

**An Archaeological Evaluation and Watching Brief: Windmill Hill to
Hazards Green Transfer**

Wealden District

NGR: TQ 651 119 to TQ 683 124

**Project No. 3177
Report No. 2008007
Oasis No. archaeol6-48273**

SITE CODE: HGT07

September 2008

**Deon Whittaker, MA
&
Kathryn Grant, MSc**

**with contributions by
Luke Barber, Chris Butler,
Elke Raemen and Lucy Allott**

**Archaeology South-East
Units 1 & 2,
2, Chapel Place
Portslade,
East Sussex.
BN41 1DR**

**Tel: 01273 426830
Fax: 01273 420866
email : fau@ucl.ac.uk
website: www.archaeologyse.co.uk**

Abstract

Archaeology South-East (ASE) was commissioned by Black and Veatch Ltd. on behalf of their client, South East Water, to undertake an archaeological evaluation ahead of works on the Windmill Hill to Hazards Green Water Treatment Works Transfer (NGR TQ 651 119 to TQ 683 124) in advance of a new water pipeline. The methodology comprised machine excavation of three trial trenches measuring 30m by 1.8m along the length of the pipeline and one measuring 20m by 1.8m in the proposed compound, together with a watching brief on the remaining pipeline with particular focus where the pipeline cut three roads with possible Roman – medieval origins. Monitored groundworks were carried out between November 2007 and May 2008.

The evaluation revealed possible industrial activity of uncertain date in Trench 1, possible cart-ruts or industrial linear features of uncertain date in Trench 2 and evidence of a possible 19th century quarrying pit in Trench 3. The watching brief uncovered deposits associated with an ancient marine inlet together with posts associated with a possible Roman jetty. Finds dating from the 12th century to 19th century were recovered from the length of the pipeline.

CONTENTS

- 1.0 Introduction**
- 2.0 Archaeological Background**
- 3.0 Archaeological Methodology**
- 4.0 Results**
- 5.0 The Finds**
- 6.0 The Environmental Samples**
- 7.0 Discussion and Conclusions**

References

Acknowledgements

APPENDICES

- 1 - Finds Quantification**
- 2 - SMR Summary**
- 3 - OASIS Summary**

LIST OF FIGURES

- Figure 1:** Site location plan
- Figure 2:** Plan showing route of pipeline and monitored groundworks by area
- Figure 3:** Plan showing trench locations
- Figure 4:** Trench location: 1, 5 and 2
- Figure 5:** Trench location: 3
- Figure 6:** Trench location: 4
- Figure 7:** Field numbers used during walkover survey (courtesy of L-P)
- Figure 8:** Plan showing Prehistoric and Roman activity around pipeline (courtesy of L-P)
- Figure 9:** Plan showing medieval and post-medieval activity around pipeline (courtesy of L-P)
- Figure 10:** Trench 1 Plan and Sections
- Figure 11:** Trench 2 Plan and Section
- Figure 12:** Trench 3 Plan and Sections
- Figure 13:** Trench 5 Plan and Sections
- Figure 14:** Watching Brief Sections
- Figure 15:** Trench 2, [011], [013], [015], looking south
- Figure 16:** Trench 2, [011], [013], [015], looking east
- Figure 17:** Wartling Road crossing
- Figure 18:** Timbers [140], [142] and [144]

TABLES

Table 1:	Quantification of site archive
Table 2:	List of recorded contexts from Trench 1
Table 3:	List of recorded contexts from Trench 2
Table 4:	List of recorded contexts from Trench 3
Table 5:	List of recorded contexts from Trench 4
Table 6:	List of recorded contexts from Trench 5
Table 7:	List of recorded contexts in Area A
Table 8:	List of recorded contexts from the Wartling Road crossing
Table 9:	List of recorded contexts in Area B
Table 10:	List of recorded contexts from the Wood Lane crossing
Table 11:	List of recorded contexts in Area C
Table 12:	List of recorded contexts from the Boreham Lane crossing
Table 13:	List of recorded contexts in Area D
Table 14:	List of recorded contexts in Area E
Table 15:	List of recorded contexts from the small trackway between Areas E and F
Table 16:	List of recorded contexts in Area F
Table 17:	List of recorded contexts in Area G
Table 18:	List of recorded contexts in Area H
Table 19:	List of recorded contexts from the Kitchener Road crossing
Table 20:	List of recorded contexts in Area I
Table 21:	List of recorded contexts from the A269 road crossing
Table 22:	List of recorded contexts from the compound works
Table 23:	Prehistoric Flintwork
Table 24:	Flotation residue (F) and wet sieve (W) quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and weights in grams
Table 25:	Flot (F) and wet sieve (W) quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

1.0 INTRODUCTION

1.1 Site Background

- 1.1.1 Archaeology South-East (ASE), a division of University College London Centre for Applied Archaeology, was commissioned by Black and Veatch Ltd. on behalf of their client, South East Water, to undertake an archaeological evaluation ahead of works on the Windmill Hill to Hazards Green Water Treatment Works Transfer (NGR TQ 651 119 to TQ 683 124) in advance of a new water pipeline (Figure 1), hereafter referred to as the 'site'. In addition to the evaluation, ASE was also commissioned to undertake an archaeological watching brief throughout the intrusive groundworks.
- 1.1.2 The route for the pipeline lies c. 300m to the south of the village of Boreham Street and extends c. 4km from just south of Windmill Hill to Hazards Green roughly parallel to the A271/A269. c. 1km of the route is along existing roads with a further c.3km through farmland (Figure 1).
- 1.1.3 The construction works were undertaken between November 2007 and May 2008. In November and December, the site compounds were established, the working width of the easement strip was fenced and topsoil stripping began. Pipeline trenching commenced at the beginning of January 2008 and continued through to the end of May 2008. For the duration of intrusive groundworks for the pipeline an archaeological watching brief was also maintained.

1.2 Planning Background

- 1.2.1 The pipeline and temporary works fall within the Town and Country Planning Order (1995) and were deemed by Wealden District Council to have potential for causing only local environmental effects; therefore permitting development without a full EIA (Young 2007). The pipeline and temporary works consequently fall outside the normal planning procedure. However, South East Water adheres to the codes of practice on Conservation, Access and Recreation (Water Industry Act 1991) and therefore mitigates the consequences of its activities on the archaeological resource. To this end Black & Veatch Ltd has been in consultation with the East Sussex County Council (ESCC) Archaeologist (Casper Johnson) regarding the archaeological mitigation strategy that has been employed during the pipeline works, of which the archaeological evaluation and the watching brief monitoring form a part.
- 1.2.2 Prior to the commencement of works on site an Archaeological Desk Based Assessment (Young 2007) was produced by L-P Archaeology to assess the potential for archaeology on, and surrounding, the proposed route, and duly submitted by Black and Veatch to ESCC.
- 1.2.3 Two *Written Scheme of Investigation (WSI)* documents were prepared by ASE for the evaluation and watching brief components (Sygrave 2007a, 2007b). These outlined the strategy for the fieldwork and were followed throughout the evaluation and watching brief monitoring.

1.3 Location and Geology

- 1.3.1 The site lies on clay and sand drift deposits overlying Hasting Beds. The route passes through fields of arable cultivation (figure 7), and both grazed and rough pasture (Cottrell 2007).
- 1.3.2 The route for the pipeline lies c. 300m to the south of the village of Boreham Street and extends c. 4km from just south of Windmill Hill to Hazards Green roughly parallel to the A271/A269. c. 1km of the route is along existing roads with a further c.3km through farmland (Figure 1).

1.4 Scope of this Report

- 1.4.2 This document presents the results of the archaeological evaluation and watching brief monitoring carried out from Windmill Hill to Hazards Green Transfer.
- 1.4.3 The fieldwork was undertaken between November 2007 and May 2008 by Deon Whittaker, Kathryn Grant and Sarah Porteus (Field officers) with assistance from Dave Atkin and Paul Derwent (Site Assistants). The project was managed by Jon Sygrave (Project Manager) and Jim Stevenson (Post-Excavation Manager).

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Archaeological Overview

2.1.1 The preceding DBA (Young 2007) should be referred to for a comprehensive account of the history and archaeology of the site. However, the following points are pertinent to the archaeological evaluation and watching brief exercises and have been summarised below with due acknowledgement (Young 2007):

- The route of the pipeline itself does not cross any scheduled monuments or areas of archaeological significance.
- The site is thought to have a low potential for all prehistoric periods and a moderate potential for the Roman, medieval and post-medieval periods. The potential, however, remains uncertain due to the relative lack of archaeological survey in this area and it should be noted that given the relatively long length of the 'site', archaeological potential would vary.

2.1.2 Archaeological activity of note in the vicinity of the site includes (abridged from L-P DBA: Young 2007):

Figure 8

- A scatter of Mesolithic, Neolithic and Bronze Age flintwork to the north of the pipeline (MES7373)
- A Roman settlement to the north east associated with a former marine inlet, including a possible field boundary (MES7261)
- A possible Jetty comprising horizontally laid timbers in association with a complete Roman pot, sherds of Samian Ware, a glass bottle and fragments of floor-tile (MES3329), suggesting the presence of associated transport links and industrially related buildings in the nearby vicinity.

Margary suggests that a Roman road network may have extended from Pevensey west towards Glynde via Ripe (1967, 71), but it is likely that if it did exist this would have passed further south of the study site.

Figure 9

- Medieval chapel (MES5028)
- Medieval salt workings (MES4996, MES5026) (Figure 8).
- 16th century pottery kiln (MES5027)
- Post-medieval listed buildings (MES4995, MES5001, MES5003, MES5009, MES5015, MES5018, MES5020, MES5022, MES5023)
- Iron working site (MES4690)
- Windmills (including MES6963)
- Quay (MES6962)
- Quaker burial ground (MES6961)

A small settlement and farming community developed along Boreham Street during the medieval period. This activity continued into the post-medieval period with several large houses being built along the road (see listed buildings above). Although the settlement size has gradually increased, the cartographic sources suggest that the field boundaries have changed very little and the area can be seen in its current form in 1928 (Young 2007).

3.0 ARCHAEOLOGICAL METHODOLOGY

3.1 Aims and Objectives

The purpose of the archaeological investigation was to ascertain the character, quality and degree of survival of archaeological remains on the site and the potential impact of development upon them. The work was carried out within the context of the following broad and site-specific research aims:

3.1.1 Research Aims

- To understand the use and development of the historic landscape (and in particular for the Roman period).
- To investigate the origins of Boreham Street.
- To investigate the post-medieval economic landscape of Sussex.

3.1.2 Research Objectives of the evaluation within the footprint of the pipeline works:

- To establish whether the predicted low potential for the prehistoric periods is valid
- To investigate evidence of the changing topography of the area associated with the sea inlet present during the Roman period and its gradual silting up.
- To test the validity of the geophysics results at points A, B and C (Cottrell 2007).
- To investigate the extent of remains relating to the Roman Settlement to the north east, in particular in the area of the proposed compound (see Figure 6).
- To compare the nature of Roman finds from the site to other nearby sites to investigate the presence of trade grounds associated with the settlement to the north east.
- To investigate the extent of Roman industrial activity in the area associated with iron and salt workings.
- To investigate evidence relating to the early development of Boreham Street.
- To investigate evidence relating to the post-medieval development of the area, in particular evidence associated with industrial practices.

3.2 Evaluation

3.2.1 The methodology comprised machine excavation under archaeological supervision of three trial trenches measuring 30m by 1.8m along the length of the pipeline and one measuring 20m by 1.8m in the proposed compound shown (Figure 3 - 6). The trenches were located, using the mapping data provided by the geophysical survey (Cottrell 2007), with a Digital Global Positioning System (DGPS) and DGPS Total Station (Leica 1205 R100 Total Station, Leica System 1200 GPS).

