

Nether Tabley to Winnington,  
Cheshire.

Construction of a New Gas Pipeline.

(NGR SJ 6480 7460 to 7090 7800)

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A  
Programme  
of  
Archaeological Investigations

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*Prepared  
for:*

**POWERGEN**  
COMBINED HEAT & POWER Ltd  
Westwood Business Park  
Westwood Way  
COVENTRY  
CV4 8LG



**Earthworks**  
Archaeological Services  
(Project No. E283)

December 1998

Source 4322

Event 3768

# POWERGEN

## Winnington CHP Project

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The  
Construction of a New Gas Pipeline  
from  
Nether Tabley to Winnington, Cheshire.  
(NGR SJ 6480 7460 to 7090 7800)

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A  
Report  
on the  
Archaeological Investigations  
July - August 1998

A  
Programme  
of  
Archaeological Investigations  
During  
Construction of a New Gas Pipeline  
from  
Nether Tabley to Winnington,  
Cheshire.  
(NGR SJ 6480 7460 to 7090 7800)

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Report Commissioned  
by

**POWERGEN**  
COMBINED HEAT & POWER Ltd  
Westwood Business Park  
Westwood Way  
COVENTRY  
CV4 8LG

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## NON-TECHNICAL SUMMARY

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*In September 1996 an Environmental Statement prepared for PowerGen CHP Ltd identified several sites of archaeological potential that may be adversely affected during the proposed construction of a new gas pipeline from Winnington to Nether Tabley, Cheshire. A particular concentration of sites was noted in the vicinity of Great Budworth village and this section of the pipeline, to the north and north-east of the village, was deemed to be an area of great archaeological sensitivity.*

*Accordingly, using the broad recommendations suggested in the Environmental Statement, a Brief for a controlled programme of archaeological evaluation prior to pipeline construction was drawn up by Cheshire County Council Environmental Planning Service. The staged evaluation was designed to gradually focus upon surviving archaeological remains and included: systematic fieldwalking, metal detection, geophysical survey and the rapid excavation of twelve trial trenches within the actual c.20m wide construction corridor.*

*In archaeological terms, most areas proved negative. However, in the vicinity of Aston Park, to the north-east of Great Budworth, part of a previously unknown Roman settlement was identified during the evaluation. In consideration of the imminent construction of the pipeline a rapid programme of excavation of the Roman features identified followed on immediately from the evaluation.*

*The remains clearly formed only a small part of the settlement area and included part of a probable enclosure ditch and a pit, most likely constituent parts of a Romano-British farmstead. The finds recovered included pottery fragments, several coins, lead weights/spindle-whorls and an enamelled brooch. The dating of the pottery is imprecise but suggests that the main period of activity on the site occurred during the second and third centuries AD.*

*Although the interpretation and dating of the remains has been necessarily tentative, their identification has undoubtedly provided a valuable contribution to the overall picture of Romano-British rural settlement in Cheshire. It has been possible to speculate where the focus of the settlement may lie and this information will assist in the future management of archaeology in this now important location.*

***A note on the front cover illustration:*** the cover shows a silver penny of Henry V, minted in York in 1403. This coin, originally in three pieces, formed one of the many interesting artefacts recovered during a controlled metal detection scan undertaken as part of the archaeological investigations (see also *Plate 17*).

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## ABBREVIATIONS

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AOD	Above Ordnance Datum
BAR	British Archaeological Reports
BB	Black Burnished
BMC	Coins of the Roman Empire in the British Museum
c.	<i>circa</i>
Drag.	Dragendorff ( <i>an archaeologist who identified and numbered the standard forms of samian pottery</i> )
NGR	National Grid Reference
NMR	National Monuments Record
OD	Ordnance Datum
OS	Ordnance Survey
pers. comm.	personal communication
RIC	The Roman Imperial Coinage
S/F	Small Find
SMR	Cheshire County Council Sites & Monuments Record
TBM	Temporary Bench Mark

## 1.1 The Project

1.1.1 An application, by **PowerGen CHP Ltd**, for the construction of a new Combined Heat & Power (CHP) plant at Winnington, near Northwich, Cheshire, has been approved. As part of the scheme, there is a requirement for the construction of a new gas pipeline between Winnington (SJ 6480 7460) and Nether Tabley (SJ 7090 7800), the site of an existing gas supply line.

1.1.2 In September 1996 an Environmental Statement was prepared for **PowerGen** by **Penspen Environmental**. The results of a desk-based assessment and field inspection, undertaken by **Wessex Archaeology** and designed to identify areas of archaeological sensitivity within and close to the pipeline corridor, were incorporated within the Statement under section 7, entitled *Archaeology and Heritage*. The Environmental Statement thus identified and categorised a number of sites of archaeological interest within the search corridor and assessed the impact of pipeline construction upon them. A series of recommendations for further, staged archaeological work were proposed and these recommendations formed the basis of a Brief for Archaeological Evaluation (see Appendix) prepared by Gail Falkingham, *Planning Archaeologist* with Cheshire County Council Environmental Planning Service.

1.1.3 **Earthworks Archaeology** was commissioned to undertake all stages of the archaeological sitework and negotiations, both prior to the commencement of, and during pipeline construction, were conducted through Mr I Johnson, of **PowerGen CHP Ltd**, Coventry. The various sitework elements of the project (see below) took place intermittently between 24 June and 2 August 1998.

## 1.2 Presentation

1.2.1 All stages of the archaeological investigations, subsequent to the preliminary desk-based assessment (see **Wessex Archaeology**, 1996), have been incorporated into this report; these stages include:

- *Metal detector survey (two phases) and rapid field walk-over prior to commencement of topsoil stripping*
- *Geophysical survey, based on the results of first phase of metal detection, field walk-over and aerial photographic evidence incorporated into the desk-based assessment*
- *A controlled programme of trial trenching and further metal detection survey, following completion of topsoil stripping within the pipeline construction corridor*
- *Excavation of features identified during evaluation*
- *EDM survey to accurately locate trenches excavated*
- *Conservation, analysis & drawing of finds, where appropriate, recovered during the project*
- *Completion of report & archive.*

1.2.2 The different stages of the work were designed to focus gradually upon areas of surviving archaeological remains; they have been separated into chapters with accompanying illustrations as



appropriate. There is also a short chapter on the artefacts recovered during the project and a final discussion section integrating the various types of evidence. Wherever possible, for the purposes of continuity and cross-referencing, the numbering system used during the desk-top survey (see below and *Table 1*) has been continued. The full pipeline route has been mapped out in detail in Section 7 of the *Environmental Statement*; only the main centres of settlement and the areas of archaeological potential directly affected by pipeline construction have been indicated within this report (see *Fig. 1*), but where appropriate, more detailed location plans with grid reference points have been included within the relevant chapters.

1.2.3 The site archive will be stored permanently with Cheshire Museums' Archaeological Store, Northwich. A summary of the archive has been included as an Appendix.

SJ 64/79

SJ 71/79

SJ 71/77

SJ 66/77

SJ 64/74

Comberbach

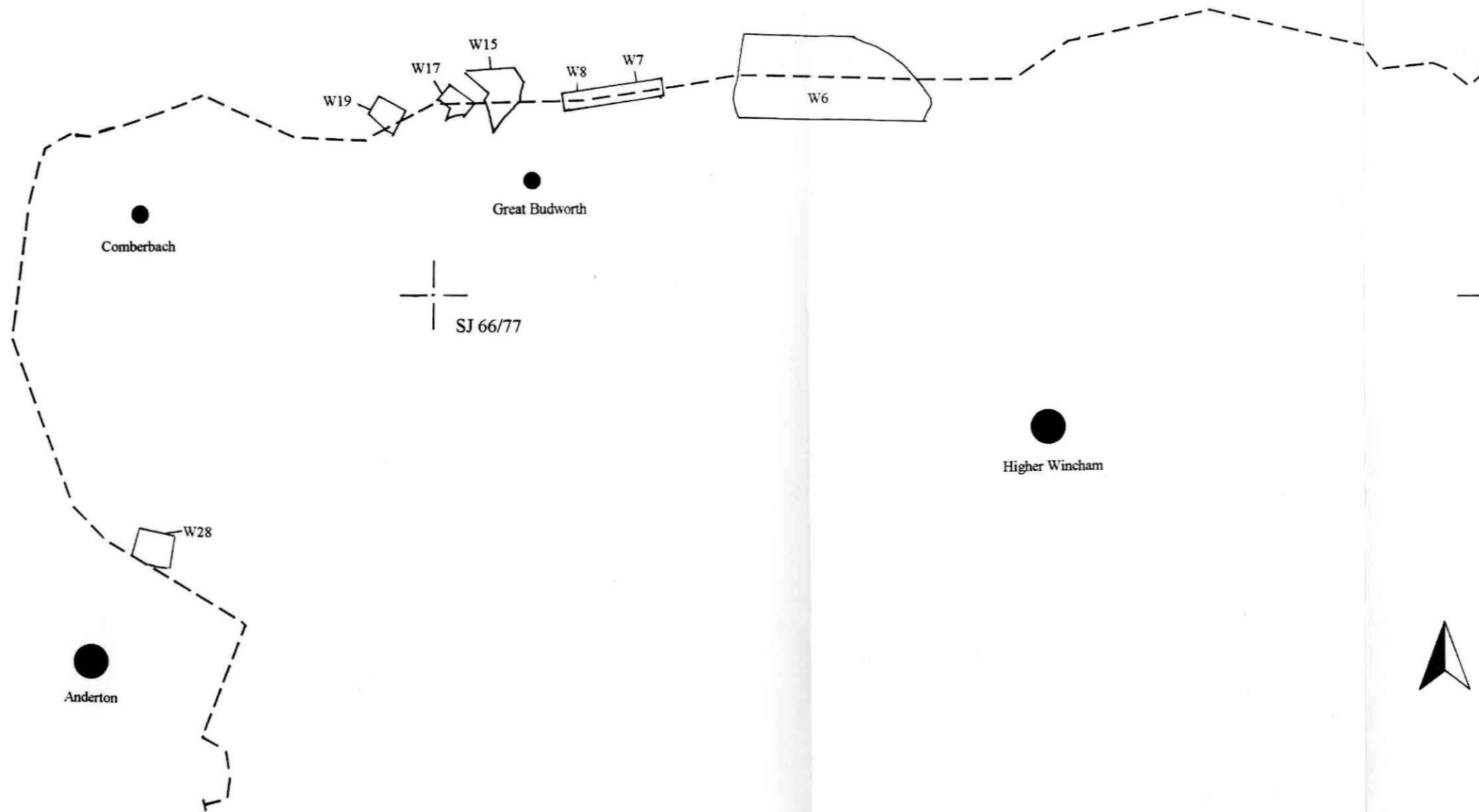
Great Budworth

Nether Tabley

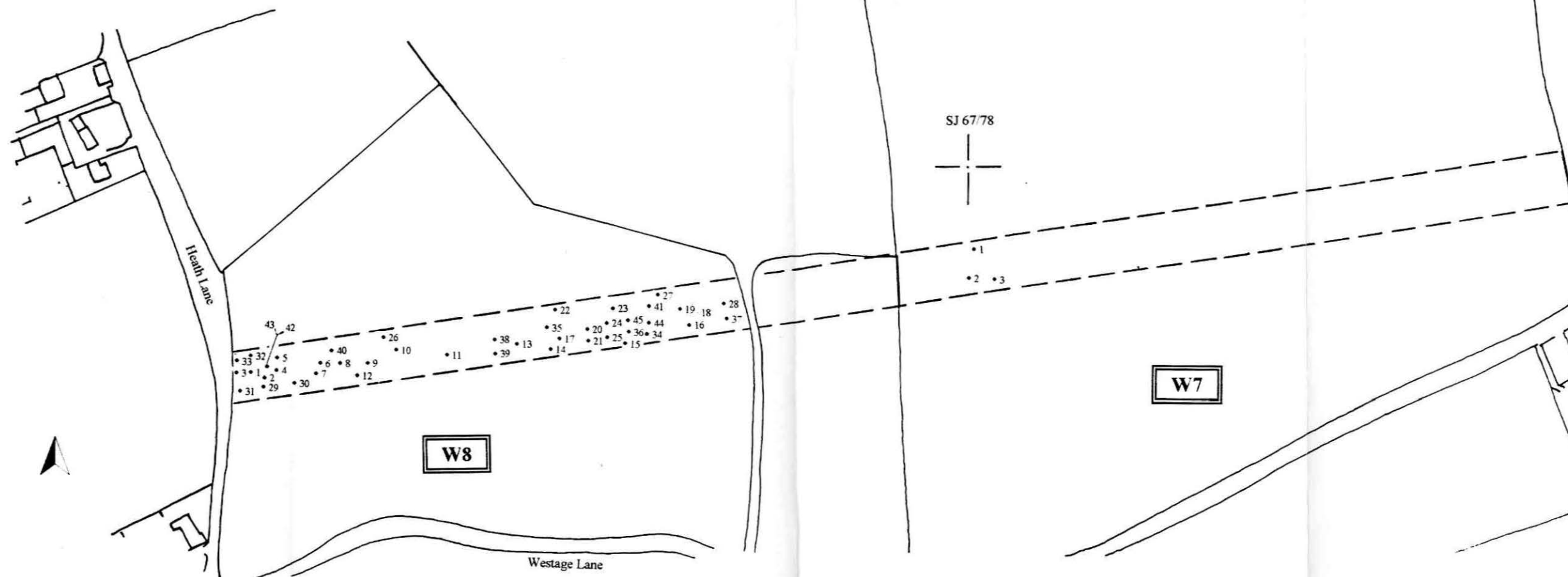
Higher Wincham

Anderton

Winnington



**Figure 1:** Schematised map of pipeline construction corridor, showing main centres of settlement and areas of archaeological potential (W6, W7 etc.) discussed in the text. Area W6 (sub-divided into W6/1, W6/2 & W6/3) forms the main area of archaeological interest. Scale 1: 25000.



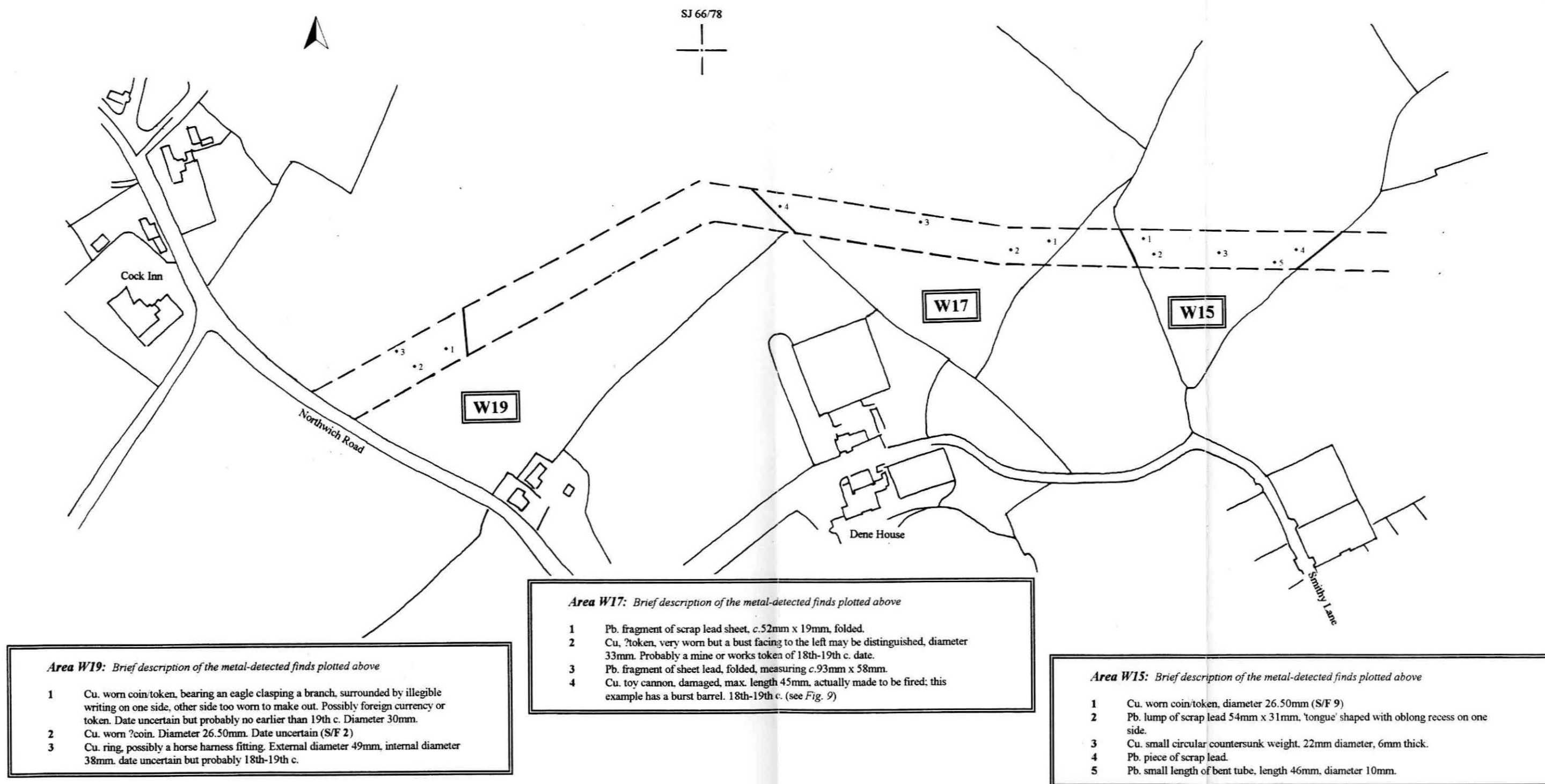
**Area W8:** Brief description of the metal-detected finds plotted above

- |    |  |    |  |
|----|--|----|--|
| 1  | Cu. part of spoon handle, decorated. 18th-19th c.  | 22 | Pb. flat disc 32mm in diameter, possibly a weight.   |
| 2  | Pb. bullet 24 bore/.579" calibre of Minié type. c.19th c.  | 23 | Pb. length of sheet lead measuring 50mm x 30mm.  |
| 3  | Cu. button, plain, flat with broken loop. Diameter 19mm. 18th-19th c.                              | 24 | Cu. large flat copper disc 60mm diameter.  |
| 4  | Cu. ?hat badge in a gothic cruciform style with holes for fastening. ? 18th-19th c.                | 25 | Cu. large nail, square sectioned, bent, flat circular head.  |
| 5  | Fe. tack or pin.   | 26 | Cu. coin, penny of George V dated 1921.  |
| 6  | Cu. loop with two strap ends attached. ?19th-20th c.   | 27 | Pb. bullet .417" calibre. of Minié type. c.19th c.   |
| 7  | Pb. toy, red Indian with some paint remaining. 19th-20th c.  | 28 | Pb. roughly spherical object with central hole and iron rivet, possibly a sword pommel.  |
| 8  | Fe./Cu. small wheel/pulley with iron centre.   | 29 | Cu. circular, slightly domed object with four small ?clasps on underside, function uncertain.  |
| 9  | Cu. horse fitting buckle. 18th-20th c.   | 30 | Pb. flat piece of waste lead.  |
| 10 | Cu. ring, diameter 22mm. Post-med - modern.  | 31 | Pewter button with broken Cu. loop, slightly domed, 14mm diameter, 17th-18th c.  |
| 11 | Pb. small fragment of sheet lead.  | 32 | Pewter disc c.18mm diameter, faintly stamped on one side with a "U" and possibly a "W", perhaps a token of some type. ?17th-18th c.    |
| 12 | Pb. 2 fragments of molten lead.  | 33 | Pb. musket ball 16 bore/.662" calibre. 17th-18th c.  |
| 13 | Cu. flat headed rivet.   | 34 | Cu. spur terminal, post-mediaeval.   |
| 14 | Pb. musket ball, 24-bore/.579" calibre. 17th-19th c.   | 35 | Pb. cloth/sack seal, circular, 19mm diameter, stamped on one side with illegible writing, and on the other with two symbols. c.18th c. |
| 15 | Cu. circular object, damaged, possibly a button, c.29mm diameter.                                  | 36 | Cu. belt or spur buckle with traces of gilding. 17th c.  |
| 16 | Pb. bullet .472" calibre of Minié type. c.19th c.  | 37 | Cu. horse furniture buckle. 18th-20th c.   |
| 17 | Cu. folded sheet of copper   | 38 | Cu. ring, distorted into oval shape, post-mediaeval to modern.   |
| 18 | Pb. rounded cone shaped object with hole through centre, possibly a small dagger pommel or weight. | 39 | Cu. ?hat badge, with coiled rope design, attachment fitting on reverse. Date uncertain.  |
| 19 | Cu. circular end of a bolt like object with hole passing horizontally through, function uncertain. | 40 | Pb. lead disc with hole punched off-centre.  |
| 20 | Cu. solid, circular sectioned rod tapering to a point, function uncertain.                         | 41 | Cu. horse furniture buckle, c.18th-20th c.   |
| 21 | Cu. circular open object with '77' stamped on upper surface flange, function uncertain.            | 42 | Cu. part of horse furniture buckle, c.18th-20th c.   |
|    |  | 43 | Cu. clog/shoe clasp. 18th-19th c.  |
|    |  | 44 | Cu. button with loop, 28mm diameter. 18th-19th c.  |
|    |  | 45 | Cu. copper alloy button with tinned facing, diameter 15mm. 18th-19th c.  |

**Area W7:** Brief description of the metal-detected finds plotted above

- |   |   |
|---|---|
| 1 | Pb. bullet .455" calibre of Minié type. 19th c.   |
| 2 | Pb. scrap lump c.45mm x 35mm x 23mm, roughly wedge shaped.  |
| 3 | Cu. fragment of bronze chafing dish, rim with one knob, incised lines on outer surface below rim flange. Post-mediaeval c.16th-18th c.; 17th c. most likely. (see Fig. 8) |

**Figure 3:** Areas W7 & W8: summary catalogues and distribution map showing finds recovered during the preliminary metal detection scan. The numbers • 1, • 2 etc. refer to catalogue numbers. Scale 1: 2500.



**Figure 4:** Areas W15, W17 & W19: summary catalogues and distribution map showing finds recovered during the preliminary metal detection scan. The numbers • 1, • 2 etc. refer to catalogue numbers. Scale 1: 2500.

## 2.1 The Pipeline: A Summary of the Desk-Based Assessment

2.1.1 The pipeline will run for a distance of c.11km (see *Fig. 1* for schematised view of the pipeline corridor and the full desk-based report for detailed maps) and will connect a new Combined Heat & Power Plant at Winnington (SJ 6480 7460) with an existing gas supply pipeline at Nether Tabley (SJ 7090 7800). A preliminary desk-based assessment and field inspection (where accessible) of a c.400m wide corridor, centring on the proposed pipeline, was undertaken by Wessex Archaeology in 1996. This initial survey included:

- *Consultation of the National Monuments Record (England)*
- *Consultation of Cheshire County Sites & Monuments Record*
- *A search of surviving map & documentary evidence, both primary & secondary, in the following archives:*
  - *Cheshire Records Office*
  - *Chester Central Library*
  - *NMR Reference Library*
  - *National Library of Aerial Photography*
  - *Northwich Local Studies Library*
  - *Southampton University Library*
  - *Wessex Archaeology Library.*

2.1.2 The study concluded that thirty six sites of archaeological interest lay within the 400m wide corridor centred on the pipeline. The data gathered from all the various sources are presented in gazetteer form (see Wessex Archaeology, 1996, Table 7.5) with each site given a unique site number prefixed with a 'W' (denoting Winnington); other information includes a grid reference, a possible date, summary details/grading of importance, and the likely vulnerability of each site to ground disturbance during pipeline construction. As an aid to intelligibility, within this report the numbering system used during the desk-top survey has been continued where possible.

