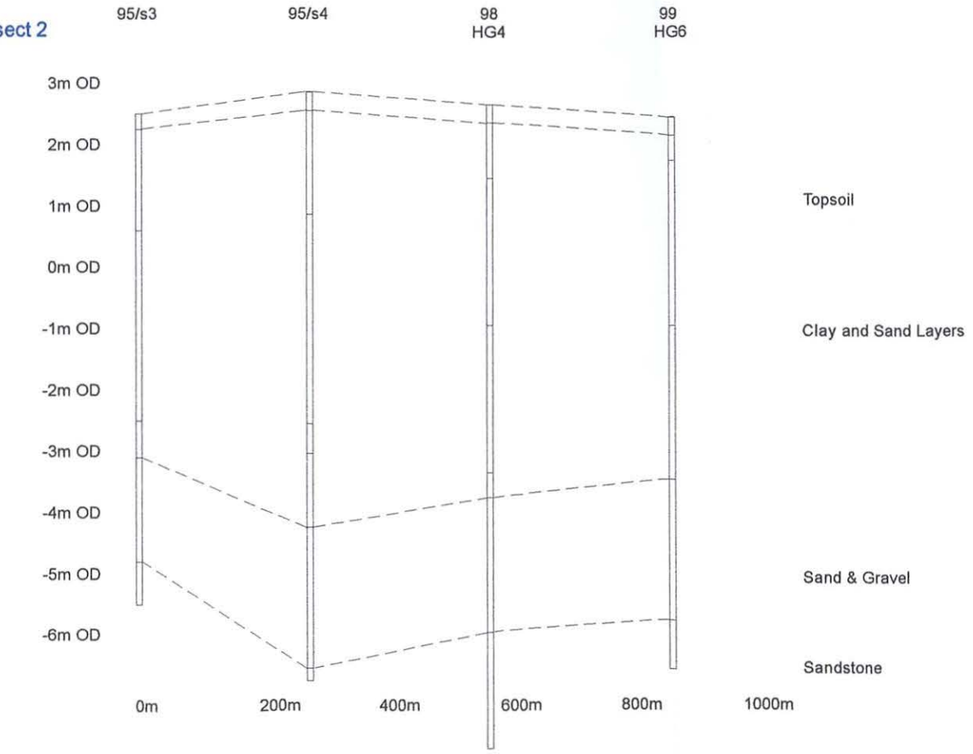
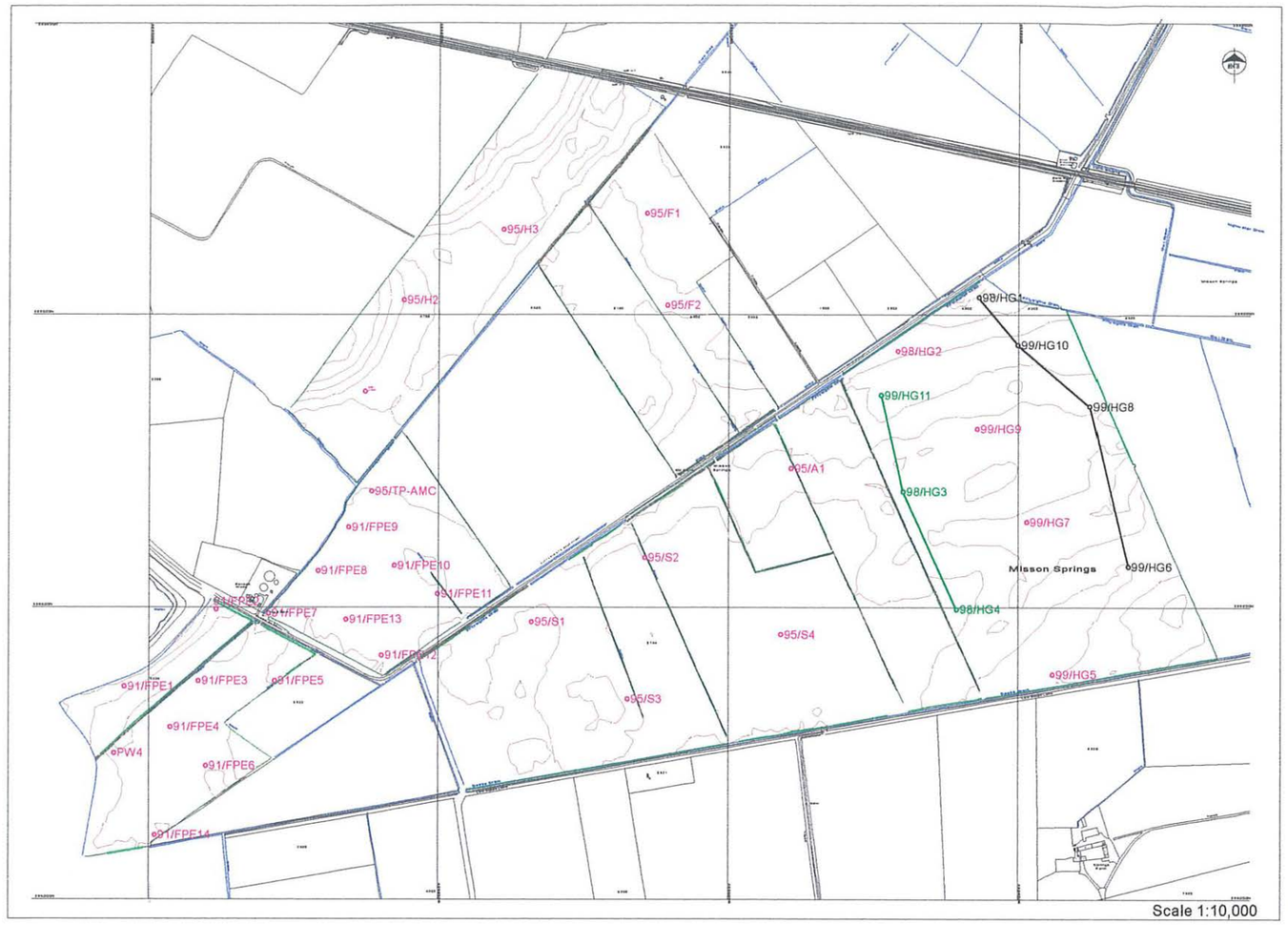


Figure 6. Borehole Survey: Location and Transects 1 & 2.



Transect 3

Transect 4

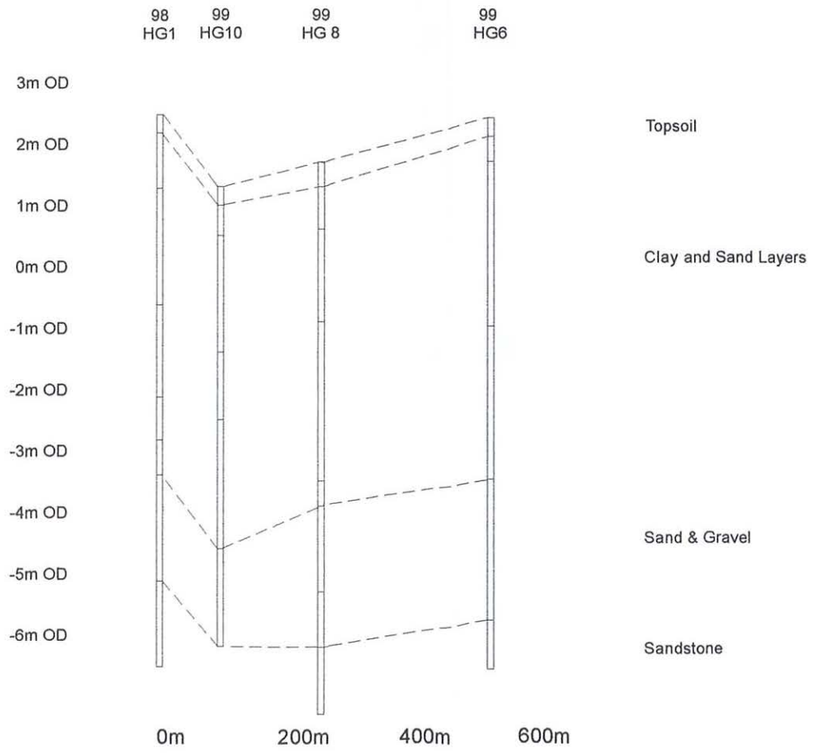


Figure 7. Borehole Survey: Location and Transects 3 & 4.

Lafarge Aggregates Finningley Quarry
Finningley, South Yorkshire/Misson, Nottinghamshire
Proposed Northern Extension

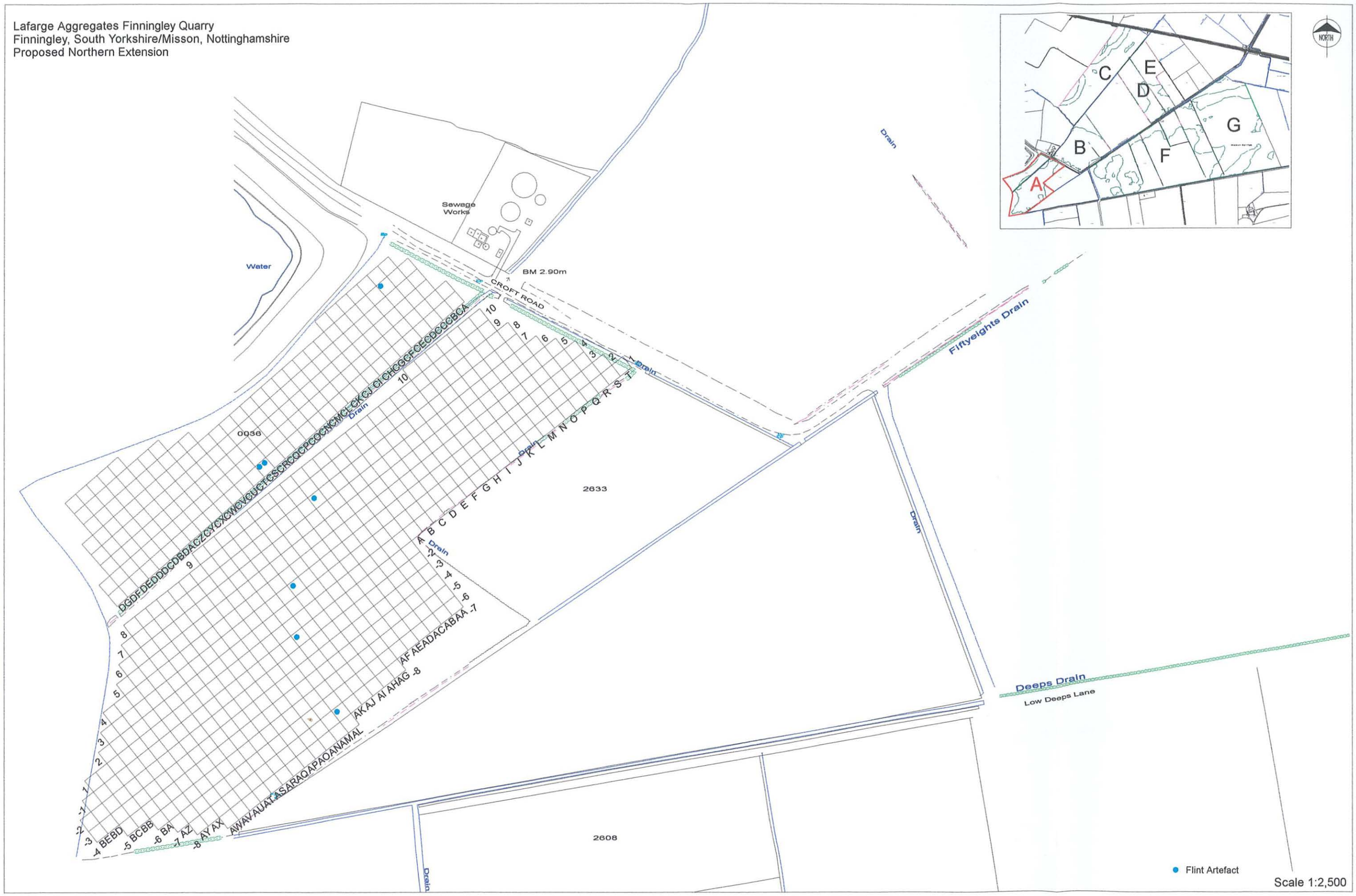
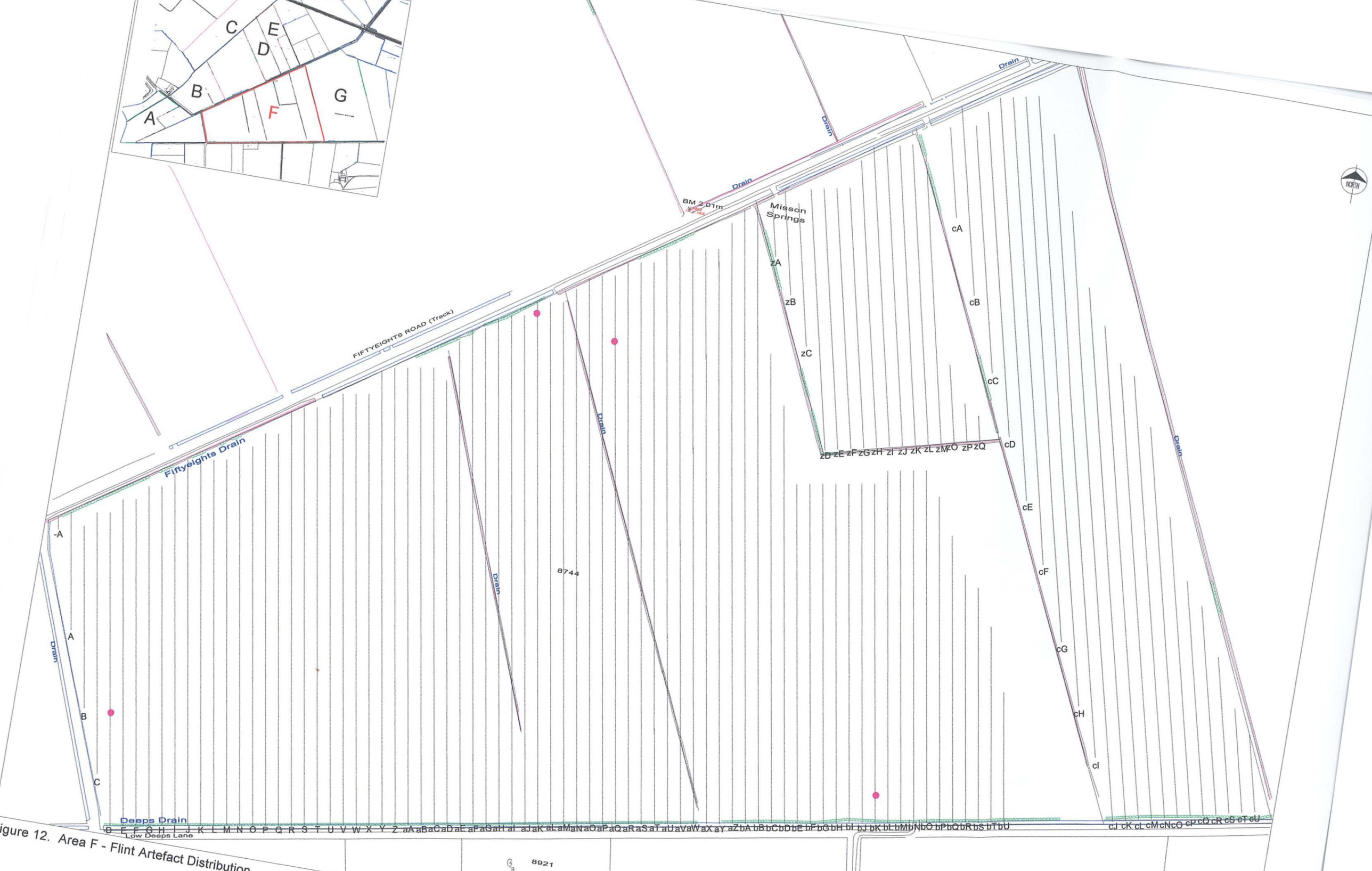
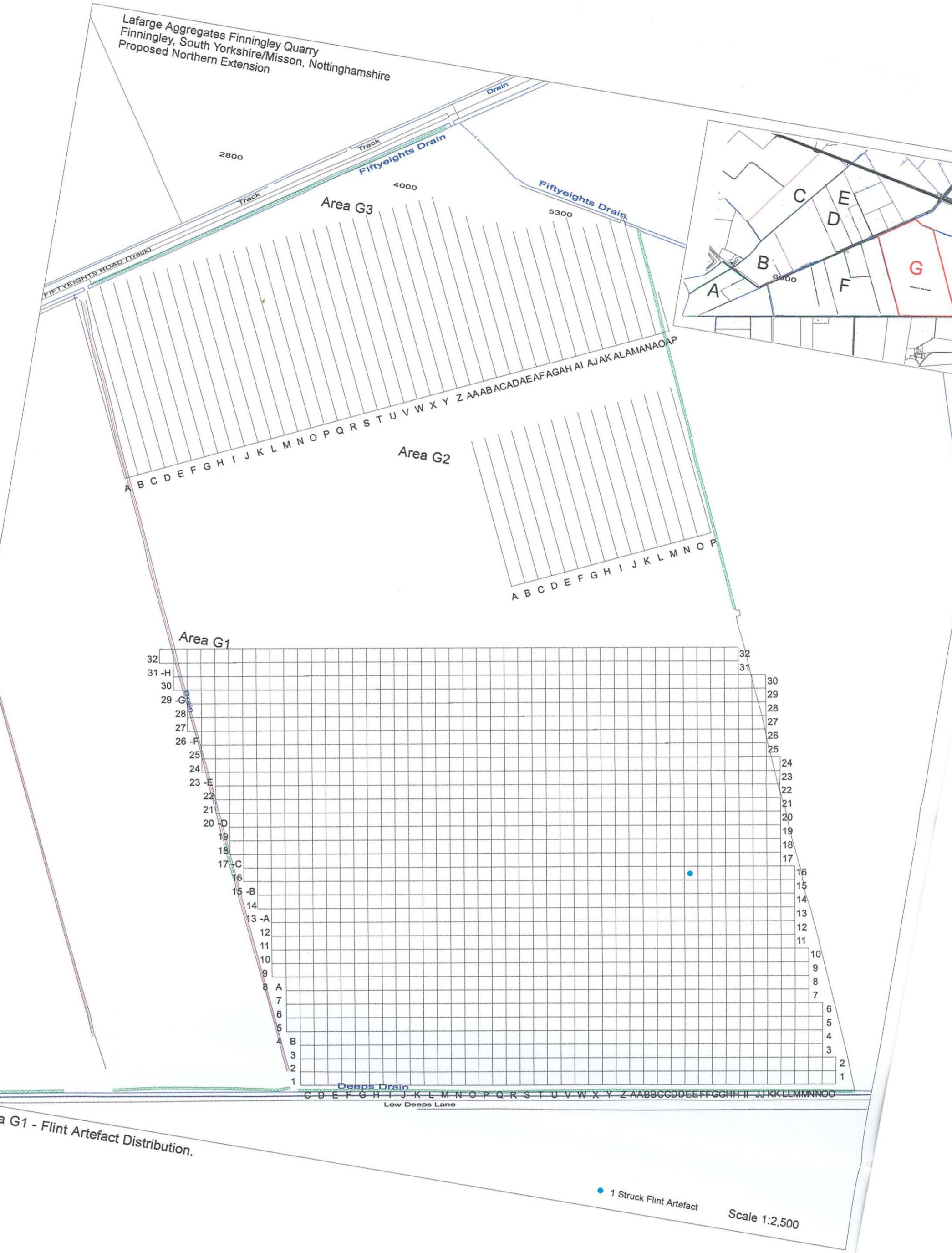


