

CPAT Report No 992

Wrexham Industrial Estate Access Roads

ARCHAEOLOGICAL SURVEY



THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

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Report for Capita Symonds

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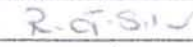
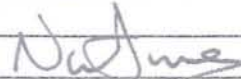
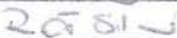
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Cover photo: Aerial view of the northern route (CPAT 08-C-0153)

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1 INTRODUCTION and BACKGROUND

- 1.1 In June 2003 the Field Services Section of the Clwyd-Powys Archaeological Trust (henceforward CPAT) completed a Stage One Archaeological Assessment of the area of several proposed alternative routes of new access roads feeding the Wrexham Industrial Estate on behalf of Symonds Group Ltd. This lies to the east of the town itself and between the arterial roads linking Wrexham to Nantwich (the A534) and to Whitchurch (the A525).
- 1.2 The assessment was prepared in accordance with the Department of Environment, Transport and Regions' current *Design Manual for Roads and Bridges* Volume 11 Section 3 Part 2, Section 8/1 (1993) as it related to Wales, and the scope of the assessment was defined in a brief prepared by Ms K Kucharski of Wrexham Archaeology Service in her capacity as archaeological curator for the region.
- 1.3 The assessment area extended over about 1,220ha (12.2km²) of predominantly agricultural land to the east and south-east of Wrexham, and the report provided a preliminary statement of the archaeology of that area. However, because of the sensitivity of the development proposals it was not possible fully to conform to the requirements of a Stage I assessment as designated in the *Design Manual*, for the field element had to be omitted from the work programme and only a limited visual examination of the landscape utilising public rights of way was attempted.
- 1.4 After the preliminary analysis for the Stage One Archaeological Assessment had been completed, the client identified the several possible route corridors for the new access roads and it was possible to consider the potential impact of each of these corridors on the archaeological resource as it was known from the desk-top assessment. The subsequent report, incorporating those route impacts, was distributed in June 2003 as CPAT Report No 542 (Owen *et al* 2003).
- 1.5 Twelve months later, in June 2004, CPAT Field Services were approached by Capita Symonds to conduct a further, Stage II Archaeological Assessment of a reduced number of route options.
- 1.6 Stage II of the *Design Manual for Roads and Bridges* Volume 11 Section 3 Part 2, Section 8/232-8/25 (1993) as it relates to Wales required the development of the appraisal report, prior to going to public consultation, including detailed field survey of archaeological remains as necessary, and consultation by the Overseeing Department (*i.e.* Capita Symonds) with Cadw on the recommendations made in the report and the impact of the route options on the archaeological resource. In the case of the Wrexham Industrial Estate it had been possible to complete a field walkover to inform the assessment, but given that it could only be through that mechanism that detailed field survey requirements might be identified, these were flagged solely as recommendations in the report (CPAT Report No 655) relating to that stage, which was submitted in August 2004 and included route impacts and further findings (Silvester 2004).
- 1.7 Stage III of the Archaeological Assessment was initiated at the instigation of Capita Symonds through the preparation of a 'Specification for Stage III Archaeological Works' by CPAT in February 2006, against a brief provided by Capita Symonds themselves. This specification was passed to Capita Symonds and, on their request, to Ms K Kucharski of Wrexham Museums Service for her consideration. A further 'Design Brief for Archaeological Assessment' (undated and without a reference code) was then produced by Ms Kucharski for the Stage III Assessment around June 2006. In the previous month the Environmental Impact Assessment Criteria had been circulated in draft form by Capita Symonds and carried a section on 'The Cultural Heritage'. In a revised form this section was subsequently (November 2006) circulated within the Draft Scoping Report for the proposed roads.
- 1.8 Two routes were identified for consideration in the Stage III Assessment, one to the north and one to the south of the industrial estate, the details for which were finalised in December 2006. Separate reports were then compiled by CPAT dealing with each route (CPAT Reports 842 and