2.1.3 The recommendations for field evaluation prior to construction, included within the desk-based assessment (Wessex Archaeology, 7-18 to 7-20), identified areas of particular sensitivity along the working corridor; accordingly, these areas formed the basis for the Cheshire County Council brief for further archaeological assessment (see Appendix). A particular concentration of sites (sites W6, W8, W15, W17, W18 & W19) was noted along a c.3km stretch of the pipeline route immediately to the north and north-east of Great Budworth village; a further site (W28) lay to the north of Anderton. The details of these areas, again as an aid to understanding and cross-reference, have been extracted from Table 7.5 in the Environmental Statement and are summarised below (see *Table 1*):

2.1.4 The drift geology within the pipeline is variable but, to the north and north-east of Great Budworth village, the presence of an area of sand and gravel amongst the dominant boulder clay proved particularly significant.

Site no.	NGR (SJ)	Period	Type(s)	Description/References	Site Grade	Impact Severity
W6	677 780	Post-med	Extant landscape feature; documentary; place-name record	Aston Park: Aston by Budworth. Post-mediaeval parkland associated with Aston Park House. The parkland is delimited on the 1846 Tithe Map. The <i>Black</i> field-name reference may be indicative of peat deposits or buried archaeological remains (probably the former). Aerial photographs indicate at least one linear cropmark sub-dividing the large easternmost field ( <i>Sunny Park</i> ), which is not identified on the 1846 Tithe Map.	Regional importance	Limited
W7	6710 7800	Med/post-med	Cropmark site	Great Westage: Aston-by-Budworth. Aerial photographs indicate a number of sub-circular features, probably marl pits, in the western part of this field. A north to south linear cropmark is also present. These features are not indicated on the 1846 Tithe Map or later OS maps and are therefore probably pre mid-nineteenth century.	Local/lesser importance	Limited
W8	6675 7800	Med/post-med	Cropmark site; documentary; place-name record	Land to the N. of Westage Lane, Great Budworth. The 1841 Tithe Map indicates a group of at least 20 narrow elongated fields, reminiscent of furlongs within a mediaeval strip or open field system. The fields are arranged within an approximately rectangular parcel of land measuring c.350m x 350m. and include a small triangular arrangement of four fields within the south-west corner that contain the element <i>farthing</i> within their field names. This may refer to a farthinghold, which is 1/16th of a <i>carucate</i> (the amount of land that can be ploughed by one plough and eight oxen in one year). This field pattern is imprecisely preserved on some aerial photographs.	Local/lesser importance	Significant
W15	6620 7810	Undated	Cropmark site; documentary; place-name record	<i>Higher Black Hey</i> , Gt Budworth. Place name evidence from the 1841 Tithe Map (also including neighbouring <i>Lower Black Hey</i> (east & west parts) and <i>Nearer Blake Hey</i> ) may indicate the presence of peat deposits or archaeological remains. Aerial photographs indicate a ditched trackway crossing <i>Higher Black Hey</i> from north-west to south-east, possibly representing the former line of a track from Budworth Heath Lane towards New Westage Farm.	Unconfirmed potential	Uncertain
W17	6610 7785	Med/post-med	Cropmark site; documentary; place-name record	<i>Mill Field</i> , Gt Budworth. Place-name evidence from the 1841 Tithe Map (also including neighbouring <i>High Mill Field</i> & <i>Middle Mill Field</i> ) suggests the former presence of a mill within or adjacent to the fields. Aerial photographs do not identify any structural remains, but do indicate ridge & furrow cultivation of unknown date within Higher Mill Field.	Unconfirmed potential	Limited
W19	6575 7785	Med post-med	Cropmark site; documentary; place-name record	<i>Smithy Field</i> , Gt Budworth. Place name evidence from the 1841 Tithe Map suggests a former Smithy within or adjacent to these fields. Aerial photographs do not identify any structural remains, but do not indicate ridge & furrow cultivation within the field.	Unconfirmed potential	Limited
W28	6465 7580	Undated ?pre Med	Cropmark site; documentary; place-name record	S. of Cogshall Lane, Anderton. Aerial photographs indicate long linear cropmarks which do not correlate with the 1845 Tithe Map. The Tithe Map identified the two fields in this area as <i>Parks &amp; Bretta</i> with <i>Big Bretta &amp; Inclosure</i> . The occurrence of the field name <i>Bretta</i> (or <i>Breay</i> ) within the Danelaw is possibly derived from Old Norse <i>brot</i> , indicating a fragment or small piece of land. This may therefore indicate a pre-mediaeval field system.	Unconfirmed potential	Limited

Table 1: Extracts from Table 7.5 *Gazetteer of Archaeological Sites*, prepared by Wessex Archaeology for inclusion in the Environmental Statement (7-22 to 7-27). These sites, because of their proximity to the pipeline construction corridor, required more detailed evaluation prior to the commencement of ground disturbance.



### **3.1 Introduction**

**3.1.1** Following the fencing of the construction corridor, and the flailing and cutting of crops where necessary, a rapid field walk-over and metal detection scan of the areas of archaeological potential were undertaken simultaneously prior to the commencement of topsoil stripping. The metal detection was enthusiastically carried out by members of the **Crewe and Nantwich Metal Detector Society** under the control of **Earthworks Archaeology**.



*Plate 1: Controlled metal detection scan by members of the Crewe & Nantwich Metal Detection Society in Area W6 prior to geophysical survey and trial trenching.*

**3.1.2** During the project two phases of metal detector survey were carried out. Following the initial scan ahead of topsoil stripping, and the resultant identification of a Roman coin and other material of possible Roman origin from Areas W6/1 & W6/2, further metal detection, confined to this location, was undertaken after completion of the detailed geophysical surveys.

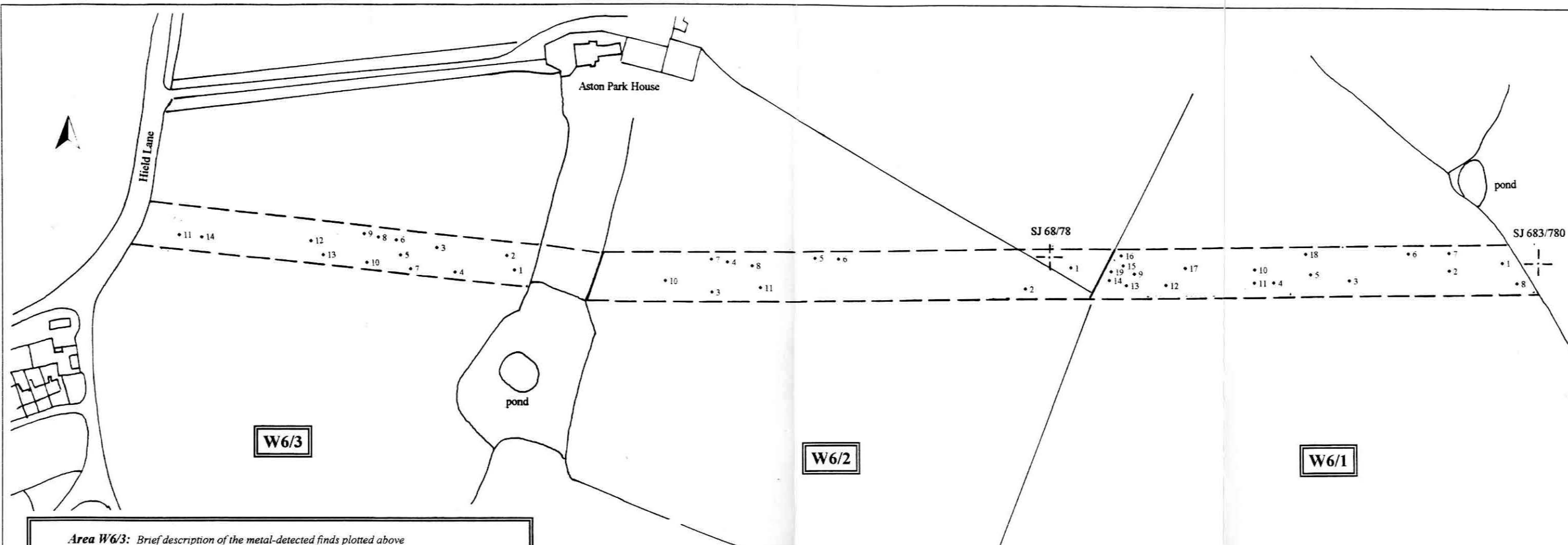
**3.1.3** No new features of potential archaeological interest were revealed during the field walk-over, although the line of circular depressions noted on aerial photographs in area W15 were considered to be of natural origin, and this view was subsequently confirmed during the trial trenching.

### **3.2 Method: Metal Detector Survey**

**3.2.1** Prior to topsoil stripping all areas of archaeological potential were rapidly, but systematically, scanned by metal detectorists (see *Plate 1*) from the **Crewe and Nantwich Metal Detector Society**.

**3.2.2** During the survey the findspots were plotted onto base maps at scale 1: 1000 and subsequently transferred to maps at scale 1: 2500 for presentation purposes (see *Figs. 2 to 5*). All finds were examined and summarily catalogued; the catalogues have been placed next to the distribution maps (see *Figs. 2 to 5*) to facilitate the identification of findspots. In consultation with **Cheshire County Council Environmental Planning Service** the distribution of the finds was examined, together with the evidence gathered during the desk-top survey, in order to establish the most appropriate locations for the detailed geophysical surveys.

**3.2.3** Immediately prior to the trial excavation, and following the geophysical survey and machine stripping of the topsoil, further rapid metal detection was undertaken in Area W6. The locations of the



**Area W6/3:** Brief description of the metal-detected finds plotted above

- 1 Pb. possible lead weight, circular & tapering, length c.25mm, diameter 25mm (max.) tapering to 11mm.
- 2 Pb. spindle whorl weight, circular, max. diameter 24mm, diameter of central hole 8mm, thickness c.8mm. Uncertain date.
- 3 Pb. musket ball, 28 bore/.550" calibre. c.17th-19th c.
- 4 Cu. alloy coin/token, very worn, diameter 28mm.
- 5 Pb. musket ball, 28 bore/.550" calibre. c.17th-19th c.
- 6 Cu. alloy button with loop, diameter 20mm, c.18th-19th c.
- 7 Pb. fragment of sheet lead with single pierced hole, max. length 54mm, max. width 37mm.
- 8 Cu. alloy finial, possibly off a piece of furniture, length 59mm, max. width 20mm. (see Fig. 7)
- 9 Ag. coin, William III shilling, very worn. B stamp below bust indicates Bristol mint (1696-1698); on obverse 'GVLELMVS III', legible features cannot be made out and reverse is completely blank.
- 10 Cu. alloy nail, flat circular head with 9mm diameter, square sectioned, bent, length 51mm. Uncertain date.
- 11 Pb. tack, flat circular head c.25mm diameter, round section, overall length 38mm. Uncertain date.
- 12 Pb. musket ball, 28 bore/.550" calibre. c.17th-19th c.
- 13 Pb. small block of lead 53mm x 23mm x 14mm (max.).
- 14 Cu. alloy gilt button, stamped with crown and words 'Orange Gilt' on reverse, 30mm diameter c.19th-20th c.

**Area W6/3:** the metal-detected finds from this area recovered during the second phase and not plotted

- Silver penny of King John (S/F 6 & Plate 18)

**Area W6/2:** Brief description of the metal-detected finds plotted above

- 1 Pb. musket ball, 20 bore/.615" calibre. c.17th-19th c.
- 2 Pb. bent lead tack, flat round head c.14mm in diameter, length overall c.55mm.
- 3 Cu. alloy fitting, roughly circular & 25mm in diameter, remains of attachment on one side. Function & date uncertain.
- 4 Pb. small fragment of flat waste lead.
- 5 Pb. sheet lead folded c.95mm x 75mm (max.).
- 6 Cu. alloy nail, flat circular head c.8mm in diameter, square section, overall length 52mm. Date uncertain.
- 7 Pb. 'tear drop' shaped lump of waste lead, Max. length c.41mm.
- 8 Ag. Roman *denarius* of Hadrian. c.AD120 (S/F 10 & Plate 16)
- 9 Cu. alloy circular object, serrated around the edge; 8 square piercings around edge and central hole. Diameter 36mm, function uncertain. c.19th-20th c.
- 10 Pb. small lead bullet, .41 calibre, c.19th c.
- 11 Pb. flattened lead tube c.52mm length, 6mm thick.

**Area W6/2:** the metal-detected finds from this area recovered during the second phase and not plotted

- Three copper alloy nails. All post-mediaeval.
- Five circular lead weights (?spindle whorls), all with central perforations
- Romano-British disc brooch (S/F 1 & Plate 14)
- Half of a Roman *sestertius* (S/F 3 & Plate 15)
- Coin of George II (S/F 5)
- Silver penny in three pieces (S/F 8 & Plate 17)

**Area W6/1:** Brief description of the metal-detected finds plotted above

- 1 Pb. circular & flat headed tack. Head diameter c.17mm, length of circular sectioned point c.24mm. Uncertain date/function.
- 2 Cu. ?barrel tap key to fit square sectioned tap fitting. Max. width 52mm, max. length 34mm. c.19th c.
- 3 Pb. washer/weight/spindle whorl. External diameter 20mm; diameter of internal hole 7mm. Date uncertain.
- 4 Pb. roughly circular scrap lead, possibly a bloom, diameter c.67mm.
- 5 Pb. musket shot 24-bore/.579" calibre. c.17th-19th c.
- 6 Cu. damaged dagger/knife chape. Width max. 18mm, length folded 24mm. Date uncertain but possibly late mediaeval to post-mediaeval.
- 7 Pb. piece of scrap, length 37mm, width 11mm.
- 8 Pb. folded circular object with central hole, max. diameter 31mm, central hole diameter c.9mm, function & date uncertain.
- 9 Pb. small circular coin weight stamped with a crown between initials V & R (presumably Queen Victoria), no. 32 stamped below crown, max. diameter 16mm, thickness 5mm. Victorian. (see Fig. 6)
- 10 Cu. domed fitting with Fe. stud on reverse, diameter 29mm. Uncertain function/date.
- 11 Pb. folded scrap lead, max. diameter 25mm x length 31mm.
- 12 Cu. ring, probably from a horse harness fittings. External diameter 27mm, internal diameter 20mm. c.18th-19th c.
- 13 Pb. 2 x small fragments of scrap lead.
- 14 Ni. coated steel spoon, broken midway along handle, oval bowl 65mm x 43mm max., stamped Sheffield on handle reverse. 20th c.
- 15 Cu. alloy button, diameter 21mm, stamped on reverse with crown and the name Turner & Dickinson. 20th c.
- 16 Pb. small squarish lump of waste lead measuring 26mm x 21mm x 12mm.
- 17 Pb. small wedge-shaped piece of lead measuring 22mm x 20mm x 11mm (max.).
- 18 Pb. 2 x fragments of waste lead.
- 19 Cu. alloy, damaged spoon (end of handle missing), oval bowl c.65mm x 40mm max. 20th c.

**Area W6/1:** the metal-detected finds from this area recovered during the second phase and not plotted

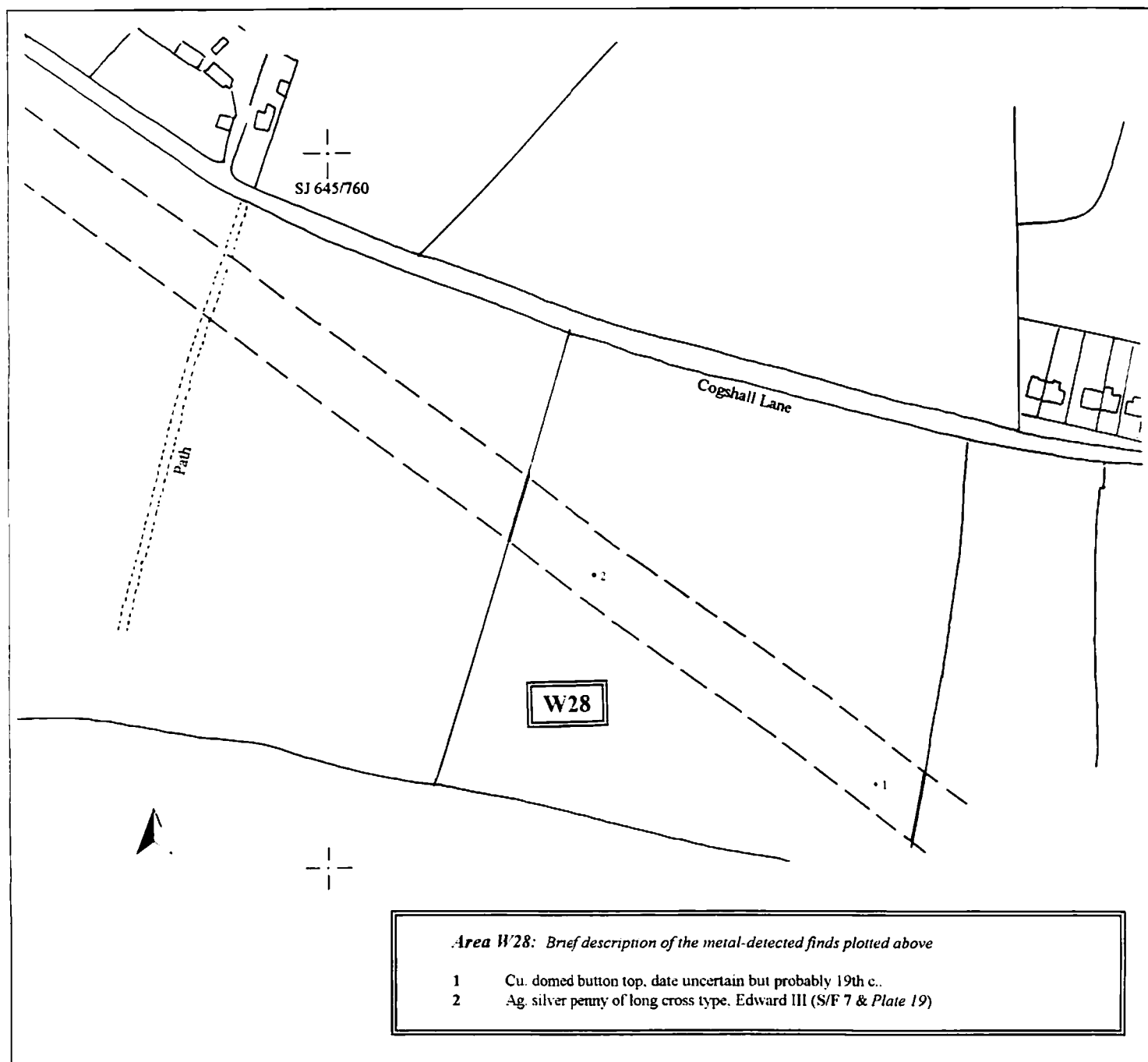
- worn coin, probably Roman (S/F 4).

**Figure 2:** Areas W6/1, W6/2 & W6/3: summary catalogues and distribution map showing finds recovered during the preliminary metal detection scan. The numbers • 1, • 2 etc. refer to catalogue numbers. Scale 1: 2500.



finds recovered during this second phase of metal detection were not plotted accurately and their findspots are thus not included on *Fig. 2*: they are simply identified by the field sub-division (ie W6/1 etc.), within Area W6 in which they were found and descriptions have been appended to the catalogues on the distribution map (see *Fig. 2*).

**3.2.4** Metal detected finds of particular interest, holding intrinsic and archaeological merit, were allocated small finds numbers (S/F): these objects were conserved professionally, photographed and commented upon (see below) by D Robinson BA, MPhil. of the Grosvenor Museum, Chester.



**Figure 5:** Area 28, summary catalogue and distribution map showing finds recovered during the preliminary metal detection scan. The numbers • 1, • 2 etc. refer to catalogue numbers. Scale 1: 2500.

### 3.3 Observations During Field Walk-over & Results of the Metal Detection Survey

by L J Dodd BSc.

3.3.1 The metal-detected finds have been plotted on *Figures 2 to 5*; a catalogue, consisting of a summary description of each artefact, accompanies each distribution map. Although many of the finds are of intrinsic value no particularly significant concentrations were noted. The more unusual and interesting finds - though not necessarily significant in archaeological terms - have been illustrated within this chapter. Where appropriate, the artefacts considered worthy of conserving and more detailed analysis, and with the potential to yield information supplementary to the results of the fieldwork, have been allocated small finds numbers (S/F) and are included within Chapter 7.

- *Area W6/1 (see Fig. 2)*

Produced nineteen metal finds, none of which can be confidently dated any earlier than the post-mediaeval period. Small concentration of material near to west access to field - but no significant finds.

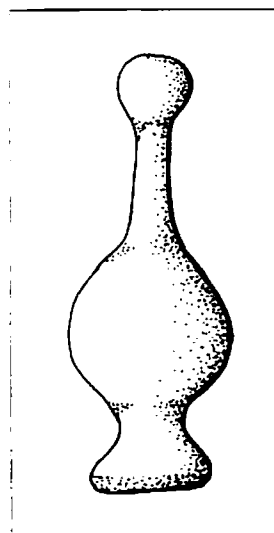
The finds recovered from Area W6/1 during the second phase of detecting, after the topsoil strip and immediately before trial trenching, have been appended to the catalogue on *Fig. 2*.

- *Area W6/2 (see Fig. 2)*

Produced eleven metal finds, none of which can be confidently dated any earlier than the post-mediaeval period, with the exception of a silver *denarius* of Hadrian (S/F 10, datable to c.AD 120; see *Plate 16*) in very good condition. No particular concentrations of finds, but most came from the western half of the field corridor.

- *Area W6/3 (see Fig. 2)*

Produced fourteen metal finds, none of which can be confidently dated any earlier than the post-mediaeval period. A very worn shilling of William III was found, stamped with the letter 'B' indicating the Bristol mint c.1696-1698



**Figure 7:** Copper alloy finial, possibly off a piece of furniture, from Area W6/3; catalogue no. 8. Scale 1: 1. (Drawn by L J Dodd).

No particular concentrations of finds noted. Large depression in north-east corner of field noted (towards SW corner of Aston Park House) south of drive.

- *Area W7 (see Fig. 3)*

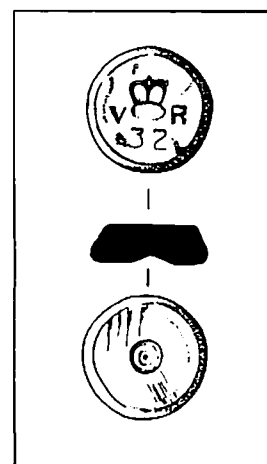
Produced only three metal finds; however, one was a fragment of a bronze chafing dish (*Fig. 8*) of c.16th-18th c. date and would have been quite a prestigious item in its day.

Four large depressions noted within the field at locations of circular features on aerial photographs; probably natural depressions.

- *Area W8 (see Fig. 3)*

Produced forty five metal finds, none of which can be confidently dated any earlier than the post-mediaeval period. Concentration at west end near field gate.

Ridge observed crossing centre of field; patch of sparse vegetation noted SW corner of field.



**Figure 6:** Lead coin weight from Area W6/1; catalogue no. 9. Scale 1: 1. (Drawn by L J Dodd).

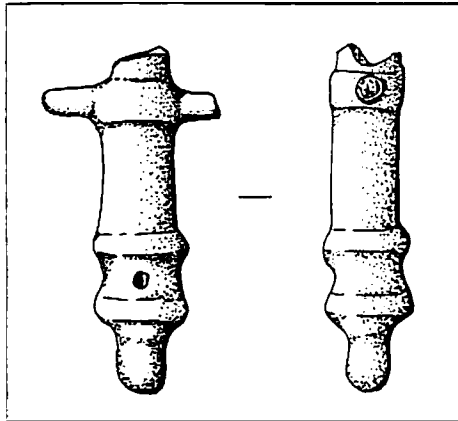
- *Area W15 (see Fig. 4)*

Produced only five metal finds; none of which can be confidently dated any earlier than the post-mediaeval period.