Figure 11. Area A: Flint Artefact Distribution.



igure 12. Area F - Flint Artefact Distribution.

Lafarge Aggregates Finningley Quarry
Finningley, South Yorkshire/Misson, Nottinghamshire
Proposed Northern Extension



ure 13. Area G1 - Flint Artefact Distribution.

Figure 14. Location of Evaluation Trenches

Figure 15. Geophysical Survey with Trench Locations.

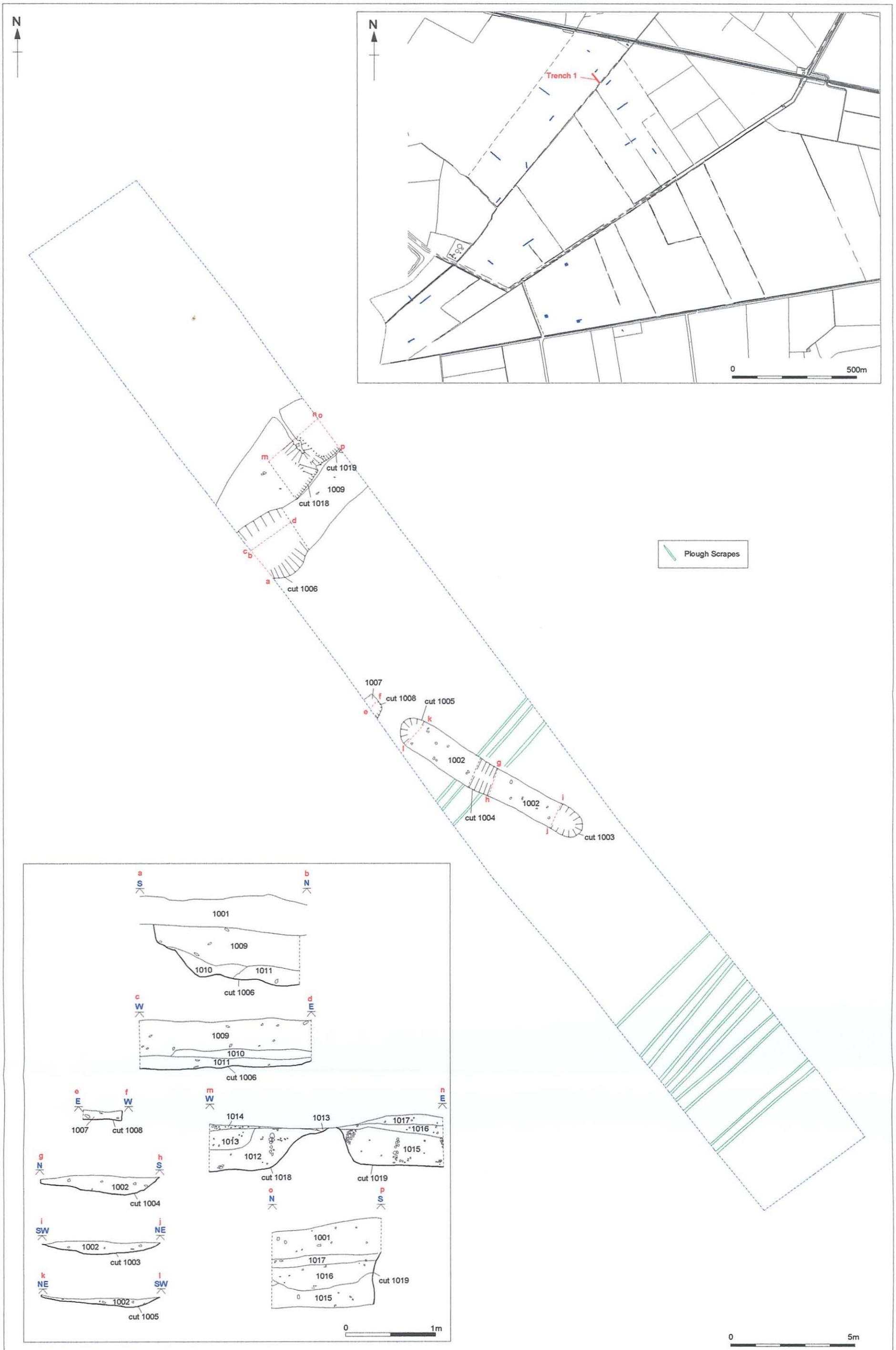
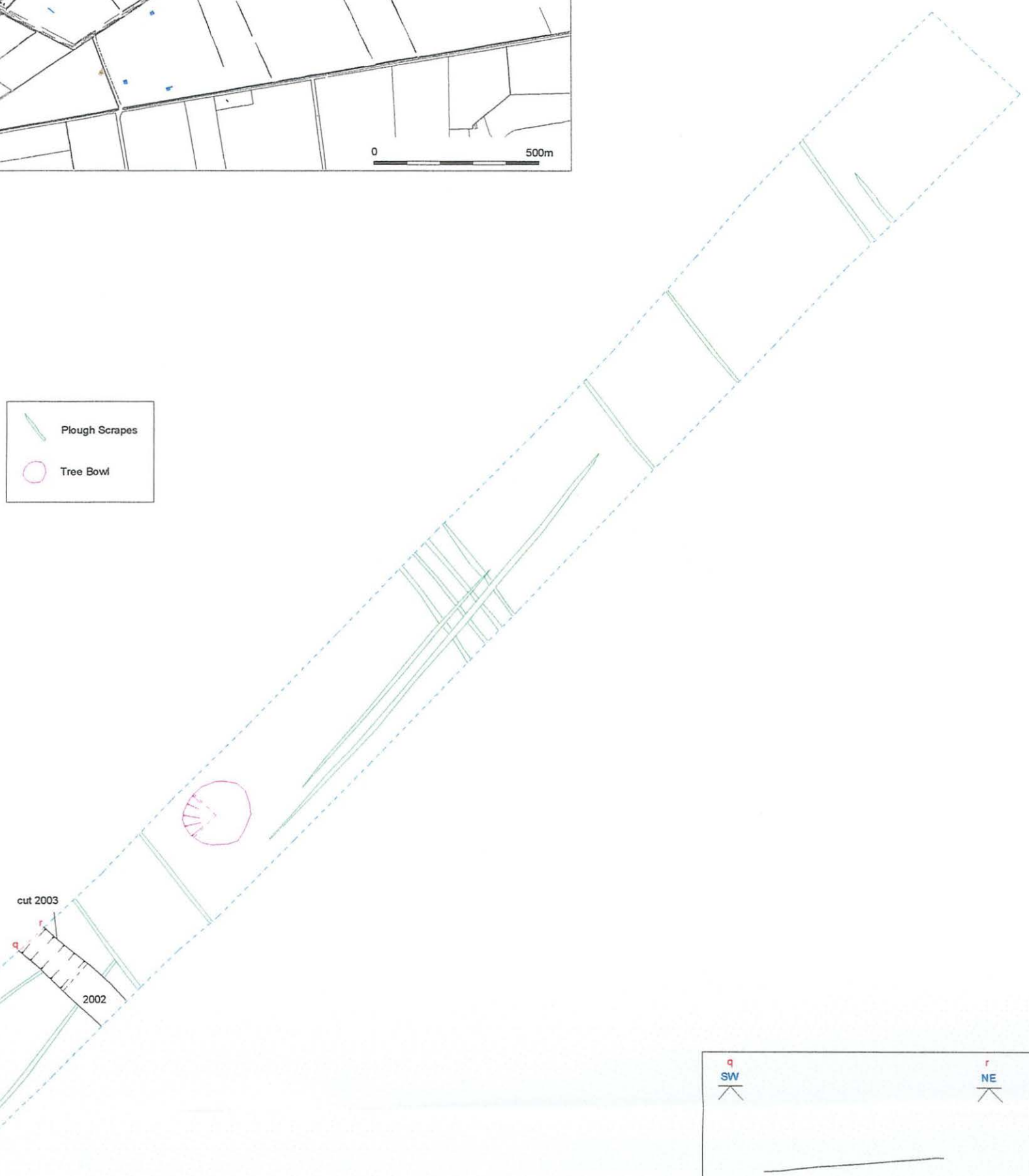