- 843), and recommending mitigation strategies relating to both potential direct impacts on the archaeological resource and the possibility that presently unidentified archaeological remains might be affected by the proposal (Grant and Silvester 2007a; 2007b).
- 1.9 Outline planning permission was obtained for both the north and south routes in [April 2008], and attached to this was a condition relating to the cultural heritage, namely no.18 which stated:
An archaeological geophysical survey of the approved route corridor along with surface collection of artefacts on ploughed fields shall be carried out prior to the commencement of the development.
- 1.10 The next stage of archaeological assessment centred on the condition attached to outline planning permission was discussed from April 2008 and on 6 May what was required was outlined in a letter and accompanying statement from CPAT to Capita Symonds Ltd.
- 1.11 A specification for this next phase of work was prepared on 20 June 2008 and in July discussions were held with Mr M. Walters, of CPAT Curatorial Services, acting in his capacity as archaeological advisor to the local authority, to determine where and what form of geophysics was required.
- 1.12 Three quotations for the specialist geophysics work on the two road lines were sought in July 2008 against a fixed brief, and submitted to Capita Symonds Ltd in August 2008 for consideration by their clients. The three submissions were also assessed by Mr C Martin, Head of Curatorial Services at CPAT at the end of September who felt that, with one or two reservations, all were broadly acceptable. The geophysics were commissioned directly by Capita Symonds Ltd and ArchaeoPhysica of Hereford were appointed. Their surveys were conducted during May and June 2009 and passed to the writers by Capita Symonds Ltd in September 2009 in order that this report could be completed.
- 1.13 The fieldwalking programme was quoted for in August 2008 and commissioned in the following October. The works described here were carried out in advance of the commencement of construction work and were undertaken in the period between November 2008 and March 2009.

2 LOCATION, TOPOGRAPHY AND GEOLOGY

- 2.1 The northern route corridor extends from the eastern tip of urban Wrexham to the point where Hugmore Lane meets Abenbury Way on the northern edge of the industrial estate, a distance of approximately 2.7km. The route on the southern side of the industrial estate is 1.5km in length and runs northward from the A525 to the north-west of Cross Lanes, ending at the Cefn road which circles the perimeter of the industrial estate.
- 2.2 The landscape of this heavily agricultural portion of Wrexham Maelor is generally one of gently undulating topography, except for the steep sided valley followed by the A534 on the north. The more southerly part of the area is bisected by the River Clywedog, as it runs eastwards towards the Dee, and several smaller streams.
- 2.3 The underlying rocks of the area are generally sedimentary deposits of the Westphalian Series of the Carboniferous Era and undivided Triassic rocks (1994 British Geological Survey Map of Wales). The soils derived from this underlying geology are relatively complex, but include deep well-drained sandy and coarse loamy soils of the Newport 1 Association and fine loamy and clayey soils of the Salop Association which can be prone to seasonal waterlogging. Adjacent to the Clywedog are reddish river alluvium of the Compton Association, clayey soils which can be at risk of flooding (Soil Survey of England and Wales map and legend; Rudeforth *et al* 1984, 112; 204; 222).

3 GEOPHYSICAL SURVEY

- 3.1 The results of the geophysical survey by ArchaeoPhysica are detailed in a separate, illustrated report (WIE081 and dated 23 to 25 June 2009) produced by that organisation and authored by A C K and M J Roseveare. Geophysics was conducted along much of the length of each route, though access to a single field on each route was not possible.
- 3.2 Their non-technical summary states that:
“the results imply that most of the two routes have low archaeological potential with a number of former field boundaries and also areas of ridge and furrow cultivation apparent. However, the northern end of the northern road contains weak anomalies that hint at possible prehistoric activity but the certainty of this being the case is low”(page i)
- 3.3 cursory examination of the geophysics plots bears out this cautious interpretation. Traces of ridge and furrow cultivation are clear in two fields and almost certainly reflect the presence of medieval open field agriculture whose traces are ubiquitous in this part of Wrexham Maelor. The anomalies in one field on the northern route are not immediately intelligible. They could be non-archaeological but there is at least the possibility that they have a man-made origin and could thus be prehistoric or Romano-British although perhaps not later in their date. It would probably be unwise to write them off as of no consequence.