3.2.2 Due to the level of archaeological remains recorded in Trench 1, Casper Johnson, ESCC, called for contingency trenching (Trench 5) (Figure 4) to ascertain the extent of the archaeology along the route of the pipe trench. The main contractor set out the route of the pipe trench to which ASE staff directed further trenching.

3.2.3 The trenches were scanned with a Cable Avoidance Tool (CAT) prior to excavation. The trenches were mechanically excavated using a toothless

ditching bucket under archaeological supervision.

- 3.2.4 Only undifferentiated topsoil, subsoil and overburden of recent origin was removed by machine and was kept separately. The excavation was taken, in spits of no more than 0.25m, down to the top of the first significant archaeological horizon or the top of the underlying 'natural', whichever was uppermost. Depth of excavation rarely exceeded 1.2 m depth. In this event, suitable precautions (i.e. stepping or battering of trench edges, and /or shoring) were implemented in order to allow safe access to the trench. All machining will be undertaken under the supervision of a suitably qualified archaeologist.
- 3.2.5 Trench 4, within the area set aside for compound construction (see Figures 3 & 6), was excavated to a maximum depth of 400mm. The compound was constructed following a 150mm topsoil strip, prior to the laying of Terram covered with crushed concrete. As the depth of the reduced dig will only extend to 150mm Casper Johnson (ESCC) agreed that a 250mm covering of top/sub soil should provide sufficient protection for any archaeological deposits surviving at depth.
- 3.2.6 For the purpose of context recording and differentiation, contexts revealed during the watching brief are numbered sequentially from 100 to 204. Contexts excavated during the evaluation are numbered from 001 to 099 prefixed by the trench number i.e. T4 002 'Trench 4 Context 002'.

3.3 Site Limitations

- 3.3.1 Trenches 1 and 2 suffered from section collapses during severe weather, before their complete recording could be undertaken. Wherever possible the trenches were re-excavated but some areas remained unsafe and were left.
- 3.3.2 Spoil was divided into topsoil, subsoil and made ground, as appropriate and backfilled sequentially by the machine on completion of the work, but there was no reinstatement to existing condition. Spoil heaps and trench bases were scanned with a metal detector as was the spoil derived from excavated features.

3.4 Watching Brief

- 3.4.1 The objectives of the archaeological watching brief were to monitor the excavation of intrusive groundworks in order to ensure that any features, artefacts or ecofacts of archaeological interest exposed and affected by the groundworks were recorded and interpreted to appropriate standards. Particular attention was made to the extent, character, height below ground level, condition, date and significance of the deposits.
- 3.4.2 Due to the long length of the pipeline, it was divided into smaller areas which have been issued letters from A-I (see Figure 2). In addition to this, the numbering system (from 1-23) that relates to individual fields employed by Young for the Walkover Survey in the DBA (2007) has also been used within this report for the ease of describing field boundaries and hedgerows (see Figure 7). A comprehensive breakdown and description of these individual fields can be seen in the DBA (Young 2007; Section 5.0).

- 3.4.3 The excavations were monitored to the top of the underlying geology, or to the surface of any significant archaeological deposit; whichever was higher. Where possible, the machine was fitted with a flat-bladed bucket to minimise damage to deposits; however, in places it was necessary to use a toothed bucket to penetrate the hard natural deposits. In order to minimise damage to potential deposits, where it was necessary to use a toothed bucket the driver was instructed to keep the sweeps of the bucket as flat as possible.
- 3.4.4 Revealed surfaces were manually cleaned in an attempt to identify individual archaeological features. The sections of the trenches were selectively cleaned to observe and record their stratigraphy. The removed spoil was scanned for the presence of any stray, unstratified artefacts.
- 3.4.5 All encountered archaeological deposits, features and finds were recorded according to accepted professional standards in accordance with the Specification using standard Archaeology South-East context record sheets. Deposit colours were verified by visual inspection and not by reference to a Munsell Colour chart.
- 3.4.6 A digital photographic record was maintained throughout the watching brief and evaluation programmes.
- 3.4.7

Number of Contexts	166 (104 WB/ 62 Eval.)
Number of Files/Paper Record	1 File
Plan and Section Sheets	8
Bulk Samples	15
Photographs	41 SLR / 235 Digital
Bulk Finds	Includes pot, CBM, flint, stone, iron, copper alloy, slag, glass, charcoal, wood – total 3 boxes
Registered Finds	0
Environmental Flots/Residue	15

Table 1: Quantification of site archive

4.0 RESULTS

4.1 Evaluation Results

4.1.1 Trench 1 (figures 4 and 10)

Trench 1 was located approximately five hundred metres from the west end of the pipeline, oriented northwest - southeast and covering Cottrell's (2007) magnetic anomaly 'A' as shown in Figure 4.

Trench 1 was 30 metres in length with ground level at 46.59 m AOD in the northwest and 46.56 m AOD in the southeast (Figure 10) and revealed twenty-one contexts recorded as follows;

Context	Type	Description	Max Width	Max Length	Deposit Depth	Max Height m AOD
1/001	Deposit	Topsoil	Tr.	Tr.	200mm	46.59
1/002	Deposit	Subsoil	Tr.	Tr.	300mm	46.39
1/003	Deposit	Natural	Tr.	Tr.	-	46.26
1/004	V	O	I	D	E	D
1/005	Deposit	Light grey brown sandy-silt	Tr.	Tr.	200mm	-
1/006	Deposit	Light grey brown sandy-silt	Tr.	Tr.	200mm	-
1/007	Deposit	Light grey brown sandy-silt	Tr.	Tr.	200mm	-
1/008	Cut	Cut for posthole	-	-	110mm	-
1/009	Cut	Cut for posthole	-	-	90mm	-
1/010	Cut	Cut for posthole	380mm	-	60mm	-
1/011	Deposit	Fill of 008	-	-	110mm	-
1/012	Deposit	Fill of 009	-	-	90mm	-
1/013	Deposit	Fill of 010	380mm	-	60mm	-
1/014	Cut	Cut for posthole	280mm	210mm	70mm	-
1/015	Cut	Cut for posthole	190mm	140mm	50mm	-
1/016	Deposit	Fill of 014	280mm	210mm	70mm	-
1/017	Deposit	Fill of 015	190mm	140mm	50mm	-
1/018	Cut	Cut for tree-throw	1.06m	560mm	240mm	-
1/019	Deposit	Fill of 018	1.06m	560mm	240mm	-
1/020	Cut	Cut of poss. pit	670mm	220mm	130mm	-
1/021	Deposit	Fill of 020	670mm	220mm	130mm	-

Table 2: List of recorded contexts from Trench 1

Summary of Contexts

Natural geology, [1/003], comprising firm orange-brown clayey-silt was encountered at a maximum height of 46.26m OD. A layer of subsoil, [1/002] (c.300mm thick), of loose, friable, light orange-brown sandy-silt lay over the natural and underneath loose dark brownish-grey sandy-silt topsoil [1/001]. Potsherds, ceramic building material (CBM), flint, stone and slag were collected from the topsoil deposit. Three thin spreads of light grey brown sandy-silt were recorded towards the centre of the trench, recorded as [1/005], [1/006], [1/007]. Six pit/posthole features and a tree-throw were also identified within the trench and have been described below. All of the features were cut into the natural and sealed by overlying subsoil.

Three closely related postholes with similar size and shape, [1/008], [1/009] and [1/010], were uncovered within 10m of the south-eastern end of the trench (figure 10). [1/008] and [1/009] were circular in plan with bowl-shaped, flat-based profiles and [1/010] was slightly more oval/kidney-bean shaped with a concave base. Each pit contained a single fill [1/011], [1/012] and [1/013] comprising mid-dark grey brown silty-clay with occasional-frequent charcoal and iron-panning. [1/011] was sampled <1> to assess its environmental potential (see 6.0).

Two small comparable postholes, [1/014] and [1/015], with circular cuts and bowl-shaped, concave profiles were revealed adjacent to each other (c.140mm apart on north-south alignment) in the north-western half of the trench (figure 10). Each feature contained a single fill [1/016] and [1/017] comprising medium grey-brown silty-clay with moderate charcoal inclusions. These fills were sampled <4> and <5> (see 6.0).

A circular, bowl-shaped tree-throw [1/018] with undulating base was uncovered c.10m from the north-western end of the trench west of [1/014] and [1/015] (see figure 10). This natural feature contained a single mid grey-brown silty-clay fill [1/019] with iron staining, but no finds. The fill was sampled <9> to assess its environmental potential (see 6.0).

The final feature within this trench [1/020] comprised an elongated-oval cut with bowl-shaped profile with concave base. This pit contained a single fill [1/021] consisting of yellowish-grey soft silty-clay with moderate charcoal inclusions (sample <8> - see 6.0).

4.1.2 Trench 5 (figures 4 and 13)

Trench 5 was a contingency trench (with northwest to southeast orientation) used to extend the eastern end of Trench 1 by 20 metres as (figure 4). Ground level was recorded at 46.56 m AOD in the northwest and 46.22 m AOD in the southeast and nine contexts were revealed, recorded as follows:

Context	Type	Description	Max Width	Max Length	Deposit Depth	Max Height m AOD
5/001	Deposit	Topsoil	Tr.	Tr.	200mm	46.56
5/002	Deposit	Natural	Tr.	Tr.	-	46.30
5/003	Deposit	Mid grey silt	-	-	250mm	-
5/004	Cut	Cut for pit	Tr.	300mm	70mm	-
5/005	Fill	Fill of 004	Tr.	300mm	70mm	-
5/006	Cut	Cut for pit	Tr.	200mm	140mm	-
5/007	Fill	Fill of 006	Tr.	200mm	140mm	-
5/008	Cut	Cut for pit	Tr.	150mm	100mm	-
5/009	Fill	Fill of 008	Tr.	150mm	100mm	-

Table 6: List of recorded contexts from Trench 5

Summary of Contexts

Natural geology, a medium orange-brown sandy-silt with patches of grey clayey-silt [5/002] was encountered at a maximum height of 46.30m OD to the west of the trench and 46.02m OD to the east. A layer of mid grey silt with

patches of burnt clay [5/003] was revealed at the western end of the trench (figure 13), overlying the natural and underneath the loose mid reddish-brown clayey-silt topsoil [5/001]. In addition to these contexts, three small pit features were identified and have been described below.

Three small circular pits (possible postholes), [5/004], [5/006] and [5/008], were revealed cutting the natural towards the middle of the trench. These closely positioned pits have slightly varying profiles and dimensions, but they all contain a single dark grey soft clayey-silt fill with charcoal inclusions [5/005], [5/007] and [5/009] respectively.

[5/004], measuring 300mm in diameter with a depth of 70mm, had gently sloping sides and concave base, and contained [5/005] (described above) which was sampled (<13> - see 6.0).

[5/006], measuring 200mm in diameter and 140mm deep, was located to the northwest of [5/004] towards the centre of the trench (figure 13). The cut contained [5/007] (described above) which was sampled (<14> - see 6.0).

The smallest of the three pits/postholes, [5/008], with a diameter of 150mm and a depth of 100mm, was located to the north of [5/004] and [5/006]. The steep sided cut with concave base was filled with [5/009] (described above) which was sampled (<15> - see 6.0).

4.1.3 Trench 2 (figures 4, 11, 15, 16)

Trench 2 was located approximately seven hundred metres from the west end of the pipeline, oriented west – east and covering Cottrell’s (2007) magnetic anomaly ‘B’ as shown in Figure 4.