Figure 16. Plan and Sections of Trench 1 Features



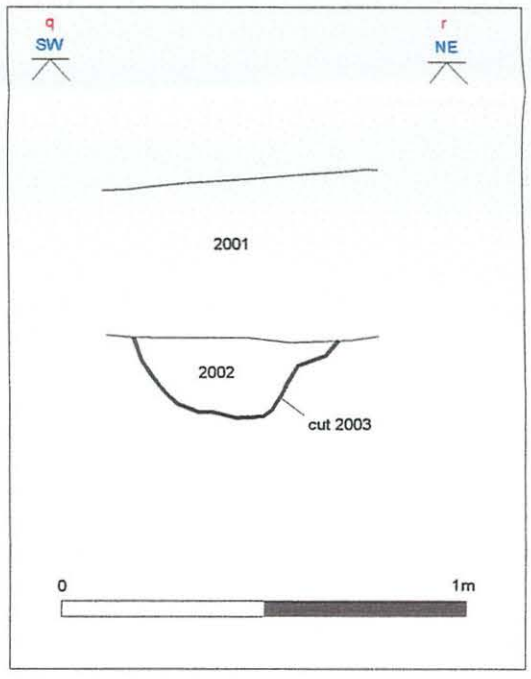


Figure 17. Plan and Section of Trench 2 Features

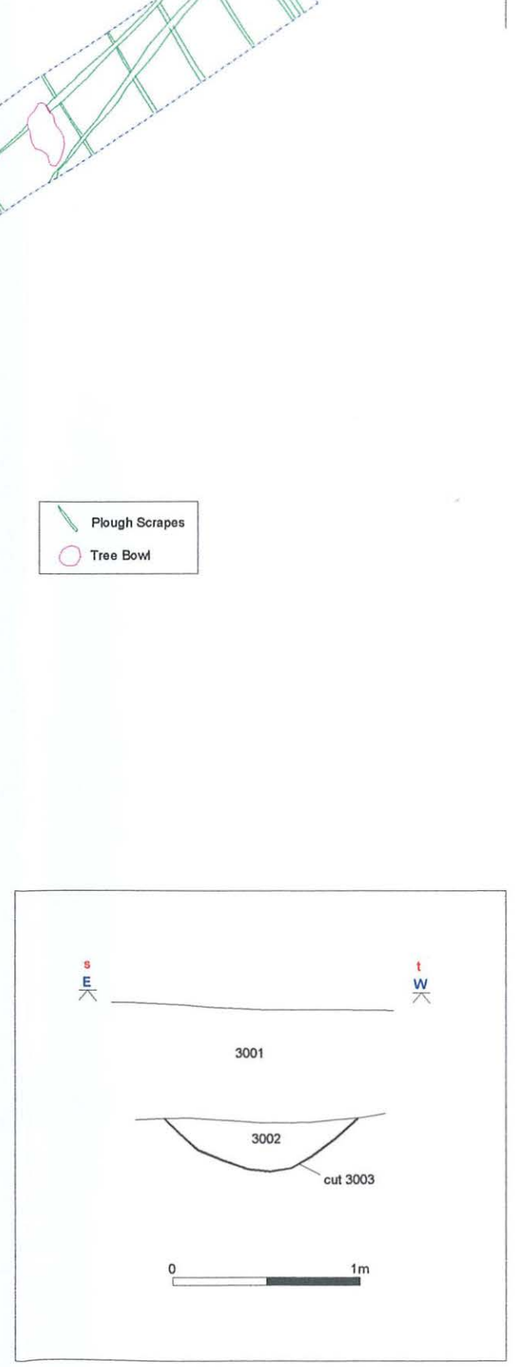


Figure 18. Plan and Section of Trench 3 Features

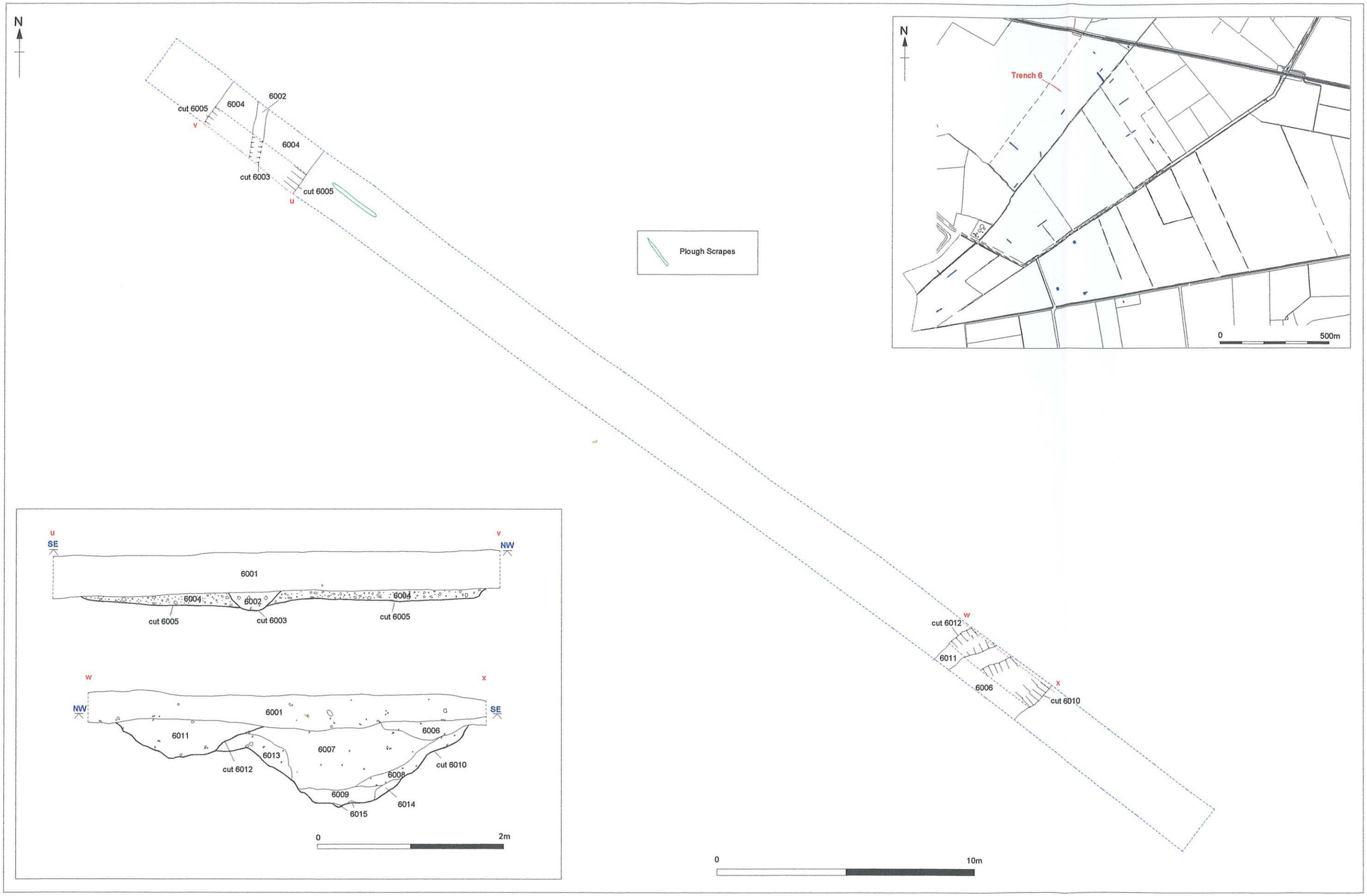


Figure 20. Plan and Sections of Trench 6 Features

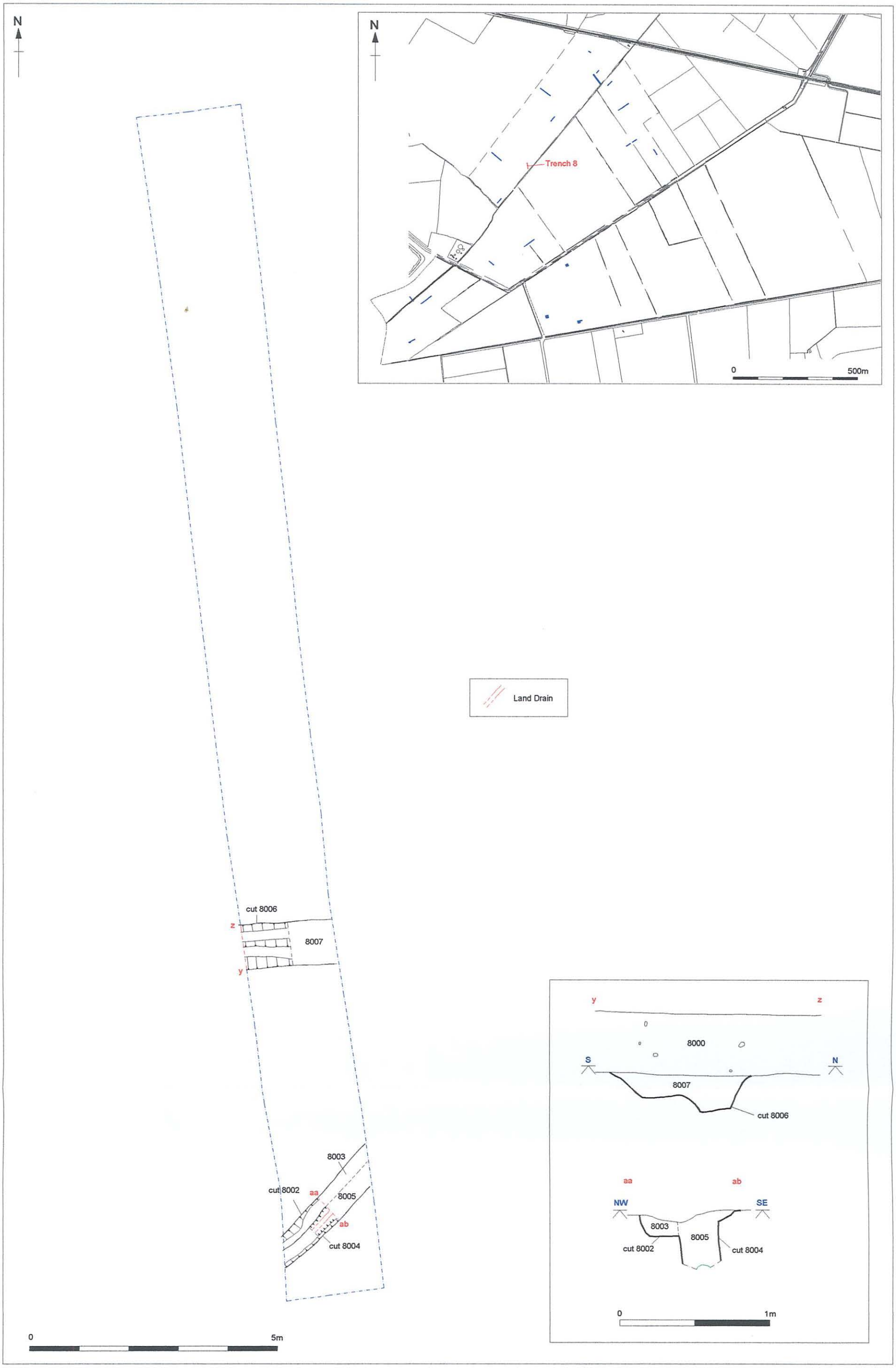
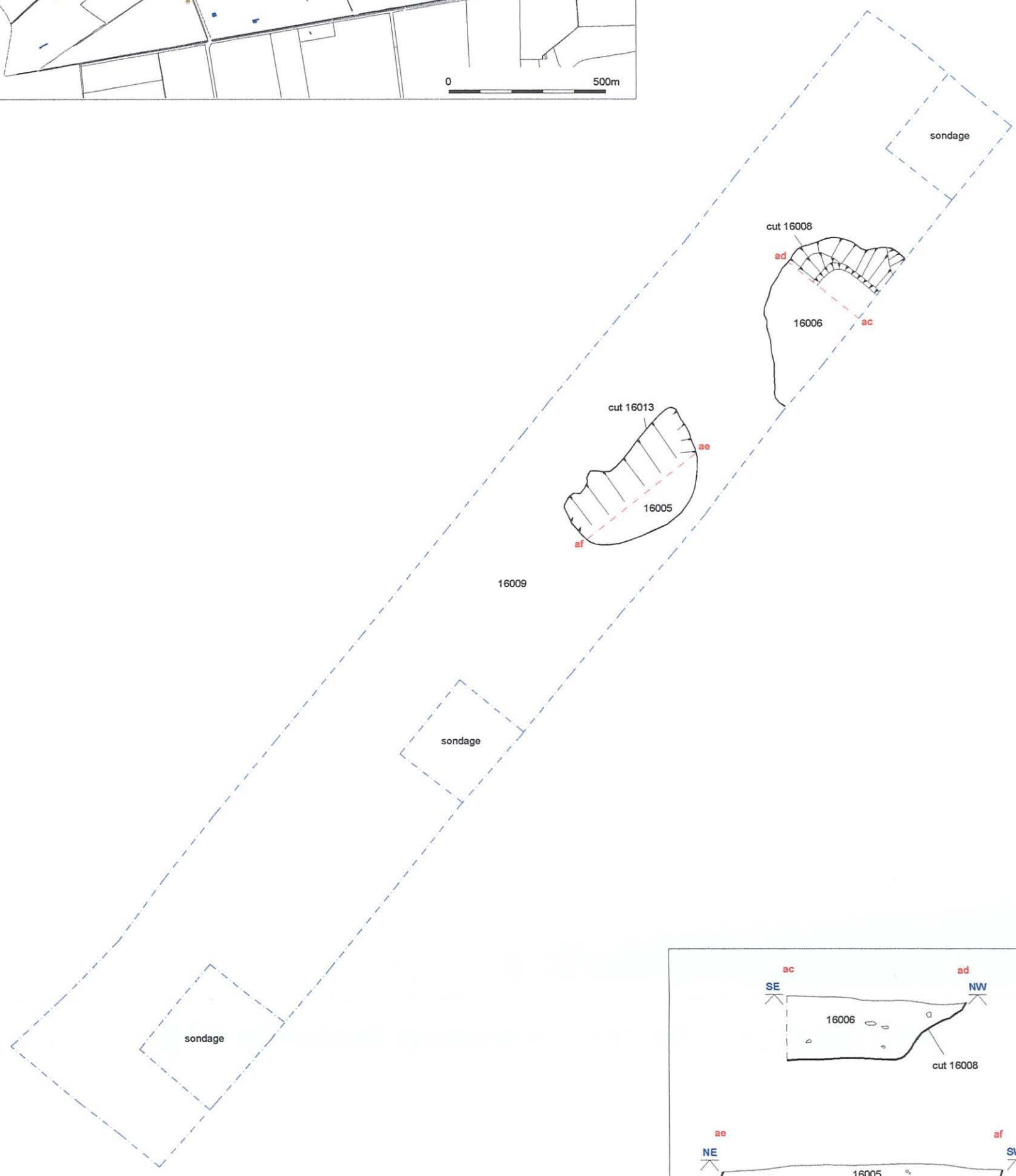


Figure 21. Plan and Sections of Trench 8 Features



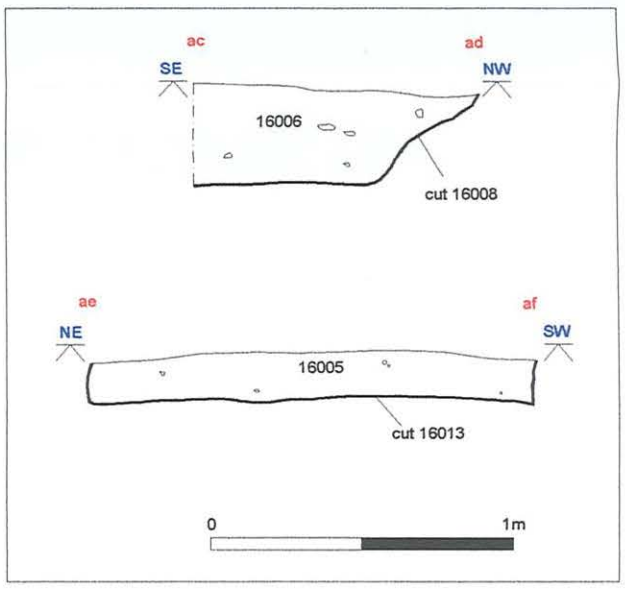


Figure 24. Plan and Sections of Trench 16 Features

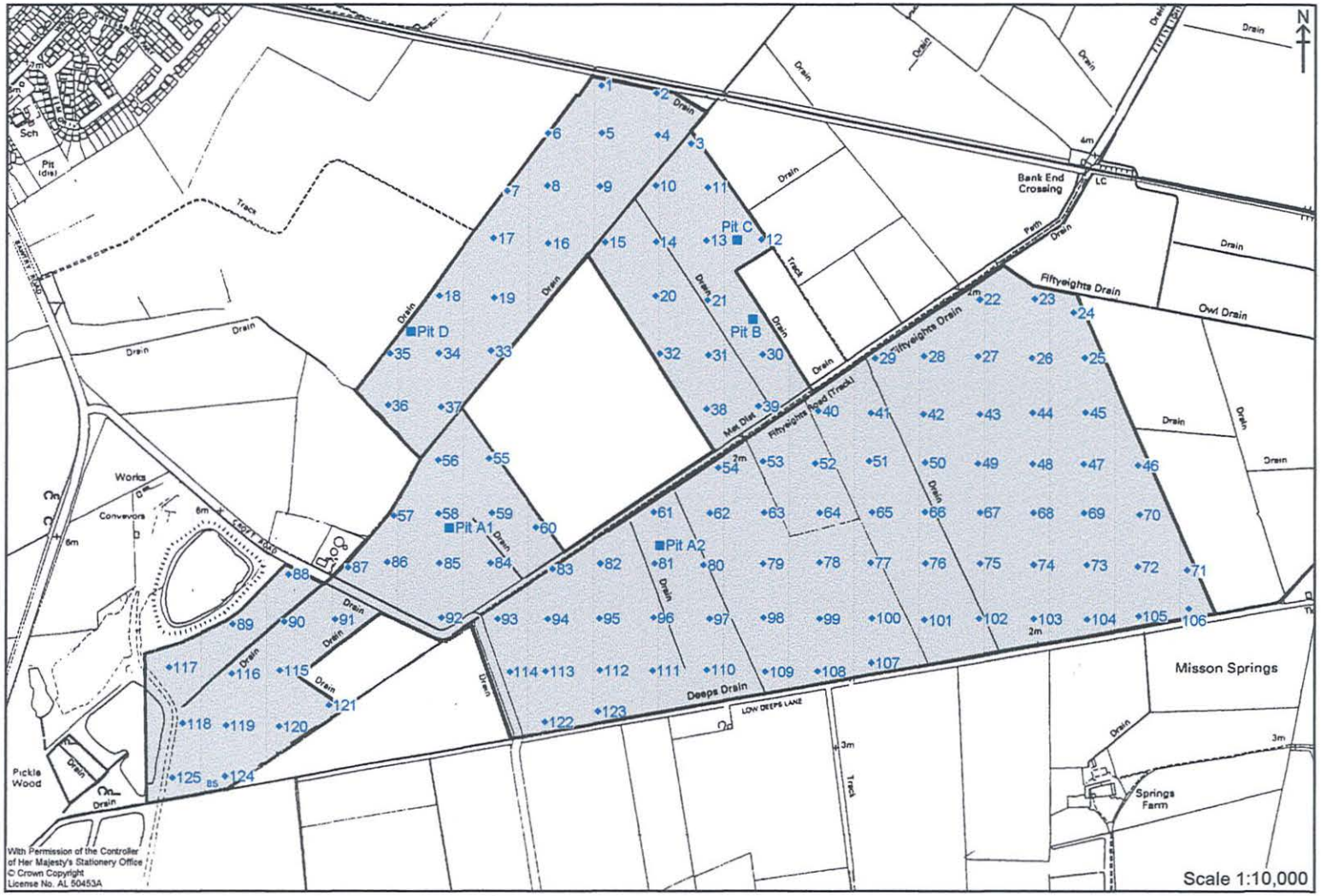


Figure 8. Location of Soil Test Pits and Auger Survey (after S.G. McRae 2000).