4 FIELDWALKING SURVEY

- 4.1 Fieldwalking is crop-specific. It cannot be undertaken on pasture and is pointless in a well-developed cereal or root crop. The optimum times are the autumn or spring, usually after the ground has been ploughed and harrowed and after rain has washed and weathered the soil. The ground should thus be bare, or the crop only just showing. In practice achieving these optimum conditions is not always possible, and on the northern route the one field available had to be examined while detritus from the previous crop was still on the ground.
- 4.2 The southern route had three fields under arable cultivation during the period available for fieldwalking, all in the northern half of the route. Further south all the fields – six in number – appeared to be under pasture. The northern route was even more restricted. Here the single large field in the angle between the A534 and Hugmore Lane was surveyed, but the fields to the west and south were all under pasture, the golf course or scrub.
- 4.3 Regarding the material collected, all finds considered to be of 19th-century or later date were generally ignored, these most probably having been distributed through the soil as a result of relatively recent manuring designed to improve its fertility. All significant material of earlier date was placed in individual polythene bags on which the grid reference of each find spot was marked. The grid references were determined through the use of a hand-held GPS receiver, giving an accuracy of c.5m for each find. Subsequently, the finds for both routes were given unique numbers in an ascending sequence, and basic details for each are given in the list below. The finds have since been plotted against a base map that shows the areas examined by fieldwalking and are colour-coded by period on Figs 2 & 4. Details are tabulated in Appendix 1.
- Southern Access Road (Figs 1 & 2)*
- 4.4 The fieldwalking survey in the fields traversed by the southern access road was carried out on 9 & 10 December 2008 by a team of two or three experienced field archaeologists. Three fields were examined by means of parallel transects of 2m spacing, a figure calculated to provide optimum complete coverage within a reasonable period of time. All of the fields were in arable cultivation and had been recently tilled, thereby exposing the soil for examination. Transect alignment within the corridors depended on a number of factors, of which the most significant

were field shape and the alignments created by seeding the recently planted crop. The area of scrutiny comprised the proposed road alignment and a buffer zone of a minimum of 10m and maximum of 20m to either side, totalling 2.9ha overall (See Fig 1). In total 36 finds were recovered.

- 4.5 Most of the finds belonged to the 18th century, including both pottery and clay pipe. These are not likely to be of particular significance as guides to earlier settlement locations, but were recorded to provide a useful baseline against which to assess finds of earlier periods. A small number of the pottery fragments appeared to belong to the earlier part of the post-medieval period and even less (only two, Find Nos 1 and 5) could be ascribed a potential medieval date. A few pieces of flint were observed, most of these being cores or roughly broken fragments which are considered to be of natural origin. Of the four flint flakes which were recovered, only one (Find No 8) had been worked, but this merits further mention as it could be either a short piece of a plano-convex blade of prehistoric origin or, potentially, a gun flint that dates to around the 17th century.