Trench 2 was 30 metres in length, with ground level at 41.92 m AOD in the west and 42.60 m AOD in the east, and revealed twenty contexts recorded as follows:

Context	Type	Description	Max Width	Max Length	Deposit Depth	Max Height m AOD
2/001	Deposit	Topsoil	Tr.	Tr.	250mm	42.60
2/002	Deposit	Subsoil	Tr.	Tr.	600mm	42.35
2/003	Deposit	Natural Clay	Tr.	Tr.	n/a	39.50
2/004	Deposit	Mid yellow brown sandy silt	Tr.	16m	500mm	-
2/005	Deposit	Yellow white silty sand	Tr.	15m	300mm	-
2/006	Deposit	Dark yellow brown sandy silt	Tr.	-	200mm	-
2/007	Deposit	Mid yellow brown sandy silt	Tr.	-	-	-
2/008	Deposit	Deposit	Tr.	1.4m	220mm	-
2/009	Cut	Cut of linear	150mm	Tr.	-	-
2/010	Deposit	Fill of 009	120mm	Tr.	60mm	-
2/011	Cut	Cut of linear	150mm	Tr.	-	-
2/012	Deposit	Fill of 011	120mm	Tr.	80mm	-
2/013	Cut	Cut of linear	150mm	Tr.	-	-

2/014	Deposit	Fill of 013	120mm	Tr.	120mm	-
2/015	Cut	Cut of linear	150mm	Tr.	-	-
2/016	Deposit	Fill of 015	120mm	Tr.	120mm	-
2/017	Cut	Cut of linear	150mm	Tr.	-	-
2/018	Deposit	Fill of 017	120mm	Tr.	80mm	-
2/019	Cut		120mm	1.95m	-	-
2/020	Deposit	Fill of 019	120mm	1.95m	-	-

Table 3: List of recorded contexts from Trench 2

Summary of Contexts

Natural geology, [2/003], consisting of fine, friable, light yellowish white sand with a mottling of firm, yellowish brown clay was encountered at a maximum height of 39.50m OD. Occasional ironstone fragments were present together with a ferruginous mud-stone/sand-stone. [2/003] was stratigraphically overlain by [2/008], a deposit of friable, dark yellowish brown, silty sand, in turn overlain by [2/007], a deposit of fine, friable, mid yellowish brown, sandy silt.

Cutting [2/007] were [2/009, 2/011, 2/013, 2/015, 2/017], revealed as parallel, evenly spaced linear features. The width was a consistent 150mm with abrupt breaks to vertical sides and gradual breaks to flattish bases. The depths of the cuts varied but appeared to be at approximately the same absolute depth of 39.2 m AOD. These were partially filled respectively by [2/010, 2/012, 2/014, 2/016 and 2/018], fine yellowish white sand. These linears appear to have been in-filled by overlying dark yellowish-brown sandy-silt deposit [2/006] (figure 15).

[2/020] was a similar and parallel linear, but appeared to lack the fine yellowish-white sand deposit which formed the primary fill in the others. [2/019 & 20] were revealed only in plan.

[2/006] and [2/020] were overlain by [2/005] a fine, friable, yellowish-white, silty-sand deposit. Above [2/005] was subsoil [2/002] comprising a friable, mid yellowish brown, sandy silt. This was partially overlain by [2/004], a very fine yellowish-brown, sandy-silt. Both [2/004] and [2/002] were covered by dark brownish-grey silty-clay topsoil [2/001].

4.1.4 Trench 3 (figures 5 and 12)

Trench 3 was located approximately 1.8 kilometres from the west end of the pipeline, oriented west–east and covering Cottrell’s (2007) magnetic anomaly ‘C’ as shown in Figure 5.

Trench 3 was 30 metres in length with ground level at 23.16 m AOD in the west and 20.55 m AOD in the east and revealed ten contexts recorded as follows:

Context	Type	Description	Max Width	Max Length	Deposit Depth	Max Height m AOD
3/001	Deposit	Topsoil	Tr.	Tr.	250mm	23.16
3/002	Deposit	Subsoil	Tr.	Tr.	150mm	22.96
3/003	Deposit	Natural	-	-	n/a	22.81

3/004	Cut	Poss. Quarry	Tr.	16.3m	1.3m	
3/005	Deposit	Fill of 004	Tr.	14.2m	400mm	-
3/006	Deposit	Fill of 004	Tr.	15.5m	600mm	-
3/007	Deposit	Fill of 004	Tr.	4m	400mm	-
3/008	Deposit	Fill of 004	Tr.	4m	200mm	-
3/009	Deposit	Fill of 004	Tr.	16.3m	300mm	-
3/010	Deposit	Fill of 004	Tr.	15.7m	200mm	-

Table 4: List of recorded contexts from Trench 3

Summary of Contexts

Natural geology, [3/003] comprising light greenish grey and yellowish-brown very stiff clay with bands of ferruginous mudstone/ironstone was encountered at a maximum height of 22.81m OD. A layer of subsoil, [3/002] (100mm – 150mm thick) consisting of light yellowish-brown compact silty-clay sealed [3/003] the natural and lay underneath the dark grey-brown friable slightly sandy clayey-silt topsoil [3/001] (150mm – 250mm). Finds collected from the topsoil included CBM fragments, stones, iron, slag and glass fragments.

A possible quarrying pit, [3/004], was revealed cutting the subsoil and natural [3/002] and [3/003]. The cut was concave, steep sloped with a flattish base. This pit contained six fills, which have been described below:

[3/005] comprising up to 400mm of mid reddish brown, compact, silty-clay with 10% burnt clay fragments and 10% ash / charcoal fragments. This was overlain by [3/006], comprising mid yellowish-brown, compact, very silty-clay with occasional rounded flint pebbles. In turn this overlain by [3/007], variegated, light brownish-yellow, compact, silty-clay. Above [3/007] was [3/008], mid to dark reddish-brown, compact, silty-clay. The uppermost fills consisted of [3/010], mid greyish-brown, compact, very silty-clay, with 1% chalk pea-grit and [3/009] a mid to dark orange-brown, compact, silty-clay. The topsoil [3/001] covered the trench.

4.1.5 Trench 4 (figure 6)

Trench 4 was located approximately 2.9 kilometres from the west end of the pipeline, oriented north east – south west and was positioned to sample the ground intended for use as the site compound. The remainder of the compound area was subsequently machined down to the same depth as the base of the trench (400mm) to reveal consistent stratigraphy throughout.

Trench 4 was 20 metres in length, with ground level at 15 m AOD in the west and 14.5 m AOD in the east, revealed two contexts recorded as follows:

Context	Type	Description	Max Width	Max Length	Deposit Depth	Max Height m AOD
4/001	Deposit	Topsoil	Tr.	Tr.	250mm	23.16
4/002	Deposit	Subsoil	Tr.	Tr.	150mm	22.96

Table 5: List of recorded contexts from Trench 4

Summary of Contexts

The subsoil, [4/002] a deposit of friable, dark yellowish brown, clayey silt was

excavated to the 400mm trench depth limit and encountered at a depth of 22.96m OD. This deposit contained potsherds, CBM, flint and iron. The subsoil was sealed by friable grey-brown sandy-silt topsoil [4/001], which contained potsherds, CBM, flint, stones and glass fragments.

No archaeological features were revealed within this trench.

4.2 Watching Brief Results

Unless otherwise stated, in the results outlined below topsoil and turf deposits were removed during the initial easement strip with all additional contexts revealed during the excavation of the pipe trench.

4.2.1 Area A (figures 2, 7 and 14)

This area comprises the westernmost part of the pipeline route (at Windmill Hill) and is made up of Fields 19-23 located from Place Farm (north of easement strip) to Wartling Road.

Fifteen contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
101	Deposit	Topsoil	Tr.	Tr.	200mm
102	Layer	Subsoil	Tr.	Tr.	400mm
103	Deposit	Yellowish grey-brown sandy-silt	40-50m	Tr.	1.50m
104	Cut	N-S ditch cut	-	2.30m	800mm
105	Fill	Fill of [104]	-	2.30m	800mm
106	Layer	Yellowish grey-brown sandy-silt	c.10m	-	1.50m
107	Cut	Cut for small pit	0.60m	0.60m	150mm
108	Fill	Fill of [107]	0.60m	0.60m	150mm
109	Deposit	Mid brown grey clay silt	2.0m	Tr.	750mm
110	Cut	Cut for posthole	0.80m	0.80m	c.1.0m
111	Fill	Fill of [110]	0.80m	0.80m	c.1.0m
112	Cut	Cut for posthole	c.0.80m	c.0.80m	c.1.0m
113	Fill	Fill of [112]	c.0.80m	c.0.80m	c.1.0m
191	Deposit	Natural	Tr.	Tr.	-

Table 7: List of recorded contexts in Area A

Summary of Contexts

Natural geology, a firmly compacted mid orange-brown fine clay substrate [191] was encountered at a depth of c.600mm below ground level underlying a layer of yellow-brown natural silty-clay subsoil [102]. Overlying the subsoil

were [101] and [100] comprising loose dark grey-brown sandy-silt topsoil and turf deposits. Potsherds, glass, CBM and stones were found and collected from the topsoil. In addition to these contexts, two deposits were uncovered and four possible features identified in this area.

[103] and [106] were found in the natural landscape depressions of Area A and comprised soft yellowish grey-brown loose sandy-silt with occasional small to medium angular stones. Both of these deposits were fairly sterile with no trace of archaeological material within them.

A probable linear feature, [104] was uncovered east of [106] in the machine-excavated pipe trench section in Area A but it was poorly defined in plan therefore its true extent is not clear. The feature was orientated north-south and cut through the subsoil [102] with a shallow bowl-shaped profile. It contained single fill [105] comprising loose, friable mid to dark grey-brown clayey-silt with occasional small angular stones and occasional charcoal flecks (figure 14, Section 17). One fragment of burnt clay and one piece of slag were recovered from this fill

A small circular pit [107] with moderately sloping sides and a shallow bowl-shaped profile was revealed cutting the subsoil [102] of the easement strip at the western end of Area A (figure 14, Section 16). This pit contained a single fill [108] comprising soft, friable mid grey-brown clayey-silt with occasional small roots, occasional small angular stones and rare charcoal flecks. [108] contained potsherds, CBM and glass fragments.

[109] was a soft, sticky mid brown-grey clayey-silt deposit located between the erected gateways at the western end of Area A (south of Place Farm) below topsoil [101]. This deposit contained rare small fine roots and infrequent small stones but no archaeological material was present. The function of this deposit is unclear as there is no evidence of a cut associated with it. It is possible that [109] has occurred as a result of trampling due to its location between the two gateways. Its sticky consistence may be evidence of standing water within the area.

Two comparable circular postholes, [110] and [112], with v-shaped, tapered profiles and rounded bases were located within close proximity (c.2m) of each other west of the two gateways at the western end of Area A (south of Place Farm) cutting into the natural [191] and sealed by subsoil [102]. [112] was located outside of the pipe trench (to the south) within the easement strip and was only revealed as the edge of the pipe trench was stepped for safety reasons. [110] was located within the pipe trench (northwest of [112]). For safety reasons close access to these features was difficult and so a sketched record was created. Fills [111] and [113] looked to be similar with soft mid bluish-grey silty-clay. Fine fragments of decayed wood seen toward the base of [111] are probably indicative of the post that the pit once contained. Poor weather conditions prevented the collection of environmental samples. No datable evidence for the features was present.

4.2.2 Wartling Road Crossing (figures, 2, 14 and 17)

The context descriptions below relate to the deposits uncovered during the pipe trench excavation across Wartling Road located between Areas A and B.

Seven contexts were revealed in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
124	Deposit	Sand & gravel mix	Tr.	Tr.	420mm
125	Deposit	Fill of 205	Tr.	Tr.	870mm
168	Deposit	Tarmac	Tr.	Tr.	100mm
169	Deposit	Concrete Hardcore	Tr.	Tr.	150mm
170	Deposit	Mid grey-brown silt	Tr.	c.800mm	600mm
171	Deposit	Mid grey-brown silt	Tr.	c.800mm	600mm
191	Deposit	Natural	Tr.	Tr.	-
205	Cut	?trackway construction	> 2.20m.	Tr.	870mm

Table 8: List of recorded contexts from the Wartling Road crossing

Summary of Contexts

Natural geology, a firm mid orange-brown fine clay substrate [191] was encountered at a maximum height of c.700mm below ground level.