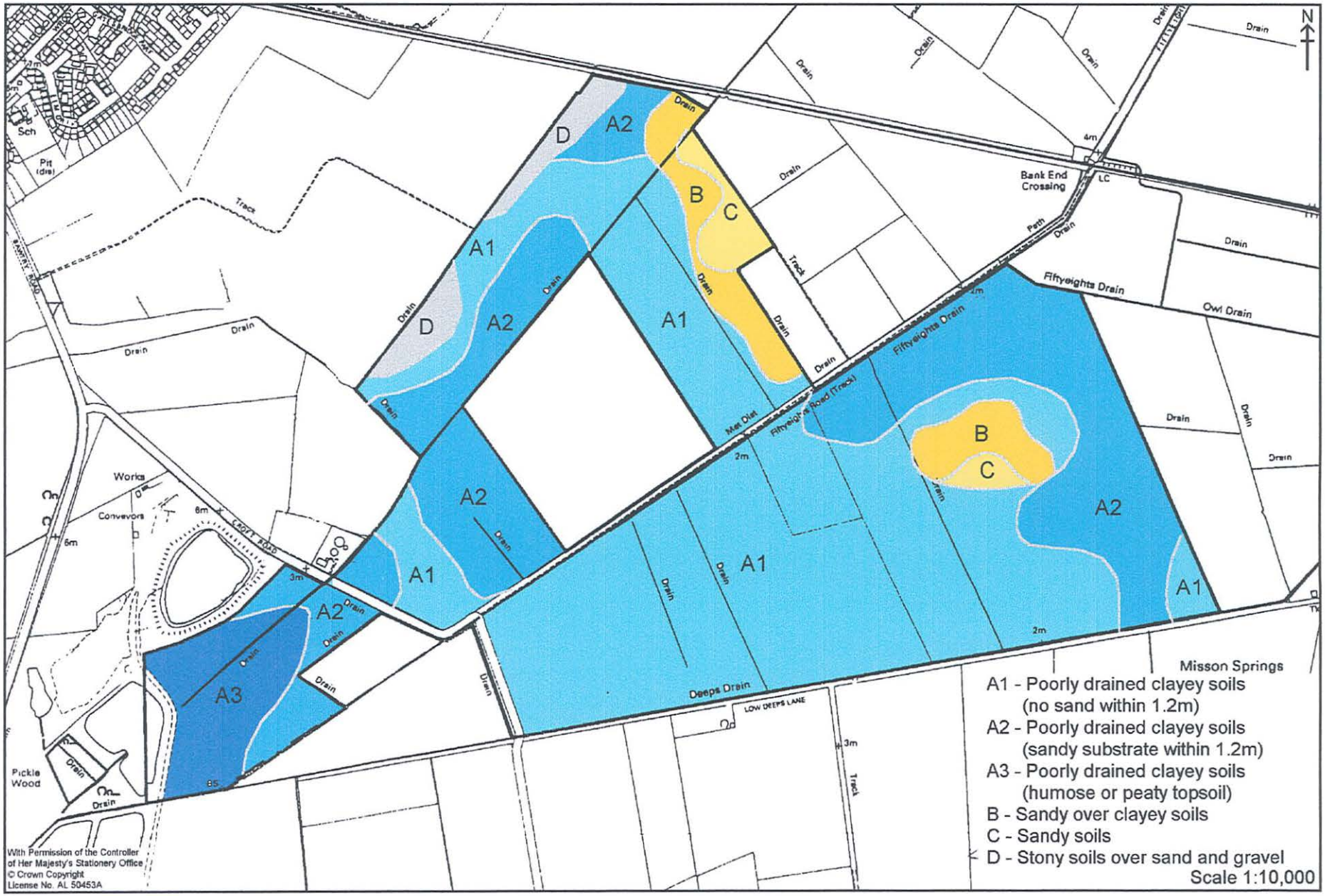


Figure 9. Location of Soil Types A1, A2, A3, B, C and D (after S.G. McRae 2000).

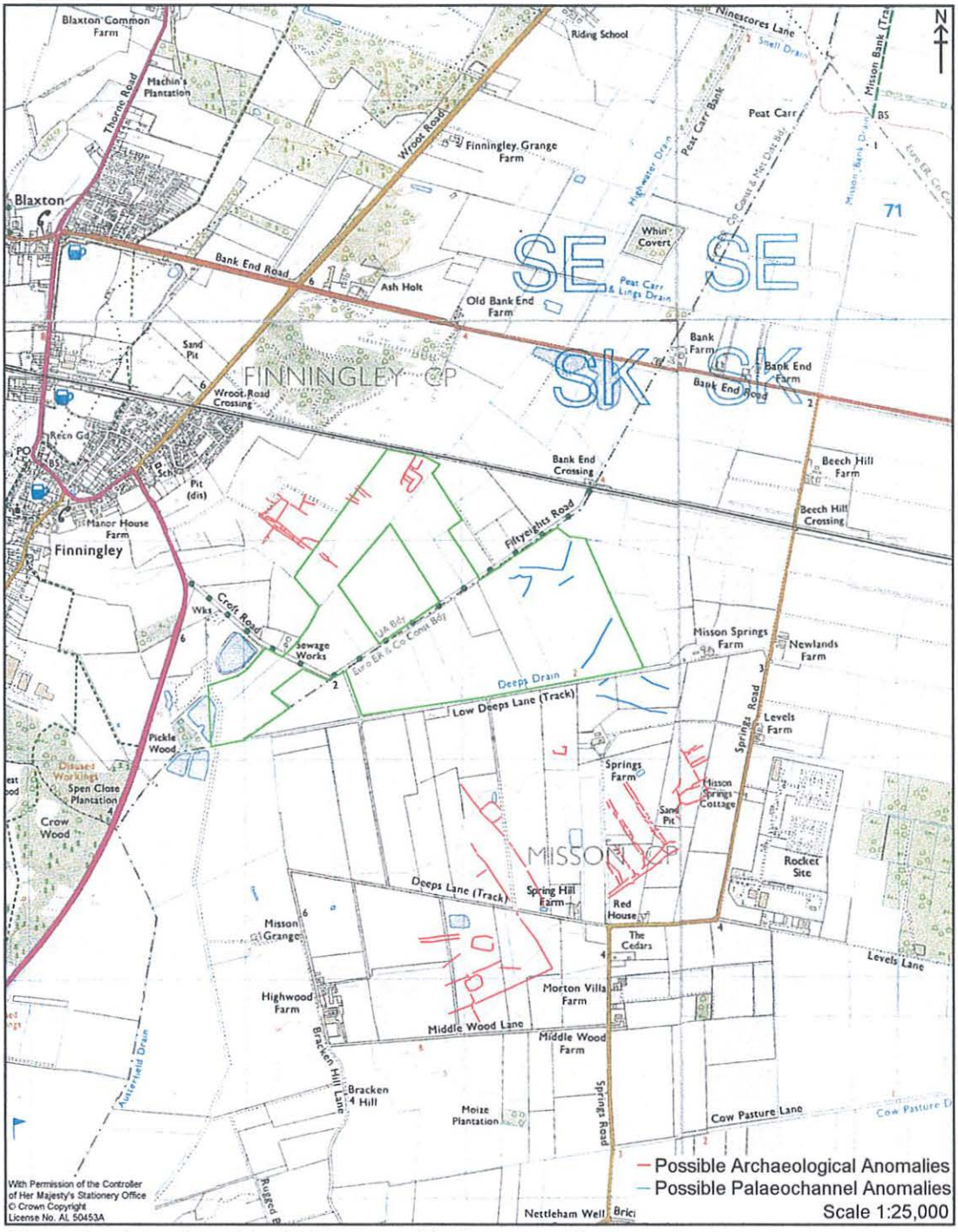


Figure 10. Location of Aerial Photographic Cropmark Sites.

Figure 19. Plan of Trench 5 Features

Figure 22. Plan of Trench 9 Features

Figure 23. Plan of Trench 10 Features

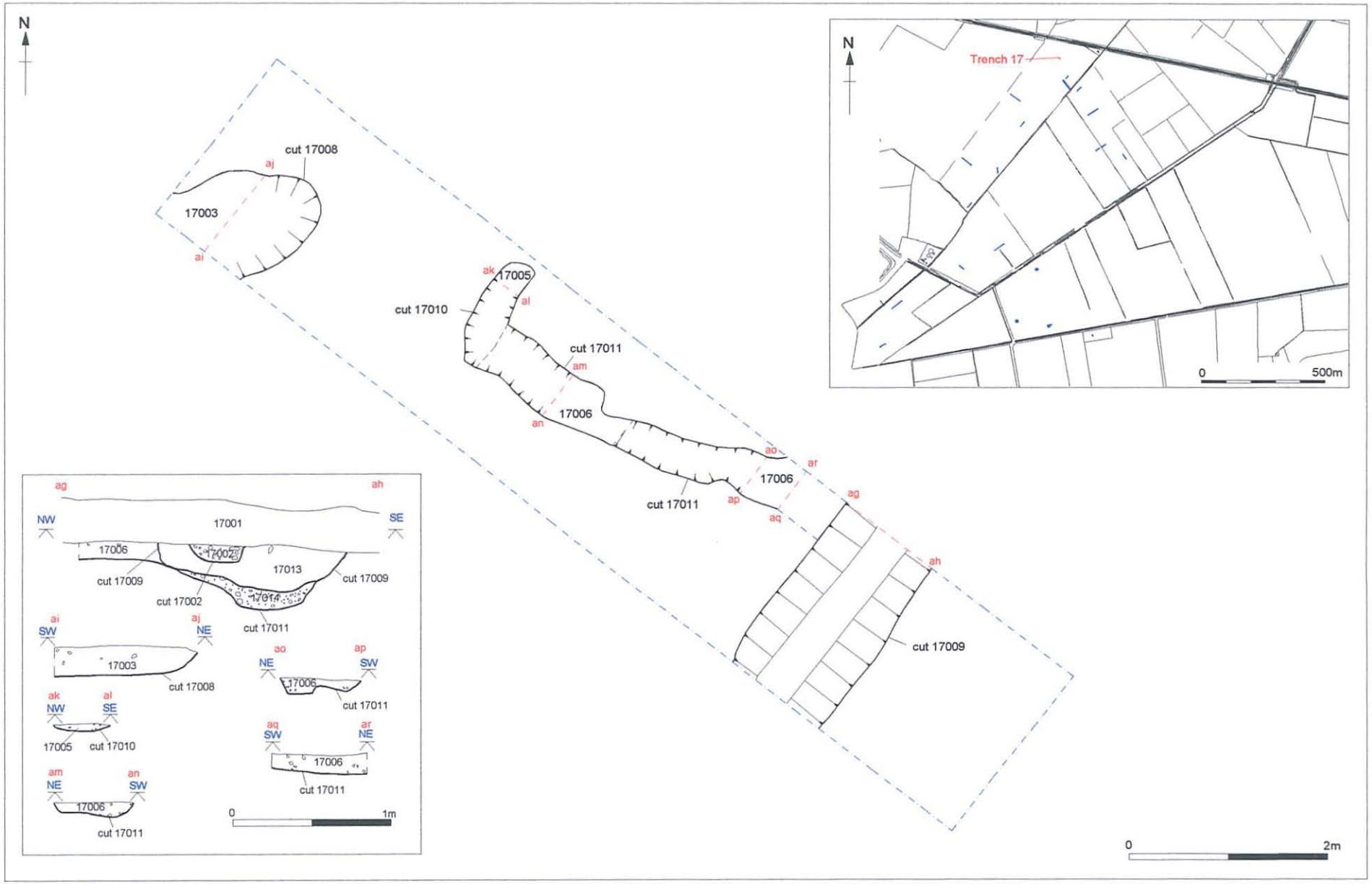


Figure 25. Plan and Sections of Trench 17 Features

Plate 1. Overall View of Trench 1. Facing North-west.

Plate 2. Overall View of Trench 1. Facing South - west.

Plate 3. Overall View of Trench 1. Facing North-east.

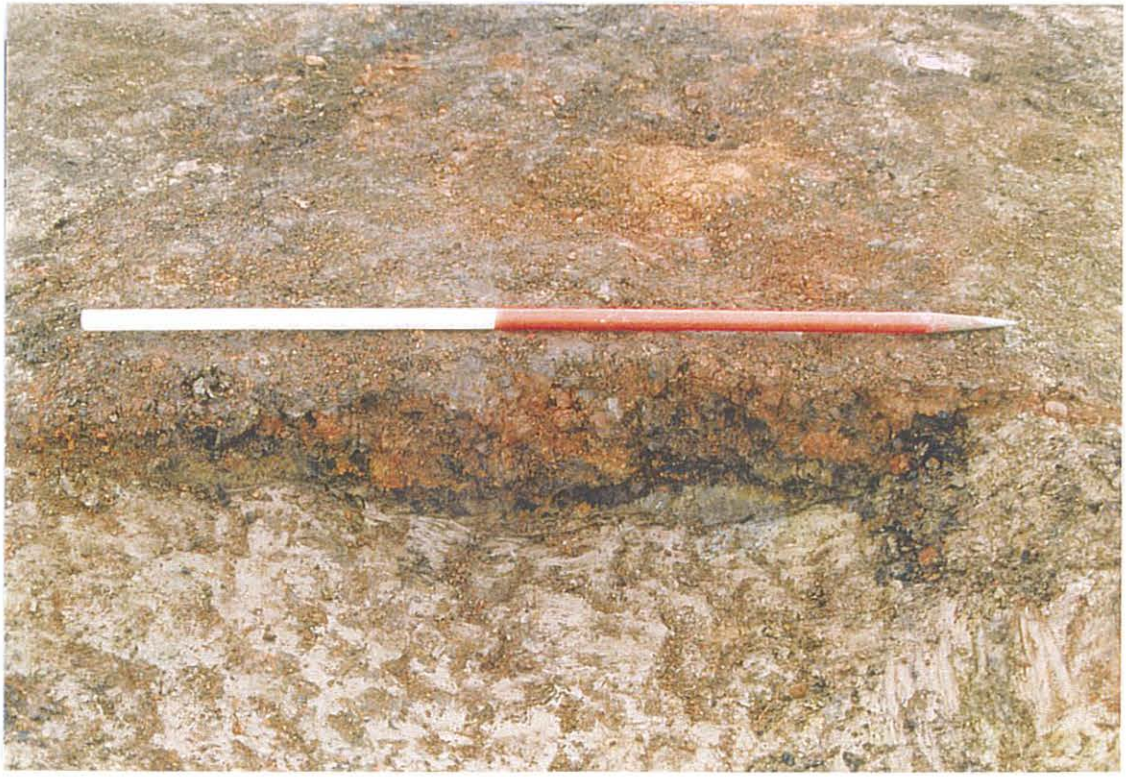


Plate 4. Feature 1004. Facing South - east.