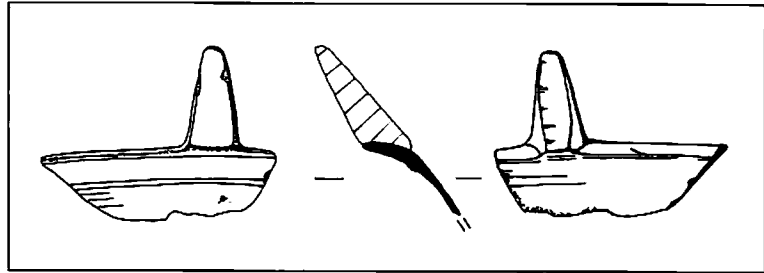
Depression noted at east end of corridor/field.

- *Area W17 (see Fig. 4)*

Produced only four metal finds, including a Cu. alloy firing toy cannon (Fig. 9) datable to the 18th or 19th century; the cannon had evidently lost the end of its barrel when last fired.



*Figure 9: Part of copper toy cannon from Area W17; catalogue no. 4. Scale 1: 1. (Drawn by L J Dodd).*



*Figure 8: Fragment of bronze chafing dish, probably seventeenth century. Area W7; catalogue no. 3. Scale 1: 2. (Drawn by L J Dodd).*

- *Area W19 (see Fig. 4)*

Produced only three metal finds; none any earlier than the 18th or 19th century.

- *Area W28 (see Fig. 5)*

Produced only two metal finds; one of which was a worn silver penny, probably of Edward III (S/F 7, Plate 19)

## 4.1 Introduction

4.1.1 The pooled results of the first phase of the metal detection scan and fieldwalking exercise, together with the conclusions of the desk-top survey, assisted in the decision regarding the locations of the geophysical surveys. Three stages of survey were undertaken by *GeoQuest Associates*, Durham:

- *Rapid geomagnetic scanning of W6, W7, W8, W15, W17, W19 and W28 in order to assess the relative frequency of anomalies within each area*
- *detailed geomagnetic and resistivity surveys of a 60m x 20m test area to determine which of the two techniques would be more appropriate for mapping geophysical anomalies in this instance*
- *detailed survey of up to 1ha using the preferred technique established above.*



Plate 2: *GeoQuest Associates* undertaking the geophysical survey.

4.1.2 The results of the Geophysical surveys have been summarised below and on *Fig. 10*; a full copy of the *GeoQuest* report may be consulted at the Cheshire County Council SMR.

## 4.2 Land Use, Topography and Geology

4.2.1 Each study area comprised either cereal crop, pasture or hay meadow. In each case the 20m wide construction corridor had been cleared in preparation for pipeline construction. All the areas occupied either level or gently undulating ground between 50m & 60m AOD.

4.2.2 The solid geology of the area comprises Triassic Mudstones. There are no rock outcrops in any of the areas examined.

## 4.3 The Geophysical Surveys

### 4.3.1 Field Methods

The rapid geomagnetic scanning of each area of potential (ie W6, W7, W8, W15, W17, W19 & W28) was carried out using a Geoscan FM36 fluxgate gradiometer in analogue display mode. The pipeline corridor was traversed in a zig-zag fashion while the frequency of anomalies was noted for each field.

The western end of area W6 (W6/3) was selected as a test site for evaluating the geomagnetic and resistivity techniques (see *Fig. 10.2*).

Measurements of soil electrical resistivity were recorded using a Geoscan RM15 resistance meter.

#### 4.3.2 Data Processing

The *GeoQuest InSite®* Windows software was used to process the geophysical data from the detailed surveys and to produce grey-scale images in each area at a scale of 1: 1000.

#### 4.4 Results of Rapid Scanning

4.4.1 The occurrence of geomagnetic anomalies detected during the scanning of each field was graded as either high, moderate or low. The results were as follows:

W6	high	W17	moderate/high
W7	low	W19	moderate/high
W8	high	W28	high
W15	low		

4.4.2 It was therefore decided that any further survey would be carried out in areas W6, W8 and W28. Accordingly, five areas measuring 100m x 20m were set out: three in W6 (*Figs. 10.1 & 10.2*), the location of the Roman coin findspot (one survey transect in each of the three fields W6/1, W6/2 & W6/3, that sub-divided W6) and one each in W8 (*Fig. 10.3*) and W28 (*Fig. 10.4*).

#### 4.5 Results of Test Area (*Figure 10.2*)

4.5.1 The resistivity data covers a wide range of values, making archaeological features difficult to discern, and probably reflects differential drainage and the aerated nature of the topsoil in this field. The geomagnetic data on the other hand is relatively smooth with the exception of a chain of strong positive magnetic anomalies, possibly indicating the remains of a former boundary. Since anomalies of potential archaeological interest would be more readily identified in the geomagnetic data it was decided to continue to use this technique for the remaining surveys.

#### 4.6 Discussion of Survey Results

##### 4.6.1 Area W6 (*Figures 10.1 & 10.2*)

- *W6/1:* Several intense dipolar magnetic anomalies were detected in the western half of this area. These anomalies almost certainly reflect the presence of ferrous debris in the soil. Some short linear anomalies were tentatively identified in this area, though they are probably associated with ploughing. No geophysical anomalies of archaeological interest were identified in this study area. In particular, no evidence was found in support of the cropmark feature seen in aerial photographs.
- *W6/2:* Many small magnetic dipoles were also detected in W6/2, again indicating the presence of ferrous litter in the soil. Three positive magnetic anomalies (see *Fig. 10.1*) may reflect relatively high magnetic susceptibility soil-filled structures such as pits, although each is rather diffuse. The possible remains of a linear feature, such as a field drain or gully, were suggested by a chain of small, positive magnetic anomalies near the centre of this area. A possible negative magnetic anomaly was also identified here, which may reflect an increase in stone concentration.
- *W6/3:* Within the test area (see *Fig. 10.2*) the geomagnetic data indicated a chain of strong positive magnetic anomalies, possibly indicating the possible remains of a former boundary.

A relatively intense positive magnetic anomaly was detected in the north-western corner of W6/3; this probably represents a soil-filled pit. Several small, dipolar magnetic anomalies were also detected; they almost certainly reflected the presence of near-surface ferrous litter.

#### 4.6.2 *Area W8 (Figure 10.3)*

The frequency of quite intense and irregular magnetic anomalies in this area suggested that the field may have been considerably disturbed at some time. A strong positive magnetic lineation crossed the central part of the area; this almost certainly represented a ditch feature, perhaps a former land boundary.

#### 4.6.3 *Area W28 (Figure 10.4)*

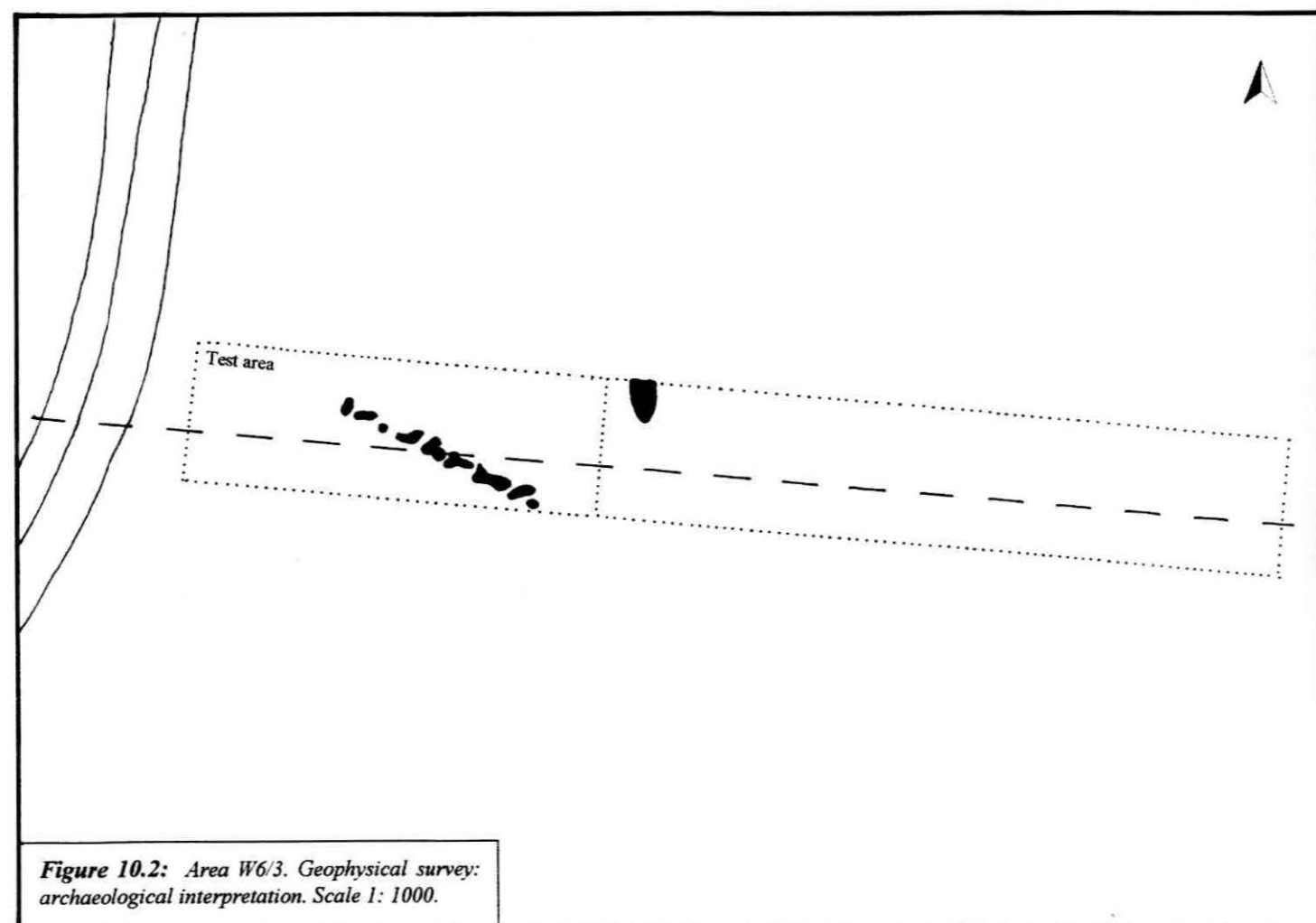
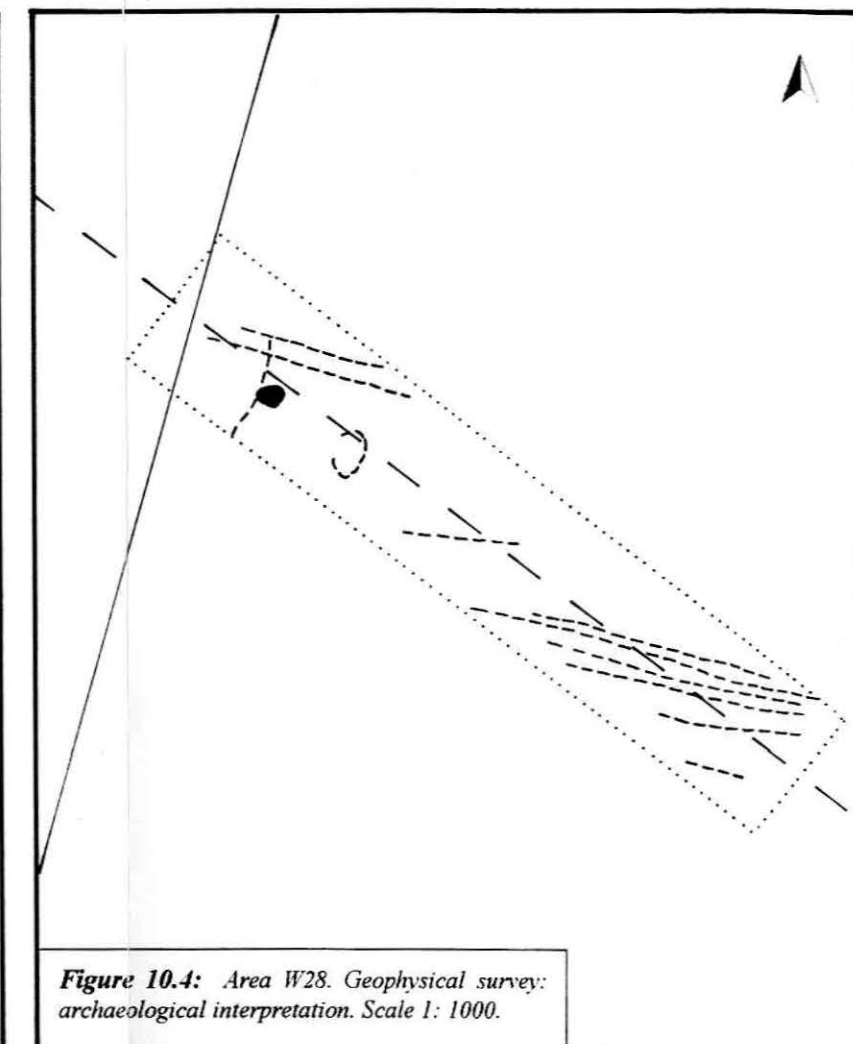
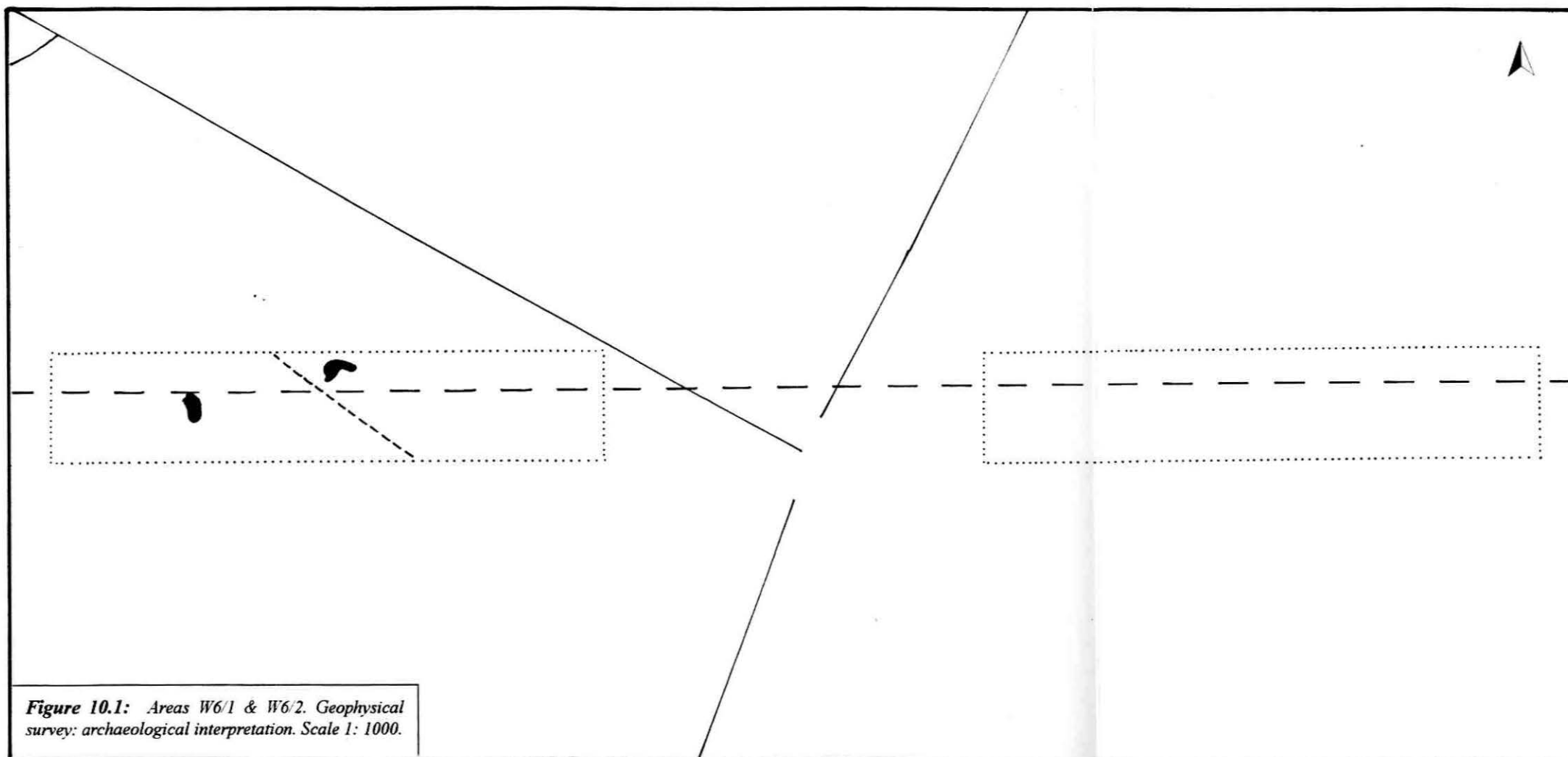
This area was characterised by a pattern of east-west aligned, positive and magnetic lineations which almost certainly reflect a magnetic susceptibility texture created by ploughing in this direction. A possible pit and sub-circular ditch feature were tentatively identified (see *Fig. 10.4*). A concentration of intense dipolar magnetic anomalies near the northern end of this transect almost certainly indicates ferrous litter within the soil.

### 4.7 **Summary & Conclusions**

4.7.1 The staged programme of geophysical survey detected several features of possible archaeological origin that required further investigation. A ditch feature - perhaps a former field boundary - was identified in W8. In areas W6/3, W6/2 and W28 anomalies were identified as pit features of unknown function or date. Several other anomalies were identified as being of possible archaeological interest and the subsequent programme of trial trenching was based, to a large degree, upon the results of the geophysical surveys.

### 4.8 ***GeoQuest Credits***

Survey:	D N Hale, B Still
Graphics:	M J Noel
Report:	D N Hale

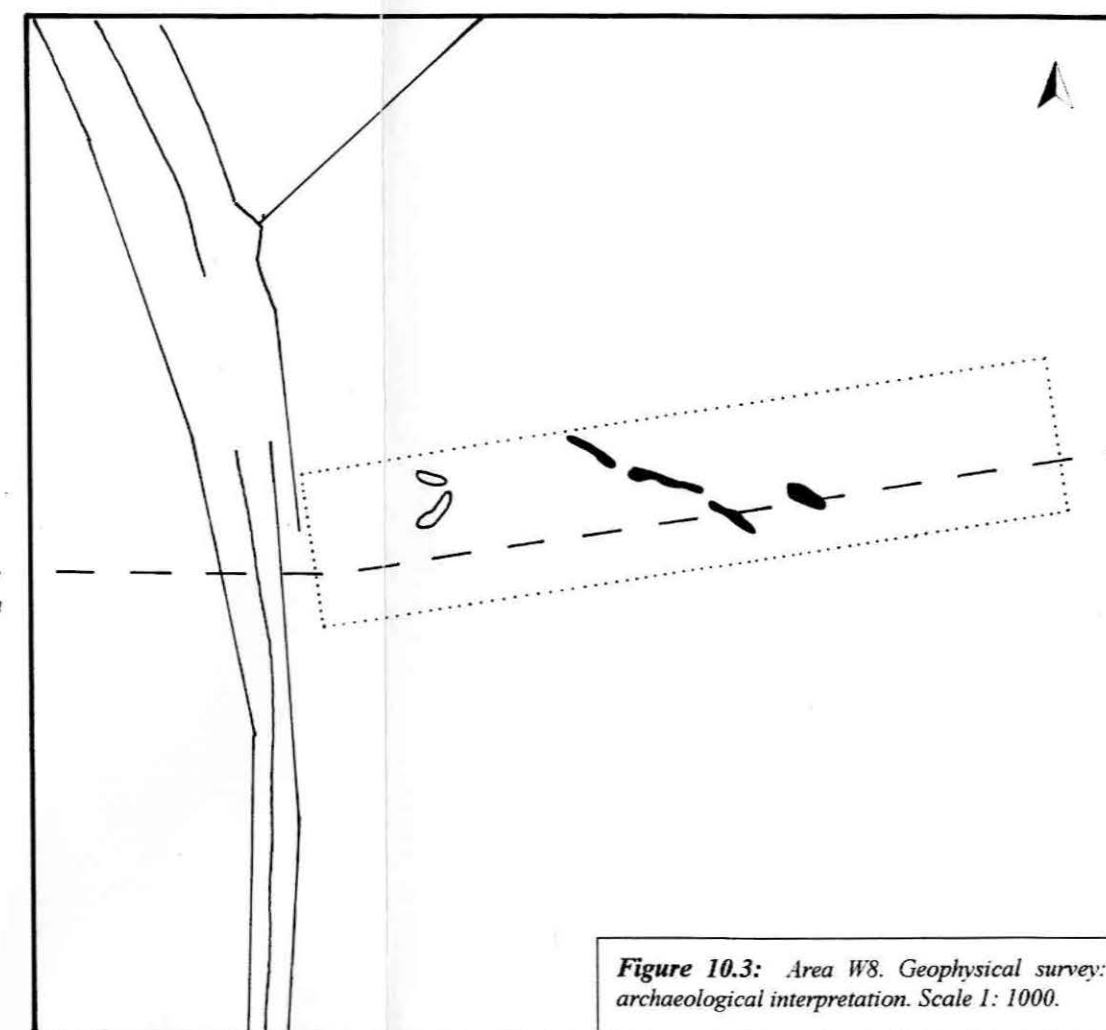


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**Key**

- |  |                 |
|--|-----------------|
|  | Pipeline        |
|  | Linear features |
|  | Pits / ditches  |
|  | Stony areas     |

**Figure 10:** Geophysical survey: archaeological interpretation (taken from GeoQuest report Fig. 4). Scale 1: 1000.





## 5.1 Introduction

5.1.1 Due to the pressing demands of imminent pipeline construction, the fieldwork elements of the archaeological investigations were rapidly concluded. Thus, both the evaluation and excavation stages of the programme were undertaken in quick succession, immediately following the removal of topsoil, during July and August 1998.



*Plate 3: Machine removal and stockpiling of topsoil within the pipeline construction corridor.*

## 5.2 Monitoring of Topsoil Stripping

5.2.1 Topsoil within the construction corridor was removed by large tracked machines fitted with wide toothless blades. All spoil removed was stockpiled on the north side of the working corridor (see Plate 3) thus rendering these areas inaccessible for evaluation.

5.2.2 All machine removal of topsoil within the areas of archaeological sensitivity was monitored by an experienced archaeologist. Stripped areas were inspected for any indications suggestive of the presence of archaeological remains.

## 5.3 The Evaluation

5.3.1 The programme of trial trenching consisted of the machine excavation of twelve linear trial trenches. The trench locations (see Figs. 11 to 14) were decided in consultation with Cheshire County Environmental Planning Service, after due consideration of all data gathered during the previous evaluation stages.

5.3.2 All trenches were c.1.50m in width and were opened up by JCB machine, fitted with a wide toothless blade, down to the level of the first archaeological horizon; all machine work was closely monitored by an experienced archaeologist. Following machining the trenches were cleaned manually, where appropriate, and areas of particular archaeological potential were rapidly investigated.

5.3.3 During the course of the evaluation it became evident that two locations required further, more detailed investigation:

- W6/1 & W6/2: the remains identified within these areas clearly formed part of a hitherto unidentified Roman settlement
- W8: part of a possible (?broken) linear feature, suggested by the geophysical survey results, was located.