Cut into [191] was [205] a possible linear with steep sides and a flat base. It was filled with [125], a very compact bluish-grey inorganic clay. A compact, concreted mix of light yellowish-brown sand and gravel [124] was above [125] and together they are thought to represent an earlier possible trackway. These contexts are beneath concrete hardcore deposit [169] and tarmac [168], which form the modern road.

Several land drains and service pipes were seen cutting through [124] and [125] but no dating evidence was recovered and these deposits were not sampled as they were very sterile and inorganic. One possible grubbed-out hedgerow [170] could be seen on the western side of the actual road surface filled with mid grey-brown silt and abundant rooting. A similar deposit was located on the eastern side of the road [171] but this area had been disturbed for the installation of service pipes.

4.2.3 Area B (figure 2, 7)

This area is located east of Wartling Road (Area A) and west of Wood Lane (Area C) and is made up of two fields (Fields 17 and 18).

Several land drains were seen crossing the area and at times their presence slowed progress for maintenance repairs. One possible linear feature was uncovered. Eight contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
101	Deposit	Topsoil	Tr.	Tr.	200mm
114	Deposit	Reddish brown silty-clay	Tr.	Tr.	750mm
115	Layer	Subsoil	Tr.	Tr.	400mm
116	Cut	Cut for linear	-	750mm	500mm
117	Fill	Fill of [116]	-	750mm	500mm
118	Deposit	Mid orange brown silty clay	20m	Tr.	600mm
192	Deposit	Natural	Tr.	Tr.	n/a

Table 9: List of recorded contexts in Area B

Summary of Contexts

Natural geology, a firm mid orange-yellow sandy substrate [192] was uncovered at a depth of c.600mm below ground level underlying subsoil [115] of light orange-brown silty-clay. Above this layer, topsoil [101] comprising loose dark grey-brown sandy-silt was sealed by turf [100]. CBM fragments were collected from the topsoil deposit.

A mid reddish-brown silty-clay with very small roots and traces of bioturbation activity [114] was uncovered in Field 17 above the natural and beneath the subsoil. No archaeological remains were present within this deposit.

A linear cut [116] with north-south orientation, moderately sloping sides and bowl-shaped profile was revealed cutting the natural within the trench section on the western side of Field 17. This was filled with a very sterile, soft mid brown-grey silty-clay [117]. No archaeological remains were found within the fill. This feature was very similar in nature to several land drains located in the area, although there were no traces of fragmented land drain within this fill.

A mid orange-brown silty clay deposit [118] was revealed at the border between the two fields. Its actual function is unknown but it is probably related to its location at the field boundaries.

4.2.4 Wood Lane Crossing (figure 2)

The context descriptions below relate to the deposits uncovered during the pipe trench excavation across Wood Lane located between Areas B and C. (Figure 2)

No archaeological remains were uncovered. Seven contexts were revealed in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
101	Deposit	Topsoil	Tr.	Tr.	200mm
172	Deposit	Tarmac	Tr.	Tr.	100mm
173	Deposit	Gravel hardcore	Tr.	Tr.	150mm
174	Deposit	Orange brown sand	Tr	c.2m	400mm

175	Deposit	Mid grey-brown silt	Tr.	c.800mm	450mm
176	Deposit	Mid grey-brown silt	Tr.	c.800mm	450mm
192	Deposit	Natural	Tr.	Tr.	n/a

Table 10: List of recorded contexts from the Wood Lane crossing

Summary of Contexts

Natural geology, a firmly compacted mid orange-yellow sandy substrate [192] was uncovered at a depth of c.650mm below ground level underlying the modern road surface deposits. A layer of topsoil [101] comprising loose dark grey-brown sandy-silt was observed at either end (east and west) of the road surface as were two probable grubbed-out hedgerows filled with mid grey-brown silt and abundant rooting [175], [176].

Between [175], [176] were the deposits that make up the main road surface. A lightly compacted mid orange-brown sand containing a lens of grey silty-clay [174] was seen overlying the natural substrate. This was beneath a layer of compacted gravel hardcore [173] and a thin layer of Tarmac [172].

4.2.5 Area C (figure 2, 7)

This area is located east of Wood Lane (Area B) and west of Boreham Street (Area D) and is made up of Fields 14-16 (Figures 2 and 7).

Seven contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
101	Deposit	Topsoil/ploughsoil	Tr.	Tr.	200mm
119	Deposit	Rooty Subsoil	Tr.	Tr.	350mm
120	Layer	Orange-Brown Subsoil			400mm
121	Cut	Ditch Cut	Tr.	6m	1.10m
122	Fill	Fill of [121]	Tr.	6m	1.10m
123	Fill	Fill of [121]	Tr.	6m	1.10m
193	Deposit	Natural	-	-	-

Table 11: List of recorded contexts in Area C

Summary of Contexts

Natural geology, a firmly compacted mid orange-yellow sand [193] was encountered at a depth of c.600mm below ground level underlying natural subsoil [120] of light orange-brown silty-clay. In the middle of Field 14, a change in the subsoil was recorded as [119], comprising medium grey-brown silty-clay with frequent roots. A ploughed topsoil [101] comprising loose dark grey-brown sandy-silt, sealed these deposits. No turf was present within this field as it had undergone recent ploughing activity. Potsherds, CBM fragments, stone and slag were collected from the topsoil deposit. In addition to these contexts, one possible linear feature was identified in this area.

A linear feature [121] measuring c.6m wide by 1.1m deep was uncovered

cutting the subsoil between fields 14 and 15 in a northeast-southwest orientation with fairly steep sloping sides, slightly concave in profile with a gentle concave base (Figure 14, Section 18). The feature contained two fills; a fine gravel/shingle [122] and mid grey-brown silty-clay [123] comprising very mixed degraded/rotten wood debris (probably bits of old tree-trunk consistent with the existing tree-lined ditch/small stream gully either side to north and south). Two modern land drain pipes were seen cutting through this feature.

4.2.6 Boreham Lane Crossing (figure 2)

The context descriptions below relate to the deposits uncovered during the pipe trench excavation across Boreham Lane located between Areas C and D. (Figure 2)

No archaeological remains were uncovered. Seven contexts were revealed in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
159	Deposit	Tarmac	Tr.	Tr.	100mm
160	Layer	Gravel hardcore	Tr.	Tr.	150mm
161	Deposit	Orange brown sandyclay	Tr.	Tr.	400mm
162	Deposit	Mid grey clay silt	-	-	250mm
163	Deposit	Mid grey-brown silt	-	c.800mm	450mm
193	Deposit	Natural	Tr.	Tr.	n/a
200	Deposit	Mid grey-brown silt	-	c.800mm	450mm

Table 12: List of recorded contexts from the Boreham Lane crossing

Summary of Contexts

Natural geology, a firmly compacted mid orange-yellow sandy substrate [193] was uncovered at a depth of c.1.30m below ground level underlying the modern road surface deposits and extending to the limit of excavation (1.70m).

Above the natural were a thin lens of mid grey clayey-silt [162] beneath a mixed mid orange sandy-clay [161]. Above this were a layer of compact gravel hardcore [160] and a thin layer of Tarmac [159]. Two possible grubbed-out hedgerows [163] and [200] could be seen on either side (east and west) of the actual road surface filled with mid grey-brown silt and abundant rooting.

4.2.7 Area D (figure 2)

This area is located east of Boreham Street (Area C) and west of Area E and is made up of one field (Field 13) (Figures 2 and 7). Areas D and E are divided by a small stream boundary.

No archaeological remains were uncovered during these ground works.

Eleven contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
101	Deposit	Topsoil	Tr.	Tr.	200mm
126	Cut	Cut for ditch/channel	Tr.	10m (min)	1.70m
127	Fill	Fill of [126]	Tr.	-	600mm
128	Fill	Fill of [126]	Tr.	-	400mm
129	Fill	Fill of [126]	Tr.	-	800mm
130	Layer	Subsoil	Tr.	Tr.	500mm
131	Cut	Cut of poss. quarry pit	Tr.	c.8m	8.0m
132	Fill	Fill of [131]	Tr.	-	700mm
133	Layer	Pinkish-brown clay	Tr.	50m	c.500mm
134	Deposit	Natural	Tr.	Tr.	-

Table 13: List of recorded contexts in Area D

Summary of Contexts

Natural geology, a firm mid orange-brown sandy-clay [134] was encountered at a depth of c.750mm below ground level underlying lightly compacted natural subsoil [130] of light orange-brown silty-clay. Overlying the subsoil was a thin layer of topsoil [101] comprising loose dark grey-brown sandy-silt sealed by turf [100]. Potsherds, CBM fragments, stone and slag were collected from the topsoil deposit. In addition to these deposits, two features were identified in this area.

A distinct layer of soft pinkish-brown clay [133], measuring c.500mm thick was seen towards the middle of field 13 and extended for about 50m. This layer was sandwiched between the underlying natural substrate [134] and the overlying subsoil [130]. Directly west of [133] (see figure 2 for location), a cut [131] could be observed within the section for the pipe trench cutting subsoil [130]. The single fill [132] seen within this feature was a soft mid-to-dark grey-brown clayey-silt with occasional small flecks of manganese and degraded/fired clay/daub flecks.

Just west of the boundary between fields 12 and 13 a deep linear concave cut [126] was revealed in the trench section cutting the natural. This had the appearance of a ditch or channel. The basal fill, [127] comprised soft, sticky fairly dark mottled reddish-brown silty-clay with traces of manganese staining underlying a mottled medium brown-grey silty-clay fill [129] with occasional fine root action and occasional flecks of manganese. A slumped fill, [128] comprising compact mid orange-brown silty-clay with iron pan/manganese staining and degraded flecks of fired clay/daub could be seen on the western edge of the cut. The feature was not fully revealed (particularly the eastern half) in the trench so its true profile and function is not clear. A thin covering of subsoil [130] sealed this feature.

4.2.8 Area E (figure 2)

This area is located east of the small stream boundary in Area D and west of Area F and is made up of one field (Field 12) (Figures 2 and 7). Areas E and F are divided by a small modern trackway/ path.

Six contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
101	Deposit	Topsoil	Tr.	Tr.	200mm
181	Layer	Subsoil	Tr.	Tr.	500mm
182	Deposit	Natural	Tr.	Tr.	-
183	Cut	Linear Cut	Tr.	500mm	400mm
184	Fill	Fill of [183]	Tr.	500mm	400mm

Table 14: List of recorded contexts in Area E

Summary of Contexts

Natural geology, consisting of fine, friable, light yellowish white sand with a mottling of firm, yellowish brown clay [182] was encountered at a maximum depth of c.750mm rising to c.400mm in the eastern part of field 12 where the overlying subsoil [181] has thinned out from a thickness of 500mm to only 150mm. The subsoil comprises friable, mid yellowish brown, sandy-silt with occasional fine rooting sealed by loose dark grey-brown sandy-silt topsoil [101] and turf [100]. Potsherds, CBM, slag and glass fragments were collected from the topsoil deposit. In addition to these contexts, a possible linear feature was identified within the pipe trench in this area.

A linear feature [183] with north-south orientation and concave profile was revealed within the trench section cutting the subsoil. The feature contained a single medium grey-brown soft silty-clay fill [184]. Closer inspection revealed very modern white porcelain fragments within and so this feature was not fully recorded.