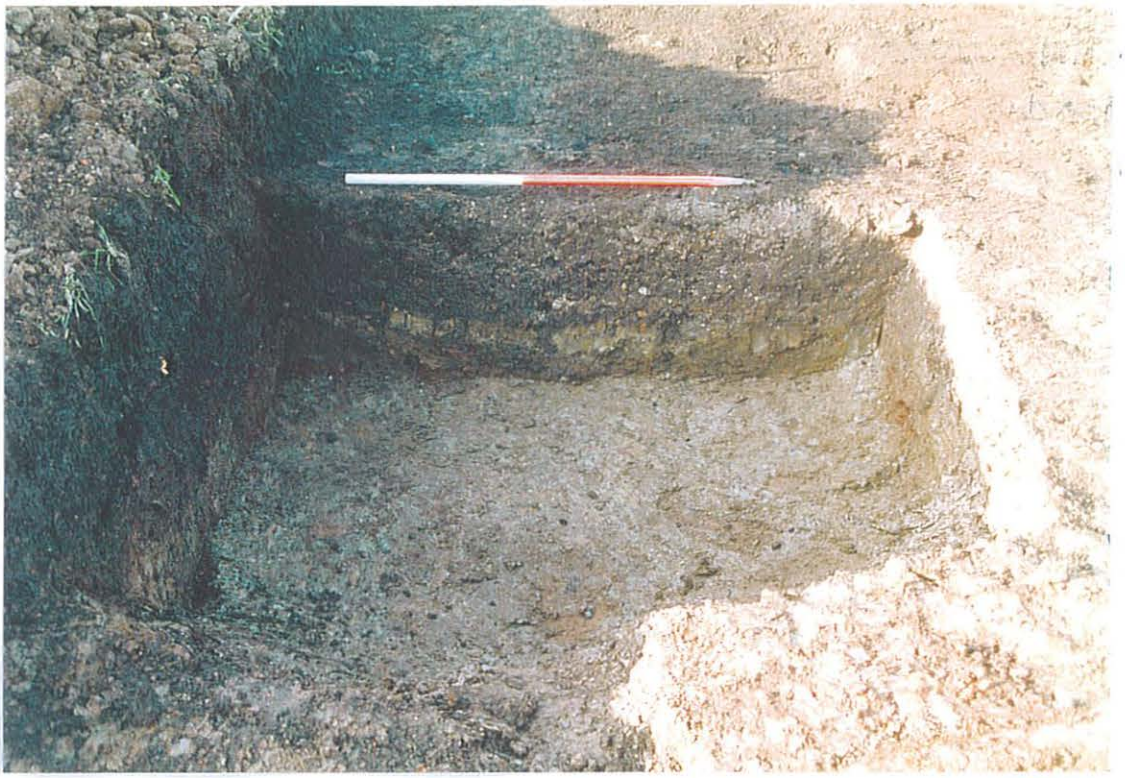


Plate 5. Feature 1006. Facing North-west.

Plate 6. Feature 1006, fully excavated. Facing South - west.

Plate 7. Feature 1018 & 1019. Facing North-west.

Plate 8. Feature 1019. Facing North - east.

Plate 9. Overall View of Trench 2. Facing South - south– west.

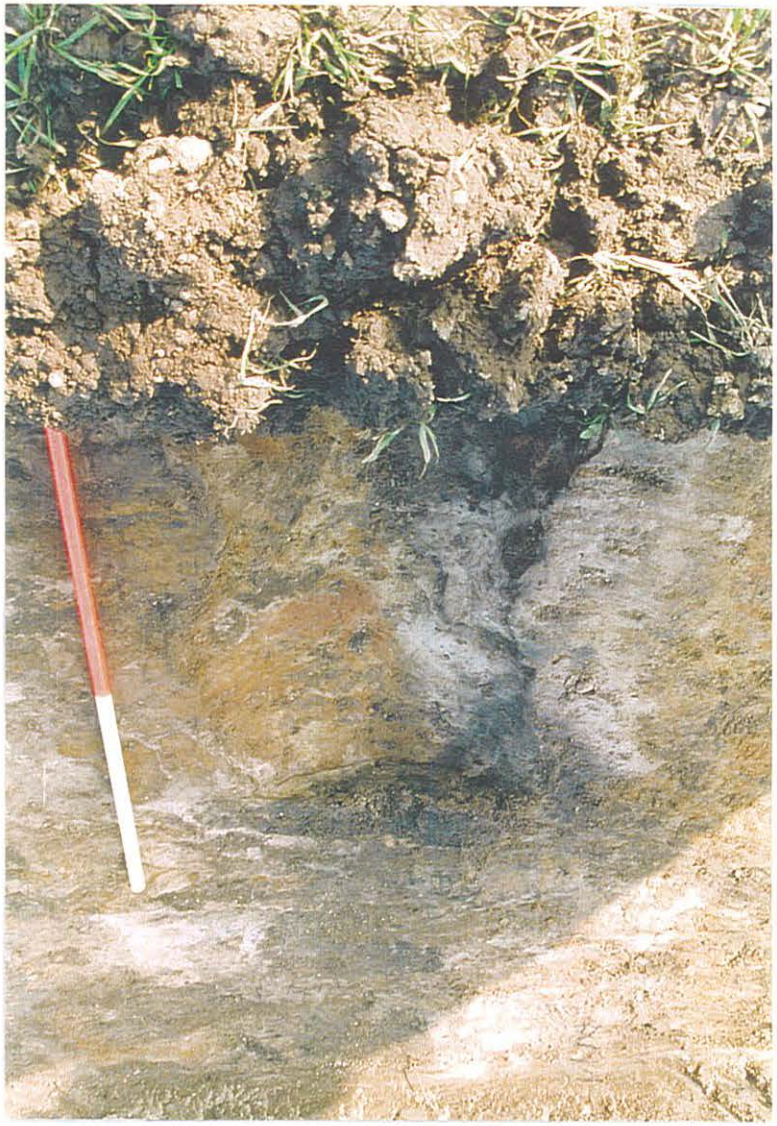


Plate 10. Feature 2003. Facing North-west.

Plate 11. Overall View of Trench 3. Facing South-west.

Plate 12. Feature 3003. Facing North - west.

Plate 13. Overall View of Trench 4A. Facing South-west.

Plate 14. Overall View of Trench 5. Facing South - west.

Plate 15. Overall View of Trench 6. Facing East.

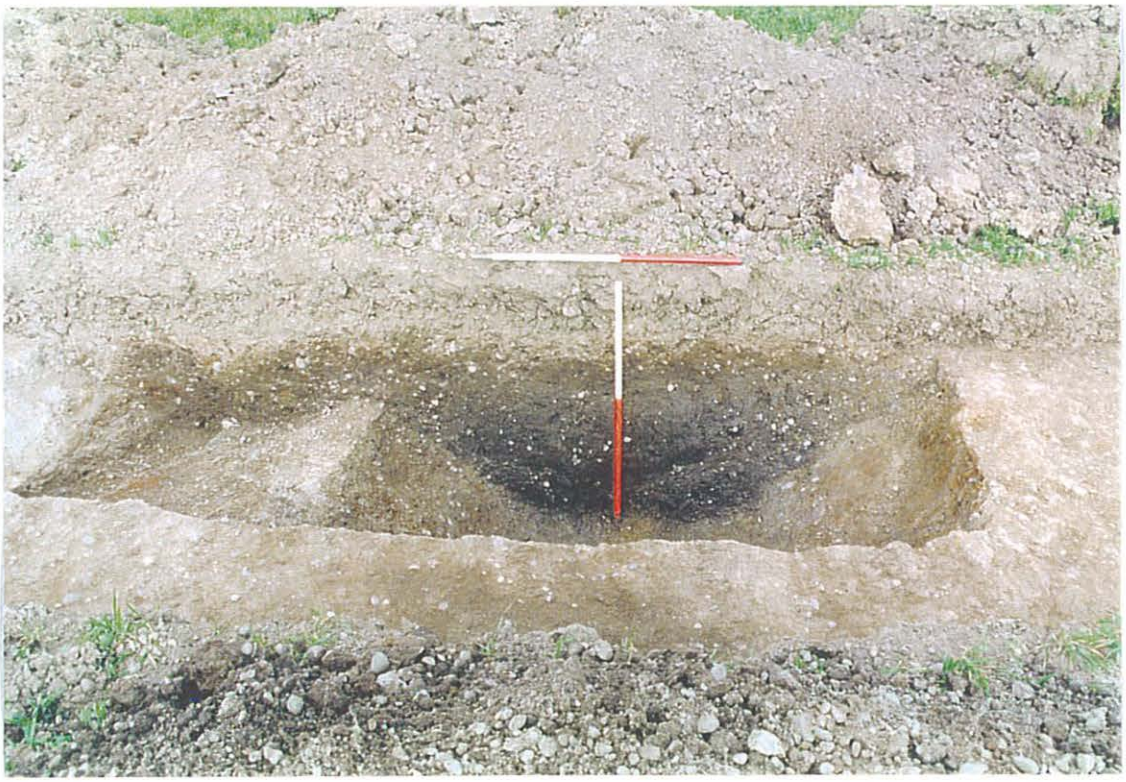


Plate 16. Ditches 6010 & 6112. Facing North - east.

Plate 17. Overall View of Trench 7. Facing North - east.

Plate 18. Overall View of Trench 8. Facing North.

Plate 19. Overall View of Trench 8. Facing North - east.

Plate 20. Overall View of Trench 9. Facing South-east.

Plate 21. Overall View of Trench 10. Facing North - east.

Plate 22. Overall View of Trench 11. Facing North - east.

Plate 23. Overall View of Trench 12. Facing North.

Plate 24. Feature 12003. Facing East.

Plate 25. General View of Trench 13. Facing North - east.

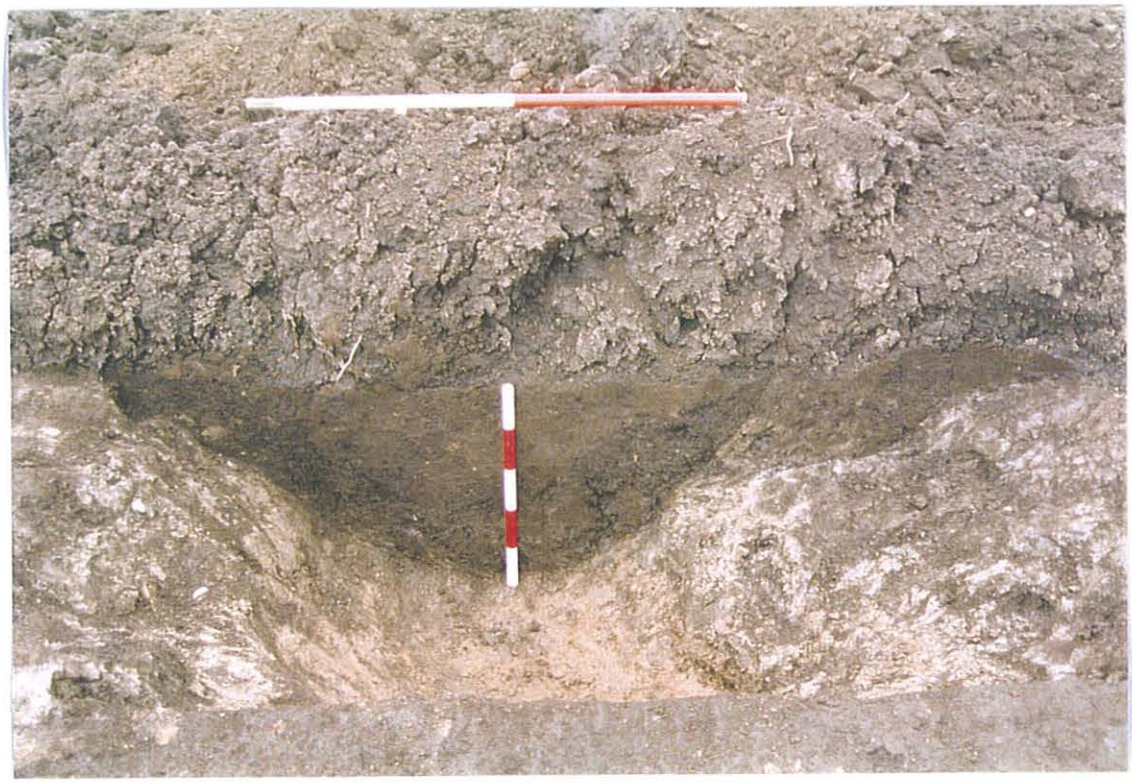


Plate 26. Ditches 13002 & 13004. Facing North-west.

Plate 27. General View of Trench 14. Facing East.

Plate 28. General View of Trench 15. Facing North.

Plate 29. Ditch 15002. Facing South-east.

Plate 30. General View of Trench 16. Facing North-east.

Plate 31. General View of Trench 16. Facing South-west.

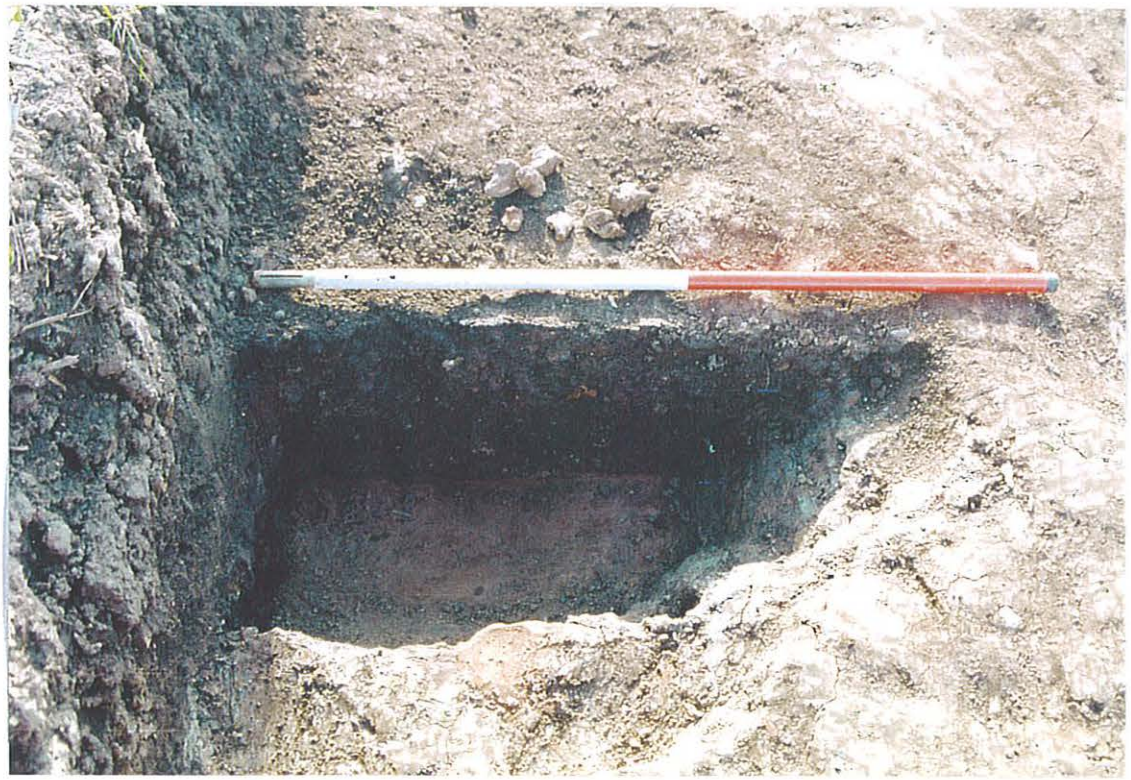


Plate 32. Pit 16008. Facing North-west.

Plate 33. General View of Trench 17. Facing North-west.