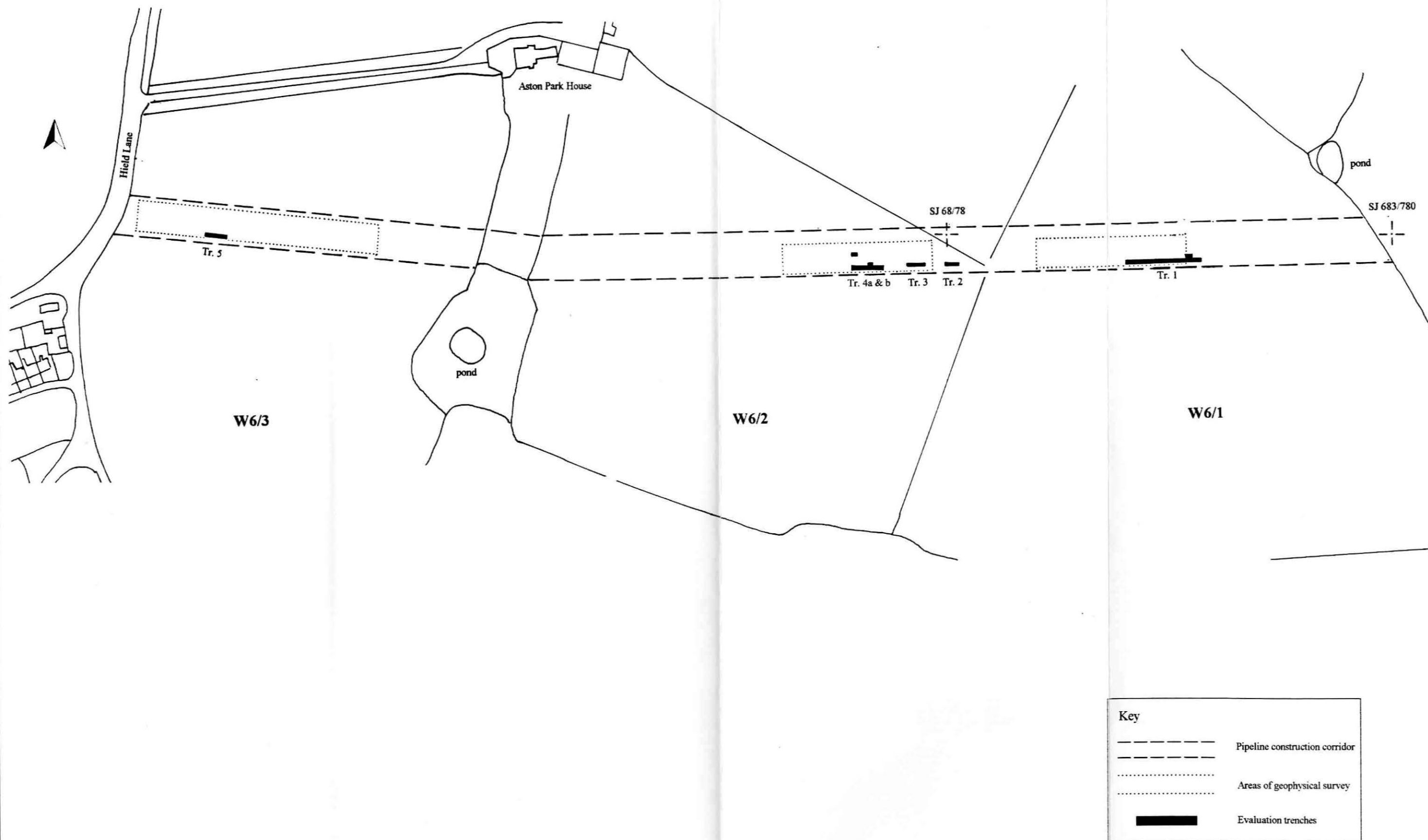


## 5.4 The Excavations

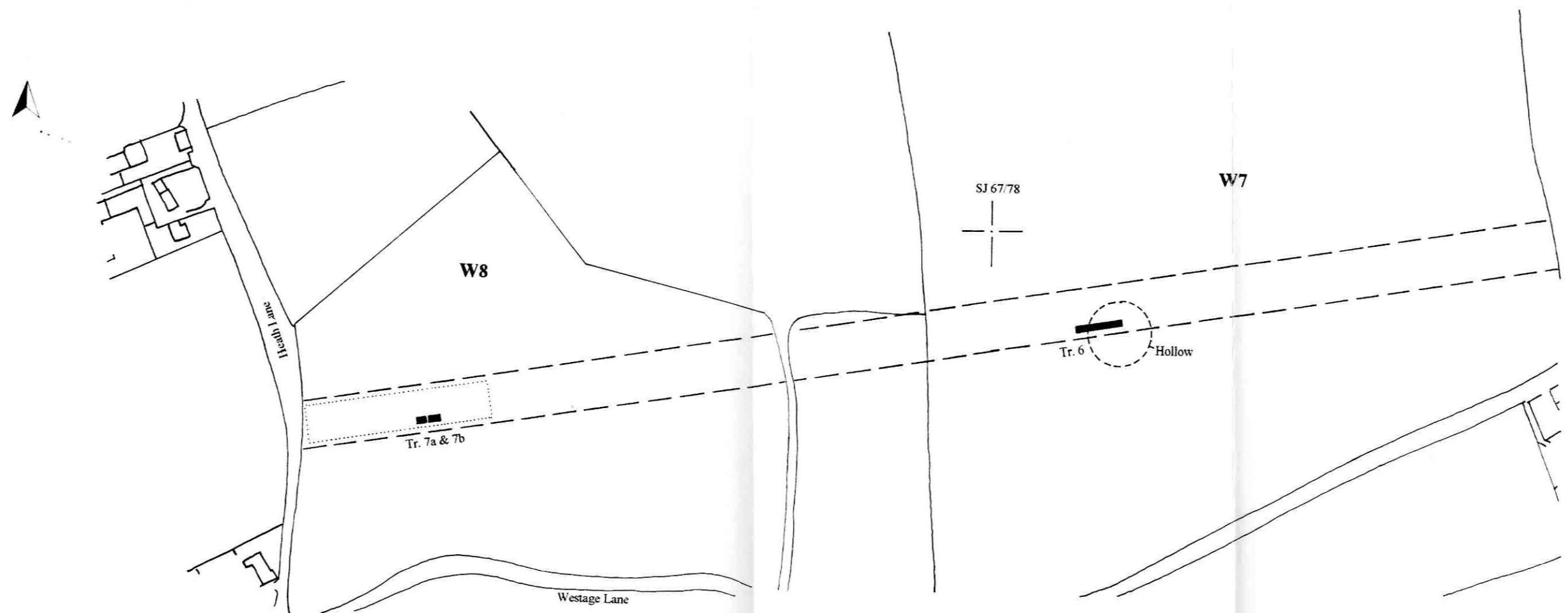
5.4.1 Following discussions with Cheshire County Council Environmental Planning Service, a programme of excavation followed on immediately from the evaluation in Areas W6/1, W6/2 & W8. No archaeological features or deposits of note were observed in the remaining areas and thus recording took the form of a rapidly drawn representative soil profile from each trench.




5.4.2 Where necessary the evaluation trenches were extended in order to excavate fully those vulnerable parts of the identified features which lay directly on the line of the pipeline construction trench. During the excavation, deposits and features were recorded according to the normal principles of stratigraphic excavation. A full photographic record (35mm colour prints and slides) of the project was taken.

5.4.3 The trenches were located in relation to existing boundaries using a Nikon DTMA 5LG Total Station EDM fitted with a HP700 palm-top logger; drawings produced on AutoCad.

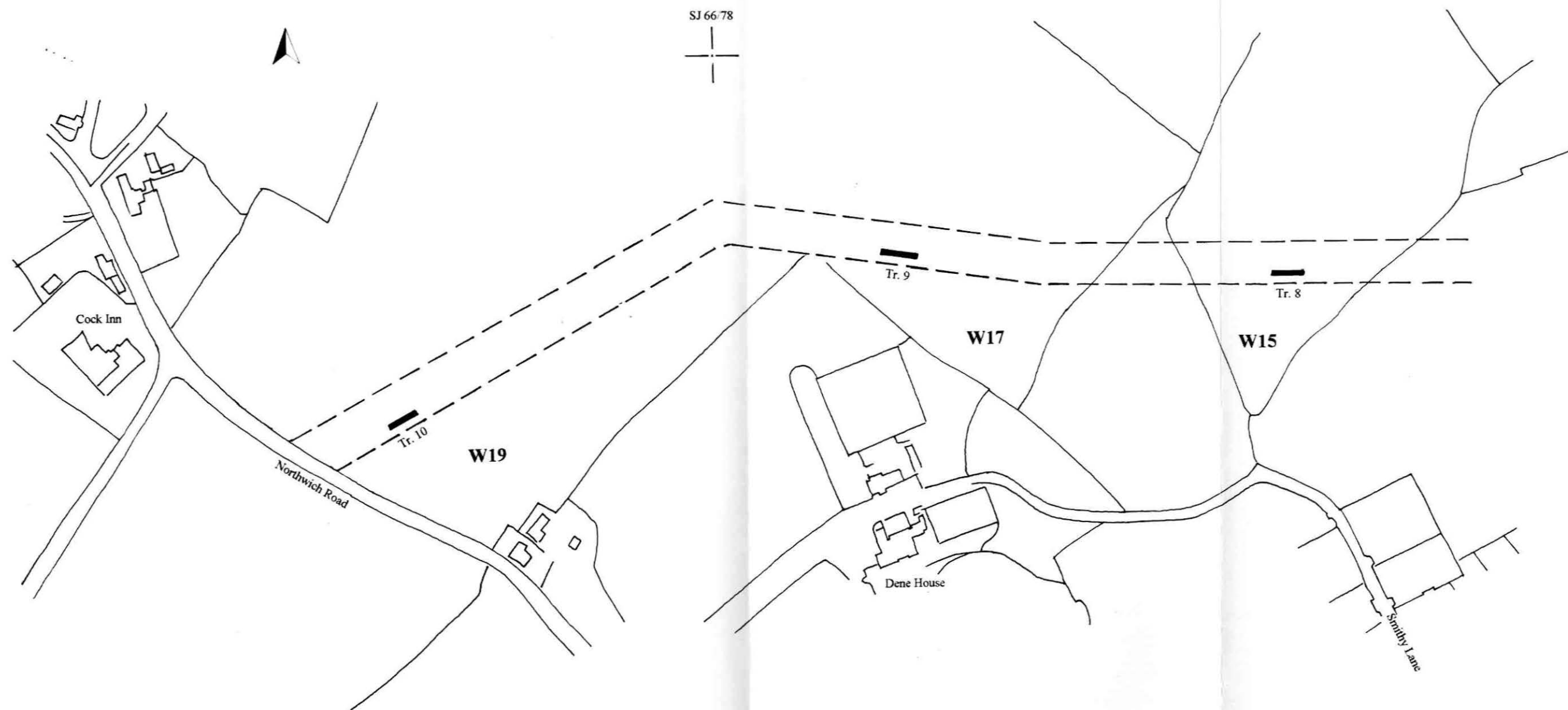


**Figure 11:** Area W6: location of trenches 1 to 5 (with extensions to trenches 1 & 4) and areas of geophysical survey. Scale 1: 2500.



Key	
	Pipeline construction corridor
	Areas of geophysical survey
	Evaluation trenches

**Figure 12:** Areas W7 & W8: location of trenches 6 & 7 and area of geophysical survey. Scale 1: 2500.



**Figure 13:** Areas W15, W17 & W19:  
location of trenches 8 to 10. Scale 1: 2500.

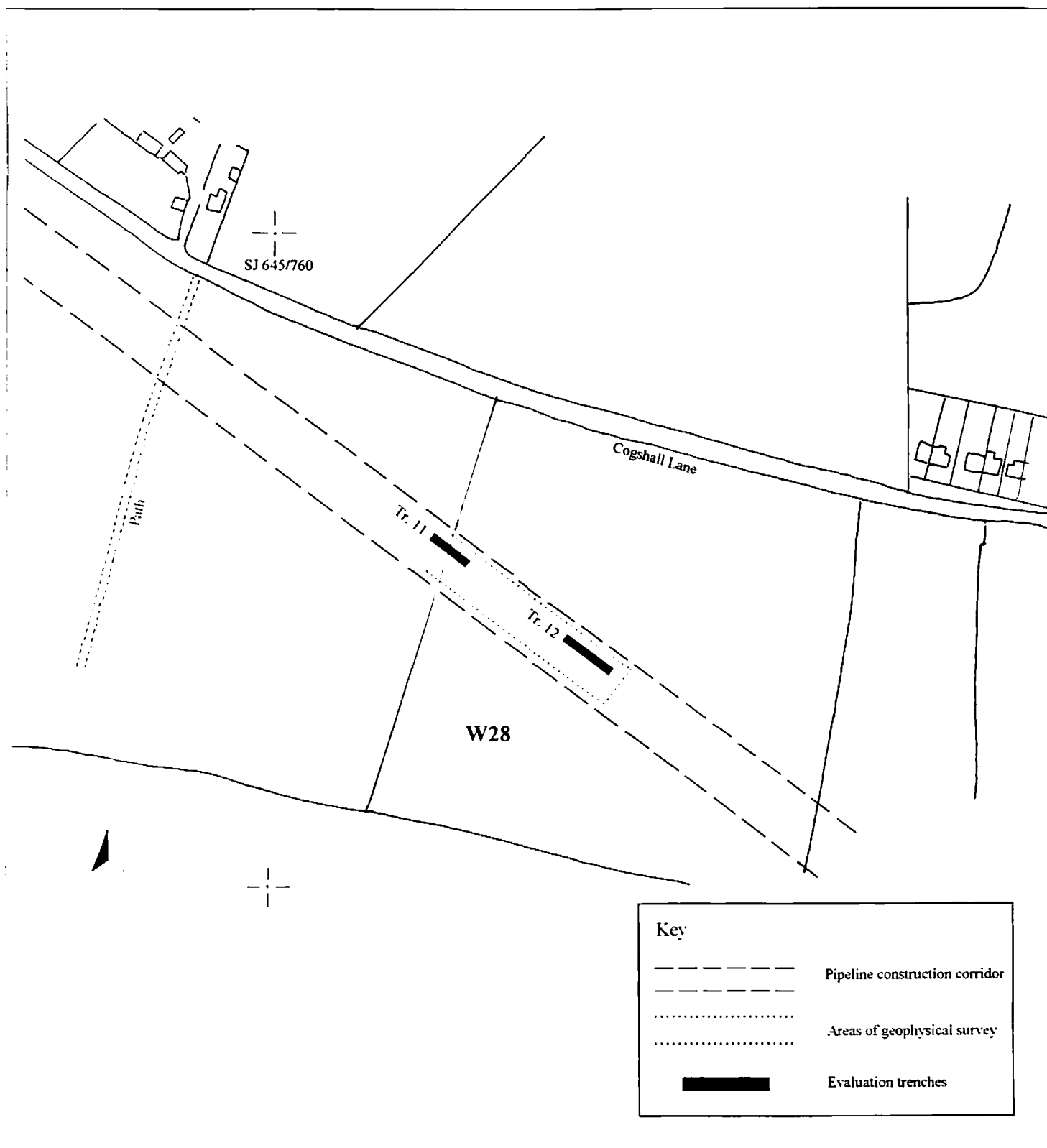


Figure 14: Area W28: location of trenches 11 & 12 and area of geophysical survey. Scale 1: 2500.

## 6.1 Introduction

6.1.1 The programme of full excavation immediately succeeded the trial trenching. Thus, the results of the trial trenching have been summarised and the detailed descriptions of deposits and features identified - to avoid unnecessary duplication - have been included within 6.3, the results of the excavation.

## 6.2 The Trial Trenching (Figures 11 to 14)

### 6.2.1 Area W6 (Fig. 11: trench nos. 1-5)

The cumulative evidence, prior to trial trenching, strongly suggested that this general location - particularly Areas W6/1 and W6/2 - would repay close attention. Accordingly, five linear trenches were opened up by machine. Trench 1 was positioned to cut across the line of a linear cropmark feature - a presumed ditch - evident on aerial photographs (see Table 1 site W6, and Fig. 40 for the line of this cropmark). Trenches 2 to 4 were located in Area W6/2 where the recovery of Roman material, and the possible line of a ditch feature identified during the geophysical survey (see Fig. 10.1), again suggested possible Roman activity. Trench 5 was located at the west end of the area and positioned to cut across potential features identified during the geophysical survey, particularly in the test area (see Fig. 10.2).

### 6.2.2 Area W7 (Fig. 12: trench no. 6)

A single trench, measuring c.25m x 1m, was positioned to cut across a circular hollow, one of several identified during the desk-based assessment and evident on the ground. No features or deposits of archaeological interest were noted; the hollow appeared to represent a natural landscape feature.

### 6.2.3 Area W8 (Fig. 12: trench nos. 7a & 7b)

This trench, measuring in total c.10m x 1m, was sub-divided into 7a & b in order to avoid the removal of a marker indicating the central line of the pipeline construction trench. It was positioned to cut across a possible linear/pit feature identified during the geophysical survey (see Fig. 10.3).

A shallow, silt-filled amorphous hollow in the glacial sand subsoil was identified, but it was not considered to be of archaeological interest; a natural origin seemed the most plausible interpretation.

### 6.2.4 Area W15 (Fig. 13: trench no. 8)

This trench, measuring in total c.20m x 1m, was arbitrarily located within this area of archaeological potential as identified in the preliminary desk-based assessment (see Table 1).

No features or deposits of archaeological interest were noted; the hollow appeared to be a natural feature.



#### 6.2.5 Area W17 (Fig. 13: trench no. 9)

This trench, measuring in total c.21m x 1m, was arbitrarily located within this area of archaeological potential as identified in the preliminary desk-based assessment (see Table 1).

No features or deposits of archaeological interest were noted.

#### 6.2.6 Area 19 (Fig. 13: trench no. 10)

This trench, measuring in total c.17m x 1m, was arbitrarily located within this area of archaeological potential as identified in the preliminary desk-based assessment (see Table 1).

No features or deposits of archaeological interest were noted.

#### 6.2.7 Area W28 (Fig. 14: trench nos. 11 & 12)

Both trenches were located to elucidate the pattern of parallel lineations and other potential features suggested by the geophysical survey results (see Fig. 10.4). Variable depths of topsoil were noted in both trenches, but there were no indications of a sub-circular ditch feature and no obvious peculiarities, natural or otherwise, to account for the anomalous geophysical readings.

No features or deposits of archaeological interest were noted, and no finds at all were recovered.

### 6.3 The Excavations

#### 6.3.1 Area W6/1

- Trench 1 (Figures 15 to 20; Plates 4 & 5)

This trench, aligned east-west and measuring c.50m x 1.60m, was positioned to cut across the line of a linear cropmark feature - a presumed ditch - evident on aerial photographs (see Fig. 40 and Table 1: W6); further, the recovery of Roman material within the general vicinity of trench 1 suggested the presence of archaeological remains of considerable importance.

The dark grey sandy loam topsoil, c.200mm thick had been removed by machine (see Plate 3) prior to the commencement of the excavation. Beneath the topsoil another general soil layer, not visible in section but similar in character to context (2) observed in the vicinity of trenches 2-4, survived patchily around trench 1; it has been assumed that the pottery fragments recovered



*Plate 4: Trench 1, looking north-west. Cleaning of trench and straightening of sections following machining.*



*Plate 5: Area W6/1, trench 1. Roman pit, context (3), observed in section of main trench during the evaluation and subsequently totally excavated (see also Figs. 15, 16 & 19). 1m scale.*

during the monitoring of the topsoil strip came from this lower soil horizon. Generally, machining stopped at the top of the mixed orange medium coarse, red sands and reddish brown boulder clay (5) (see representative sections *Figs. 17 & 18*).

The linear feature identified during the desk-based assessment was not observed, but manual cleaning (see *Plate 4*) and examination of the trench revealed the presence of a partially-exposed cut feature (3) within the south facing section (see *Fig. 16*), and close to the east end of the trench: no features were noted in the north facing section. A northward extension of the trench in the area of context (3) (see *Fig. 15*) revealed a sub-rectangular pit feature measuring c.1.80m x 900mm and with gently sloping sides and a flattish base (see *Plate 5 & Figs 19 & 20*); the longer axis of the feature was aligned roughly east-west and its surviving depth was no more than 500mm. Context (3) was cut into the mixed sands and clay subsoil (5) and its fill, context (4), consisted of a friable mid-yellow brown silt sand containing sub-angular and sub-rounded stone (c.2%) and rare charcoal flecks (1%). The few finds recovered from context (4) included two body sherds of Roman pottery: one fragment of Black Burnished ware and one fragment of Severn Valley ware. These potsherds do not allow precise dating but a second or third century AD date for the pit seems most likely. Interestingly, two fragments of industrial waste, probably the result of nearby iron smelting during the Roman period, were also recovered from the pit fill (4). Part of a possible prehistoric flint tool (S/F 17) of late Neolithic or Early Bronze Age (perhaps 2500-1500 BC) date was also recovered the removal of context (4) (see *Fig. 38*)

No other features of archaeological interest were noted in trench 1.

### 6.3.2 Area W6/2

- *Trench 2 (Figure 21)*

This trench, aligned east-west and measuring c.10m x 1.50m, was located at the east end of Area W6/2, close to the crest of ground between W6/1 and W6/2.

The dark grey sandy loam topsoil, c.200mm thick, had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (2) which consisted of a dark yellowish brown silty sand containing sub-angular and sub-rounded stone (c. 2-5%); context (2) lay immediately above the natural, undisturbed brown silty sand subsoil. Although the representative section drawing (*Fig. 21*) shows context (2) to be only c.100mm thick, the context was undoubtedly truncated in this location during topsoil stripping and its true thickness of c.200-250mm is best represented on *Figure 22* (see below). In all probability, much of the unstratified Roman pottery recovered from Area W6/2 came from this context.

No features of archaeological interest were observed.

- *Trench 3 (Figure 22)*

This trench, aligned east-west and measuring c.12m x 1.50m, was located at the east end of Area W6/2 and approximately 12m west of trench 2.

The dark grey sandy loam topsoil, c.200mm thick, had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (2) which was c.200mm thick (see *Figure 22*) and consisted of a dark yellowish brown silty sand containing sub-angular and sub-rounded stone (c. 2-5%). Again, much of the unstratified Roman material recovered from Area W6/2 probably came from this context. Immediately below context (2) lay natural, undisturbed orange red sand subsoil.

No features of archaeological interest were observed.



- Trenches 4a & 4b (Figures 23 to 25; Plates 6 to 9)

Trench 4a, aligned east-west and measuring c.20m x 1.50m, was positioned to cut obliquely across the line of a potential linear feature, running north-west to south-east and identified during the geophysical survey (see Fig. 10.1).

The dark grey sandy loam topsoil, c.200mm thick, had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (2), a soil layer identified in both trenches 2 and 3, and which consisted of a c.200mm thick dark yellowish brown silty sand containing sub-angular and sub-rounded stone (c.2-5%). Context (2) produced several sherds of stratified Roman pottery, including part of a *mortarium* base (see Fig 39), produced in the Nene Valley, together with Severn Valley wares and locally produced pottery. Although the assemblage as whole is dominated by locally produced fabrics, the unstratified material from this location (see catalogue 7.2.7), most likely derived from context (2), indicates the variety of wares in use during the life of the settlement; the assemblage includes wares from the Nene Valley near Peterborough, Oxfordshire, and Samian ware imported from Gaul.

Context (2) sealed context (7), a partially-exposed ditch aligned north-west to south-east and cut into the natural undisturbed reddish brown sand subsoil. Trench 4a was extended northwards (see Plates 6 & 8, & Figs. 23 & 24) in the area of context (7) in order to fully excavate that part of the feature particularly vulnerable to disturbance during pipeline construction. In total a 4m length of the ditch was exposed, but the rapid excavation of the sondage (trench 4b) revealed the outer lip of the ditch (see Plate 9) and thus confirmed the line of the feature across most of the pipeline construction corridor, a length of over 15m. The profile of the ditch (see Plate 8 & Fig.



Plate 7: Residual worked flint (S/F 16) recovered during sieving of Roman ditch fill, context (1).



Plate 6: Area W6/2, trench 4a. Roman ditch (7) during excavation, looking west.