4.2.9 Small Trackway between Areas E and F (figures 2)

Part of the pipe trench was excavated across a small, thin trackway that forms the boundary between Areas E and F.

No archaeological remains were uncovered. Three contexts were revealed in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
177	Deposit	Tarmac	Tr.	Tr.	100mm
178	Layer	Hardcore	Tr.	Tr.	300mm
179	Deposit	?Natural	Tr.	Tr.	300mm

Table 15: List of recorded contexts from the small trackway between Areas E

and F

Summary of Contexts

A bluish-grey silty-clay deposit [179] was sealed beneath a compact layer of concrete and gravel hardcore [178] and a thin layer of Tarmac [177].

4.2.10 Area F (figures 2, 7)

This area is located east of Area E (beyond the small trackway and hedgerow) and west of Area G and is made up of one field (Field 11) (Figures 2 & 7). Areas F and G are divided by a clear tree-line through which the pipeline extends.

No archaeological remains were uncovered during these ground works. Five contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
101	Deposit	Topsoil	Tr.	Tr.	200mm
185	Layer	Subsoil	Tr.	Tr.	250mm
186	Layer	Rooty subsoil	Tr.	Tr.	250mm
187	Deposit	Natural	Tr.	Tr.	-

Table 16: List of recorded contexts in Area F

Summary of Contexts

Natural geology, a compact mid orange-brown silty-sand with mottled grey patches [187] was encountered at a depth of c. 500mm underlying natural subsoil [185] of medium grey-brown silty-clay. Towards the eastern half of Field 11, this subsoil changed to a medium grey-brown silty-clay subsoil with frequent roots [186]. A thin topsoil [101] comprising loose dark grey-brown sandy-silt and turf [100] sealed these deposits. Potsherds and CBM fragments were collected from the topsoil deposit. No features or further contexts were revealed within this area.

4.2.11 Area G (figures 2, 7)

This area is located east of Area F (beyond the tree line) and west of Area H. It begins at the peak of a steep slope and descends quite dramatically running adjacent (to the east) to the main compound area at Hazards Green and alongside (to the south) the main road for a little way. As it reaches the compound the slope has eased onto flat ground again. The pipeline route runs through three fields (8, 9 and 10) within this area.

No archaeological remains were uncovered during these ground works. Five contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm

101	Deposit	Topsoil	Tr.	Tr.	200mm
188	Layer	Subsoil	Tr.	Tr.	200mm
189	Deposit	Brown-grey sandy-silt	Tr.	Tr.	300mm
190	Deposit	Natural	Tr.	Tr.	-

Table 17: List of recorded contexts in Area G

Summary of Contexts

Natural geology, a compact mid brown-orange silty-clay with mottled grey patches [190] was encountered at a depth of c.550mm underlying natural subsoil [188] of medium grey-brown silty-clay. The thickness of the subsoil in this area varies from less than 100mm to 200mm, but it is generally much thinner within this area when compared to other areas along the pipeline. A thin topsoil [101] comprising loose dark grey-brown sandy-silt and turf [100] sealed these deposits. CBM fragments were collected from the topsoil deposit. A mottled brown-grey sandy-silt [189] was revealed in the depression at the base of the hill. No features or further contexts were revealed within this area.

4.2.12 Area H (figures 2 and 18)

This area is located east of Area G and west of Area I. The pipeline runs along the northern grass verge adjacent to the main road (A269?). The area ends at the junction for Kitchener Road (A271) (figure 26).

An intermittent watching brief was carried out over most of this area. Twenty-three contexts were revealed within this area and have been described below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
135	Deposit	Grey brown silty clay	Tr.	Tr.	-
136	Cut	Cut for posthole	Not Clear	Not Clear	-
137	Cut	Cut for posthole	Not Clear	Not Clear	-
138	Cut	Cut for posthole	Not Clear	Not Clear	-
139	Cut	Cut for posthole	Not Clear	Not Clear	-
140	Fill	Timber post pipe in [139]	-	-	-
141	Cut	Cut for posthole	Not Clear	Not Clear	
142	Fill	Timber post pipe in [141]	-	-	-
143	Cut	Cut for posthole	Not Clear	Not Clear	
144	Fill	Timber post pipe in [143]	-	-	-
145	Deposit	Subsoil	-	-	300mm

146	Deposit	Sandstone boulders/ hardcore	-	800mm	500mm
147	Deposit	Concrete slab	-	800mm	100mm
148	Deposit	Tarmac (entrance to driveway)	-	-	100mm
149	Deposit	Mid grey-brown silt-clay	-	-	300mm
150	Layer	Subsoil	-	-	300mm
151	Deposit	Natural	-	-	-
152	Cut	Cut for pit	Tr.	800mm	700mm
153	Fill	Fill of pit [153]	Tr.	800mm	700mm
164	Deposit	Mid bluish-grey clay	-	-	-
180	Deposit	Topsoil	Tr.	Tr.	400mm

Table 18: List of recorded contexts in Area H

Summary of Contexts

Natural geology, a compact bright orange sandy-clay [151] was revealed in some parts of the trench (mostly towards the east). Overlying natural, a mid grey silty-clay subsoil [145] was revealed and sealed by topsoil [180] comprising loose dark grey-brown sandy-silt and turf [100].

A mottled mid grey-brown soft silty-clay [135] was sealed by [180] was uncovered overlying a deeper soft, sticky bluish-grey silt [164]. Within the trench, a line of six postholes could be seen cutting through these deposits [136-139], [141] and [143] spaced approximately 1m apart. Unfortunately, due to the unstable nature and considerable depth of deposits (2.20m deep) close examination of these features was considered unsafe. However, three timber posts [140], [142] and [144] were recovered from three of the postholes ([139], [141] and [143] respectively (see 5.5 and figure 18). Given the clearly-worked tapered tips of these posts it is in fact more likely that they were driven down into the ground rather than actually put into 'cut' postholes, which would explain the absence of clear cuts. It is also possible that the bases of the cuts are within the natural geology, which was not revealed at this point due to the deep overburden deposits. Figure 8 illustrates the location of these timbers along the eastern edge of the marine inlet. Unfortunately, this part of the watching brief was intermittent, but an archaeologist did attend the site as soon as we were informed of work in progress.

To the east a slab of concrete [147] was uncovered truncating the topsoil [101]. Underlying this was a cluster of hardcore, sandstone boulders [146]. The function of these two deposits is not clear, but it is possible that they may have formed part of an old wall or were perhaps laid down as some kind of made surface.

Immediately to the east of [147] was a small section of topsoil [180] overlying mid silty-clay subsoil [150] with modern inclusions of glass, CBM and 'Willow Pattern' china. This continued for approximately 2m, when it was replaced by a Tarmac entranceway leading to a cottage. The trench revealed a thin layer of Tarmac [148] overlying mid grey brown silt clay with pea gravel and building debris, [149] overlying natural [151] (described above).

Beyond the driveway a continuation of the main deposits of topsoil [180], subsoil [145] and natural geology [151] were observed. These contexts were interrupted only by one further small pit [152], measuring c.800mm wide by c.700mm deep and a lens of dark grey silty-clay buried soil [154] with fine charcoal flecking which was observed sandwiched between topsoil [180] and subsoil [145]. The small, circular pit [152] with concave profile contained a single mid brown-grey silty-clay fill [153] but no datable finds.

4.2.13 Kitchener Road (A271) crossing (figure 2)

The pipe trench was excavated across Kitchener Road (A271), which lies between Areas H and I (figure 2). No archaeological remains were uncovered. Three contexts were revealed in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
201	Deposit	Tarmac	Tr.	Tr.	100mm
202	Layer	Hardcore	Tr.	Tr.	250mm
151	Deposit	Natural	Tr.	Tr.	-

Table 19: List of recorded contexts from the Kitchener Road crossing

Summary of Contexts

A simple sequence of contexts was revealed within this trench, which was as follows: a compact bright orange sandy-clay natural substrate [151], underlying hardcore concrete rubble [202] and tarmac [201].

4.2.14 Area I (figure 2)

This area is located at the easternmost part of the pipeline by the water treatment works east of Area H. It begins at the junction for Kitchener Road (A271) on the grass verge north of the A269 and crosses over the A269 to the southern grass verge, which runs adjacent to the water treatment works.

An intermittent watching brief was carried out over most of this area. For this area, the topsoil [101] and turf [100] deposits were removed at the same time as the actual pipe trench was excavated. Nine contexts were revealed in this area and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
100	Deposit	Turf	Tr.	Tr.	50mm
151	Deposit	Natural	Tr.	Tr.	-
155	Deposit	Grey-brown sandy-clay	-	-	-
156	Deposit	Grey sandy-clay	-	-	-
157	Deposit	Grey-brown sandy-clay	-	-	-
158	Deposit	Gravelly-sand	-	-	-
165	Deposit	Topsoil			
166	Deposit	Made ground/filter	-	-	500mm

		bed			
167	Deposit	Mid grey brown silty-clay	-	-	-

Table 20: List of recorded contexts in Area I

Summary of Contexts

Natural geology, a compact bright orange sandy-clay [151] was revealed in some parts of the trench underlying a mottled mid grey-brown soft silty-clay [167]. Within most of Area I, this silty-clay deposit (which was seen within the section to the limit of excavation at 1.20m) was overlain by a clear layer of made-ground and membrane sheeting, which measured 500mm and functioned as part of the filter-bed for the water treatment works.

The north side of the trench was extended within this area to allow for work to be carried out on pipe fittings. This revealed the sequence of deposits described as follows: a mid reddish-brown gravely-sand mix [158] overlay the natural [151]. Above [158] was [157], a grey-brown silty-clay. This underlay a mid grey sandy-clay deposit [156]. The uppermost deposit, a light grey-brown sandy-clay [155] with iron stone was very similar to [157] and located beneath the turf [100].

4.2.15 A269 Road Crossing

The pipe trench was excavated across the A269, which is located within Area I (figure 2). No archaeological remains were uncovered. Three contexts were recorded in this trench and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
203	Deposit	Tarmac	Tr.	Tr.	100mm
204	Layer	Hardcore	Tr.	Tr.	250mm
151	Deposit	Natural	Tr.	Tr.	-

Table 21: List of recorded contexts from the A269 road crossing

Summary of Contexts

A simple sequence of contexts was revealed within this trench, which was as follows: a compact bright orange sandy-clay natural substrate [151] underlying hardcore concrete rubble [202], underlying tarmac [201].

4.2.16 Compound Works (figures 6, 14)

A 6m wide cut was made through the hedge line immediately north of Trench 4 to provide access to the site compound (see figure 13). No archaeology was uncovered. Six contexts were recorded during the compound works and have been recorded below:

Number	Type	Description	Max. Length	Max. Width	Deposit Depth (max)
--------	------	-------------	-------------	------------	---------------------

194	Deposit	Topsoil	1.65m	6m	150mm
195	Deposit	Subsoil	1.6m	6m	230mm
196	Deposit	Grey clay	780mm	6m	180mm
197	Deposit	Yellow brown mottled silt clay	1.05m	6m	320mm
198	Deposit	Yellow-brown clay	350mm	6m	150mm
199	Deposit	Natural clay	-	-	-

Table 22: List of recorded contexts from the compound works

Natural geology, firm light yellowish-brown clay [199] was encountered beneath a deposit of firm, mid to light grey clay [197] at a depth of c.1m below ground level. Overlying [197] was a firm mid yellowish-brown silty-clay deposit [198], which was underlying a friable grey clay deposit [196]. A mixed yellow-brown silt-clay with mottled grey patches [195] was sealed beneath a thin layer of topsoil [194] covering the hedge line, reinforced by a revetment of concrete rubble on the north western side (figure 14, Section 19). No archaeological artefacts were recovered and no datable material was present.

5.0 FINDS

A relatively small assemblage of finds has been recovered during the excavations. The majority of these have been recovered from the topsoil. A summary can be found in Appendix 1.