Plate 34. General View of Trench 17. Facing South-east.

Plate 35. General View of Trench 18. Facing North.

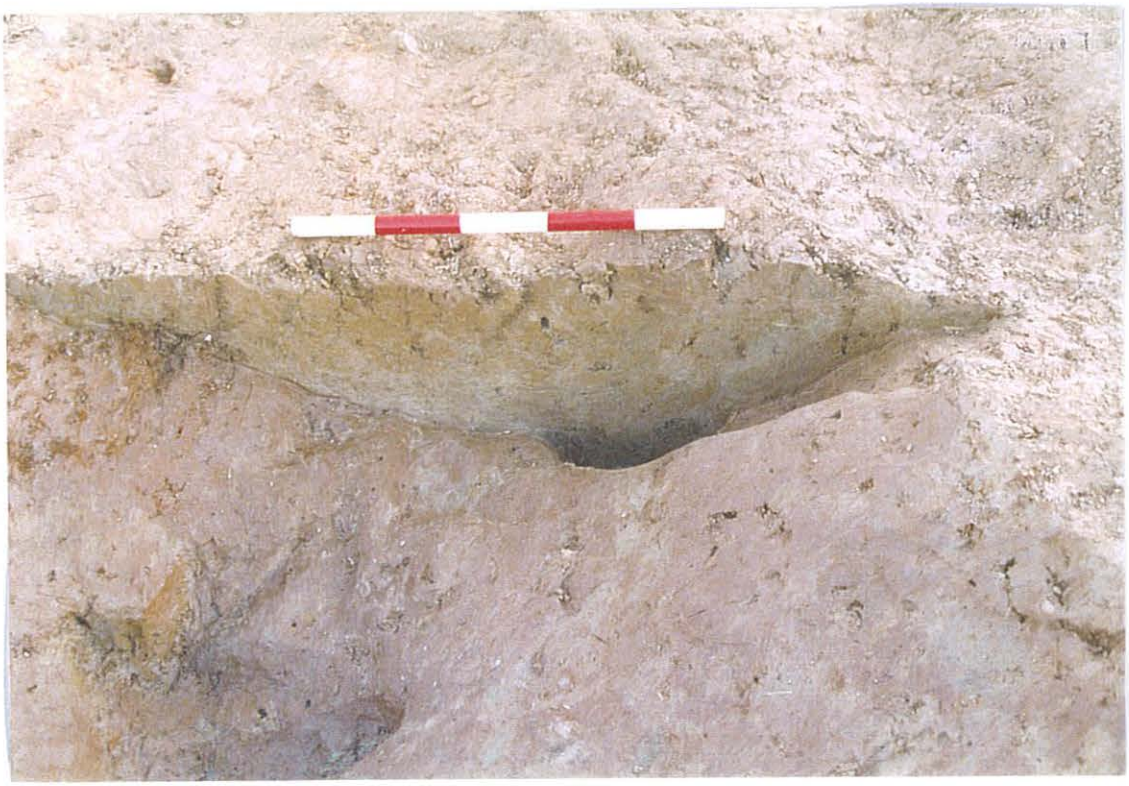


Plate 36. Feature 18002/18005. Facing South.

Plate 37. General View of Trench 19. Facing North.

Plate 38. General View of Trench 20. Facing East.

APPENDIX 1

Finningley Quarry
North-western Extension
Finningley
South Yorkshire

WRITTEN SCHEME OF WORKS FOR TRIAL TRENCHING

1 INTRODUCTION

1.1 This document sets out the details for Archaeological Trial Trenching required on the extension to sand and gravel extraction at Finningley Quarry, Finningley. The Proposed Extension Area is located to the north-west of the current Lafarge quarry (SK 6870 9850 : Fig. 1).

1.2 This scheme has been commissioned by M J Carter Associates on behalf of Lafarge Aggregates Ltd.

1.3 All maps within this report have been reproduced with permission of the Controller of Her Majesty's Stationery Office, Crown Copyright Licence No. AL 50453A.

2 COMPLIANCE

2.1 MAP will adhere to the general principles of the IFA *Code of Conduct* throughout the project and to the IFA *'Standards and Guidance for Archaeological Field Evaluations'*.

3 SITE DESCRIPTION

3.1 The site lies to the east of the A614 road 2 km north of the village of Austerfield in South Yorkshire (Fig 1).

3.2 The site is recently harvested arable land. The surface is relatively flat and slopes gently to the east and west.

4 GEOLOGY

4.1 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD (Fig. 2). Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe 2 Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both these soils are poorly drained and subject to seasonal waterlogging, a fact which

explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the north-west, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts- deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

5 HISTORICAL AND ARCHAEOLOGICAL CONTEXT

5.1 The site lies within an area of known Prehistoric and Romano-British significance. No archaeological evidence is known from the site itself, but this is not surprising given that it has not been developed or subjected to intrusive groundworks within the modern period. To the south-west lies a probable Romano-British site at Crow Wood, the extent of which has never been accurately determined. To the west, development of the A614 road resulted in a number of archaeological finds of Roman date. Further Roman pottery was located during Watching / Recording briefs to the west of the site during recent expansion of the Lafarge Aggregates quarry.

6.3 Fieldwalking of the proposed development site produced finds of Prehistoric through to recent date. Prehistoric flint was located in Areas A and B, as well as Roman pottery in Area A.

6.4 The Geophysical Survey detected anomalies associated with land drains, possible linears, which may represent archaeological activity and features associated with the possible site of a brick works. (Fig. 2).

6 WORK PROGRAMME

6.1.1 Previous Archaeological Evaluation has confirmed the possible presence of archaeological features within the development area. It is therefore proposed that fifteen trial trenches be excavated at the site to clarify the potential of the anomalies recorded on the Geophysical Survey (Fig. 3).

6.1.2 Any alterations made to the strategy, that has been agreed in the approved method statement, will be made in consultation with SYAS.

6.3 Trial Trenching

6.3.1 Fifteen trenches will be opened (Fig. 3).

6.3.2 Trench 1 measuring 50m x 5m is placed to investigate strong geophysical anomalies assumed to relate to an early brickworks

6.3.3 Trench 2 measuring 25m x 2m is placed to establish whether the brick works or related activity continue on the other side of the drain

6.3.4 Trench 3 measuring 50m x 2m is placed on slightly higher ground to test whether this location attracted early settlement

6.3.5 Trench 4 measuring 50m x 2m is placed to investigate a low lying area, outside of the geophyscial survey grid which may contain a buried land surface covered by later deposits

6.3.6 Trench 5, measuring 25m x 2m is located to investigate an area of higher ground

6.3.7 Trench 6, measuring 50m x 2m is located to investigate an area of higher ground where Roman pottery was located during fieldwalking

6.3.8 Trench 7 measuring 25m x 2m is located on low lying land to assess the archaeological potential of this area

6.3.9 Trench 8 measuring 25m x 2m is located to test the nature of a feature located by geophysical survey

6.3.10 Trench 9, measuring 50m x 2m is situated to test an area of higher land

6.3.11 Trench 10, measuring 25m x 2m is placed to investigate an area of low lying land and to attempt to establish its archaeological potential

6.3.12 Trench 11 measuring 50m x 2m is situated on low lying land outside of the geophysical survey grid and is to be evaluated for its archaeological potential

6.3.13 Trench 12 measuring 25m x 2m is situated to investigate an area of low lying land

6.3.14 Trench 13 measuring 50m x 2m is placed to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking

6.3.15 Trench 14 measuring 25m x 2m is placed to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints were found during fieldwalking

6.3.16 Trench 15 measuring 25m x 2m is placed to investigate the palaeo-environmental potential of a known area of peat where Prehistoric flints and ?Roman glass were found during fieldwalking

6.3.17 A contingency of 50m2 is allowed for in the event that a particular trench needs to be extended to clarify features/deposits revealed.

6.4 Excavation

6.4.1 The excavation areas will be hand cleaned, photographed and planned.

6.4.2 Excavation will concentrate on ditch junctions, but further portions of ditches will be removed to provide additional information. This will be achieved by sampling a minimum 20% sample of each feature (which will consist of a sample section not less than 1m or a minimum of a 1m section).

6.4.3 Other cut features such as postholes, pits, isolated trenches etc. will be half-sectioned to determine and record their form, and then be fully emptied to aid recovery of dateable material. The exceptions will be potentially sunken-floored buildings, wall settings, hearths, kilns, storage pits or other identifiable domestic, agricultural, industrial, funerary or ritual structures or buildings.

6.4.4 Domestic, agricultural, industrial, funerary or ritual structures and buildings such as huts, barns, kilns, gateways, causeways, working hollows, floor levels, hearths and the exceptions mentioned in paragraph 6.4.3 above, will be sampled to a degree whereby their extent, nature, form, date, function and relationships to other features and deposits can be established. The sampling strategy will be agreed with SYAS.

6.4.5 Built structures, such as walls, will be sampled to a degree whereby their extent, nature, form, date, function and relationship to other features and deposits can be established. The sampling strategy will be agreed with SYAS.

6.4.6 Within the costings for the outlined programme of work a contingency provision has been set aside to cover carbon-14 dating, human skeletal material, animal bone, metalwork and bulk sampling for environmental analysis.

6.4.7 Any human remains revealed will be excavated following the receipt of an appropriate licence from the Home Office

6.4.8 All finds that are 'treasure' in terms of the Treasure Act of 1997 will be reported to the Coroner and appropriate procedures then followed.

6.4 On Site Recording

6.4.1 All archaeological deposits will be recorded on MAP's *pro forma* sheets which are compatible with the MoLAS recording system according to the normal principles of stratigraphic excavation. The MAP recording manual will be used on site where necessary.

6.4.2 **Plans and Sections**
The full extent of all archaeological deposits will be recorded in plan at a scale of 1:20 on drawing film. All plans will be related to the OS grid and include OD height. Sections of features and individual layers will be drawn at a scale of 1:10 and will include an OD height. The actual areas of ground disturbance and any features of archaeological interest will be accurately located on a site plan which will be fixed in relation to nearby permanent structures and roads and reproduced at a scale of a minimum of 1:1000.

6.4.3 **Photographic Record**
The photographic record will be made up of monochrome prints, colour prints and colour slides at 35mm format. It will include a record of all archaeological features encountered as well as a selection of general site and working shots.

6.4.4 **Finds**

The finds will be processed in accordance with English Heritage Guidelines (EH 1995). Any samples taken shall be processed and all finds shall be cleaned, identified, assessed, dated (if possible), marked (if appropriate) and properly packed and stored in accordance with the requirements of national guidelines. Finds of significance will be recorded as small finds and treated accordingly. Samples of ceramic building materials and masonry will be collected and retained for dating purposes and architectural comment. Any inhumations/cremation burials will not be removed at this stage, only covered, protected and reported to the Coroner. Discoveries of gold, silver and associated material will be referred to the Coroner in accordance with English Law.

6.5 Specialists and Monitoring Arrangements

6.5.1 Throughout the project representatives of South Yorkshire SMR are to be kept fully informed of on site work and site visits are to be arranged. At the end of the works a further meeting will be arranged to review the archaeological evidence.

6.5.2 Contingency sums will be made available should the need arise for radiocarbon dating and Specialist reports for pottery, animal/human bone and environmental sampling. Further contingency provision will be made for additional specialist advice, e.g. for finds analysis and conservation.

6.5.3 A number of specialists may be invited to monitor the collection of artefacts from the site as appropriate. These would include:-

Prehistoric pottery	T. Manby
Roman pottery	P. Ware/Vivian Swan
Medieval/post medieval pottery	M. Stephens
CBM	Sandra Garside-Neville
Flint	P. Makey
Animal bone	PRS
Human bone	J Higgens
Conservation	York Archaeological Trust
Environmental Sampling	Humber Wetlands Project

6.5.4. Provision will be made for an environmental specialist to make a site visit to advise on deposits suitable for environmental sampling. The appropriateness of this stage will be made in discussion with SYAS.

7. FINAL REPORT

7.1 An interim report will be produced within 2 weeks of the completion of on-site works and a copy supplied to the South Yorkshire Sites and Monuments Record. A final report will be submitted within 6 months.

7.2 A final report will be produced as detailed in the Specification should no further archaeological work be required after the Recording Brief and Trial Trenching. Should further archaeological work be undertaken then just one Final Report will

be produced to include the results of both phases of work (i.e. the watching and recording undertaken during the stripping and the follow up excavations). The evaluation report will include a phased interpretation of the site, if possible.

7.3 A final report will be produced which will include the following elements:

1. The archaeological history, topography and geology of the site
2. An outline of the methodology of the excavation
3. The results of the excavation including the location, extent, nature, date and function (if possible) of any archaeological features or deposits including appropriate illustrations, plans, sections and photographs. Illustrations to be included are: a detailed location map, a detailed site plan showing all trenches, all trench plans and sections and detailed plans and sections of features, select artefact illustrations and a selection of scanned photographs; an overall site plan showing all (phased) archaeological features recorded will also be included.
4. Analysis of the finds with dating evidence.
5. Palaeoenvironmental assessment of samples.
6. An assessment of the significance of the deposits, putting the site into its archaeological context.
7. The evaluation report will include a detailed context index and an index to the archive.

7.4 Copies of the final report will be sent to The Client and the South Yorkshire SMR. The final report will include as an appendix a quantified index to the site archive

7.5.1 As well as a printed copy of the report, copies of the electronic files will be provided to SYAS in Words for Windows format and in text (ASCII) format, one copy of each.

7.6 Information derived from this project will be inputted into the online OASIS form at http://ads.ahds.ac.uk/project/oasis/.

8. ARCHIVE

8.1 The archive, consisting of all primary written documents, plans, sections and photographs will be prepared to the standards defined in The Management of Archaeological Projects, 2nd edition.

8.2 A quantified index of the archive is to be prepared and the present location of the archive to be stated within the Final Report and where the archive is to be finally deposited.

8.3 Agreement is currently being sought by Lafarge to make provision for the transfer of materials resulting from the excavations at the Finningley quarry site to Doncaster Museum. Directions by the collecting museum on packaging and storage of finds will be satisfied. Doncaster Museum will be notified in advance

of the start of on site works and the project discussed (contact the be made with Peter Robinson, Doncaster Museum telephone 01302 734 290)..

8.4 If warranted, a copy of the archive in microfilm form is to be submitted to the National Monuments Record. MAP will liaise with the NMR to establish their requirements

9. PUBLICATION & DISSEMINATION

9.1 The results of the excavation will be published in an appropriate issue of South Yorkshire Annual Review. Summary results will be also included in the annual C.B.A. Yorkshire.

9.2 A representative of MAP will be willing to talk at the annual 'South Yorkshire Archaeology Day' as well as to local societies, if invited.

10. RESOURCES

10.1 **Staff**

Excavations are to be undertaken by a team of professional archaeologists from MAP Archaeological Consultancy Ltd.

Project Manager : Anne Finney

On Site Archaeologist : Ges Moody

10.2 **Machinery**

A 360° mechanical excavator with experienced driver and a toothless ditching bucket of no more than 2m in width will be used to strip the topsoil.

10.3 **Health and Safety**

On site accommodation will be provided to meet all Health & Safety requirements. All members of staff are aware of the company's Health and Safety policy Health which conforms to the guidance set out by the Standing Conference of Archaeological Unit Managers. A Risk Assessment will be produced prior to commencement of on site works.

11. CONTINGENCY ARRANGEMENTS

11.1 Should significant remains be revealed the following would be immediately informed:

D Atkinson
Lafarge Redland Aggregates
P.O Box 36
Retford Road
Worksop
S81 7YU

Roy Sykes
South Yorkshire Archaeology Service
Planning, Transport and Highways
Town Hall
Sheffield
S12 2HH

Finningley Quarry
North-western Extension
Finningley
South Yorkshire

WRITTEN SCHEME OF WORKS
FOR TRIAL TRENCHING
NOTTINGHAMSHIRE

1 INTRODUCTION

1.1 This document sets out the details for Archaeological Trial Trenching required on the extension to sand and gravel extraction at Finningley Quarry, Finningley. The Proposed Extension Area is located to the north-west of the current Lafarge quarry (SK 6900 3985 : Figs. 1 & 2).