25) was essentially U-shaped, but with a gentler break of slope on its south-west (?outer lip) side. The feature displayed a fairly consistent width of 1.20 to 1.40m along the length available for inspection; its apparent narrowness at the south-east end was a result of truncation by





*Plate 8: Area W6/2, trench 4a. Roman ditch (7) as excavated; looking north-west. 2m scale.*

yellowish brown silty sand containing sub-angular and sub-rounded stone up to 70mm in size (c.5%), and charcoal fragments (c.2%); the lower fill (8), representing the primary silting of the ditch, was no more than 100mm thick; it consisted of soft reddish brown sand with c.2% charcoal fragments. Context (1), up to 350mm thick, was continuous with context (2) and produced eight firmly stratified sherds of Roman pottery, including Black Burnished ware, Severn Valley orange ware and locally produced grey ware. Together with a fragment of burnt bone, two residual flint artefacts were also recovered from context (1), a complete blade/microlith (S/F 15) and a dual purpose scraper/awl (S/F 16) (see Plate 7 & Fig. 38). No finds were recovered from the lower fill (8).

No other features of archaeological interest were observed within trench 4a.

### 6.3.3 Area W6/3

- *Trench 5 (Figures 26 & 27; Plate 10)*

This trench, aligned east-west and measuring c.12m x 1.50m, was located towards the west end of Area W6/3. It was positioned to investigate the series of anomalous geophysical readings in this location (see Fig. 10.2).

The dark grey clay loam topsoil, c.250mm thick, had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (9), the mixed natural subsoil which consisted of firm, very pale brown (almost white in some areas) silty sand mottled with reddish brown silt clay and stony orange brown silt sand. A series of



*Plate 9: Area W6/2, trench 4b, small sondage quickly excavated to confirm the continuing line of Roman ditch (7); looking south-east.*

machine during the opening of the trench. The depth of the ditch, at least along the length uncovered, was again consistent at c.400-500mm; no re-cutting of the ditch was evident within the area examined.

Two ditch fills were noted: the upper fill, context (1), comprised a firm



parallel linear features, contexts (12), (15), (16) & (19), all aligned essentially north-south and cut into the subsoil (see *Fig. 26 & Plate 10*), represented post-mediaeval land drainage. Cut (19) contained a ceramic pipe, cut (16) was filled with compacted stone/cobbles to assist drainage, whilst contexts (12) and (15) appear to have once been wider, open gullies.

Elsewhere within the trench, the mottled areas within the subsoil, contexts (10), (11) and (18), were partially excavated in order to assess their character. These patches were shallow and shapeless and were considered to be of natural origin with no archaeological potential.

No finds were recovered from trench 5 and no features or deposits of archaeological interest were observed.



*Plate 10: Area W6/3, trench 5. Various amorphous stains and field drains, but nothing of archaeological significance. Looking west.*

#### 6.3.4 Area W7

- *Trench 6 (Figure 28)*

This trench, aligned east-west and measuring c.25m x 1m, was positioned across the west side of one of a series of sub-circular depressions identified on aerial photographs and noted during the field walk-over.

The dark grey loam topsoil had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (26), a dark yellow brown sandy loam whose general thickness of c.100mm on the west side of the trench increased to over 200mm towards the depression. The natural subsoil (27), immediately below (26) comprised pale brown coarse sand and gravel, the percentage of gravel increased markedly on the east (depression) side of the trench.

No finds were recovered from trench 6 and no features or deposits of archaeological interest were observed. The depression was considered to be a natural landscape feature.

#### 6.3.5 Area W8

- *Trenches 7a & 7b (Figures 29 to 32; Plate 11)*

This trench, aligned east-west and split into two in order to avoid disturbance to a pipeline construction marker peg, measured c.10m x 1m in total. It was located in the vicinity of a possible linear feature aligned north-west to south-east and identified during the geophysical survey.

The dark yellowish brown sandy loam topsoil (21) had largely been removed by machine prior to excavation; but c.100mm of the deposit survived in the area of trench 7b. Several fragments of brick and post-mediaeval pottery (discarded) were noted within context (21). Beneath (21), in



both trenches, lay context (22) a c.500mm thick deposit consisting of friable mid-yellowish brown sandy silt containing c.2% sub-rounded stone (up to 70mm in size) and c.2% charcoal flecks. Below (22) lay context (23), a firm light grey silt sand mottled with occasional patches of orange brown iron pan; in trench 7a context (23) sealed a



*Plate 11: Area W8, trenches 7a & 7b during the course of excavation. Looking east.*

grey sandy clay (24) c.120mm thick. Initially, context (23) appeared to represent the upper fill of a substantial linear feature, perhaps up to 5m wide and running north-west to south-east (see Figs. 29 & 30); but, further investigation revealed very irregular edges and the combined thickness of contexts (23) & (24) to be no more than c.225mm. No finds were recovered from these lower contexts and their formation in a shallow natural dip within the glacial sand subsoil (25) seems a likely interpretation.

### 6.3.6 Area W15

- *Trench 8 (Figure 33)*

This trial trench, aligned east-west and measuring c.20m x 1m, was arbitrarily located within Area W15.

The grey loam topsoil had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (28), a dark yellow brown sandy loam up to 100mm thick. The natural subsoil (29), immediately below (28), consisted of pale brown sand and gravel.

No finds were recovered from trench 8 and no features or deposits of archaeological interest were observed.

### 6.3.7 Area W17

- *Trench 9 (Figure 34)*

This trial trench, aligned essentially east-west and measuring c.21m x 1m, was arbitrarily located within Area W17.

The yellowish grey clay loam topsoil had been removed by machine prior to the commencement of the



*Plate 12: Area W28, machine opening of trench 12 looking north-west. The natural, undisturbed pale brown sand in evidence.*



excavation. Beneath the topsoil lay context (30), a dark yellow brown sandy loam up to 130mm thick. The natural subsoil (31) lay immediately below (30) and consisted of pale yellow brown sandy clay.

No finds were recovered from trench 9 and no features or deposits of archaeological interest were observed.

#### 6.3.8 Area W19

- *Trench 10 (Figure 35)*

This trial trench, aligned north-east to south-west and measuring c.17m x 1m, was arbitrarily located within Area W19.

Prior to the excavation all topsoil had been removed down to the undisturbed glacial subsoil (32) which comprised a pale yellow brown sandy clay, mottled with darker orange brown patches of sandy clay and containing c.2-5% sub-angular stone up to 70mm in size. The natural subsoil (32) was cleaned by machine to a depth of c.100mm and inspected for cut features.

No finds were recovered from trench 10 and no features or deposits of archaeological interest were observed.

#### 6.3.9 Area W28

- *Trench 11 (Figure 36)*

This trench, aligned north-west to south-east and measuring c.20m x 1.60m, was located at the west end of the geophysical survey area in this location (see *Fig. 10.4*).

The dark grey sandy loam topsoil had been removed by machine prior to the commencement of the excavation. Beneath the topsoil lay context (33) which consisted of a dark yellowish brown sandy loam up to 250mm thick and containing sub-angular and sub-rounded stone (c.2%). Context (33) lay immediately above the natural, undisturbed pale brown sand subsoil (34).

No finds were recovered and no features of archaeological interest were observed.

- *Trench 12 (Figure 37; Plate 12)*

This trench, aligned north-west to south-east and measuring c.25m x 1.60m, was located at the east end of the geophysical survey area in this location (see *Fig. 10.4*).

The dark grey sandy loam topsoil had been removed by machine prior to the commencement of the

excavation. Beneath the topsoil lay context (35) which consisted of a dark yellowish brown sandy loam of variable thickness (260mm max.) and containing sub-angular and sub-rounded



*Plate 13: Standing on the crest of ground between Areas W6/1 & W6/2, using EDM to accurately locate trench nos. 1 to 4. Looking east.*


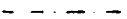





stone (c.2%). Context (35) lay immediately above the natural, undisturbed pale brown sand subsoil (36). No obvious features that could account for the anomalous geophysical readings were observed, although the variable depth of context (35), perhaps the effect of plough action, may have resulted in the parallel lineations on *Fig. 10.4*. The vicinity of the possible sub-circular feature (again see *Fig. 10.4*) was not accessible at the time of excavation.

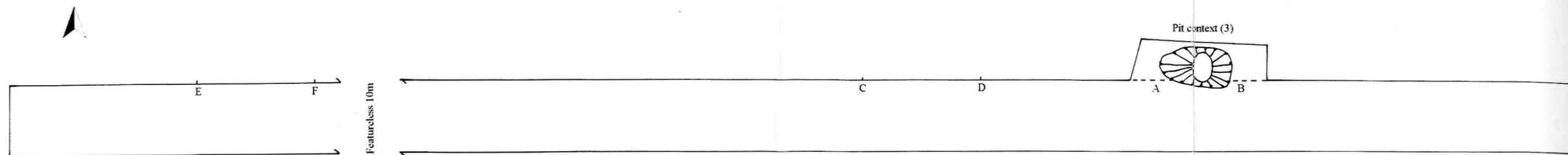
Despite vigilant observation during the machine removal of context (35) no finds were recovered and no features of obvious archaeological interest were observed.

# The Site Drawings

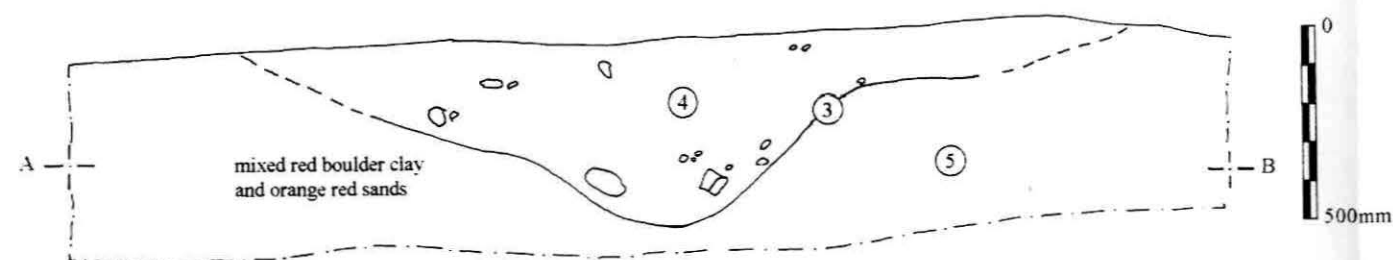
(Figures 15 to 36)

## Key to Plans

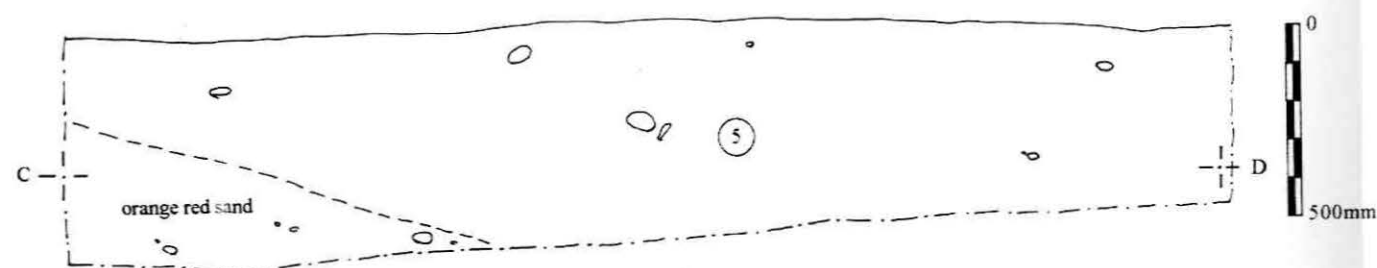
	Context no
	Limit of excavation
	Vertical edge
	Indistinct/merging horizon/break of slope (with hachures)
	Location of stringline
S	Sandstone
St	Stone
Sl	Slate
T	Tile
B	Brick
C	Cobble
	Undisturbed clay subsoil
	Root disturbance



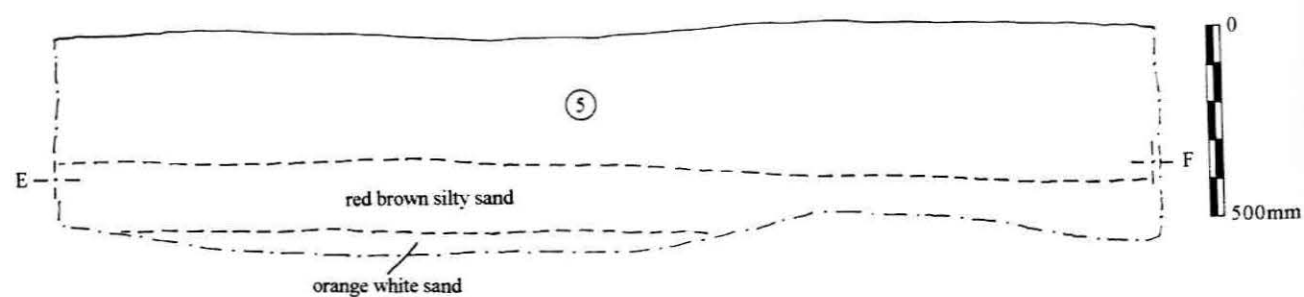
**Figure 15:** Trench 1, plan view, showing location of Roman pit context (3) and representative section drawings Figs. 16 to 18 Scale 1: 100.



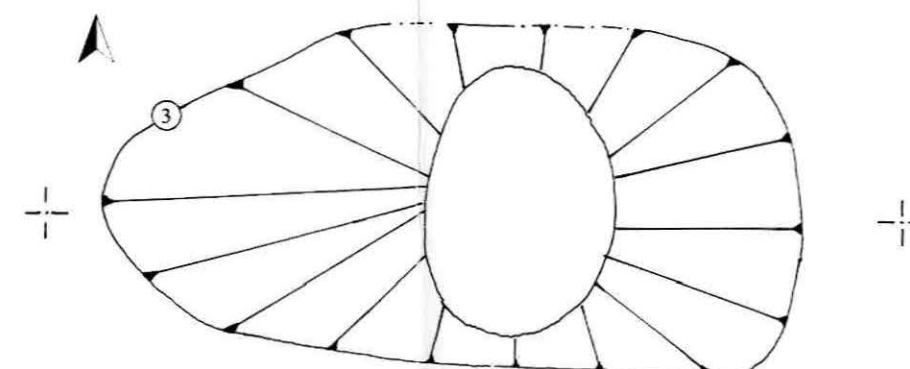
**Figure 16:** Trench 1, section A-B on Fig. 15. Scale 1: 20.



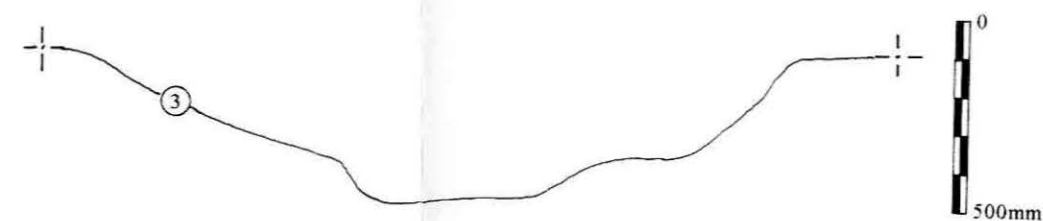
**Figure 17:** Trench 1, section C-D on Fig. 15. Scale 1: 20.



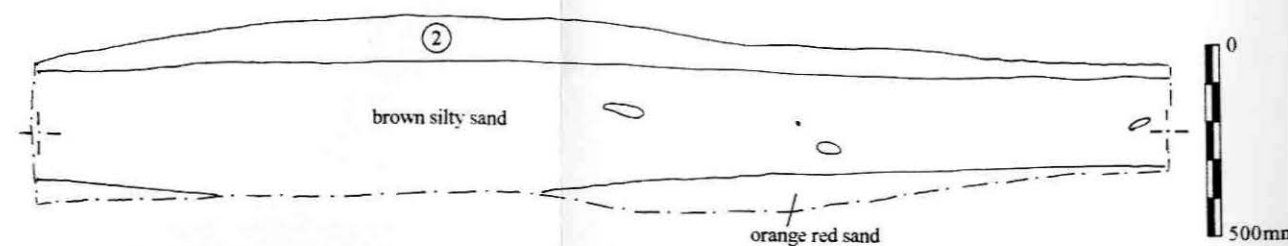
**Figure 18:** Trench 1, section E-F on Fig. 15. Scale 1: 20.



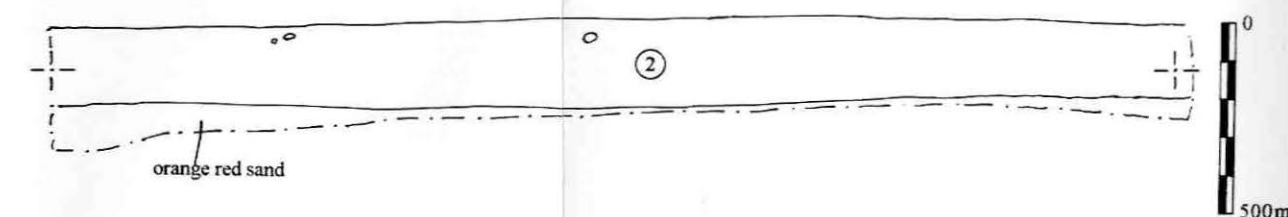
**Figure 19:** Roman pit context (3). Scale 1: 20.



**Figure 20:** Profile of context (3). Scale 1: 20.

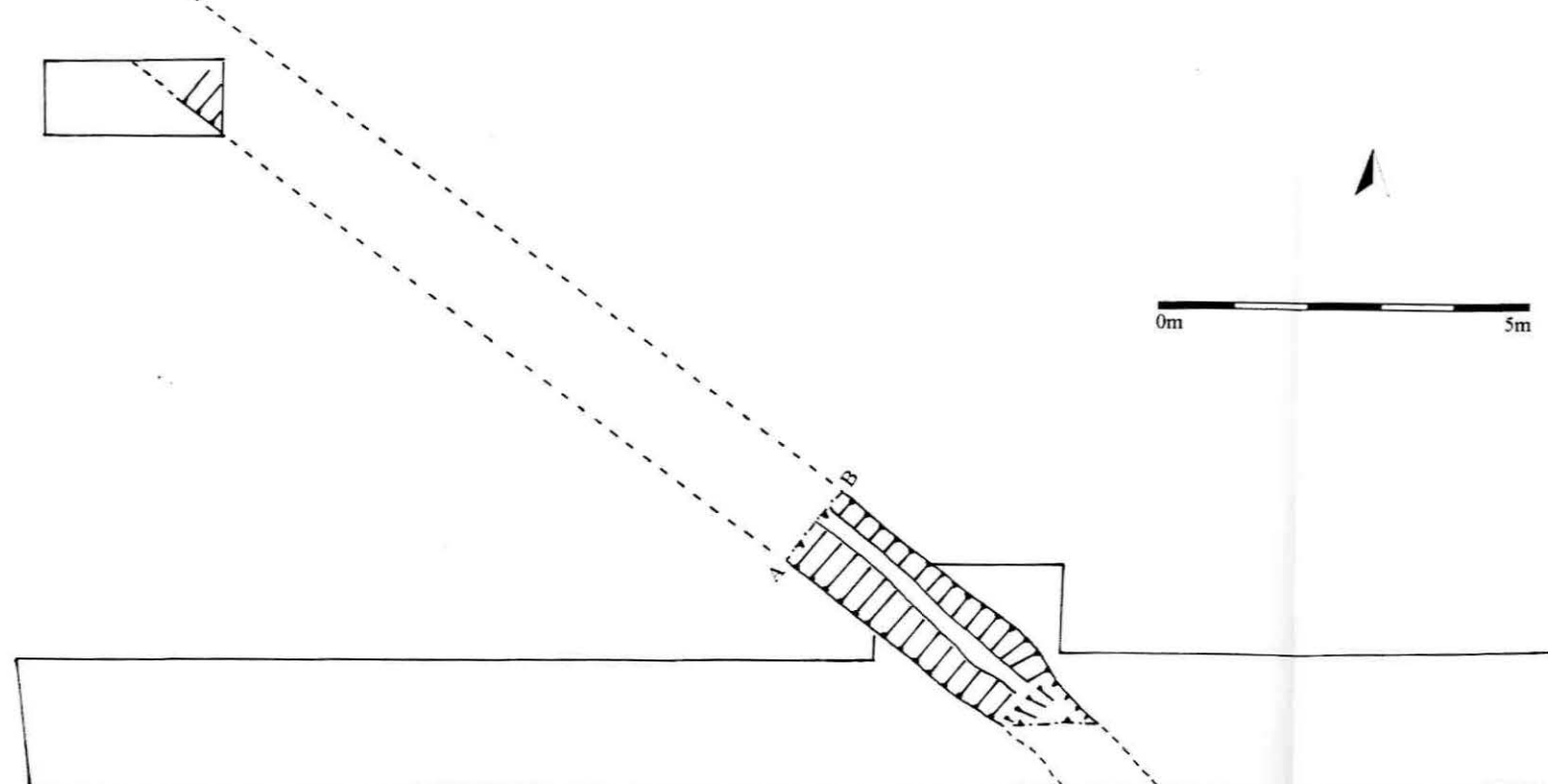


**Figure 21:** Trench 2, representative profile. Scale 1: 20.

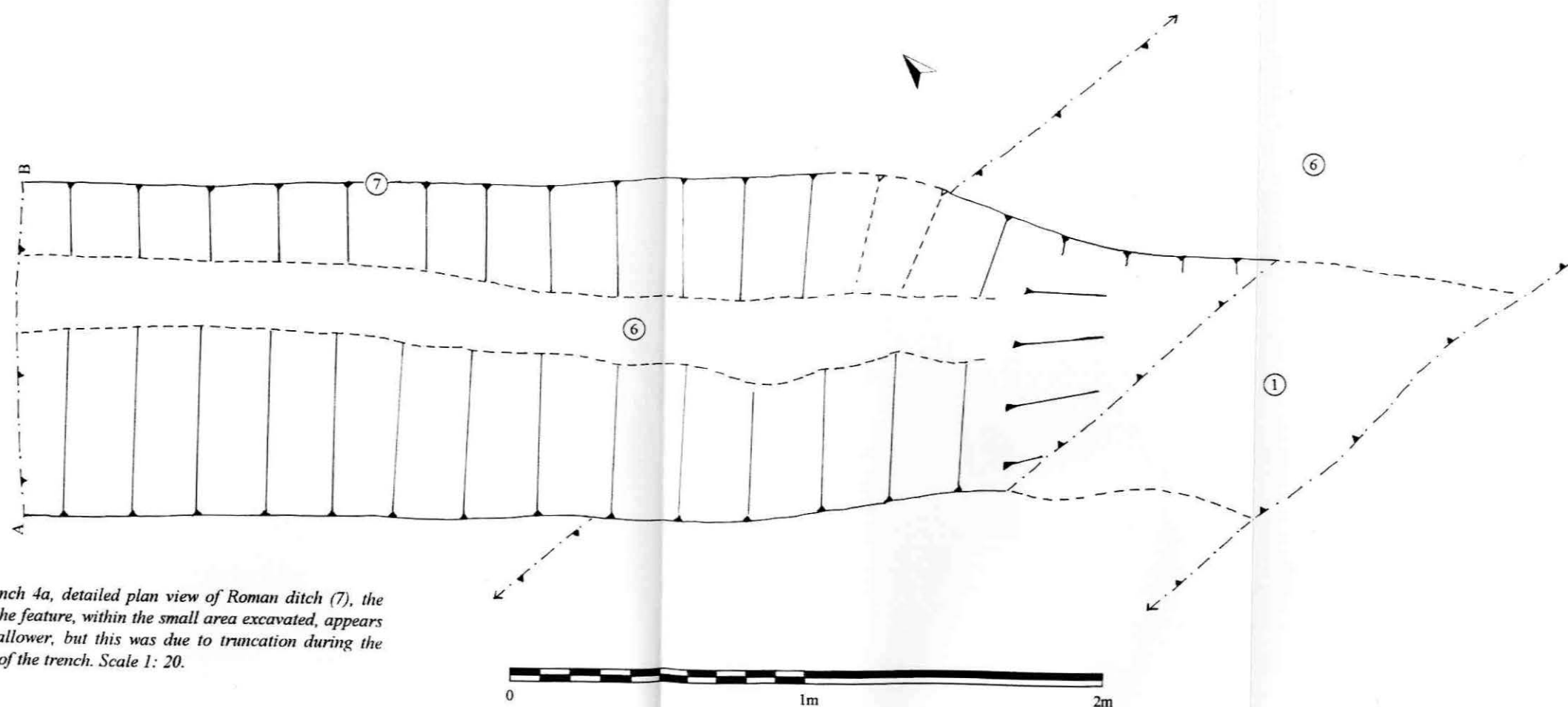


**Figure 22:** Trench 3, representative profile. Scale 1: 20.





**Figure 23:** Trench 4a, plan view showing ditch (7) and location of sondage trench 4b, quickly excavated to confirm the line of the feature across the pipeline corridor. Ditch (7) is clearly the linear feature picked up during the geophysical survey (see also Fig. 10.1). Scale 1: 100.