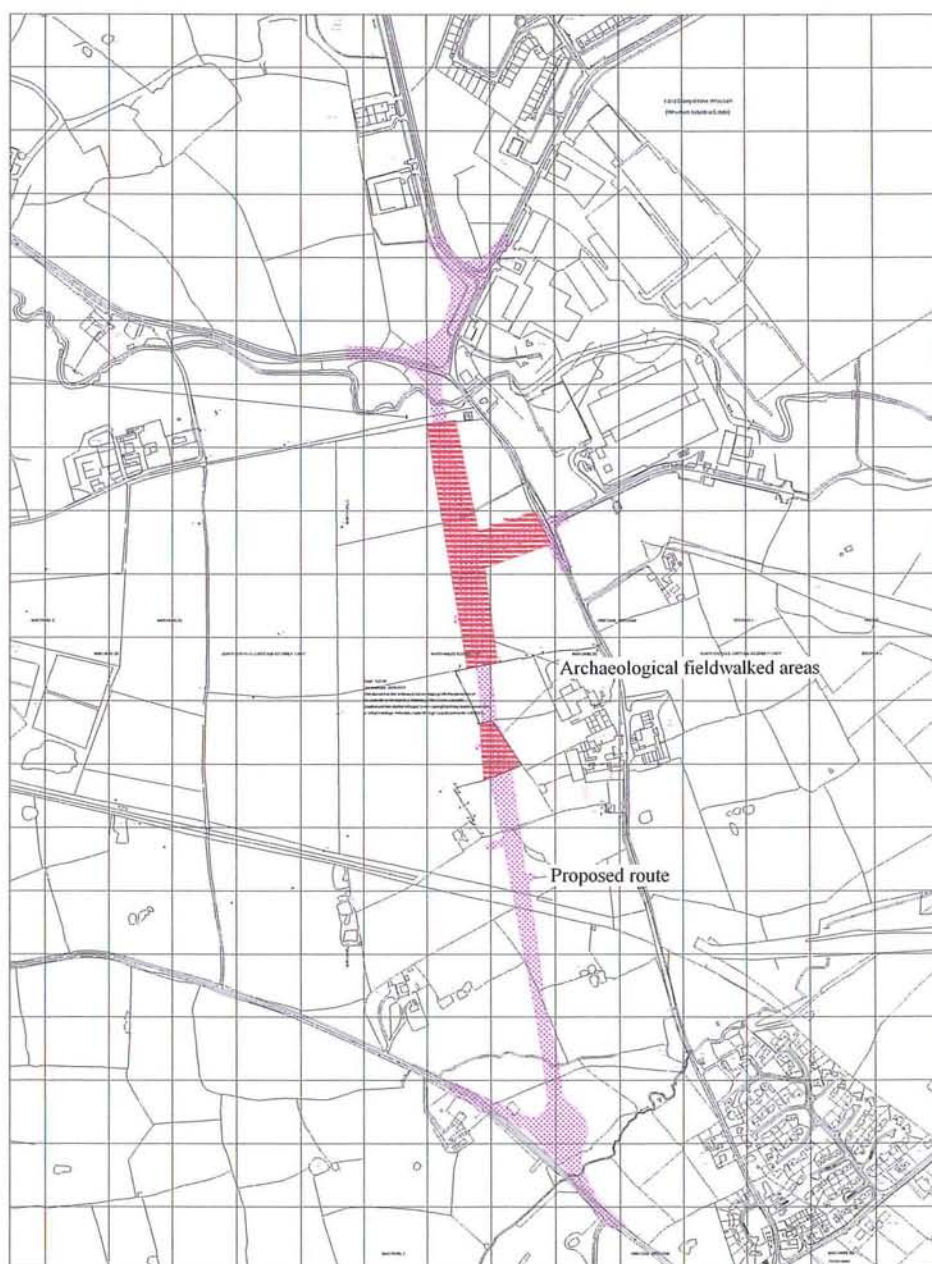


Fig. 1 Southern Access Road, showing the areas examined by fieldwalking



Fig. 2 Location of finds recovered during fieldwalking in relation to the areas examined on the route of the Southern Access Road

Northern Access Road (Figs 3 & 4)

- 4.6 The survey of the single available section of the northern access road was carried out on 17 March 2009. One large field was examined, this being under arable cultivation and having remained untilled since its last crop had been removed before Christmas 2008. Despite the time which had elapsed since the removal of the crop, the soil surface was still reasonably visible for

examination. The area of scrutiny comprised the proposed road alignment and a buffer zone of between 15m and 20m to either side, totalling 5.1ha overall (See Fig 3). A total of 27 finds were recovered.