5.1 The Pottery by Elke Raemen with identification of the medieval pottery by Luke Barber

5.1.1 The majority of pottery recovered dates to the later 18th to 19th century. However, earlier pieces were present as well. Trench 2 contained six fragments of grog-tempered East Sussex ware ([004] and [014]). Pieces consist mainly of body sherds, although a base fragment and a simple averted jar rim fragment were recovered as well. These are of late Iron Age (LIA) to mid Roman date. One further grog-tempered sherd was recovered from environmental sample ,<2>, [1/007].

5.1.2 A single fragment of undiagnostic post-Roman (possibly early medieval) pot was recovered from environmental sample <7> [1/005]. A number of fragments are of medieval date. Five large cooking pot/storage vessel fragments, in a fabric with moderate to abundant flint-temper to 1 mm, were recovered from the topsoil. These include two rim fragments. Pieces date to the late 11th to 12th century. The subsoil in Trench 2 [2/002] contained a single flint-tempered cooking pot fragment of 12th- to mid 13th- century date. A flint-tempered cooking pot rim fragment of mid 13th- to early 14th- century date was recovered from the topsoil in Trench 1 [1/001]. In addition, the subsoil in Trench 4 [4/002] produced three cooking pot fragments tempered with fine to coarse flint to 2 mm, including a sherd with horizontal club rim. These pieces date to the mid 13th to early 14th century. Two fine silty jug fragments of late 13th- to 14th- century date, as well as a single sand-tempered sherd with ?shell inclusions of mid 13th- to early 14th- century date were also recovered from the subsoil in Trench 4.

5.1.3 Early post-medieval pieces include a well fired sandy earthenware of late 15th to 16th century date (Area A [101]), as well as fine unglazed earthenwares of 16th- to 17th- century date, recovered from the topsoil in Area A, B and C. In addition, a fragment of German stoneware (Frechen) of later 16th- to 17th- century date was recovered from the topsoil (East end site).

5.1.4 As mentioned before, the majority of pottery is of later 18th- to 19th- century date and was contained by the topsoil. Fragments include glazed red earthenwares, mainly bowl fragments, as well as unglazed red earthenware flowerpot fragments (i.e. Area A [108]) Fragments of creamware (i.e. Trench 3 [006]), including a piece with blue handpainted decoration, as well as plain and blue transfer printed pearlware were recovered as well. China was well represented, including blue and green transfer printed examples, as well as plain white china and a piece with polychrome handpainted decoration. Yellow ware was recovered as well, including an internally slipped mixing bowl of mid 19th- to early 20th- century date (topsoil Area E [101]). Stonewares include a Bristol glazed jar fragment (topsoil Area C [101]). A single piece of Midlands slipware (Trench 4 [001]) was recovered as well.

5.2 The Ceramic Building Material by Luke Barber

- 5.2.1 The archaeological work recovered a moderate assemblage of ceramic building material (cbm) (see finds quantification table in Appendix I). The assemblage has been listed on pro forma for archive. The vast majority of the material was recovered from topsoil contexts in Areas A to G, though a few intrusive pieces appear to be present in earlier deposits. The earliest material recovered was from Areas C and D where 14 and 11 pieces of 16th- to early 18th- century peg tile were recovered respectively. These tiles, tempered with sparse fine sand with sparse to moderate iron oxides to 2mm, are quite crudely finished and low to medium fired. Virtually all of these early post-medieval tile pieces show signs of fairly extensive abrasion. Other areas produced notably less of these early tiles though Trench 1 [001], Trench 3 [001], Trench 4 [001] and Area A [101] produced one, one, two and three examples respectively. In addition Trench 3 [005] produced a roughly-made medium-fired brick fragment, tempered with fine sand and ironstone inclusions to 4mm, which may be of 17th- to 18th- century date.
- 5.2.2 The vast majority of the cbm assemblage is of the later post-medieval period spanning the 18th (probably mid) to 19th centuries. The most common form consists of well-finished and medium/hard-fired peg tiles with square peg-holes. These are typically tempered with sparse fine sand with sparse to moderate iron oxide inclusions to 2mm though some also have white clay pellets or streaks. Tiles of this later period were common in all areas, most notably in Area A (65 pieces), Area D (27 pieces) and Area G (23 pieces). Only two 18th- to 19th- century ridge tile fragments were present (Areas A and F). In addition to the roofing material a number of 18th- to 19th- century brick fragments were recovered though pieces tended to be small. Fabrics were similar to those of the tiles, namely sparse/moderate fine sand with iron oxide inclusions to 2mm. A few examples contained ironstone inclusions to as large as 16mm (Trench 3 [009]) but this was unusual.
- 5.2.3 A number of 19th- century ceramic land-drain fragments were also collected. These are usually from small diameter plain pipes (eg. Trench 4, [001]) though a larger diameter example with external ribbing was also recovered (Area C, [101]). The general scatter of small pieces of ceramic building material across the area would be in keeping with general manuring practise during the post-medieval period with an increasing intensity from the 18th century onward.

5.3 The Glass by Elke Raemen

- 5.3.1 A small assemblage of glass was recovered during the excavations. The earliest piece consists of a single green glass wine bottle fragment of 18th to early 19th century date (topsoil Area A [101]). Six more green glass cylindrical bottle fragments were recovered from the topsoil in Area A and in Trench B, as well as from [006] in Trench 3. Most of these are wine bottle fragments, although the fragment in [6] could be a beer bottle fragment. Pieces are of 19th to mid 20th century date.
- 5.3.2 A single opaque white cylindrical vessel fragment, as well as a clear glass cylindrical bottle fragment, both of 19th to mid 20th century date, were recovered from the topsoil. In addition, five clear window glass fragments were recovered from Area A [108] and T4 [001]. These all date to the later 19th to mid 20th century.

5.4 The Fired Clay by Elke Raemen

5.4.1 The site contained a small assemblage of fired clay fragments. Most of these are in a sparse fine sand-tempered fabric with rare to occasional iron oxide inclusions to 3 mm. Five pieces of T2 [004] are moderate fine sand-tempered with no further inclusions. The latter group is of late Iron Age to mid Roman date. Other fragments are either from undated contexts (Area A [104], T3 [009]) or were recovered from topsoil (T1) or subsoil (T4). Pieces are all amorphous, apart from a single piece from the subsoil in Trench 4, which exhibits one smooth side.

5.5 Timber (figure 27) by Lucy Allott

5.5.1 Three truncated oak (*Quercus* sp.) posts were collected from contexts [140], [142], and [144]. Each of these waterlogged timbers retains their tips, although the tip of the post from [142] is broken. They display clear evidence for being worked into their current forms and some chisel marks and notches are preserved on the surfaces. These marks are at right-angles to the lengths of the posts. The posts were made of slow grown mature oak which is not generally considered suitable for dating due to its longevity. Some sapwood is present, however, on the largest post from context [142] and this would be suitable for radiocarbon dating and would provide a date for the felling of the tree. Interestingly, these posts were located on the same alignment as some timber posts (MES3329) found to the north (figure 9), 'lying horizontally in association with a whole Romano-British pot, a glass bottle and sherds of Samian ware and pieces of Roman floor tile' (Young 2007; 4.5.4), by a farmer excavating a ditch. It is thought that the discovery of these timbers could indicate a potential Roman jetty and so it is worth considering the possibility that posts [140], [142] and [144] may also be related to a possible jetty/landing stage.

5.6 The Metallurgical Remains by Luke Barber

5.6.1 The archaeological work recovered 26 pieces of slag, weighing 1,291g, from 12 individually numbered contexts. The whole assemblage has been listed for archive. Virtually all of the assemblage was recovered from topsoil contexts though a few pieces were found in features. The majority of the assemblage consists of iron smelting slag derived from the bloomery process. Although a number of pieces of iron slag were not definitely attributable to process they share some characteristics of the bloomery slag and probably derived from smelting. The only pieces which may be in context consist of two pieces (49g) of smelting (tap slag) and five pieces (135g) of 'undiagnostic' iron slag (probably smelting) from Trench 2 [004] which may well be of Roman date, despite a small quantity of intrusive post-medieval ceramic building material being recovered from this deposit. The other bloomery/smelting slag from unstratified deposits may also be of Roman date though it could equally be medieval as the same process was used until the post-medieval period. Two pieces of furnace lining with adhering iron slag were also recovered, both from undated contexts (Trench 1, [006] and Area A, [104]). Only one piece (127g) of definite iron smithing slag was recovered (Trench 1, [001]). Although this deposit contained medieval pottery it also produced 18th- to 19th- century ceramic building material, which prevents a conclusive date being ascribed to the slag.

5.6.2 Seven pieces (537g) of early post-medieval blast furnace smelting slag were also recovered. These were all located in topsoil contexts: Trench 3 [1] x2; Trench 4 [001] and [002] x2 and x2 respectively and Area D [101] x1. Blast furnace slag, as well as the earlier bloomery slag, was frequently used for roads and tracks in the Weald and the presence of the slag scatter at the current site is not unexpected. The concentrations involved are very low suggesting an iron-working area was not situated in the immediate vicinity of the excavations. In addition three pieces of clinker (3g) were recovered (Areas C and E [101]) which probably derive from 19th- century coal-burning.

5.7 The Geological Material by Luke Barber

5.7.1 The excavations recovered 34 pieces of stone, weighing a little over 2kg, from twelve individually numbered contexts. The whole assemblage has been listed on pro forma for archive. The vast majority of the assemblage is from unstratified topsoil deposits. The only exception to this are two pieces (318g) of ferruginous Wealden sandstone from Trench 2, [004], which could be of Roman date; a medium-grained Wealden sandstone from a 19th- century context in Trench 3, [009] and a piece of Welsh slate in 19th- century context [108] in Area A. The unstratified assemblage includes various Wealden sandstones, Wealden clay ironstone and ferruginous shelly limestone, all of which would be available in close proximity to the site. None of these pieces show signs of working or modification through heating. Non-local stone from unstratified deposits appears all to be derived from late post-medieval activity. This includes two pieces of coal, three pieces of coal shale, a piece of limestone aggregate (with adhering bitumen) and 15 pieces of Welsh slate. It is notable that all the Welsh slate was recovered from Area A. This late post-medieval material is most likely the result of manuring activity.

5.8 Other Finds by Elke Raemen

5.8.1 Ironwork consists of a single general purpose nail fragment (T3 [001]), a square iron nut of 19th-century date (topsoil Area B [101]), two iron strip fragments, a circular-sectioned rod tapering towards both ends (T1 [007]) and an iron object undiagnostic of function (T4 [002]).

5.8.2 A single copper alloy sheet fragment was recovered from Trench 3 [006].

5.8.3 Two charcoal fragments were recovered by hand (T1 [019] and T2 [004]).

5.9 Flintwork by Chris Butler

5.9.1 A small assemblage of seven pieces of worked flint weighing 47gms was recovered during the work, and are summarised in Table 23. All of the flint is either mottled grey or black in colour, with a buff cortex where present.

5.9.2

Type	Number
Hard hammer-struck flakes	3
Soft hammer-struck flake	1
Fragments	2
Polished axe fragment	1
Total	7

Table 23: Prehistoric Flintwork

- 5.9.3 The debitage is largely undiagnostic, being hard hammer-struck flakes or flake fragments without any evidence for platform preparation. The exception is a soft hammer-struck flake with a prepared platform, which is likely to be Mesolithic. There is also a small fragment which appears to have come from a Neolithic polished flint axe.
- 5.9.4 This small residual assemblage has little potential for further study. It is recommended that no further work be undertaken on this assemblage, although the flintwork should be retained for possible further study in the future.