**Figure 24:** Trench 4a, detailed plan view of Roman ditch (7), the southern part of the feature, within the small area excavated, appears narrower and shallower, but this was due to truncation during the machine opening of the trench. Scale 1: 20.

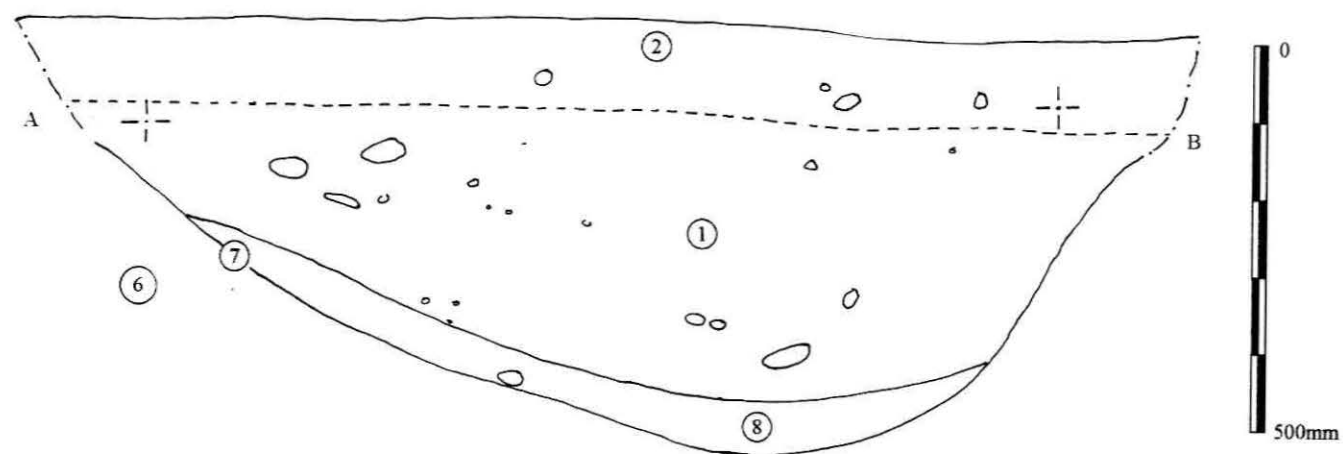


Figure 25: Trench 4a, section A-B on Figs. 23 & 24. Scale 1: 10.

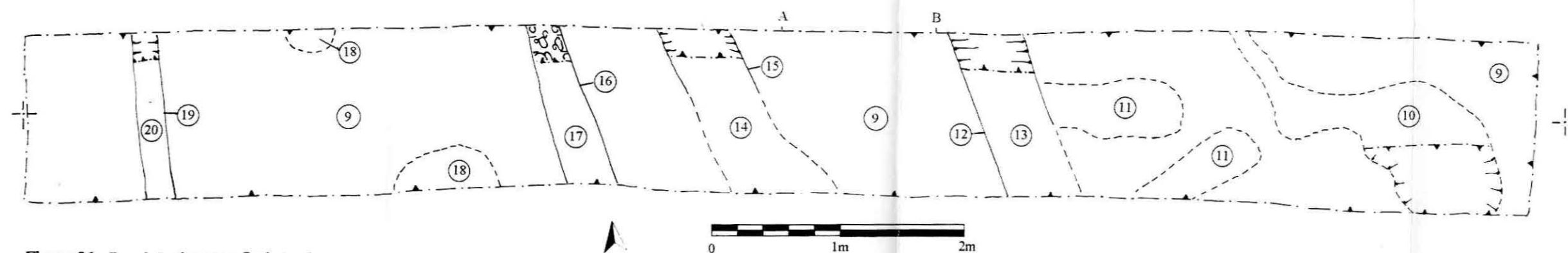


Figure 26: Trench 5, plan view. Scale 1: 40.

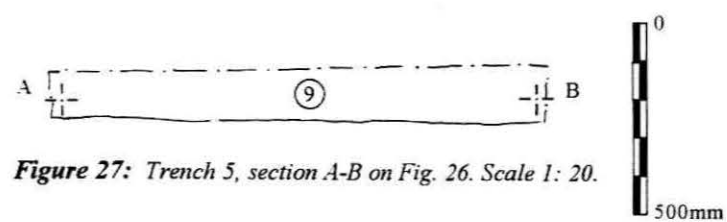


Figure 27: Trench 5, section A-B on Fig. 26. Scale 1: 20.

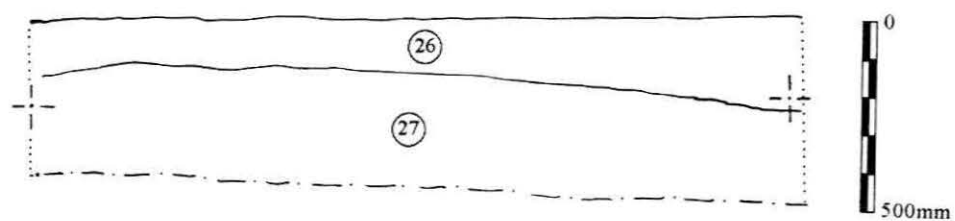


Figure 28: Trench 6, representative profile. Scale 1: 20.

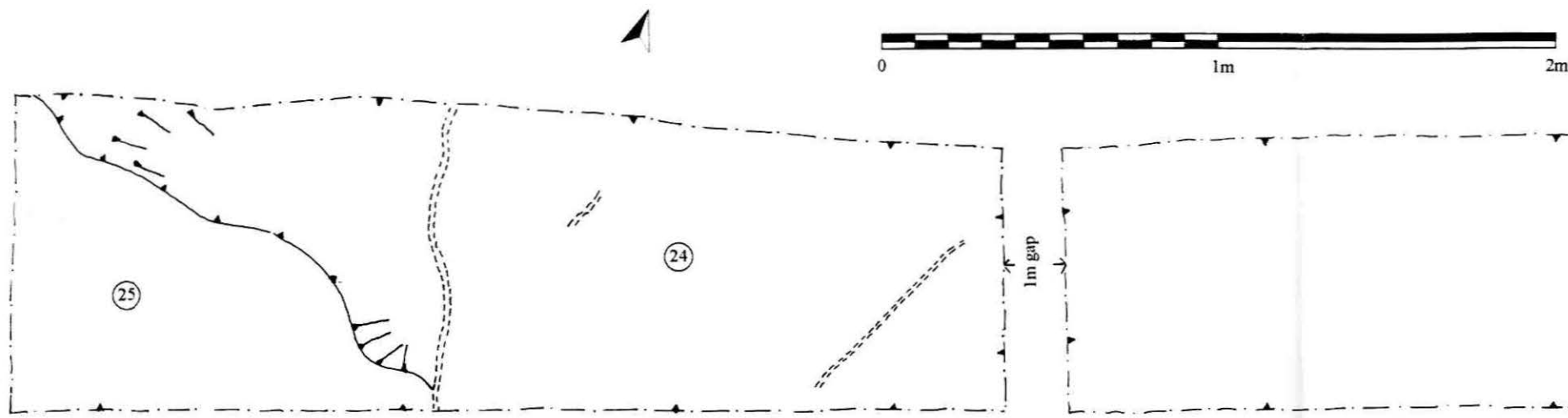


Figure 29: Trench 7a, plan view. Scale 1: 20.

Figure 30: Trench 7b, plan view. Scale 1: 20.

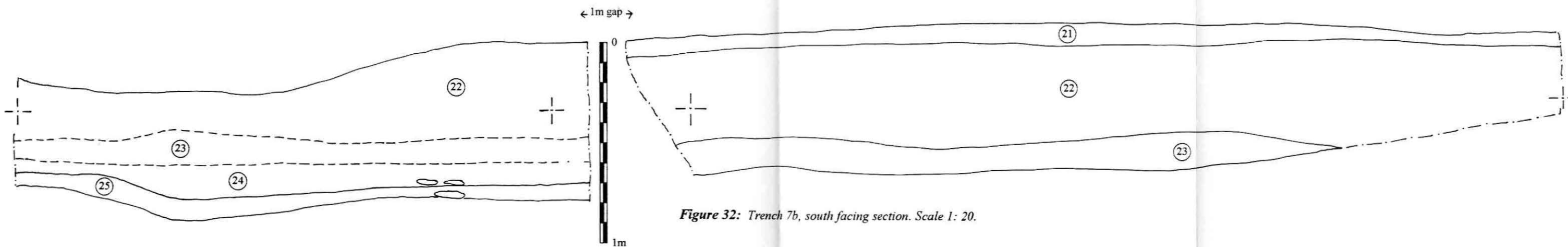


Figure 32: Trench 7b, south facing section. Scale 1: 20.

Figure 31: Trench 7a, south facing section. Scale 1: 20.

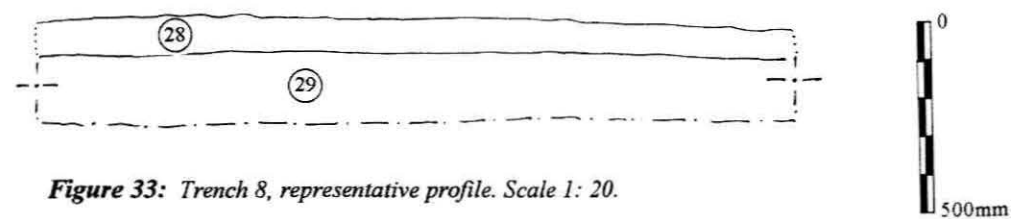


Figure 33: Trench 8, representative profile. Scale 1: 20.

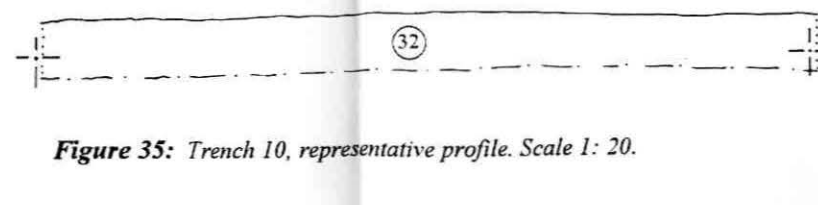


Figure 35: Trench 10, representative profile. Scale 1: 20.

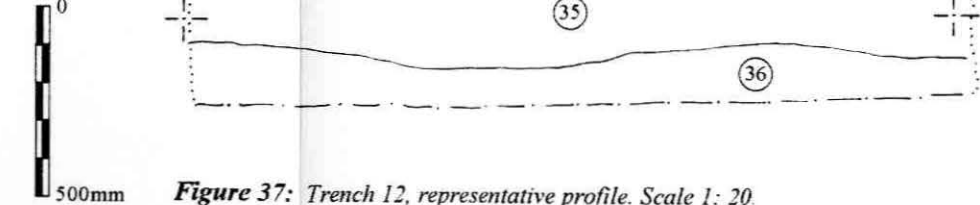


Figure 37: Trench 12, representative profile. Scale 1: 20.

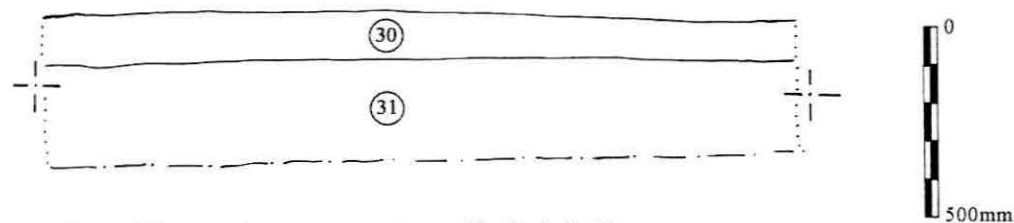


Figure 34: Trench 9, representative profile. Scale 1: 20.

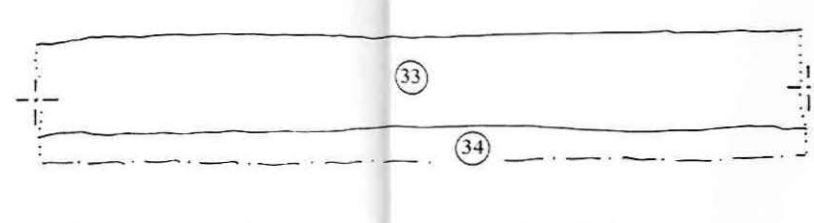


Figure 36: Trench 11, representative profile. Scale 1: 20.

## 7.1 Prehistoric Lithic Artefacts *by D J Garner*

### 7.1.1 *Factual Data*

The lithic material submitted as prehistoric was laid out by context and examined to determine the quantity of tools present, manufacturing techniques and materials used. The pieces present in each context were catalogued (see below) and spot dates were recorded where possible for each context group.

### 7.1.2 *Quantity*

Seven pieces of prehistoric lithic were recovered from both the evaluation and the excavation.

### 7.1.3 *Provenance*

Context (1), the Romano-British ditch fill in trench 4, yielded two lithic artefacts, a complete blade/microlith (S/F 15) and a dual purpose scraper/awl (S/F 16) (see *Fig. 38*). Context (4), the fill of the Roman pit (3) in trench 1, yielded a flint flake (S/F 17) (see *Fig. 38*) which had possibly been utilised as a blade. The other four lithic artefacts (S/Fs 11 to 14) were recovered as unstratified from fields 1 & 2 and consisted of two waste flakes and two complete end scrapers (see *Fig. 38*).

### 7.1.4 *Range and Variety of Material*

The lithic assemblage is dominated by good quality imported flint which is generally fresh, sharp and lustrous. Two thirds of the assemblage has been retouched and utilised for tool manufacture, implying a minimalist approach to the discard of waste material. The scarcity of good local material is illustrated by the use of the poor quality chert (S/F 16) from context (1) as a scraper/awl. This material is of an inferior quality and nearly impossible to retouch to a good edge, and yet it has been utilised as a dual function tool.

Such a small assemblage presents dating problems, though the evidence of hinge fractures associated with the hard hammer technique of flake manufacture, and evidence for pressure flaking on at least one piece, suggest a Neolithic or Early Bronze Age date. However, two pieces (S/F 14 & S/F 15) could be earlier and may speculatively be as early as the late Mesolithic period, perhaps before 3500 BC.

### 7.1.5 *Brief Discussion*

Prehistoric settlement sites are poorly understood in Cheshire and locating them is problematic. The assemblage is useful in the range of materials and tools represented in such a small group of artefacts. The variety of raw materials being used is comparable to the Mesolithic and Early Bronze Age site recently excavated at Oversley Farm, Styal, Cheshire, and useful comparisons could be drawn by

further cross referencing with other regional sites. Sourcing of the materials might also help in the further understanding of trade networks in Cheshire during the prehistoric period.

The assemblage thus makes a small but significant contribution to the study of prehistoric settlement in Cheshire. The range of materials used and implements being manufactured increases the understanding of prehistoric trade routes across the county, and aids in the identification of favourable locations for future research into early settlement sites.

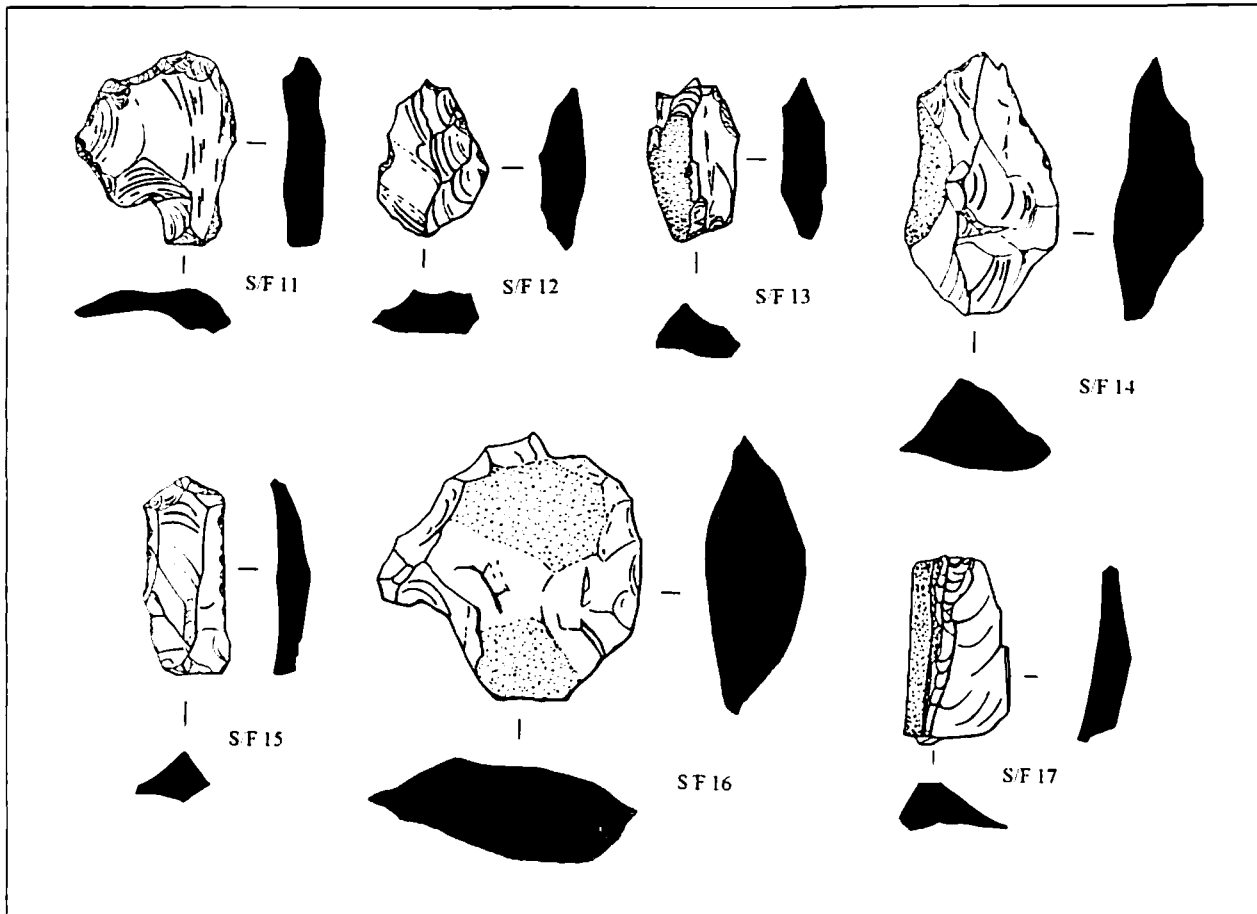


Figure 38: The flint illustrations; the numbers are small finds nos. (drawn by L J Dodd). Scale 1: 1.

#### 7.1.6 Catalogue of the Flint (see Fig. 38)

- **Unstratified: W6/Field 2**

- 1 Lustrous light grey brown flint with white cortex retained on two edges. Hinge fractured flake, with retouch along two edges, utilised as an end scraper. Late Neolithic/Early Bronze Age. S/F 11.

Dimensions: length 25mm; width 18mm.

- 2 Lustrous light grey chert flake, evidence of a hinge fracture. S/F 12.

Dimensions: length 18mm; width 10mm

- **Unstratified: W6/Field 1**

- 3 Lustrous light brown flint, with brown cortex retained on one edge. Waste flake with striking platform and bulb of percussion. S/F 13.

Dimensions: length 19mm; width 10mm

- 4 Dark grey flint with cortex retained on one edge. Fine retouch along two edges, utilised as an end scraper and awl. ?late Mesolithic. S/F 14.

Dimensions: length 34mm; width 21mm.

- *Context 1:*

- 5 Light grey flint with cortex retained on one edge. Fine retouch along three edges, utilised as a microlith/blade. ?Mesolithic. S/F 15.  
Dimensions: length 25mm; width 10mm.
- 6 Green grey chert with striking platform and bulb of percussion. Crude retouch on two edges, utilised as an end scraper and awl. Late Neolithic/Early Bronze Age. S/F 16.  
Dimensions: length 36mm; width 35mm.

- *Context 4:*

- 7 Flake of orange brown flint with cortex surviving along one edge. Manufacturing techniques include a hinge fracture and pressure flaking. Possibly utilised as a blade. Late Neolithic/Early Bronze Age. S/F 17.  
Dimensions: length 24mm; width 14mm.

## 7.2 Romano-British Pottery by D J Garner

### 7.2.1 *Factual Data*

The ceramic material submitted as Romano-British was laid out by context and examined to determine the quantity of pottery present, its condition and the range of fabrics, forms and decoration. The sherds present in each context were catalogued (see below) and spot dates were recorded where possible for each context group.

### 7.2.2 *Quantity of Pottery Artefacts*

Twenty seven sherds of Romano-British pottery were recovered in total, including two small sherds of samian and one *mortarium* sherd.

### 7.2.3 *Provenance of Pottery Artefacts*

A catalogue is provided (see below) of all Romano-British pottery obtained during the project.

- *Area W6-1: Stratified Contexts*

Context (4), the fill of pit (3) in trench 1, produced two pottery sherds datable to the Roman period: a body sherd of BB I and a body sherd of Severn Valley ware. A second or third century AD date for the pottery would seem appropriate.

- *Area W6-2: Stratified Contexts*

Context (1), the upper ditch fill in trench 3, produced eight pottery sherds including: a single sherd of BB I, three sherds of Severn Valley orange ware, and four sherds of grey ware, probably products of the Cheshire Plain industries such as Wilderspool.

Context (2), the layer sealing the ditch fill and overlying the natural subsoils, produced five sherds of pottery including: part of *mortarium*, three sherds of Severn Valley orange ware and one sherd of possible Wilderspool pottery.

In terms of size and condition, the sherds from contexts (1) and (2) were generally larger and less abraded than the residual, unstratified pottery recovered from the rest of the site over Areas W6/1 & W6/2. The residual pottery produced only one identifiable pottery form, a flanged bowl (see Fig. 39) in a Wilderspool fabric (c. AD 120-200).



#### 7.2.4 Range and Variety of Ceramic Material

The pottery assemblage was dominated (c.32% of the assemblage) by oxidised and reduced fabrics from the kilns of the Cheshire Plains. These fabrics included reduced and oxidised sandy fabrics with frequent fine and medium-sized quartz inclusions, typical of the Wilderspool kilns (Hinchliffe & Williams, 1992, 42). Eight orange ware fragments were identified as bearing a close resemblance to some of the Severn Valley ware fabrics (Webster, 1976; Timby, 1990; Rawes, 1992). Similarly, five orange ware sherds in a micaceous fabric and tempered with quartz and red/brown iron ore inclusions may be from the Oxfordshire kilns (Young, 1977, 117). In addition to these wares a single sherd of black burnished ware I was identified. The *mortarium* sherd was furnished with abundant fine dark grey iron silicate trituration grits and was in a cream fabric typical of the Nene Valley (Tyers, 1996, 127). Finally, the two sherds of samian could be assigned to the products of the South Gaulish kilns (probably 'La Graufesenque'), and the East Gaulish kilns (probably Rheinzabern) (Bulmer, 1979, 19-20).