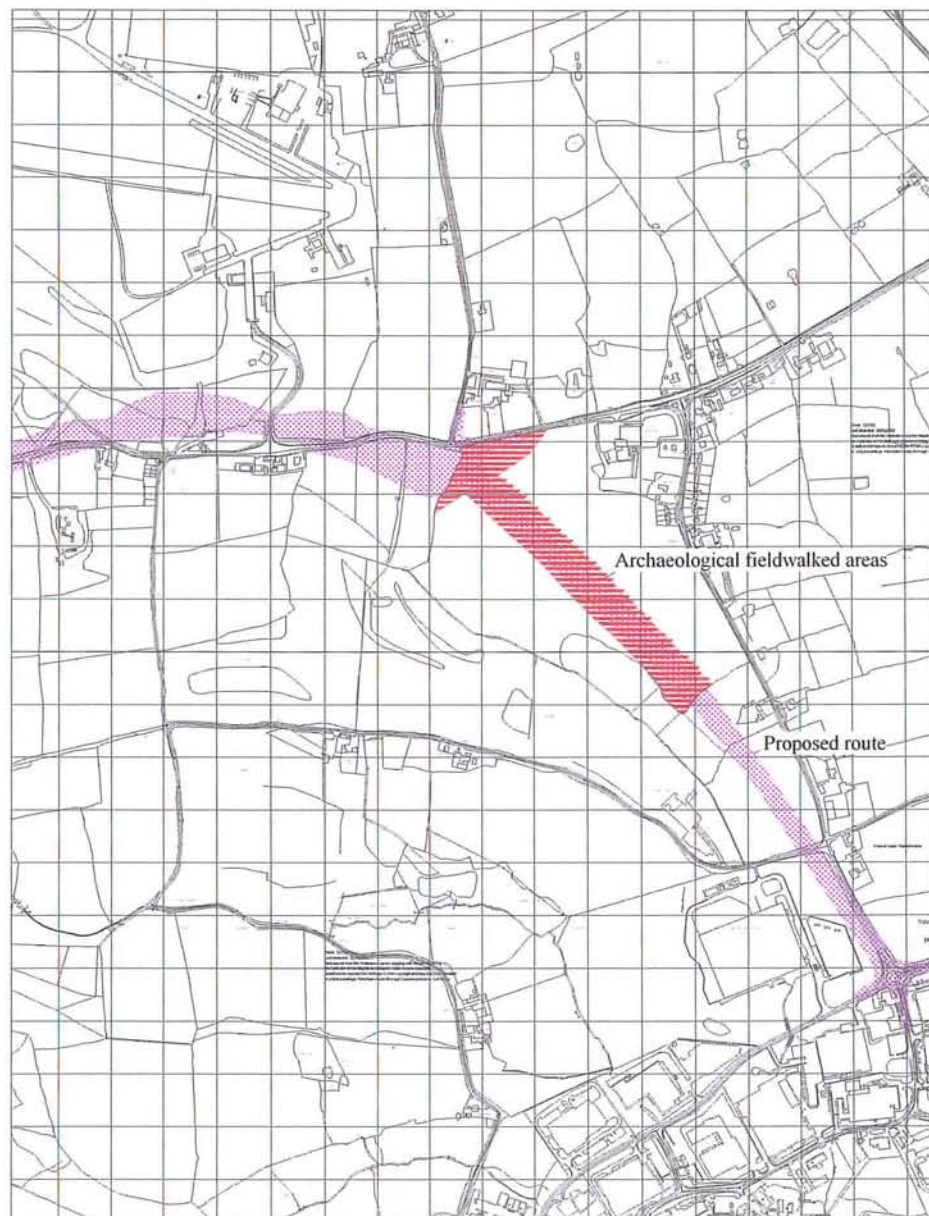


Fig. 3 Northern Access Road, showing the area examined by fieldwalking

- 4.7 The survey was again carried out by means of parallel transects, but in this case of 3m spacing, slightly wider than the survey of the southern route but still capable of giving a good coverage within the time available. The trend of the transect alignment was generally north-east/south-west, which matched the alignment of the stubble left from harvesting the crop.
- 4.8 Nineteenth-century and more recent material was again ignored, and most of the finds recovered (19 of the 27, or 70%) belonged to the post-medieval period, including both pottery and clay pipe. A small number of the pottery fragments appeared to belong to the earlier part of the post-medieval period, but in contrast to the southern area rather more pottery sherds (five in total or 18.5%) could be ascribed a medieval date, and at least one of these (Find No 40) was part of the strap handle of a jug. Two flints utilised in the prehistoric period were recovered, one of which

(Find No 41) bore evidence of retouch and appeared to be a scraper. One artefact, a possible sharpening or rubbing stone (Find No 43), could not be conclusively dated.



Fig. 4 Location of finds recovered during fieldwalking in relation to the area examined on the route of the Northern Access Road

Overview

- 4.9 Overall, the finds provide general evidence of occupation in the locality of the two routes in the prehistoric, medieval and post-medieval eras, though the find densities were insufficient to suggest that either route traverses an occupation site. The only area which was slightly anomalous was at the south-east end of the field examined on the northern route, where a group of four medieval pottery sherds were recovered. This might signify an increase in medieval activity near Hugmore Lane, although there are other possible reasons for its presence, such as the dumping of imported material, which are of less relevance to the study.