6.4 This scheme has been commissioned by M J Carter Associates on behalf of Lafarge Aggregates Ltd. in advance of the proposed extension to Finningley Quarry, Finningley, South Yorkshire (SK 4690 3985 : Figs. 1 & 2). However, the proposed extension area also falls within Nottinghamshire.

1.3 Previous archaeological assessment has comprised a consideration of the historical evidence, archaeological and palaeoenvironmental information relating to sites and finds within the immediate vicinity of the application area (MAP 2000). Borehole information for the proposed extraction area has been provided by Lafarge Aggregates Ltd (formerly Lafarge Redland and Steetley Aggregates Ltd) and this information along with previous mineral surveys have been used to characterise and map the distribution of geological deposits within the site.

1.4 Two main zones have been identified within the extension area. An area of slightly higher sandy ground and extensive older river gravel deposits associated with flood plains.

1.5 The present landscape reflects Post-medieval agricultural and drainage practices, and has largely remained unchanged apart from the recent removal of hedgerows to increase field sizes.

1.6 A programme of staged evaluation is proposed to determine whether there is any evidence of archaeological remains within the application area and assess the palaeoenvironmental potential. This programme of evaluation is considered necessary in order to understand the archaeological and palaeoenvironmental potential and assess the impact of the proposed extension. A Desktop Assessment, Fieldwalking and Geophysical Survey have been undertaken (MAP 2000), the next stage is Trial Trenching and a programme of augering

1.7 Following on from the results of this further evaluation a detailed mitigation strategy for the preservation or more detailed investigation of deposits can then be agreed with the County Archaeologist.

1.8 All maps within this report have been reproduced with permission of the Controller of Her Majesty's Stationery Office, Crown Copyright Licence No. AL 50453A.

2 COMPLIANCE

2.1 MAP will adhere to the general principles of the IFA *Code of Conduct* throughout the project and to the IFA *'Standards and Guidance for Archaeological Field Evaluations'*.

3 SITE DESCRIPTION

3.1 The site, measuring 62.9 hectares, is bounded in the west by the existing Lafarge Redland Aggregate works, which are east of the A614 road; to the south by Low Deeps Lane and to the north by Fiftyeigths Road which is the current county boundary. The site is located 0.8 km south-east of the village of Finningley and 3 km north of Misson village.

3.2 The Proposed Extension Area is currently arable farmland (Areas F & G : Fig. 2).

4 GEOLOGY

4.1 The geology of the Finningley area is relatively complex. The site itself lies on Downholland 3 Association soils and Foggathorpe 2 Association soils at a mean height of 2-3m OD. Soils of the Downholland 3 Association are characteristically deep stoneless clayey soils with peaty or humose surface horizon over marine alluvium and fen peat, and soils of the Foggathorpe 2 Association are slowly permeable seasonally waterlogged stoneless clayey and fine loamy over clayey soils on a solid geology of glaciolacustrine clays. Both these soils are poorly drained and subject to seasonal waterlogging, a fact which explains the extensive drainage systems evident, for example, in the Misson area. To the east are well-drained coarse loamy soils (Wick 1 Soil Association), ideally suited to arable or pasture, which typically occur over localised deposits of gravel (Mackney 1983). To the north-west, Finningley village and the fields surrounding it lie on Blackwood glaciofluvial drifts- deep permeable sandy and coarse loamy soils, suited to arable and horticultural crops.

4.2 The extensive Ipswichian river terrace deposits of sands and gravels around Blaxton and Finningley have been extensively quarried. The sand and gravel ridge (9m) on which Wroot is situated was deposited during the late Devensian ice surge into Lake Humber. The ridge is abutted by wind blown sands which outcrop sporadically through the Holocene peats to the south and east of Wroot, forming a low ridge that frequently coincide with finds spots (Van de Noort & Ellis 1997). River terrace deposits are recorded to the north-east and east of the proposed extraction area with a wide swathe of silt and clay deposits forming the bulk of the site. A study of the mineral resource has shown continuous or almost

continuous spreads of mineral beneath overburden for much of the proposed development area (Fig. 4 : Clayton 1979 : Thomas & Price 1979).

5 HISTORICAL AND ARCHAEOLOGICAL CONTEXT

5.1 The site lies within an area of known Prehistoric and Romano-British significance. No archaeological evidence is known from the site itself, but this is not surprising given that it has not been developed or subjected to intrusive groundworks within the modern period. To the south-west lies a probable Romano-British site at Crow Wood, the extent of which has never been accurately determined. To the west, development of the A614 road resulted in a number of archaeological finds of Roman date. Further Roman pottery was located during Watching / Recording briefs to the west of the site during recent expansion of the Lafarge Aggregates quarry in South Yorkshire (MAP 2001 & 2002).

5.2 Fieldwalking of the proposed development site produced finds of Prehistoric through to recent date. A single piece of worked flint was located in Area F.

5.3 The Geophysical Survey detected anomalies associated with land drains and possible linears which may represent archaeological activity.

6 WORK PROGRAMME

6.1.1 Previous Archaeological Evaluation has confirmed the possible presence of archaeological features within the development area. It is therefore proposed that three trial trenches are excavated at the site to clarify the potential of the anomalies recorded on the Geophysical Survey.

6.1.2 Any alterations made to the strategy, that has been agreed in the approved method statement, will be made in consultation with the Archaeology Section of Nottinghamshire County Council.

6.2 Trial Trenching

6.2.1 Three trenches will be opened (Fig. 3).

6.2.2 Trench 1 measuring 10m x 10m is placed to investigate a strong linear geophysical anomaly.

6.2.3 Trench 2 measuring 10m x 10m is placed to investigate a strong linear geophysical anomaly.

6.2.4 Trench 3 measuring 10m x 10m is placed in the location where a piece of worked flint was recovered during fieldwalking of Area F.

6.2.5 In Trench 3 the excavation area will be divided into 4. The use of quads will allow any finds to be accurately plotted. Topsoil and subsoils will be removed in alternate quads by JCB and hand excavation. Very careful controlled JCB

APPENDIX 2

Context Listing: South Yorkshire

Trench 1

Context	Description
1001	Topsoil, 5YR 4/3 Silty clay
1002	Deposit, 2.5YR 4/3 Clay
1003	Cut, Pit
1004	Cut, Pit
1005	Cut, Pit
1006	Cut, Ditch
1007	Deposit, 5YR 5/6 Silty clay
1008	Cut, Pit
1009	Deposit, 10YR 3/3 Clay silt
1010	Deposit, 7.5YR 5/4 Clay
1011	Deposit, 7.5YR 3/4 Sandy silt
1012	Deposit, 10YR 5/2 Silt
1013	Deposit, 10YR 5/4 Sand and Clay
1014	Deposit, 2.5YR 4/3 Silty clay
1015	Deposit, 2.5Y 5/2 Silt
1016	Deposit, 10 YR 5/6 Sandy clay
1017	Deposit, 10YR 6/6 Silty clay
1018	Cut, Pit
1019	Cut, Pit
1020	Cut

Trench 2

2001	Topsoil, 7.5YR 2.5/2 Sandy silt
2002	Deposit, 10YR 5/2 Sandy silt
2003	Cut, Gully

Trench 3

3001	Topsoil, 5YR 2.5/2 Sandy silt
3002	Deposit, 10YR 4/2 Silty sand
3003	Cut, Gully

Trench 4

4001	Topsoil, 5YR 2.5/2 Sandy silt (No archaeology present in trench)

Trench 5

5001	Topsoil, 10YR 3/3 Silt (No archaeology present in trench)

Trench 6

6001	Topsoil, 10YR 4/2 Silty loam
6002	Deposit, 10YR 3/2 Silt
6003	Cut, Ditch
6004	Deposit, 5YR 4/6 Sandy
6005	Cut, Ditch
6006	Deposit, 10YR 6/4 Sandy clay
6007	Deposit, 10YR 5/2 Sandy silt

6008	Deposit, 10YR 5/2 Sandy silty clay
6009	Deposit, 10YR 3/3 Silt
6010	Cut, Ditch
6011	Deposit, 2.5YR 6/3 Sandy silt
6012	Cut, Linear
6013	Deposit, 2.5YR 5/2 Sandy silty clay
6014	Deposit, 5YR 5/6 Sandy

Trench 7

7001	Topsoil, 10YR 3/3 Clay (No archaeology present in trench)

Trench 8

8001	Topsoil, 10YR 4/2 Clay
8002	Cut, Gully
8003	Deposit, 10YR 4/2 Clay
8004	Cut, Drain
8005	Deposit, 10YR 4/2 Clay
8006	Cut, Gully
8007	Deposit,10YR 5/2 Clay

Trench 9

9001	Topsoil, 10YR 3/3 Sandy loam (No archaeology present in trench)

Trench 10

10001	Topsoil, 10YR 3/3 Silty clay (No archaeology present in trench)

Trench 11

11001	Topsoil, 10YR 3/2 Sandy silty clay (No archaeology present in trench)

Trench 12

12001	Topsoil, 10YR 3/2 Silty clay
12002	Deposit, 10YR 3/3 Silty clay
12003	Cut, Gully

Trench 13

13001	Topsoil, 10YR 3/1 Silty Clay
13002	Cut, Ditch
13003	Deposit, 10YR 2/1 Peat
13004	Cut, Ditch
13005	Deposit, 10YR 2/1 Peat

Trench 14

14001	Topsoil, 10YR 3/1 Silty clay (No archaeology present in trench)

Trench 15

15001	Topsoil, 10YR 2/1 Peat
15002	Cut, Ditch
15003	Deposit, 10YR 2/1 Peat

Trench 16

16001	Post excavation shown to be natural

16002	Post excavation shown to be natural
16003	Post excavation shown to be natural
16004	Post excavation shown to be natural
16005	Deposit, 10 YR 2/2 Sandy silt
16006	Deposit, 10YR 2/2 Sandy
16007	Post excavation shown to be natural
16008	Cut, Pit
16009	Deposit, Mixed included 10YR 5/3 & 10YR 8/6 Clayey sand
16010	Sondage through pit
16011	Sondage through pit
16012	Sondage through pit
16013	Cut, Pit
16014	Topsoil, 10YR 2/2 Silty clay

Trench 17

17001	Post excavation shown to be natural
17002	Deposit, 10YR 4/2 Clayey silt
17003	Deposit, 10YR 5/1 Sandy
17004	Topsoil, 10YR 2/2 Silty clay
17005	Deposit, 5YR 4/4 Silty sand
17006	Deposit, 10YR 3/2 Silty sand
17007	Not used
17008	Cut, Pit
17009	Cut, Ditch
17010	Cut, Pit
17011	Cut, Linear
17012	Cut, Ditch
17013	Deposit, 10YR 5/2 Silty clay
17014	Deposit, 5B 7/1 Silty clay

Context Listing: Nottinghamshire

Trench 18

Context	**Description**
18001	Topsoil, 5YR 4/3 Clay loam
18002	Cut, Ditch
18003	Deposit, 5YR 5/1 Clay
18004	Deposit, 2.5Y 8/4 Silty clay
18005	Deposit, 5Y 3/1 Silty clay
18006	Deposit, 2.5Y 8/4 Silty clay
18007	Deposit, 5YR 6/4 Clay
18008	Cut, Pit

Trench 19

19001 Topsoil, 7.5YR 3/2 Clayey loam (No archaeology present in trench)

Trench 20

20001 Topsoil, 7.5YR 3/2 Clayey loam (No archaeology present in trench)

APPENDIX 3 *(Continued)*

Finningley IV, South Yorkshire: Archive Pottery Report

General Discussion

Contexts. The Roman pottery derived from 4 separate stratified archaeological features/contexts: 6002, 6004, 6007 & 6009 (ditches) and unstratified from field walking in the general area of Trench 6.

Quantities, sources and date. There were 102 sherds in total weighing 1.343kg from Trench 6 and its environs. All probably dated to within the period, late second to early/mid third century, although a single Samian sherd was recovered. The total amount of material recovered was insufficient to be very significant statistically, but, not surprisingly, it was dominated by the products of the very local South Yorkshire potteries, such as Cantley (Annable 1960; Buckland Magilton and Dolby 1980), Blaxton (Buckland and Dolby 1980) and Rossington Bridge (Buckland, Hartley and Rigby 2001). Non-local products were, in fact, extremely few and confined to a single piece of Samian.

Catalogue of Fabrics

OX1. Ozidised Fabric 1:
***Common Name*:** Local Sandy oxidised ware
Orange-grey (5YR 6/1 - & 5YR 6/1) with similar or slightly paler grey surface, soft to moderately hard, sandy to feel, with common well-sorted, small to medium, rounded quartz, small amounts of fine silver mica and sparse, ill sorted small to large, black and orange haematite. Lightly smoothed surfaces.
***General comments*:** Much of this ware is sooted on the surface and may have been re-burnt. This re-burning may also account for a slightly friable texture.
Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry

R1. Reduced Fabric 1:
***Common name*:** Finer blue-grey burnished ware
This is a reduced version of the smoother Oxidised Fabric 2, with the same range of inclusions (quartz sand, mica and haematite). Some sherds have unburnised zones and a granular surface texture (especially imitations of Black-burnished ware jars. The ware has been hard fired, perhaps more so then fabric R 2, which mat partly account for the colour differences.
General Comments: This is very close to reduced Fabric 2, the main difference being a slightly higher temperature, and a slightly finer fabric.

Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry.

R3. Reduced Fabric 3:

Common Name: Dull brown-core semi-coarse ware

Characterised by quartz sand inclusions as in Reduced Fabric 2 (ie slightly coarser than in Reduced Fabric 1). The main difference is that vessels in this fabric have a brown body and only thin grey exterior margins.

General comments: This is very close to Fabric R2 and may be basically the same.

Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry.

R4. Reduced Fabric 4:

Common name: Pale grey granular ware

Characterised by very coarse quartz sand inclusions and a pale grey colour throughout, though the fabric in general contains the same basic tempering as the other local products (see OX1). All the vessels are relatively hard-fired.

The decoration includes burnished wavy lines and double grooves.

General comments: Basically a coarser version of Reduced Fabrics 1 and 2.

Source. Relatively local, ie from the South Yorkshire (Doncaster Area) industry

APPENDIX 3 *(Continued)*

Finningley IV, South Yorkshire: Archive Pottery Report

General Discussion

Contexts. The Roman pottery derived from 4 separate stratified archaeological features/contexts: 6002, 6004, 6007 & 6009 (ditches) and unstratified from field walking in the general area of Trench 6.

Quantities, sources and date. There were 102 sherds in total weighing 1.343kg from Trench 6 and its environs. All probably dated to within the period, late second to early/mid third century, although a single Samian sherd was recovered. The total amount of material recovered was insufficient to be very significant statistically, but, not surprisingly, it was dominated by the products of the very local South Yorkshire potteries, such as Cantley (Annable 1960; Buckland Magilton and Dolby 1980), Blaxton (Buckland and Dolby 1980) and Rossington Bridge (Buckland, Hartley and Rigby 2001). Non-local products were, in fact, extremely few and confined to a single piece of Samian.