5.10 Potential

- 5.10.1 The majority of finds has been recovered from topsoil and subsoil and are of later 18th- to 19th- century date. Earlier material recovered is of interest, but the assemblage is too small to have any potential for further analysis. No further work is required and it is recommended to discard the finds except for the flint.

6.0 ENVIRONMENTAL SAMPLES by Lucy Allott

6.1 Introduction

6.1.1 Fifteen samples were taken from the fills of pits, a posthole and several spread deposits during archaeological works at Hazards Green. Sampling aimed to establish the presence of environmental remains such as wood charcoal, charred macro plant remains, bone and shell, to characterise the composition of these assemblages and to assess their potential to provide information about the economy of the site, the past vegetation, the functions and deposition histories of the features sampled. Samples <2>, <3> and <7> were taken to confirm on-site observations of metal working.

6.2 Methods

6.2.1 Nine of the samples were processed in a flotation tank, the flots and residues were captured on 250µm and 500µm meshes respectively and allowed to air dry. The remaining four samples were very small <3 litres. These were wet sieved through nested sieves (4mm, 2mm, 1mm, 500µm and 250µm) and each fraction air dried.

6.2.2 Residues and larger fractions (>4mm, >2mm) of the wet sieved samples were sorted for archaeological and environmental remains. These are quantified in Table 23. The flots and smaller wet sieved fractions were scanned under a stereozoom microscope at x7-45 magnifications and their contents recorded (table 24). Identifications have been made with reference to modern comparative material and reference texts (Cappers et al. 2006, Jacomet 2006, Martin & Barkley 2000). Nomenclature used follows Stace (1997).

6.3 Results

6.3.1 Samples from Hazards Green produced a small assemblage of environmental remains including wood charcoal fragments, charred cereals, weed seeds, and land snail shells. Pottery, cbm, burnt clay, and industrial debris, including small quantities of hammerscale spheroids were also noted.

6.3.2 Macro plant remains include *Triticum* sp. (wheat), in samples <3>, <9> and <12>, and *Avena* sp. (wild or cultivated oat) in sample <12>. Other poorly preserved cereal fragments and grass seeds in samples <11> and <15> remain unidentified.

6.3.3 Sample <1> contained large well preserved charcoal fragments. This sample was taken from post hole feature [1/011] to retrieve charred plant remains for identification and possible dating. Moderate amounts of charcoal fragments >4mm in size were present in samples <3>, <6> and <7> from spread deposits [1/006] [1/002] and [1/005], sample <8>, pit fill [1/021] and sample <12> a charcoal rich lens [5/003]. Samples <10> and <11> from between [2/007] and beneath [2/008] the linear features in Trench 2, also contained moderate quantities of charcoal. Roundwood fragments were noted in some samples, such as sample <14>, context [5/007]. The remaining samples contained small fragments only, <4mm in size.

6.4 Potential

6.4.1 Macro plant remains are infrequent and, where present, they tend to be poorly preserved. They hold no potential for further work.

6.4.2 The charcoal fragments have some potential to provide information about fuel selected and used for industrial activities. Assemblages from contexts [1/006], [1/007] and [1/002] are of particular interest as these contain large quantities of industrial waste material and may be directly associated with these activities. Charcoal fragments in deposits [2/007] and [2/008], are likely to have accumulated over extended periods of time and are therefore unlikely to provide specific information about fuel and woodland resource. The charcoal assemblage may be used to provide information, albeit limited, about past vegetation in the site vicinity. If suitable taxa are present they may assist with dating these activities.

6.5 Archiving

1 box and paperwork

Sample Number	Context	Feature type	Processing method	Sample Volume (ltrs)	sample size processed (ltrs)	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Residue Description (quant./weight)
1	1/011	post hole fill		0.25	0.25	**	10	***	10	
2	1/007	spread	F	40	40	**	7	***	5	Pottery (*2), Industrial debris (**/319)
3	1/006	spread	F	40	40	***	19	***	11	Industrial debris (***/2396)
4	1/016	pit? fill	W			**	1	***	3	
5	1/017	pit? fill	W	0.5	0.5	*	2	**	2	
6	1/002	deposit	F			***	8	***	8	Industrial debris (**/112)
7	1/005	spread	F			***	5	****	7	Pottery (2/8)
8	1/021	pit fill	F	20	20	***	20	****	10	Burnt Clay (*1/17)
9	1/019	tree throw fill	F			*	1	**	1	
10	2/007	spread between linears	F			***	4	***	3	
11	2/008	spread beneath linears	F			***	4	***	3	
12	5/003	Charcoal rich lens	F	6	6	***	26	***	7	CBM (**/49)
13	5/005	sm pit/ posthole	W	0.5	0.5	**	3	**	3	
14	5/007	sm pit/ posthole	W	0.2	0.2	**	7	***	3	Industrial debris (*1), Burnt Clay (*5)
15	5/009	pit/ posthole	W	1	1	**	4	**	1	Burnt Clay (*1/14)

Table 24: Flotation residue (F) and wet sieve (W) quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and weights in grams

Sample Number	Context	Processing method	Flot Volume(ml)	Charcoal >4mm	Charcoal <4mm	Charred plant remains	Industrial debris	Land snail shells
2	1/007	F	25	*	***	Weed seed (1 <i>Sambucus nigra</i> L.)		
3	1/006	F	40		**	Cereal (1 <i>Triticum</i> sp.), Weed seed (1 <i>Rubus</i> sp.)		
4	1/016	W	-		**		*	
5	1/017	W	-		***		*	
6	1/002	F	50	*	**			
7	1/005	F	40	*	***	Weed seed (indet.)		
8	1/021	F	25	**	****			
9	1/019	F	5	*	**	cereal (1 <i>Triticum</i> sp.)		*
10	2/007	F	5		***	weed seeds (indet. small round)		
11	2/008	F	5	*	****	weed seeds (including 1 Poaceae, 1 indet.& <10 cf. <i>Brassica</i> sp)		*
12	5/003	F	5	*	****	cereal (* cf. <i>Avena</i> sp., * <i>Triticum</i> sp.)		*
13	5/005	W	-		**			
14	5/007	W	-		***			
15	5/009	W	-		**	* (2) indet. cereals		

Table 25: Flot (F) and wet sieve (W) quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

7.0 DISCUSSION AND CONCLUSIONS

The entire site consists of undulating farmland, the pipeline running east to west crossing several field boundaries and six roads / tracks. The eastern extent of the pipeline runs south west of a known Roman site. The site lies on clay and sand drift deposits overlying Hasting Beds.

The undulating topography of the landscape appears to have greatly influenced the deposit formation along the length of the pipeline, with numerous layers of probable colluvium identified across the site from [2/004], [2/006] towards the western end of the site to Area G [189] towards the east.

7.1 Evaluation Overview

- 7.1.1 Possible industrial activity was located at the western end of the site in Trench 1. Charcoal rich pits and post-holes were cut through shallow deposits containing industrial debris and the location of this activity seems to correspond to the magnetic anomaly identified by Cottrell (2007). Unfortunately, the only dating evidence comes in the form of two sherds of abraded pot recovered from environmental samples in two of the shallow industrial type deposits. Whilst one of these has been given a Late Iron Age early Roman date, the other is undiagnostic, but appears to be post-Roman. Given the uncertainty of the dates, and the location of the trench, it is perhaps more likely that these features are associated with the nearby post-medieval industrial activity than being of Roman origin (see figure 9). This activity may continue eastwards, with similar but undated features located in Trench 5.
- 7.1.2 Late Iron Age or Romano-British material was recovered from the overburden and linear features in Trench 2. These linear features have been interpreted as possible cartwheel ruts but their precise function or origin remains uncertain. With charcoal rich layers beneath perhaps they are related to industrial activity. This localised concentration seems to explain magnetic anomaly B (Cottrell 2007).
- 7.1.3 Trench 3 revealed evidence of a large 19th century feature, interpreted as a possible quarry or extraction pit. The magnetic anomaly recorded during the preceding geophysical survey (Cottrell 2007) appears to correspond with this feature, which contained burnt material.
- 7.1.4 Although the natural wasn't reached in Trench 4, at the eastern end of the site, the topsoil/subsoil contexts did produce 13th-14th century pottery together with post medieval material.

7.2 Watching Brief Overview

The Watching brief recorded several features of interest, which have been summarised below.

- 7.2.1 Area A contained a c.19th century small, circular pit [107], and a linear feature [104]. Although it is possible that the linear may represent an archaeological ditch it is also likely that it may have been a stream gully or natural

depression.

- 7.2.2 Wartling Road crossing, between Areas A and B uncovered a possible earlier trackway [205] beneath the existing road surface. Areas B and C revealed a probable land drain [116] and field boundary [121].
- 7.2.3 Wide cut [131] in Area D may relate to quarrying within the area. This corresponds with the findings in the evaluation (Trench 3). Also in this area was deep linear cut [126]. Since its position is directly adjacent and perpendicular to the current stream boundary, it is likely that this feature was an earlier channel or boundary ditch.
- 7.2.4 In Area H a soft silty-clay [135] was uncovered overlying a deeper soft, sticky bluish-grey silt [164]. Although no clear cut was seen for these they are located on the same alignment (north and south of the road) as a distinct valley-like depression, which can be seen in the landscape, which also corresponds with the indicative representation of the marine inlet on figure 9.
- 7.2.4 The post-hole series in Area H is of interest as their situation along the edge of this possible marine inlet could suggest a possible jetty. It is worth bearing in mind that other timber posts (MES3329) were found by a farmer when excavating a ditch, north of the pipe trench (along the same route of the marine inlet) within a probable Roman settlement area (Young 2007; 4.5.4). These have been interpreted as a possible jetty or landing stage (Young 2007; 4.5.5).
- 7.2.5 More generally, medieval, post-medieval and recent activity in the area is reflected in the spread of artefacts recovered from topsoil and subsoil deposits across the site. The discovery of blast furnace slag (early post-medieval), as well as earlier bloomery slag in several areas of the site is of interest but is of insufficient quantity to reflect ironworking in the immediate vicinity. These types of slag were commonly used for roads and tracks in the Weald and this seems to be the most likely source of this material. (see Barber, 5.6).

7.3 Conclusions

- 7.3.1 The only prehistoric evidence was residual, in the form of probable Mesolithic and Neolithic flintwork obtained from topsoil and subsoil deposits from across the site. The current archaeological work found no prehistoric deposits.
- 7.3.2 Late Iron Age or early to mid Roman material was obtained from a colluvial layer in Trench 2, as well as one of a series of cart-ruts or industrial linear features beneath. However, taking into account the stratigraphy of the trench and the possibility that the colluvial deposit is the source of all the Late Iron Age / Roman material, both the nature and date of the linear features remains uncertain.
- 7.3.3 No remains attributable to the Roman period were recovered from the region of the compound - Area G. However, the tapered timber posts [140], [142] and [144] were located on the same alignment as other timber posts (MES3329) with a possible Roman association. Although there is no definite dating evidence to support this, it is important to consider the potential relationship between these similar finds.

- 7.3.4 Unfortunately monitoring of Areas H and I of the watching brief was intermittent and the full extent of the possible marine inlet was not seen. However, two layers that appear to be directly related to the marine inlet were recorded [135], [164].
- 7.3.6 The early medieval slag recovered has possibly been introduced from nearby roads or tracks when used as surfacing. Later post medieval CBM was recovered from topsoil in Areas B and D suggesting manuring, thus an agricultural use of these areas extending through to the present.
- 7.3.7 Quarrying of some sort appears to have taken place in the immediate vicinity of Trench 3 in Area D during the 19th to 20th century, possibly for clay extraction. Other industrial evidence includes clinker, possibly from coal burning in the 19th century from Areas C and E.
- 7.3.8 No conclusive evidence of post medieval industry has been obtained, but a series of potential industrial features of uncertain date were recorded in Trenches 1 and 5. The early post medieval slag recovered from Trenches 3 and 4 is probably , attributable to road and track surfacing.