5 OTHER WORKS

- 5.1 No other works were commissioned, other than the preparation of this report.

6 FUTURE MITIGATION

- 6.1 Determination of further mitigation for the impact of the two proposed roads on the cultural heritage should be requested from the official archaeological curator(s) for the region. This could conceivably be the Heritage Services Manager of Wrexham County Borough Council, although in this specific situation it is more likely to be Mr M Walters of CPAT Curatorial Services (see section 1.11 above).
- 6.2 Notwithstanding any official requirements identified by the archaeological curator, we feel that the fieldwalking and geophysics in combination have failed to disclose any significant sub-surface archaeology on the proposed route. However, there are potentially interesting anomalies in the field south-west of Gourton Hall where part of the Gourton Hall roundabout will be constructed. The geophysicists are uncertain about their significance, and it remains possible that they are archaeological features of an earlier age. It is clearly desirable that this ambivalence is removed, and it is recommended that in order to avoid any delay to the contractors during construction works in this field, trial trenches be excavated to assess these features. This work should be done in advance of any earthmoving or construction works on site, and enough time should be allowed for further excavation in the event that the anomalies prove to be of an archaeological origin.
- 6.3 It cannot be assumed that there is no archaeology along the lengths of the two access roads, just that it has not been revealed by conventional techniques. We would suggest that the standard approach to road developments of this kind, a detailed watching brief, is adopted for both north and south routes at the time of the development. This would involve the permanent presence of at least one archaeologist on-site during all top-spoil stripping to enable the identification of any buried archaeology revealed during the work, with sufficient time factored in to the contracting programme to enable that archaeology to be investigated before it is disturbed or destroyed.

7 CONCLUSIONS

- 7.1 The fieldwalking survey, carried out on the sections of both roads which were under arable cultivation at the time of the study, was successful in recovering material dating to the prehistoric, medieval and post-medieval periods, and so demonstrates general activity in the locality in those periods. The survey had been carried out in the anticipation that significant concentrations of material might be revealed, providing direct evidence of occupation, but no conclusive evidence was encountered on either route. This does not, however, mean that both

- routes are devoid of sub-surface archaeological features, simply that cultural debris could not be identified on the surface of the ploughsoil.
- 7.2 The geophysical surveys revealed little of obvious major archaeological significance in those fields that were available for assessment, but some anomalies of uncertain origin were identified in one field on the northern route.
- 7.3 Further mitigation is suggested, although the final decision on what is required is in the hands of the official archaeological curator.

8 REFERENCES

Published sources

None

Unpublished sources

Grant, F, & Silvester, R J, 2007a. *Wrexham Industrial Estate Northern Access Road Stage III Archaeological Study*. CPAT Report No. 842.

Grant, F, & Silvester, R J, 2007b. *Wrexham Industrial Estate Southern Access Road Stage III Archaeological Study*. CPAT Report No. 843.

Owen, W G, Jones, N W and Silvester, R J, 2003. *Wrexham Industrial Estate Access Roads Stage I Archaeological Study*. CPAT Report No. 542.

Roseveare, A C K & Roseveare M J, 2009, *Wrexham Industrial estate. Geophysical survey report*. ArchaeoPhysica Ltd WIE081.

Silvester, R J, 2004. *Wrexham Industrial Estate Access Roads Stage II Archaeological Study*. CPAT Report No. 655.