All the vessels were wheel-thrown except the sherd of BB1. The only distinguishable vessel form was the unstratified flanged bowl (see Fig. 39) from Area W6/2, which was probably made to imitate a samian form (Drag. 38), and is known from the kilns at Wilderspool. The *mortarium* sherd identified as a Nene Valley product can only be assigned the broad date range of c.AD110 to the fourth century.

Most sherds were undecorated, with the exception of some grey ware sherds which displayed horizontal grooves.

The dating of the assemblage is difficult due to the lack of datable rim sherds recovered. Fabrics identified as Severn Valley or Oxfordshire wares could span any period between the first and fourth centuries AD. The Wilderspool products are usually assigned a second to third century date, and the Nene Valley industry was in production from the early second century to the fourth. The two sherds of samian ware offer date ranges of c.AD 40-150 and AD 160-260 respectively.

Ditch fill context (1) produced sherds of Severn Valley ware, BB1 and Wilderspool pottery implying a date range in the second and third centuries AD. The sealing layer context (2) again produced Wilderspool and Severn Valley ware pottery, as well as the Nene Valley *mortarium*, and could again be tentatively assigned a second or third century date. None of the sherds examined could be dated to the fourth century and, likewise, none is likely to be of first century date.

#### 7.2.5 Condition of Material

The material was generally in a stable condition, though many sherds are in a poor state of preservation.

### 7.2.6 Brief Discussion

A major aim of the staged process of archaeological investigation was to determine the date of the linear feature identified in Area W6/2 during the geophysical survey. Although the pottery loosely dates from the second and third centuries AD, a hiatus of activity may be suspected during the second century.

The pattern of ceramic deposition on the site suggests domestic occupation of a fairly high status was located nearby. The pottery comes principally from a ditch (1) and associated layer (2); the material from these two contexts contrasts with the remainder of the assemblage, in both size and condition. The rest of the assemblage being best interpreted as incidental deposits, perhaps derived from material spread on the fields during the course of manuring.

Evidence for trading networks from the pottery assessment suggests the site is well articulated with the Romano-British trade network centred on Wilderspool, Warrington. The presence of fine wares and traded wares indicates that the site owners had acquired romanised habits in cooking and entertaining, as well as the wealth to purchase these items.

The work has produced a valuable group of second and third century pottery, displaying a wide range of fabrics, which gives an insight into the ceramics reaching rural sites in Cheshire. Furthermore, it reflects the relationship between the Roman trade network and rural settlements in the county.

The assemblage makes a small but significant contribution to the study of the relationship of the Roman military network and the local rural settlements; particularly, in this case, the extent to which the potteries at Wilderspool supplied local, rural sites

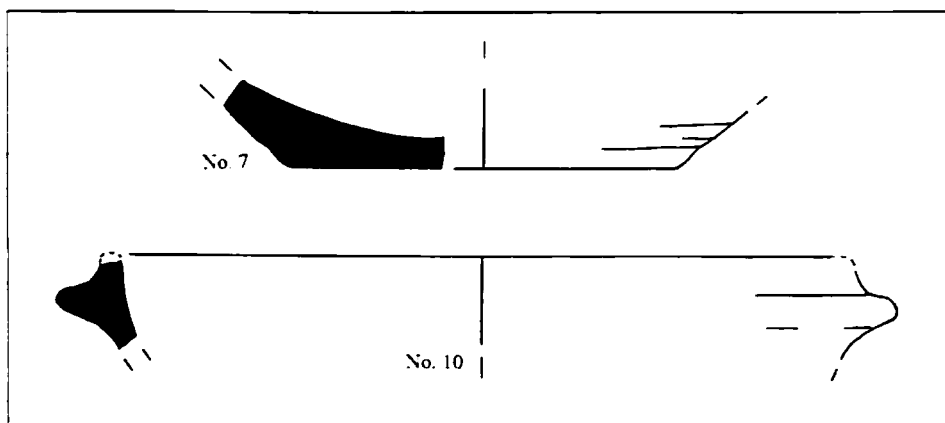


Figure 39: The pottery illustrations; the numbers refer to catalogue nos. (drawn by L J Dodd).  
Scale 1: 2.

### 7.2.7 Catalogue of the Pottery (see Fig. 39)

- Context 1:

- 1 Orange ware body sherd, soft smooth texture. Pale orange fabric with an orange core, containing rare inclusions of quartz, white mica and one fragment of sandstone 4mm in size. Probably Severn Valley ware.

- 2 Orange ware body sherd, soft smooth texture. Pale orange fabric with a reddish orange core, containing rare inclusions of quartz and white mica. Probably Severn Valley ware and part of the same vessel as no.1.
  - 3 Black burnished ware body sherd, hard coarse texture, black granular fabric. External surface is smoothed.
  - 4 Grey ware, two body sherds, hard coarse texture, pale grey/buff fabric with a pale grey core. Containing frequent inclusions of quartz and white mica. External surface has a dark grey finish with grooved decoration. Probably Cheshire Plains/Wilderspool product.
  - 5 Grey ware, two body sherds, hard coarse texture, mid-grey fabric with a pale grey core. Containing frequent inclusions of quartz and white mica. External surface has grooved decoration. Cheshire Plains/Wilderspool product.
  - 6 Orange ware base sherd, hard smooth texture, orange-pink fabric with a pale grey core with rare inclusions of quartz, mica. Probably Severn Valley ware.
- *Context 2:*
    - 7 *Mortarium* base sherd, hard smooth texture, cream/off-white fabric with rare inclusions of quartz, mica and black iron silicate. Internal surface has abundant dark grey and black silicate trituration grits. Nene Valley product. c.AD110 to 4th c. (see Fig. 39).
    - 8 Orange ware, three body sherds, hard smooth texture, orange/red fabric with rare inclusions of quartz and white mica. Probably Severn Valley ware.
    - 9 Orange ware, one body sherd, hard coarse texture, orange/buff fabric with a pale grey pink core. Containing frequent inclusions of quartz and white mica. Cheshire Plains/Wilderspool product.
  - *Unstratified: but probably Context 2.*
    - 10 Orange ware body sherd to a flanged bowl, imitating Drag. 38, hard coarse texture, orange fabric with a pale grey core. Containing frequent inclusions of quartz and white mica. Probably a Wilderspool/Cheshire Plains product. c.AD 120-200. (see Fig. 39)
    - 11 Orange ware body sherd, hard smooth texture, orange fabric with a buff core, micaceous matrix with inclusions of quartz and red/brown iron ore. Probably Oxfordshire ware.
    - 12 Orange ware, two body sherds, hard smooth texture, orange fabric with a red/orange core, micaceous matrix with inclusions of quartz and red/brown iron ore. Probably Oxfordshire ware.
    - 13 Orange ware base sherd, hard smooth texture, orange fabric with a pink core, micaceous matrix with inclusions of quartz and iron ore. Probably Oxfordshire ware.
    - 14 Orange ware body sherd, hard smooth texture, orange fabric with a pale grey core. Containing inclusions of quartz and white mica. Probably a Cheshire Plains product and possibly of Holt origin.
    - 15 South Gaulish samian ware body sherd, hard smooth texture, pinkish brown fabric with inclusions of yellowish white limestone and quartzite. c.Late 1st to early 2nd c. AD.
    - 16 East Gaulish samian ware body sherd, hard smooth texture, orange fabric with inclusions of quartzite. Internal surface has a reddish orange glossy slip. c.AD160-260.
  - *Unstratified: W6/1*
    - 17 Orange ware, two body sherds, hard smooth texture, orange/buff fabric with a pink buff core. Containing rare inclusions of quartz and white mica. Probably Severn Valley ware.
    - 18 Orange ware body sherd, hard coarse texture, orange pink fabric with frequent inclusions of quartz and white mica. Probably a Wilderspool/Cheshire Plains product.
    - 19 Orange ware body sherd, hard coarse texture, orange fabric with a grey core. Micaceous matrix with inclusions of quartz and iron ore. Probably Oxfordshire ware.
  - *Context 4*
    - 20 Black burnished ware I body sherd. Hard granular texture, black fabric with quartz, shale and iron ore inclusions, and burnished surfaces. 1st-4th centuries AD.
    - 21 Severn Valley ware body sherd, hard fine texture, orange fabric with quartz and white mica inclusions. 1st-4th centuries AD.

### 7.3 The Bone *by D J Garner*

#### 7.3.1 *Catalogue of the Bone*

- *Context 1*

- 1 One fragment of burnt bone, reduced to a white chalky material. Unidentified.

### 7.4 The Industrial Waste *by D J Garner*

#### 7.4.1 *Catalogue of the Industrial Waste*

- *Context 4*

- 1 Fragment of industrial waste measuring c.40mm x 25mm x 25mm. Weight 44g. Appears to be derived from ferrous metal and probably the result of iron smelting.
- 2 Fragment of industrial waste 25mm x 10mm x 10mm. Weight 10g. Appears to be derived from ferrous metal and probably the result of iron smelting.

### 7.5 The Lead *by D J Garner*

#### 7.5.1 *Brief Discussion*

These objects have been interpreted as conical and discoidal spindle whorls on the basis of the close comparisons with finds from Middle Harling, Norfolk (West, 1995) which are of mediaeval date. Both conical and discoidal lead spindle whorls are known from mediaeval contexts including Bryggen, Norway (West, 1995) where they occurred in contexts from before 1170 to 1413.

None of the lead weights was found within a stratified and datable archaeological context; they are all metal detected finds and unstratified (see 8.5).

#### 7.5.2 *Catalogue of the Lead*

- *Area W6/2: Unstratified*

- 1 Circular weight, diameter 25mm, depth 8mm, weight 40gms. Central perforation may suggest use a spindle whorl of discoidal shape.
- 2 Circular weight, diameter 23mm, depth 6mm, weight 24gms. Central perforation may suggest use a spindle whorl of discoidal shape.
- 3 Circular weight, diameter 27mm, depth 4mm, weight 18gms. Central perforation may suggest use a spindle whorl of discoidal shape.
- 4 Circular weight, diameter 18mm, depth 8mm, weight 14gms. Central perforation may suggest use a spindle whorl of conical shape.
- 5 Circular weight, diameter 17mm, depth 10mm, weight 12gms. Central perforation may suggest use a spindle whorl of conical shape.
- 6 Circular weight, diameter 23mm, depth 5mm, weight 30gms. *Possibly* casting waste.

### 7.6 The Stone *by D J Garner*

#### 7.6.1 *Catalogue of the Stone*

- *Context 2*

- 1 Hard, smooth micaceous sedimentary rock. One flat face appears to have striations which may have been caused through use as a hone/whetstone.  
Dimensions: length 80mm; width 30mm.

## 7.7 Identification of the Metallic Small Finds by D Robinson, Grosvenor Museum

7.7.1 The following finds, recovered during the controlled metal detection exercise, were considered worthy of conserving and more detailed comment. They have been allocated small finds numbers (S/F) and are cross-referenced where appropriate on the distribution maps of the metal-detected finds (see Figs. 2 to 5).

### 7.7.2 Area W6/1

- Roman coin (S/F No. 4)

Copper alloy coin, completely corroded. Weight 4.52 gms. Probably an *as* or *dupondius* of the 1st or 2nd centuries AD.

### 7.7.3 Area W6/2

- Romano-British Disc Brooch (S/F No. 1; Plate 14)

Romano-British disc brooch; part of the dome and the pin hinge survive, with a small fragment of the pin still *in situ*. Estimated diameter across the dome is 20mm. The dome is decorated with radiating blue and red enamel triangles set in a ground which is now green from bronze corrosion products

Hattatt (1982, 140-1 and Fig. 59 no. 128) shows an almost identical brooch from Owmbly in Lincolnshire.

Date: mid-1st to early 2nd century AD.



Plate 14: Romano-British disc brooch, mid-1st to early 2nd century AD (S/F 1).

- Sestertius, half surviving (S/F No. 3; Plate 15)

Ae sestertius, of which only half survives. The obverse shows the neck and shoulders of a female bust, and the rear portion of the hair. The detailing of the hairstyle suggests that she was LUCILLA, daughter of Marcus Aurelius and wife of Lucius Verus. The reverse of the coin shows part of the draped body and arm of a female deity. The best parallel is a coin illustrated in BMC volume Vol. IV, plate 77, no.3, where the reverse figure is VESTA. Apart from the 'C' of 'SC' on the reverse no legend survives on either side of the coin.

Date: AD 164-169, but very worn; loss date may be third century.



Plate 15: Roman sestertius, only half remaining, AD 164-169 (S/F 3)

- Coin of George II (S/F No. 5)

Copper coin 29mm diameter; 1/2d of George II, young bust. Heavily corroded but little wear.

Date: 1729-1739



- *Denarius (S/F No. 10; Plate 16)*

Silver *denarius* of Hadrian. Obverse: IMP.CAE[SA]S.TRAIAN.HADRIANVS.AVG reverse: P.M.T.R.P.COS.III. Concord seated left; in exergue CONCORD c.f. RIC Vol. II page 354 no.118.

Date: AD 119-122.



*Plate 16: Silver denarius of Emperor Hadrian AD 119-122 (S/F 10).*

- *Silver Penny of Henry V (S/F No. 8; Plate 17)*

Silver penny in three pieces, blurred strike on irregular flan. Mullet to left of crown, trefoil to right, quatrefoil at centre of reverse cross. Henry V York mint, North Class C. Some wear.

Date: 1403.



*Plate 17: Silver penny (in three pieces) of Henry V, AD 1403 (S/F 8).*

#### 7.7.4 Area W6/3

- *Silver Penny of ?King John (S/F No. 6; Plate 18)*

Silver penny in two pieces, heavily clipped and small fragment missing. Struck badly off centre. Weight 0.73gms. Probably King John, North Class 5. Some wear.

Date: c.1205-1218.



*Plate 18: Silver penny (in two pieces), probably of King John, c. AD 1205-1218 (S/F 6).*

#### 7.7.5 Area W15

- *Copper coin or token (S/F No. 9)*

Smooth copper disc 26.50mm diameter; ½d or ½d token.

Date: probably late 18th century. Very worn.

#### 7.7.6 Area W19

- *Copper coin or token (S/F No. 2)*

Smooth copper disc 26.50mm diameter; ½d or ½d token.

Date: probably late 18th century. Very worn.

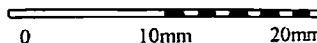


### 7.7.7 Area W28

- *Silver Penny of Edward III (S/F No. 7; Plate 19)*

Silver penny. Weight 0.93gms.  
Edward III, Bristol mint, North Class  
III. Very worn.

Date: 1280-1281.



*Plate 19: Silver penny of Edward III, AD 1280-1281 (S/F 7).*

8.1 Despite initial difficulties relating to site access and timescales, the programme of archaeological investigations proved most worthwhile. The techniques employed were designed to focus gradually upon areas of surviving archaeology directly threatened by pipeline construction; the approach proved effective and resulted in the identification of important archaeological remains lying within the pipeline construction corridor. The areas available for detailed examination were, of necessity, confined to the pipeline construction corridor and as a consequence it is difficult to draw broad conclusions regarding the archaeology observed.

8.2 However, these limitations notwithstanding, it is clear from the results of the excavations in Areas W6/1 & W6/2, that a small portion of a hitherto unknown Roman settlement was exposed close to Aston Park House. The trench locations, geophysical survey transects and main features identified during the desk-based assessment and archaeological excavations within Area W6, are shown on Figure 40. Disappointingly, no trace of the aerial cropmark feature was observed in trench 1 and the north-westward return of the feature (see Fig. 40) does not align with context (7); thus two separate linear features are suggested. A pit (3) of Roman date was positively identified within trench 1 and the excavations have also demonstrated clearly that the linear feature (7) in trenches 4a and 4b, identified initially during the geophysical survey, is indeed a Roman ditch.

8.3 The character of the ditch, context (7), indicates that it is likely to have once formed part of a Romano-British enclosure; *perhaps* a farmstead. Within the small portion examined, no remnants of a bank were noted on the north-east side - the assumed interior of the enclosure ditch - and no features suggestive of a timber palisade were recorded. The only other Romano-British feature positively identified was the pit, context (3), at the east end of trench 1, some 200m east of the ditch (7) and clearly outside the line of the cropmark feature identified during the desk-based assessment. The finds produced by the fill of the pit again indicate a broad second or third century date for the feature. The presence of a small quantity of iron-working slag implies smelting and perhaps smithing activity on the site.

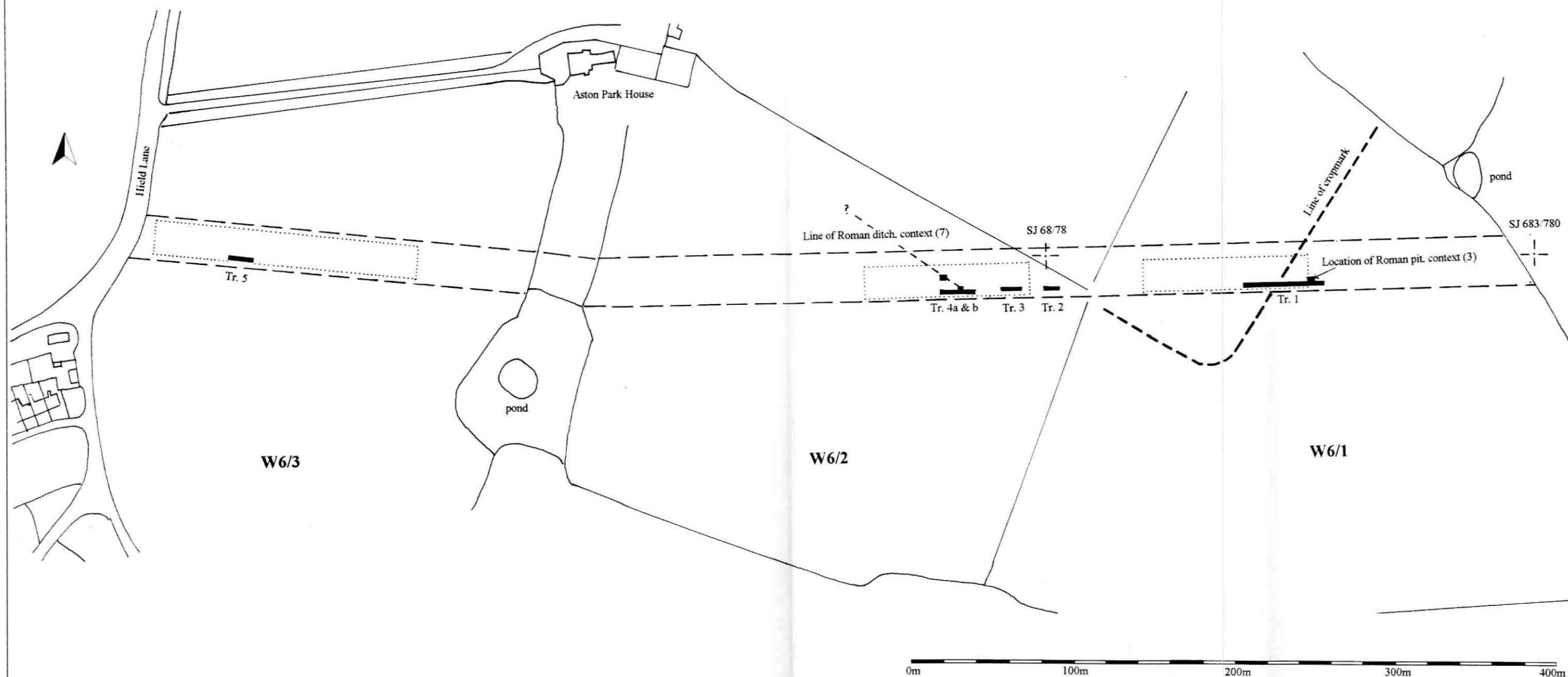
8.4 Only a glimpse of the settlement's constituent elements has been achieved through the investigations and the morphology of the settlement as a whole, of course, cannot be determined. Consequently, a clear understanding of its extent, status and function is not possible. However, the natural topography of the location suggests that the focus of the settlement lies towards the crest of ground between Areas W6/1 and W6/2 (see Fig. 40) and the disposition of the features exposed, together with the distribution of the finds recovered, indicates an area of archaeological interest at least 200m from east to west. No structural or occupational sequence can be contemplated, but both the residual and stratified finds recovered during the investigations point to occupation between the second and third centuries AD. The quality of the metalwork retrieved during the metal detection scan, together

with the broad range of pottery in use during the site's occupation, may speculatively point to higher status occupation nearby, and the presence of a Roman villa in the locality cannot be ruled out.

8.5 The lead weights/spindle whorls retrieved through metal detection were all unstratified, and thus not recovered from a datable archaeological contexts; they do suggest, however, that the crafts of weaving and spinning were taking place nearby. Closest comparisons (see 7.5) suggest a mediaeval date for these artefacts, but all were found within Area W6/2, the zone of demonstrable Roman activity.

8.6 Of further interest is the residual prehistoric flintwork recovered during the investigations. Again, the material does not come from a stratified archaeological context and the small number of finds makes it difficult to draw general conclusions. However, its identification will assist in the general understanding of the distribution of prehistoric material within Cheshire. It is perhaps noteworthy that, in consideration of the sitework methodology, as many as seven flints were recovered.

8.7 No archaeological remains or deposits were observed in Areas W7, W8, W15, W17, W19 and W28.



**Figure 40:** Area W6, the vicinity of the Roman settlement. The areas of geophysical survey, locations of trial trenches 1 to 5 and the line of the Roman ditch (identified during the geophysics and picked up during the fieldwork in trench 4) have been marked. Also shown is the line of the linear cropmark feature identified during the initial desk-based assessment. Although trench 1 was positioned to cut through the line of this potential feature it was not identified during the fieldwork. The extent of the Roman settlement is difficult to determine - based on the information recovered. However, the features observed, the distribution of pottery and other finds, together with an assessment of the natural topography of the location, suggest that the area of archaeological interest extends over an area at least 200m from east to west and is perhaps focused towards the crest of land at the junction between Areas W6/1 and W6/2. The projected line of the cropmark (taken from Wessex Archaeology, 1996, Fig. 7.2) is not continued convincingly in the line of the Roman ditch context (7) identified in trenches 4a & 4b; indeed, the Roman pit recorded in trench 1 clearly lies outside its line. Further investigation would be required to properly assess the character of the cropmark and the extent of the Roman settlement. Scale 1: 2500.

Key	
	Pipeline construction corridor
	Areas of geophysical survey
	Evaluation trenches

9.1 In this central part of Cheshire, Roman settlement was primarily military or industrial in character. At nearby Northwich an auxiliary fort was established during the late first century AD, probably to oversee the production of salt. Scattered finds of the Roman period hint at rural settlement in Cheshire (see particularly Petch, 1987, 212-215) but little is known about the distribution and character of occupation of the Romano-British countryside. The investigations have allowed a glance at a Romano-British settlement, probably the edge of a ditched enclosure forming part of a farming settlement on well-drained sandy soil. No signs of structure within the enclosure were noted but occupation, on the strength of the limited pottery evidence, occurred during the second and third centuries AD. The finds also suggest other activities, such as iron working, on the site.

9.2 The investigations have thus provided a valuable contribution to the overall picture of rural settlement during Roman times in Cheshire and will assist in the future management of archaeology in this general area. The natural topography, together with the configuration of features observed, suggests that the focus of the settlement lies close to a noticeable crest, the line of which, in this location, roughly follows the field boundary separating Areas W6/1 & W6/2. Any future opportunity for further fieldwork would help to clarify the extent and character of the Roman settlement.

9.3 Elsewhere, although no archaeological remains were observed in Areas W7, W8, W15, W17, W19 and W28, it cannot be stated confidently, because of the limited sample area investigated, that no archaeology of merit survives within these locations.