Catalogue of Fabrics

OX1. Ozidised Fabric 1:
***Common Name*:** Local Sandy oxidised ware
Orange-grey (5YR 6/1 - & 5YR 6/1) with similar or slightly paler grey surface, soft to moderately hard, sandy to feel, with common well-sorted, small to medium, rounded quartz, small amounts of fine silver mica and sparse, ill sorted small to large, black and orange haematite. Lightly smoothed surfaces.
***General comments*:** Much of this ware is sooted on the surface and may have been re-burnt. This re-burning may also account for a slightly friable texture.
Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry

R1. Reduced Fabric 1:
***Common name*:** Finer blue-grey burnished ware
This is a reduced version of the smoother Oxidised Fabric 2, with the same range of inclusions (quartz sand, mica and haematite). Some sherds have unburnised zones and a granular surface texture (especially imitations of Black-burnished ware jars. The ware has been hard fired, perhaps more so then fabric R 2, which mat partly account for the colour differences.
General Comments: This is very close to reduced Fabric 2, the main difference being a slightly higher temperature, and a slightly finer fabric.

Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry.

R3. Reduced Fabric 3:

Common Name: Dull brown-core semi-coarse ware

Characterised by quartz sand inclusions as in Reduced Fabric 2 (ie slightly coarser than in Reduced Fabric 1). The main difference is that vessels in this fabric have a brown body and only thin grey exterior margins.

General comments: This is very close to Fabric R2 and may be basically the same.

Source: relatively local, ie from the South Yorkshire (Doncaster Area) industry.

R4. Reduced Fabric 4:

Common name: Pale grey granular ware

Characterised by very coarse quartz sand inclusions and a pale grey colour throughout, though the fabric in general contains the same basic tempering as the other local products (see OX1). All the vessels are relatively hard-fired.

The decoration includes burnished wavy lines and double grooves.

General comments: Basically a coarser version of Reduced Fabrics 1 and 2.

Source. Relatively local, ie from the South Yorkshire (Doncaster Area) industry

APPENDIX 4

Summary

The ceramic building material assemblage from the site displayed typical traits of material recorded on brick-making sites. A possible date range of between the 16th-19th centuries has been given to the bricks; which showed a concentration of 17th-18th century material. This latter date range has been suggested for the period of which the kilns would have been manufacturing bricks. There was no evidence of roof-tile manufacture taking place on the site, however, there was evidence of brick and pantile importation into the area during the mid-late 18th century.

2. Introduction

A total of 36 ceramic building material fragments weighing 12755 grams were retrieved from eight contexts within a probable post-medieval brick-making site. These were visibly examined using a 10x-hand lens and the information gleaned regarding the dimensions, shape and fabric of the material was recorded and catalogued accordingly. It should be noted that the diversity of size and colour within brick and tile caused during the manufacturing process must be taken into consideration when comparing examples within collected assemblages and local typologies. The varying sizes and colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the brick/tile within the kiln.

The dating of brick and tile can be highly contentious due to its re-usable nature and therefore any date range given is that of the known dates where such material has been recorded. No complete brick was recovered from the site and therefore dates suggested have been largely based upon width and thickness, supported by the general characteristics and fabric of the brick, and therefore must be treated with caution.

General Characteristics of the assemblage.

The ceramic building materials were, in the main, well preserved with a few of the examples abraded, the majority showing manufacturing characteristics clearly.

The assemblage had been hand-collected, recently washed and, within substantial cbm deposits sampled only.

3. Catalogue

The catalogue has been compiled from the examined ceramic building material assemblage. A Munsell colour code has been incorporated where appropriate to help define the fabrics.

The ceramic roof tile

Trench 1 Context 1014 2 fragments 450g
Two fragments of pantile. 15mm thick. A dark red (10R/3/6) homogenous oxidised fabric. The tile appears unused.

Provisional date: 18th century +

Trench 1 Context 1014 1 fragment 130g
Single fragment of pantile. 10mm thick. A dark red (10R/3/6) homogenous oxidised fabric. Exceptionally thin. Evidence of a light slip.

Provisional date: 18th century +

Trench 1 Context 1014 1 fragment 220g
Single fragment of pantile. 15mm thick. A light red (10R/5/8) homogenous oxidised fabric with a reduced core. The tile appears unused.

Provisional date: 18th century +

Brick catalogue

Trench 1 Context 1009 1 fragment 1500g
Single brick fragment with dimensions of ? mm x 115mm x 65mm (? x 4 ½" x 2 ½"). A dark red (10R/3/6) homogenous oxidised fabric with occasional lithic inclusions <20mm. Patches of unfired clay. Moulding lip and sunken margin.

Provisional date: Early-mid 18th century

Trench 1 Context 1009 1 fragment 1125g
Single brick fragment with dimensions of ? mm x 110mm x 56mm
(? x 4 ½" x 2 ½"). A yellow /red (5YR/5/8) oxidised fabric with occasional lithic inclusions <20mm and speckles of unfired clay <2mm. Moulding lip and frequent grass impressions on one surface. One header is heavily vitrified.

Provisional date: Early-mid 18th century

Trench 1 Context 1009 1 fragment 750g
Single brick fragment with dimensions of ? mm x ? mm x 60mm
(? x ? x 2 3/8"). A yellow /red (5YR/5/8) oxidised fabric with occasional lithic inclusions <20mm and frequent laminae of unfired clay.

Provisional date: late 16th-late 18th century

Trench 1 Context 1009 1 fragment 1250g
Single brick fragment with dimensions of ? mm x 120mm x 70-75mm (? x 4 ¾" x 2 ¾ - 3"). A dark red (10R/3/6) homogenous oxidised fabric with occasional lithic and Fe. inclusions <30mm.

Provisional date: Early 19th century

Trench 1 Context 1013 1 fragment 600g
Single brick fragment displaying width dimension only. ? mm x 115mm x ?mm (? x 4 ½" x ?"). A red (10R/5/6) oxidised fabric with occasional lithic inclusions <10mm and frequent patches of unfired clay.

Provisional date: 16th- 18th century

Trench 1 Context 1013 1 fragment 600g
Single brick fragment with dimensions of ? mm x 120mm x 70mm (? x 4 ¾ " x 2 ¾ "). A dark red (10R/3/6) homogenous oxidised fabric with frequent grass impressions within the fabric. Moulding lip and slight sunken margin.

Provisional date: Early 19th century

Trench 1 Context 1014 1 fragment 520g
Single fragment of brick waster.

Provisional date: ?

Trench 1 Context 1014 1 fragment 310g
Single fragment of brick 60mm thick. (2.3/8 "). A yellow /red (5YR/5/8) oxidised fabric with occasional lithic inclusions <20mm. Exceptionally large (50mm diameter) patch of unfired clay. Moulding lip and sharp arrisses.

Provisional date: late 16th-late 18th century

Trench 1 Context 1014 1 fragment 350g
Single fragment of brick with dimensions of ? mm x 105mm x 58 -60mm (4.1/8" x 2 ¼ - 2.3/8"). Heavily vitrified header. A yellow /red (5YR/5/8) oxidised fabric with occasional lithic inclusions <16mm and occasional patches of under-fired clay. Grass impressions.

Provisional date: late 17th - 18th century

Trench 1 Context 1014 1 fragment 200g
Single fragment of brick waster slag.

Trench 16 Context 1605 4 fragments 150g
Four fragments of non-diagnostic and under-fired bricks. A reddish yellow (5YR/6/8)) homogenous fabric. One fragment is slightly abraded.

Provisional date: ?

Trench 16 Context 1605 1 fragment 15g
Single fragment of non-diagnostic and under-fired brick. A reddish yellow (5YR/6/8)) homogenous fabric.

Provisional date: ?

Trench 16 Context 1606 2 fragments 100g
Two fragments of non-diagnostic and under-fired bricks. A reddish yellow (5YR/6/8)) homogenous fabric.

Provisional date: ?

Trench 16 Context 1606 3 fragments 160g
Three fragments of non-diagnostic and under-fired bricks. A dark red (10R/3/6) homogenous oxidised fabric. Two of the fragments show grass impressions and at least one flat surface.

Provisional date: ?

Trench 16 Context 1609 2 fragments 220g
Two fragments of non-diagnostic and under-fired bricks. A reddish yellow (5YR/6/8)) homogenous fabric. Both fragments show flat surface.

Provisional date: ?

Trench 16 Context 1609 3 fragments 230g
Three fragments of non-diagnostic and under-fired bricks. A red (10R/5/6) oxidised fabric with occasional lithic inclusions <5mm. One fragment shows indirect heat disintegration/fracturing.

Provisional date: ?

Trench 17 Context 1702 1 fragment 1300g
Single brick fragment with dimensions of ? mm x 130mm x 60-70mm (? x 5.1/8 " x 2.3/8 -2 ¾ "). A yellow /red (5YR/5/8) oxidised fabric . Frequent grass impressions on one surface. Opposite surface shows partial thumb imprint.

Provisional date: Late 16th century?

Trench 17 Context 1702 1 fragment 490g
Single brick fragment with dimensions of ? mm x 105mm x 50mm (? x 4.1/8 " x 2 "). A dark red (10R/3/6) homogenous oxidised fabric with frequent lithics <2mm. Moulding lip and residual drying sand adhesions.

Provisional date: 16 -17h century

Trench 17 Context 1702 1 fragment 350g
Single brick fragment 45mm thick (1 ¾"). A dark red (10R/3/6) oxidised fabric with occasional lithics <5mm and Fe. inclusions <3mm. Moulding mark along one arris.

Provisional date: Late 16th century?

Trench 17 Context 1702 1 fragment 500g
Small mass of vitrified wasters.

Provisional date: ?

Trench 17 Context 1705 1 fragment 625g
Single brick fragment with dimensions of ? mm x 110mm x 50mm
(? x 4.3/8 " x 2 "). A yellow /red (5YR/5/8) oxidised fabric with lithic inclusions <30mm. Sunken margin. One header partially deformed during manufacture prior to firing.

Provisional date: Late 16th-17th century

Trench 17 Context 1705 1 fragment 500g
Single brick fragment with dimensions of ? mm x 110mm x 50mm
(? x 4.3/8 " x 2 "). A yellow /red (5YR/5/8) oxidised fabric with lithic inclusions <30mm. Slightly abraded.

Provisional date: Late 16th-17th century

Trench 17 Context 1705 1 fragment 110g
Single brick fragment of 50mm thickness (2"). A yellow /red (5YR/5/8) oxidised fabric with lithic inclusions <30mm. Sharp arrisses, grass impressions and burnt header.

Provisional date: Late 16th-17th century?

4. Discussion

The possible date range of the material recovered ranged between the 16th-19th century; the majority of the assemblage was of post-medieval date with a concentration of 17th-18th century material. The latter date range proposed for the general date of the site in production. The fabric of the material was of a similar nature suggesting that the brickmakers were using a similar, if not identical, clay source, hence the clay extraction pits.

None of the bricks examined were complete and many were of either of poor quality or were wasters, all were hand-made. Although the bulk of the brick assemblage (17 fragments) was of non-diagnostic material its weight of 1595gm represented less than 14% of the total brick assemblage; however, none of the material examined appeared to be earlier in date then the late 16th century. These earlier bricks may represent the reuse of material imported to the site for the specific purpose of incorporating them within the construction of the initial clamps.

Usually the more permanent kilns had perimeter walls with flues in, or underneath, brick floors whist the earlier clamps had no constructed flues and bricks had been stacked over firing channels. It is possible that although the exposed linear feature 1003/1004/1005 within Trench 1 contained substantial kiln debris, if it were to represent a firing flue/channel, one would have expected the immediate surrounding area to have substantial burning or baking from the heat. This may however, may have been removed by constant ploughing and the linear feature may have been substantially deeper.

The ceramic roof tiles identified from the assemblage were all pantile of c.18th century date, none of which appeared to have been used. It is highly unlikely that they were manufactured locally but imported from the more northerly Humberside kilns.

5. Recommendations

This material has the potential to further our understanding of the manufacture of ceramic building material within the post-medieval period around Doncaster and its environs. Following this analysis, a sample of the larger brick and tile fragments should be retained and subsequently deposited in the local museum. The remaining material should be selectively discarded.

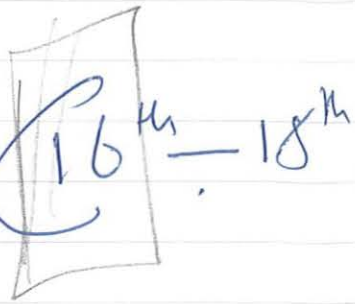
If no further work is to be undertaken the findings could be summarised in a short note in a regional journal. However, should future work be undertaken on this site it is recommended that this assessment and any future analysis be incorporated and published accordingly.

Trench	Context	Weight gms	Thickness mm	Tile Type	Comments
1	1014	450	15	Pantile	Two joining fragments.Appears unused.
1	1014	130	10	Pantile	Exceptionally thin
1	1009	220	15	Pantile	Appears unused.

Trench	Context	Non-Diagnostic	Weight gms	Width mm	Th mm	Lip	Sunken Margin	Mould ma	Burning	Straw	Comments
1	1009	☐	1125	110	56	☑	☐	☐	☑	☑	Header vitrified
1	1009	☐	750		60	☐	☐	☐	☐	☐	Frequent lens' of unfired clay
1	1009	☐	1250	120	73	☐	☐	☐	☐	☐	Fe. inclusions <23mm
1	1009	☐	1500	115	65	☑	☑	☐	☐	☐	Broken within the kiln
1	1013	☐	600	115		☐	☐	☐	☐	☐	Frequent patches of unfired clay
1	1013	☐	600	120	70	☑	☑	☐	☐	☐	Grass impressions within fabric
1	1014	☐	350	105	60	☐	☐	☐	☐	☑	Vitrified header. Large patch underfired clay 16mm
1	1014	☐	310		60	☑	☐	☐	☐	☐	Rough underside.Patches of un-fired clay
1	1014	☑	520			☐	☐	☐	☐	☐	Vitrified waster
1	1014	☑	200			☐	☐	☐	☐	☐	Vitrified mass.
16	1605	☑	150			☐	☐	☐	☐	☐	4 frags under-fired. ! Frag abraded
16	1605	☑	15			☐	☐	☐	☐	☐	1 overfired fragment brick?
16	1606	☑	160			☐	☐	☐	☐	☐	3 frags. Two show flat surfaces
16	1606	☑	100			☐	☐	☐	☐	☐	2 fragments under-fired
16	1609	☑	220			☐	☐	☐	☐	☐	2 frags under-fired each with one flat surface
16	1609	☑	230			☐	☐	☐	☐	☐	3 frags hard-fired. One frag shows heat fractures
17	1702	☐	500			☐	☐	☐	☐	☐	Vitrified waster clump
17	1702	☐	350		45	☐	☐	☑	☐	☐	Fe. Inclusions <3mm
17	1702	☐	490	105	50	☑	☐	☐	☐	☐	Drying sand adhesions
17	1702	☐	1300	130	65	☐	☐	☐	☐	☑	Possible thumb impression
17	1705	☐	625	110	50	☐	☑	☐	☐	☐	Header mis-formed.
17	1705	☐	500	110	50	☐	☐	☐	☐	☐	Slightly abraded
17	1705	☐	110		50	☐	☐	☐	☑	☑	Sharp arrisses

Gunnisley Quarry - NE Extension

6. Roman activity
P.Med brick production site (17-18m C).



- Tr 1 — Waste dump from nearby kiln.
- Tr 2 — X — modern + natural
- Tr 3 — " " "
- Tr 4 — " — modern petrol drains
- Tr 5 — X — " + natural
- Tr 6 — ditches + Ro. pottery — the only Ro p-ttery.
- Tr 7 — X — natural.
- Tr 8 — X — modern drains.
- Tr 9 — X — modern plough marks.
- Tr 10 — X — " " "
- Tr 11 — X — " " "
- Tr 12 — X — modern drains.
- Tr 13 — X — modern boundary
- Tr 14 — X — modern plough mark.
- Tr 15 — X — modern boundary
- Tr 16 — contingency to investigate further the brick works — again waste dump.
- Tr 17 — One feature — bricks

Tr's 1, 6, 16 & 17