Cartographic Sources

1983 Soil Survey of England and Wales map (Sheet 2 - Wales) and Legend (1:250,000 scale)

1994 British Geological Survey map of Wales (Solid edition at 1:250,000 scale)

Appendix 1*List of finds recovered from both routes*

Find No	Material	NGR	Easting	Northing	Period
Southern route					
1	Pottery	SJ3711748275	337117	348275	Medieval ?
2	Pottery	SJ3712148248	337121	348248	Post Medieval
3	Pottery	SJ3714348295	337143	348295	Post Medieval
4	Pottery	SJ3714848287	337148	348287	Post Medieval
5	Pottery	SJ3712248232	337122	348232	Medieval
6	Flint	SJ3712448229	337124	348229	Prehistoric ?
7	Pottery	SJ3713448225	337134	348225	Post Medieval
8	Flint/Gun flint ?	SJ3715548223	337155	348223	Prehistoric/Post Medieval
9	Pottery	SJ3713948214	337139	348214	Post Medieval
10	Pottery	SJ3713948162	337139	348162	Post Medieval
11	Flint	SJ3716748160	337167	348160	Prehistoric ?
12	Pottery	SJ3717748159	337177	348159	Post Medieval
13	Clay pipe	SJ3720848169	337208	348169	Post Medieval
14	Clay pipe	SJ3722248162	337222	348162	Post Medieval
15	Pottery	SJ3723348163	337233	348163	Post Medieval
16	Pottery	SJ3724848166	337248	348166	Post Medieval
17	Pottery	SJ3723848152	337238	348152	Post Medieval
18	Clay pipe	SJ3720348154	337203	348154	Post Medieval
19	Pottery	SJ3720848148	337208	348148	Post Medieval
20	Clay pipe	SJ3721048134	337210	348134	Post Medieval
21	Pottery	SJ3719648150	337196	348150	Post Medieval
22	Pottery	SJ3718948150	337189	348150	Post Medieval
23	Pottery	SJ3727448176	337274	348176	Post Medieval
24	Pottery	SJ3721848137	337218	348137	Post Medieval
25	Clay pipe	SJ3716648129	337166	348129	Post Medieval
26	Ceramic pipe	SJ3715348071	337153	348071	Modern
27	Clay pipe	SJ3717748128	337177	348128	Post Medieval
28	Pottery	SJ3717748147	337177	348147	Post Medieval
29	Pottery	SJ3718248149	337182	348149	Post Medieval
30	Clay pipe	SJ3714948106	337149	348106	Post Medieval
31	Flint	SJ3717648075	337176	348075	Prehistoric ?
32	Clay pipe	SJ3715248060	337152	348060	Post Medieval
33	Circular ceramic object	SJ3718348046	337183	348046	Unknown
34	Clay pipe	SJ3719848037	337198	348037	Post Medieval
35	Pottery	SJ3720747866	337207	347866	Post Medieval
36	Pottery	SJ3720847819	337208	347819	Post Medieval
Northern route					
37	Pottery	SJ3744051717	337440	351717	Post Medieval
38	Clay pipe	SJ3728951798	337289	351798	Post Medieval
39	Pottery	SJ3772251443	337722	351443	Post Medieval
40	Pottery	SJ3770951440	337709	351440	Medieval
41	Flint scraper	SJ3745651628	337456	351628	Prehistoric
42	Pottery	SJ3770651445	337706	351445	Medieval
43	Stone	SJ3731251837	337312	351837	Unknown
44	Pottery	SJ3744551696	337445	351696	Post Medieval

45	Pottery	SJ3729951821	337299	351821	Post Medieval
46	Pottery	SJ3757751523	337577	351523	Post Medieval
47	Pottery	SJ3770151444	337701	351444	Post Medieval
48	Tile fragment	SJ3731351814	337313	351814	Post Medieval
49	Pottery	SJ3736751867	337367	351867	Medieval
50	Clay pipe	SJ3738951734	337389	351734	Post Medieval
51	Pottery	SJ3726651831	337266	351831	Post Medieval ?
52	Flint	SJ3729651821	337296	351821	Prehistoric
53	Pottery	SJ3730351882	337303	351882	Post Medieval
54	Pottery	SJ3748951652	337489	351652	Post Medieval
55	Pottery	SJ3768851437	337688	351437	Post Medieval
56	Clay pipe	SJ3757351526	337573	351526	Post Medieval
57	Pottery	SJ3725651820	337256	351820	Post Medieval
58	Pottery	SJ3767851495	337678	351495	Post Medieval
59	Pottery	SJ3734251790	337342	351790	Post Medieval
60	Pottery	SJ3766851407	337668	351407	Medieval
61	Pottery	SJ3733151760	337331	351760	Post Medieval
62	Pottery	SJ3767051414	337670	351414	Medieval
63	Clay pipe	SJ3732651844	337326	351844	Post Medieval