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APPENDIX

The site archive will be permanently stored at Cheshire Museums' Archaeological Store, Northwich. At the time of writing it is understood that all finds recovered during the investigations will be returned to the landowners. The archive will include:

- 36 context sheets
- 154 colour prints (35mm) and negatives in archival sleeves
- 64 mounted slides
- photographic index
- all original site drawings (plans & sections)
- drawing index
- EDM tying in plans
- a copy of the final report
- a copy of the full GeoQuest geophysical report
- X-ray plate of finds sent for conservation

## APPENDIX

**CONFIDENTIAL****BRIEF FOR ARCHAEOLOGICAL EVALUATION  
NETHER TABLEY TO WINNINGTON GAS PIPELINE, CHESHIRE**

SJ 6480 7460 to 7090 7800

Prepared for PowerGen CHP Ltd

by  
Cheshire County Council  
 Environmental Planning

All enquiries regarding this brief should be addressed to:

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9 July 1997

NETHER TABLEY TO WINNINGTON GAS PIPELINE, CHESHIRE  
(c. SJ 6480 7460 to 7090 7800)

Brief for archaeological evaluation

*This brief has been prepared by the Archaeological Officer (Development Control), Cheshire County Council (hereafter referred to as the 'Planning Archaeologist'), for PowerGen CHP Limited (hereafter the 'Client'). It is the copyright of Cheshire County Council and is not to be reproduced or amended in any way without the express consent of Cheshire County Council.*

1. Summary

- 1.1 PowerGen CHP Ltd has applied for consent to construct and operate a new Combined Heat and Power (CHP) plant at Winnington, Cheshire, to be fuelled by natural gas. In order to transport this gas, it is proposed to construct a pipeline to connect the CHP plant with an existing gas supply pipeline at Nether Tabley. An Environmental Statement has been prepared which identifies a number of archaeological sites which will be affected by the proposals. Recommendations have been made for further archaeological work, including field evaluation, and this brief has been prepared accordingly to define the scope of the evaluation work.
- 1.2 Tenders are invited from suitably-qualified archaeological organisations to carry out a programme of archaeological evaluation of the pipeline route in order to assess the archaeological implications of the proposed development.

2. Background

- 2.1 An application has been made to the Department of Trade and Industry for Pipeline Construction Authorisation for a gas pipeline between Nether Tabley and Winnington, Cheshire. An Environmental Statement was prepared for PowerGen CHP Ltd by Penspen Environmental in September 1996. Section 7 of this Statement, on Archaeology and Heritage, incorporates the results of a preliminary desk-based assessment and field inspection undertaken by Wessex Archaeology.
- 2.2 The Environmental Statement identifies a number of sites of archaeological interest within the search corridor and assesses the impact of pipeline construction upon them. Recommendations have been put forward for further archaeological work, including field evaluation in advance of pipeline construction. The precise route of the pipeline has yet to be finalised and the successful archaeological contractor is advised to ensure that the most up-to-date information is available before finalising any work on site.
- 2.3 The route of the proposed gas pipeline is described in Chapter 2 of the Environmental Statement, as are the proposals for the pipeline construction. Broadly, these will entail topsoil stripping within a working width of a corridor between 25m - 30m wide. The pipe trench will generally be 0.6m wide and 1.5m deep.
- 2.4 The majority of the known archaeological sites identified within the search corridor are of uncertain, or medieval and later date. These are described in Section 7 of the Statement. The limited number of pre-medieval sites may be a reflection of the lack of previous fieldwork in this area. A notable concentration of sites is recorded in the immediate vicinity of Great Budworth village and a 2km section of the pipeline in this area has been identified as the area of greatest sensitivity along the route (Sites W8, 15, 17, 18 & 19). Other features of significance which will be affected include Aston Park (Site W6) and linear cropmarks (Site W28).

- 2.5 Detailed mitigation measures are outlined in Section 7 of the Statement, from paragraphs 7.84 onwards (pp 7-18-20). The recommendations for field evaluation prior to construction (paragraphs 7.85-7.90) form the basis for this brief.

### 3. Brief

- 3.1 The brief is to carry out archaeological field evaluation of the proposed development area, in order to determine the nature, depth, extent and state of preservation of any archaeological deposits identified, and to prepare a report assessing the archaeological implications of the proposed development.
- 3.2 The preferred option is the preservation *in situ*, wherever possible, of significant archaeological features and deposits, whether through design modification or other mitigation measures. Only where preservation *in situ* proves impracticable should the reserve option of excavation be considered.

### 4. Tenders and Project Design

- 4.1 Tenders must be received by the time and date specified in the covering letter.
- 4.2 They must be accompanied by a written project design detailing the following:
- .1 the names of the project director, supervisors, specialists and any sub-contractors to be employed on the project.
  - .2 the proposed timetable.
  - .3 the location and extent of proposed survey/excavation areas.
  - .4 the proposed methodology, including the survey/excavation methods, recording system and sampling strategy to be employed. Techniques additional to those specified in this brief may be considered with the agreement of the Client and the Planning Archaeologist.
  - .5 an itemised estimate of costs under the following headings:
    - .1 management/project staff
    - .2 specialist fees
    - .3 travel/subsistence
    - .4 site works
    - .5 equipment/materials
    - .6 archive preparation and copying
    - .7 report preparation
    - .8 finds storage fees
    - .9 overheads
    - .10 contingency
    - .11 specified other costs
- 4.3 Contractors, sub-contractors and specialists are expected to conform to the requirements set out in Cheshire County Council's *General Conditions for Selected Archaeological Contractors and Consultants*.
- 4.4 It is the contractor's responsibility to ensure that all third party costs, such as specialist, SMR, archive and storage fees, are included in the tender.



4.5 Contractors may wish to discuss their draft project design with the Planning Archaeologist before formal submission.

## 5. Specification

5.1 Evaluation should concentrate on those areas identified in paragraphs 7.85-7.90 of the Environmental Statement. In view of the varied land use within the application area, a variety of evaluation techniques may need to be applied, and these should be restricted to the proposed working width of the pipeline. They may include any or all of the techniques listed in 5.2-6.

5.2 Surface inspection of accessible areas.

5.3 Systematic fieldwalking and, where appropriate, surface collection of artefacts.

5.4 Systematic metal detection, either by the contractor or by local metal detecting club(s) affiliated to the NWFMD and NCMD and working under direct archaeological supervision. Ideally, fieldwalking and metal detection should be carried out simultaneously.

5.5 Geophysical survey of selected areas based on the results of 5.2-4. The strategy should include a sample area to test the suitability of the local geology for both gradiometry and resistivity survey.

5.6 Test-pitting or trial trenching of selected areas, based on the results of 5.2-4

.1 machine trenching may be used for the excavation of topsoil and demonstrably disturbed or recent deposits. All other excavation should be carried out stratigraphically and by hand.

.2 excavation should be kept to the absolute minimum necessary to determine the nature, depth, state of preservation and extent of any archaeological features identified.

.3 all deposits must be fully recorded on appropriate context sheets, photographs, scale plans and sections.

.4 metal detector scanning of excavated topsoil and spoil heaps may be undertaken, under archaeological supervision, for the recovery of unstratified artefacts.

.5 any artefacts or ecofacts must be retained for summary analysis and subsequent deposition or disposal

5.7 Methods of reinstatement must be agreed with the Client in advance of submission of tenders.

5.8 The precise location of all trenches on site should be agreed with the Planning Archaeologist and the Client.

5.9 The project archive should be completed and deposited with an appropriate registered museum.

## 6. Access and Safety

6.1 Access to the site should be arranged through the Client. Access routes must be maintained at all times.

- 6.2 All trenches must be fenced and shored to meet current Health and Safety requirements. It is the contractor's responsibility to ensure that any services remain undisturbed and that Health and Safety requirements are fulfilled.

## 7. Report

- 7.1 Two copies of the report must be submitted to the Client and two to the Planning Archaeologist within twelve weeks of the commencement of the contract.

- 7.2 The report should consist of the following:

- .1 a concise, non-technical summary of the project results.
- .2 a copy of the brief and agreed project design, and an indication of any variation on the agreed project design.
- .3 a summary of methodology.
- .4 a location plan at an appropriate scale.
- .5 a summary of past and present land-use.
- .6 a summary of the historical background.
- .7 a plan and gazetteer of areas or sites of known or potential archaeological significance within the study area
- .8 survey/excavation plan(s) and section(s) at an appropriate scale.
- .9 monochrome and colour photographs where appropriate.
- .10 a summary description of archaeological features or deposits identified.
- .11 a summary report of artefacts or ecofacts recovered.
- .12 a full bibliography of sources consulted, and a list of any further sources identified but not consulted.
- .13 an interpretation of the results and their potential archaeological significance.
- .14 an index to the project archive.

- 7.3 The report should be confined to a factual account of the features of archaeological significance revealed by survey/excavation. Any recommendations for mitigating measures should be presented in the form of a separate annexe to the main report.

## 8. Project Monitoring

- 8.1 The project will be monitored by the Planning Archaeologist, to whom not less than seven days' written notice must be given of the commencement of work.

- 8.2 It is the contractor's responsibility to ensure that monitoring takes place by arranging monitoring meetings as follows:

- .1 a preliminary meeting at the commencement of the contract.
- .2 progress meetings during fieldwork tied into specific phases of the project, the timing to be agreed with the Planning Archaeologist.
- .3 a meeting to discuss the draft report and archive before completion.

- 8.3 It is the contractor's responsibility to ensure that any significant results are brought to the attention of the Planning Archaeologist as soon as is practically possible.

9. Further Information

9.1 Further information or clarification of any aspects of this brief may be obtained from:

Gail Falkingham  
Archaeological Officer (Development Control)  
Cheshire County Council  
Environmental Planning  
Commerce House  
Hunter Street  
CHESTER CH1 2QP

Tel. Chester (01244) 603204  
Fax. Chester (01244) 603110

9.2 References

- |                       |      |  |
|-----------------------|------|--|
| PowerGen<br>CHP Ltd   | 1996 | Environmental Statement - Written Statement for the Construction of the Nether Tabley to Winnington Gas Pipeline.                              |
| Wessex<br>Archaeology | 1996 | Proposed Pipeline to Winnington, Northwich (Cheshire)<br>Environmental Statement - Archaeology and Heritage<br>(WA ref. 42156, September 1996) |

## 1 INTRODUCTION

1.1 There are proposals by PowerGen CHP Ltd for the construction of a gas pipeline to serve a new Combined Heat & Power Plant. The pipeline will run from an existing facility at Nether Tabley to Winnington, Cheshire, the site of the new plant. As part of an Environmental Statement, a desk-based archaeological assessment of the proposed pipeline corridor was undertaken by Wessex Archaeology. Several sites of archaeological interest and potential were identified within the search corridor and recommendations were made for further archaeological work prior to any ground disturbance associated with pipeline construction.

1.2 Accordingly, a Brief (ref: WINN-BR.424/129 and dated 9 July 1997) for a controlled programme of further, staged assessment designed to focus in on areas of particular archaeological sensitivity, has been drawn up by Gail Falkingham, Planning Archaeologist with Cheshire County Council. Following preliminary discussions with the Planning Archaeologist, the following framework for the investigations has been drawn up in accordance both with the County Brief and the guidelines given in Appendix 2 of *Management of Archaeological Projects* (English Heritage, 2nd edition, 1991).

## 2 PRIMARY AIMS and OBJECTIVES

2.1 Using a variety of archaeological techniques, the primary objective of the project will be the identification of archaeologically sensitive zones within the working width of the pipeline corridor and the retrieval of sufficient data (eg location, date, depth, extent, significance, complexity and vulnerability of archaeological strata) to enable an informed decision to be made regarding the future management of any archaeological remains identified.

2.2 To compile a full and illustrated report setting out the results of all stages of the evaluation in full accordance with the Brief.

2.3 The final response to the results of the evaluation will be determined by Cheshire County Council Environmental Planning Service.

## 3 METHOD PROPOSAL

A logical, staged progression to the evaluation is outlined below; this will aim to achieve a rapid focus on, and definition of, zones of particular archaeological sensitivity within the working width of pipeline construction. This will enable an appropriate mitigation strategy, or a programme of further archaeological recording, to be implemented. The archaeological work will be confined to the working width of the pipeline corridor and to the previously identified areas requiring further evaluation.

- *Stage 1:* Fieldwalking and systematic metal detector scan
- *Stage 2:* Geophysical survey
- *Stage 3:* Field evaluation
- *Stage 4:* Finds analysis & production of report & archive.

### 3.1 Stage 1: Fieldwalking & Metal Detecting Scan

Where accessible, the areas potentially affected by pipeline construction, namely W6, W7, W8, W15, W17, W19 & W28, will be the subject of a systematic fieldwalking exercise. All features identified, and significant finds recovered during fieldwalking, will be plotted onto base maps at an appropriate scale.

### **3.1.1 Fieldwalking**

- *Areas W6, W7, W8, W15, W17, W19 & W28 will be fieldwalked in transects of 10m width*
- *any surface irregularities/potential features identified will be plotted onto base maps at an appropriate scale*
- *any surface finds collected will be plotted onto base maps at an appropriate scale*
- *all finds will be cleaned and summarily analysed; no artefacts collected will be removed from site without the permission of the landowner(s) and the Client.*

Wherever ground conditions are suitable, and areas accessible, the full length of the pipeline working width will be subject to a rapid scan by metal detector. All metal detecting will be supervised by a senior member of Earthworks' staff and in consultation with Mr P Haslem, Chairman of the North-West Federation of Metal Detectors.

### **3.1.2 Metal Detector Survey**

- *where accessible, the full working width of the pipeline will be subject to a systematic programme of metal detection*
- *any finds located will be collected and plotted onto base maps at an appropriate scale*
- *the survey will be undertaken by the Crewe & Nantwich Metal Detecting Society under the control and supervision of Earthworks Archaeology*

Upon completion of both the fieldwalking and metal detection, all data will be analysed for indications of particular concentrations of material that may suggest past activity. This information will be compared - in consultation with the Client and the Planning Archaeologist - with the results of the desk-top assessment in order to determine the exact location of areas of geophysical survey; the outline technical proposal (below) for systematic coverage by geophysical survey has been devised in consultation with both Gail Falkingham, Cheshire County's Planning Archaeologist, and Dr Mark Noel, GeoQuest Associates, Durham.

## **3.2 Stage 2: Geophysical Survey**

The aim of the investigation will be to map any subsoil archaeological features along the working width of pipeline construction. Taking into consideration the local geology and existing archaeological evidence it is considered that geomagnetic mapping would be most appropriate for this site investigation. However, tests will also be made of the use of electrical resistivity survey in order to test the utility of this technique and the tender will include a contingency sum for a small sample area (0.125 ha) using electrical resistivity survey. The geomagnetic survey proposed will comprise:

- *use of a Geoscan FM36 fluxgate gradiometer to scan rapidly the entire length of the working width, where ground conditions and access allow, to identify possible areas of archaeological potential*
- *further, more detailed geomagnetic survey of areas identified during the rapid scan and Stage 1, up to a maximum combined area of 1 ha*
- *results from the survey will be interpolated to a resolution of 0.25m x 0.25m for printing and interpretation using the GeoQuest InSite® Windows program*
- *results will be presented as grey scale images (both raw and filtered) and trace plots (if required) at a standard mapping scale, on a digitised OS base map, together with geophysical and archaeological interpretations*
- *on request AutoCAD drawing and bitmap images files will be supplied for incorporation into the SMR/archive or for further manipulation*

## **3.3 Stage 3: Field Evaluation**

The precise number, size, alignment and distribution of the trial trenches, if required, can only be determined in consultation with the Client and the Planning Archaeologist following the completion of Stages 1 & 2.



However, the tender will include a figure for a flexible programme of trial trenching of a total area not exceeding 1000m<sup>2</sup>, approximately 2% of the total area of the working width.

### **3.3.1 *Fieldwork Methodology for Trial Trenching***

- *all trenches, where accessible, will be opened up by JCB machine using a wide toothless blade; the machine driver will be experienced in the use of plant machinery on archaeological sites. Only demonstrably modern deposits will be removed by machine in thin spits and under constant scrutiny by an experienced archaeologist. Machine excavation will stop at the first archaeological horizon and thereafter all excavation will be carried out by hand using only experienced archaeologists. Machine spoil will be stored neatly on site and used to backfill trenches, and restore ground profiles, upon completion.*
- *after machining, the hand excavation will be undertaken with a view to minimising the damage to sensitive archaeological deposits. However, in order to achieve an understanding of the extent and quality of any archaeology present, and to assist informed judgement, partial excavation of deposits and negative features will be required*
- *the archaeology will be recorded according to the normal principles of stratigraphic excavation, using context sheets, scale plans and sections; plans at scale 1: 20, sections at 1: 10. A location plan at a suitable scale will show the site and trench locations in relation to published boundaries*
- *a full photographic record of all site activities (colour prints and slides 35mm format) will be taken and a levelling survey carried out*
- *all artefacts recovered during the evaluation will be processed, analysed and catalogued, and will (with the permission of the landowner) form part the project archive. A summary catalogue and discussion of the finds will form an appendix to the final report*
- *appropriate attention will be given to the assessment of any archaeological deposits to yield environmental or technological data: the final report will include an indication of the deposits' potential for more detailed and meaningful post-excavation study of biological material.*

### **3.4 Stage 4: Analysis and Report**

Upon completion of stages 1 to 3 a full and illustrated report setting out the results of the project will be produced in accordance with the requirements of the Planning Archaeologist's Brief. The report will include:

- *a non-technical summary of the results*
- *methodology*
- *summary results plans as necessary of fieldwalking survey and metal detection scan*
- *results of geophysical investigations*
- *results of trial trenching*
- *interpretation of results and an assessment of the archaeological potential of the redevelopment area*
- *catalogue of artefacts recovered with summary discussion and illustrations as appropriate*
- *colour plates*
- *references consulted*
- *index to the project archive*
- *appended copies of the Brief and Project Design*

### **3.5 Confidentiality**

3.5.1 All information pertaining to, and generated by, the archaeological works would be treated as totally confidential by Earthworks. No publicity, or disclosure of any information, would take place without the permission of the Client.

### 3.6 Archive Production

3.6.1 The site archive will be completed in accordance with the guidelines given in the *Management of Archaeological Projects 2*. English Heritage, 1991. It will include a copy of the final report, specialist reports and all site records and finds (subject to the consent of the landowner) related to the project. The completed archive will be deposited with Cheshire County Council's Museums Service.

### 3.7 Health and Safety

3.7.1 All appropriate Health and Safety legislation will be complied with. On site Earthworks operates within the recommendations detailed in *The Health and Safety Manual of the Standing Conference of Archaeology Unit Managers* (SCAUM 1991) and in accordance with the Earthworks Archaeology General Safety Policy Statement (see Appendix) which identifies the more hazardous aspects of sitework.

3.7.2 Prior to the start of any siteworks Earthworks would prepare a *Risk Assessment* as part of the project's Health & Safety Plan.

### 3.8 Standards

3.8.1 Earthworks Archaeology operates within the *Code of Conduct* of the Institute of Field Archaeologists, and in accordance with Cheshire County Council's *General Conditions for Selected Archaeological Contractors and Consultants* 1997.

### 3.9 Project Monitoring

3.9.1 The project will be monitored by Cheshire County Council's Planning Archaeologist and the Client, both parties will be kept fully informed of progress and timetables. A preliminary meeting at the start of the project will be arranged with progress meetings as necessary during sitework.

3.9.2 During fieldwork any important archaeological features/deposits will be brought to the attention of both the Client and the Planning Archaeologist as soon as possible.

## **4 RESOURCES and PROGRAMMING**

### 4.1 Staffing

- |                       |   |
|-----------------------|---|
| • W S Walker BA; MIFA | overall project management; direction of sitework; excavation; report preparation and production; archive production                              |
| • L J Dodd BA         | day-to-day on-site direction of project, recording, contribution to elements of post-excavation analysis, post-mediaeval finds analysis & drawing |
| • D Garner BA         | site excavation, recording, finds analysis (mediaeval and earlier)  |

### 4.2 Specialists

- |  |  |
|--|--|
| • Dr M Noel, GeoQuest Associates, Durham               | geophysical survey   |
| • KM Construction, St. Asaph                           | plant hire   |
| • D J Garner BA L J Dodd                               | finds analysis and publication drawings  |
| • P Haslem<br>(Chairman: N.W Fedn. of Metal Detectors) | co-ordination of metal detection survey; liaison with Crewe & Nantwich Metal Detection Society |

### 4.3 Timetable

- |                                |            |
|--------------------------------|------------|
| • Field survey & detector scan | 2-3 days   |
| • Geophysical survey           | 2-3 days   |
| • Trial trenching              | 10-15 days |
| • Report production            | 8-10 days  |

## Appendix

### 5 GENERAL SAFETY POLICY STATEMENT *(in accordance with section 2(3) of HASWA 1974)*

#### 5.1 Introduction

5.1.1 Earthworks Archaeological Services recognises its statutory duty to ensure the Health and Safety of its employees. By far the most comprehensive Health and Safety legislation to reach the statute books is the *Health and Safety at Work Act 1974* (HASWA).

5.1.2 The following statement prepared by Earthworks Archaeology provides a workable framework covering the most important and potentially hazardous aspects of our activities.

#### 5.2 General Policy

5.2.1 It is the declared policy of Earthworks Archaeological Services to observe, so far as is reasonably practicable, the requirements of its statutory responsibilities, in particular the Health and Safety at Work Act 1974.

5.2.2 Earthworks recognises its responsibility to ensure the safety of all persons likely to be affected by the way its work is carried out, including our own employees, volunteers, members of the public, employees of other companies and visitors to site.

5.2.3 Whenever Earthworks operates on a sub-contract basis we consult and co-operate with the requirements imposed by the main contractor, where appropriate and reasonably practicable.

#### 5.3 Site Work: General Safety Procedures

5.3.1 On site Earthworks operates in accordance with the Health and Safety procedures as set out in *The Health and Safety Manual of the Standing Conference of Archaeology Unit Managers* (SCAUM 1991)

5.3.2 The Project Manager will undertake responsibility for all Health and Safety procedures on his/her site and will prepare, where appropriate, a risk assessment prior to the commencement of the project

5.3.3 *The following hazards should receive particular attention:*

- all necessary protective clothing and equipment will be used
- safety helmets must be worn at all times in trenches and on construction sites
- specialised protective measures should be taken when machinery is in operation (eg eye goggles, ear muffs etc.)
- face masks may be required in very dusty conditions
- shoes or boots with toe protection should normally be worn
- a high visibility waistcoat/jacket should always be worn on construction sites and during work on public highways

5.3.4 *During excavations the following rules must be observed:*

- regardless of the composition of the soils deep trenches (over 1.2m) should be adequately shored
- access to trenches should be safe and ladders of correct length should be used
- a hard hat must be worn
- do not jump across trenches or walk close to the trench edge which could give way
- spoil should be placed at a safe distance from the lip of the trench (at least 1m) to allow access and prevent undue pressure which may cause a collapse
- wherever possible work with a colleague, this will ensure help is at hand should an accident occur
- a first-aid kit and accident book will be kept on site at all times
- always securely fence off a trench before departure

#### 5.3.5 *Working with/near plant:*

- *high visibility vests are essential*
- *visibility from earth-moving machines can be poor so make sure your presence is known*
- *if at all possible avoid walking behind plant when in operation*
- *keep a safe distance at all times*
- *protect ears where appropriate, particularly during the breaking out of concrete with a jack-hammer*
- *have a constant awareness of overhead lines and underground service pipes and cables*

#### 5.3.6 *Portacabin Safety:*

- *heating appliances should be kept clear, especially of flammable materials, and there should be adequate ventilation; regular checks should be made to ensure safe operation*
- *appliances must be switched off overnight and during long periods of absence*
- *no smoking is allowed at any time in a portacabin*
- *the portacabin should be kept in a neat and tidy condition*

W S Walker  
Earthworks Archaeology  
April 1998  
EAS Ref: E283PD