REFERENCES

- Cappers, R.T.J., Bekker, R.M. and Jans, J.E.A. 2006. Digital Seed Atlas of the Netherlands. *Groningen Archaeological Series 4*. Netherlands: Barkhuis.
- Cottrell, P.M. 2007. Hazards Green Transfer: Report on Archaeogeophysical Survey of Proposed Water Pipeline.
- Jacomet, S. 2006. Identification of cereal remains from archaeological sites. 2nd ed. *Archaeobotany laboratory, IPAS, Basel University*, Unpublished manuscript.
- Margary, I. D. 1967. *Roman Roads in Britain*. Revised Addition, John Baker Publishers, London
- Martin, A.C. and Barkley, W.D. 2000. *Seed Identification Manual*. New Jersey: Blackburn Press.
- Stace, C. 1997. *New Flora of the British Isles*. Cambridge: Cambridge University Press.
- Sygrave, J. 2007a. Windmill Hill to Hazards Green Transfer: Archaeological Watching Brief (Stage 1) Written Scheme of Investigation. ASE Project no. 3177
- Sygrave, J. 2007b. Windmill Hill to Hazards Green Transfer: Archaeological Evaluation (Stage 1) Written Scheme of Investigation. ASE Project no. 3177
- Young, J. 2007. A Desk Based Assessment of Hazards Green Pipeline – Phase 1. L-P Archaeology. Document ref: LP0624L-DBA-vA1.3

ACKNOWLEDGEMENTS

The co-operation and assistance of the contracts manager, Sean Taylor (C. J. Thorne Ltd.), and the consulting engineer, Rachel Mutalima (Black and Veatch Ltd.) is gratefully acknowledged, as is the co-operation of Nick Smith (South East Water).

APPENDICES
Appendix 1 – Finds Quantification

Context	Pot	wt (g)	CBM	wt (g)	Flint	wt (g)	Stone	wt (g)	Iron	wt (g)	Slag	wt (g)	Glass	wt (g)	F. clay	wt (g)	Cu.Al.	wt (g)	Charcoal	wt (g)	Waterlogged wood	wt (g)
[001] West of Area A	4	140																				
[001] Compound at TH	20	136					1	4														
[001] W dry stream			7	94																		
[101] East End Site	5	64																				
[101] West End Site	1	2			1	6	3	24														
Area A [101]	22	330	68	2276			12	172					1	10								
Area A [104]											1	80			1	6						
Area A [108]	3	8	6	122			2	40					4	10								
Area B [101]	2	4	11	250	1	<2			1	106			1	10								
Area C [101]	10	164	53	1448			1	6			2	<2										
Area D [101]	6	116	45	1516			1	480			2	206										
Area E [101]	1	6	7	116							2	144										
Area F [101]	2	12	23	1066																		
Area G [101]			28	880			1	62														
T1 [001]	1	6	2	18	1	12	2	296			2	128										
T1 [006]											1	24										
T1 [007]									2	46												
T1 [019]					1	8													1	<2		
T1 redeposited brickearth															1	8						
T2 [002]	1	4																				
T2 [004]	6	34	4	24			2	318			7	184			5	10				1	<2	
T2 [014]	1	4																				
T3 [001]			4	166			3	324	1	22	3	238										
T3 [005]			2	504							1	54										
T3 [006]	2	8											1	2			1	<2				
T3 [009]			3	1168	1	12	1	156			1	112			4	70						
T4 [001]	9	78	27	1128	1	12	5	144	1	16	2	60	7	56								
T4 [002]	9	94	27	750	1	4			1	16	2	168			1	14						
[140]																						1
[142]																						1
[144]																						1
Total	104	1210	317	11526	7	47	35	2028	6	206	26	1291	14	88	12	108	1	<2	2	<2		3

Appendix 2 - SMR Summary

Site Code	HGT 07					
Identification Name and Address	Windmill Hill to Hazards Green Transfer, East Sussex					
County, District &/or Borough	Wealden					
OS Grid Refs.	NGR TQ 651 119 to TQ 683 124					
Geology	Clay and sand drift deposits overlying Hasting Beds					
Arch. South-East Project Number	3177					
Type of Fieldwork	Eval. <input checked="" type="checkbox"/>	Excav.	Watching Brief <input checked="" type="checkbox"/>	Standing Structure	Survey	Other
Type of Site	Green Field <input checked="" type="checkbox"/>	Shallow Urban	Deep Urban	Other		
Dates of Fieldwork	Eval.	Excav.	WB.	Other Intermittently between 26-11-2007 and 23-05-2008		
Sponsor/Client	South East Water					
Project Manager	Jon Sygrave					
Project Supervisor	Deon Whittaker/Kathryn Grant					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB <input checked="" type="checkbox"/>
	AS	MED <input checked="" type="checkbox"/>	PM <input checked="" type="checkbox"/>	Other Modern <input checked="" type="checkbox"/>		
<p>100 Word Summary.</p> <p><i>Archaeology South-East (ASE) was commissioned by Black and Veatch Ltd. on behalf of their client, South East Water, to undertake an archaeological evaluation ahead of works on the Windmill Hill to Hazards Green Water Treatment Works Transfer (NGR TQ 651 119 to TQ 683 124) in advance of a new water pipeline. The methodology comprised machine excavation of three trial trenches measuring 30m by 1.8m along the length of the pipeline and one measuring 20m by 1.8m in the proposed compound together with a watching brief on the remaining pipeline with particular focus where the pipeline cut three roads with possible Roman – medieval origins. Monitored groundworks were carried out between November 2007 and May 2008.</i></p> <p><i>The evaluation revealed possible industrial activity of uncertain date in Trench 1, possible cart-ruts or industrial linear features of uncertain date in Trench 2 and evidence of a possible 19th century quarrying pit in Trench 3. The watching brief uncovered deposits associated with an ancient marine inlet together with posts associated with a possible Roman jetty. Finds dating from the 12th century to 19th century were recovered from the length of the pipeline.</i></p>						

Appendix 3- OASIS Summary

OASIS ID: archaeol6-48273

Project details

Project name Hazards Green Transfer

Short description of the project *Archaeology South-East (ASE) was commissioned by Black and Veatch Ltd. on behalf of their client, South East Water, to undertake an archaeological evaluation ahead of works on the Windmill Hill to Hazards Green Water Treatment Works Transfer (NGR TQ 651 119 to TQ 683 124) in advance of a new water pipeline. The methodology comprised machine excavation of three trial trenches measuring 30m by 1.8m along the length of the pipeline and one measuring 20m by 1.8m in the proposed compound together with a watching brief on the remaining pipeline with particular focus where the pipeline cut three roads with possible Roman – medieval origins. Monitored groundworks were carried out between November 2007 and May 2008.*

The evaluation revealed possible industrial activity of uncertain date in Trench 1, possible cart-ruts or industrial linear features of uncertain date in Trench 2 and evidence of a possible 19th century quarrying pit in Trench 3. The watching brief uncovered deposits associated with an ancient marine inlet together with posts associated with a possible Roman jetty. Finds dating from the 12th century to 19th century were recovered from the length of the pipeline.

Project dates Start: 26-11-2007 End: 23-05-2008

Any associated project reference codes HGT 07 - Sitecode

Type of project Field evaluation

Significant Finds TIMBER WORKED POSTS Uncertain

Methods & techniques 'Targeted Trenches','Visual Inspection'

Development type Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)

Prompt Water Industry Act 1991

Project location

Country	England
Site location	EAST SUSSEX WEALDEN WARTLING Windmill Hill to Hazards Green Transfer
Study area	4.00 Kilometres

Project creators

Name of Organisation	Archaeology South-East
Project design originator	consultant
Project director/manager	JON SYGRAVE
Project supervisor	Kathryn Grant
Type of sponsor/funding body	Black and Veatch on behalf of South-East Water
Name of sponsor/funding body	South East Water

Entered by	Kathryn Grant
Entered on	12 September 2008

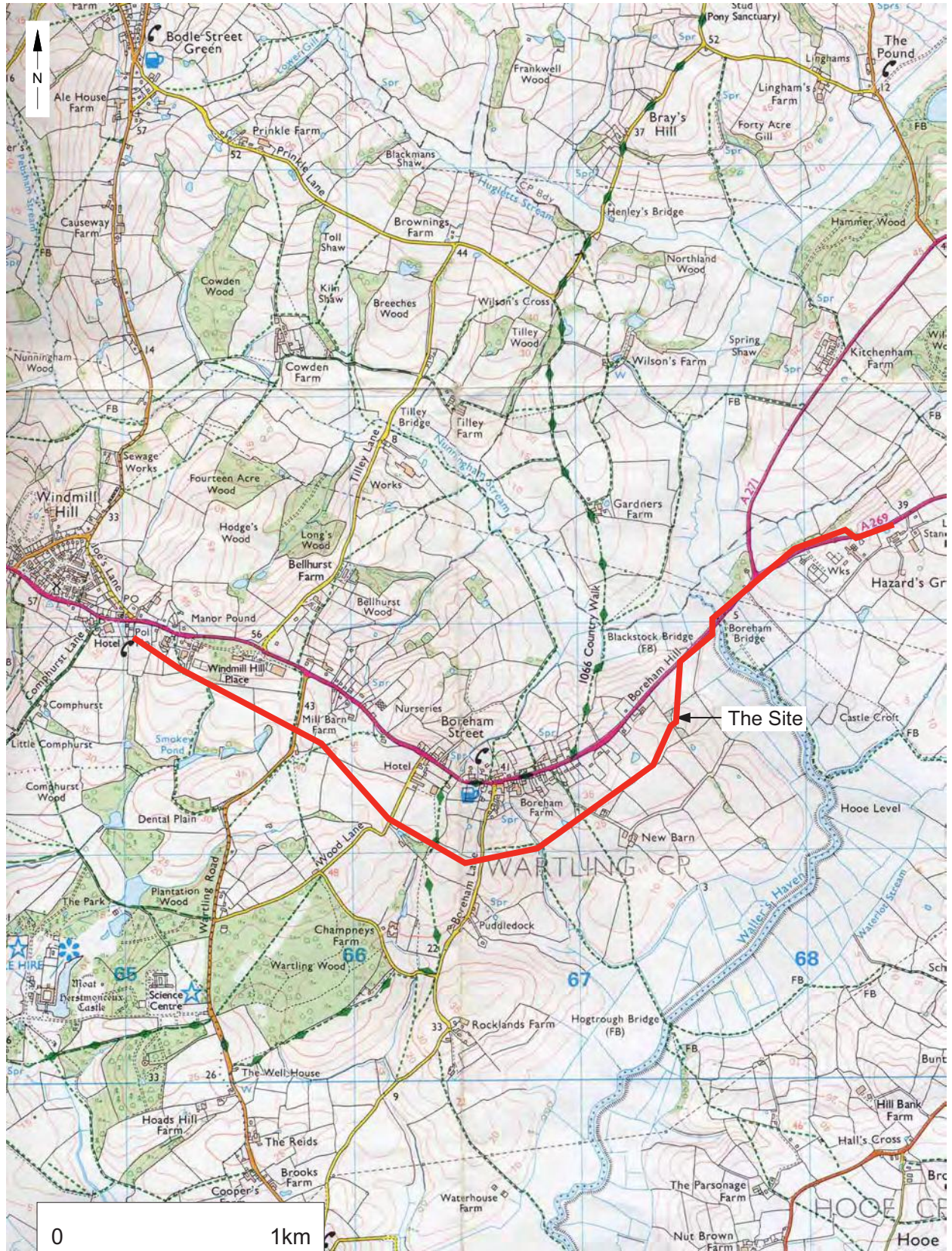
14

13

12

11

10



65

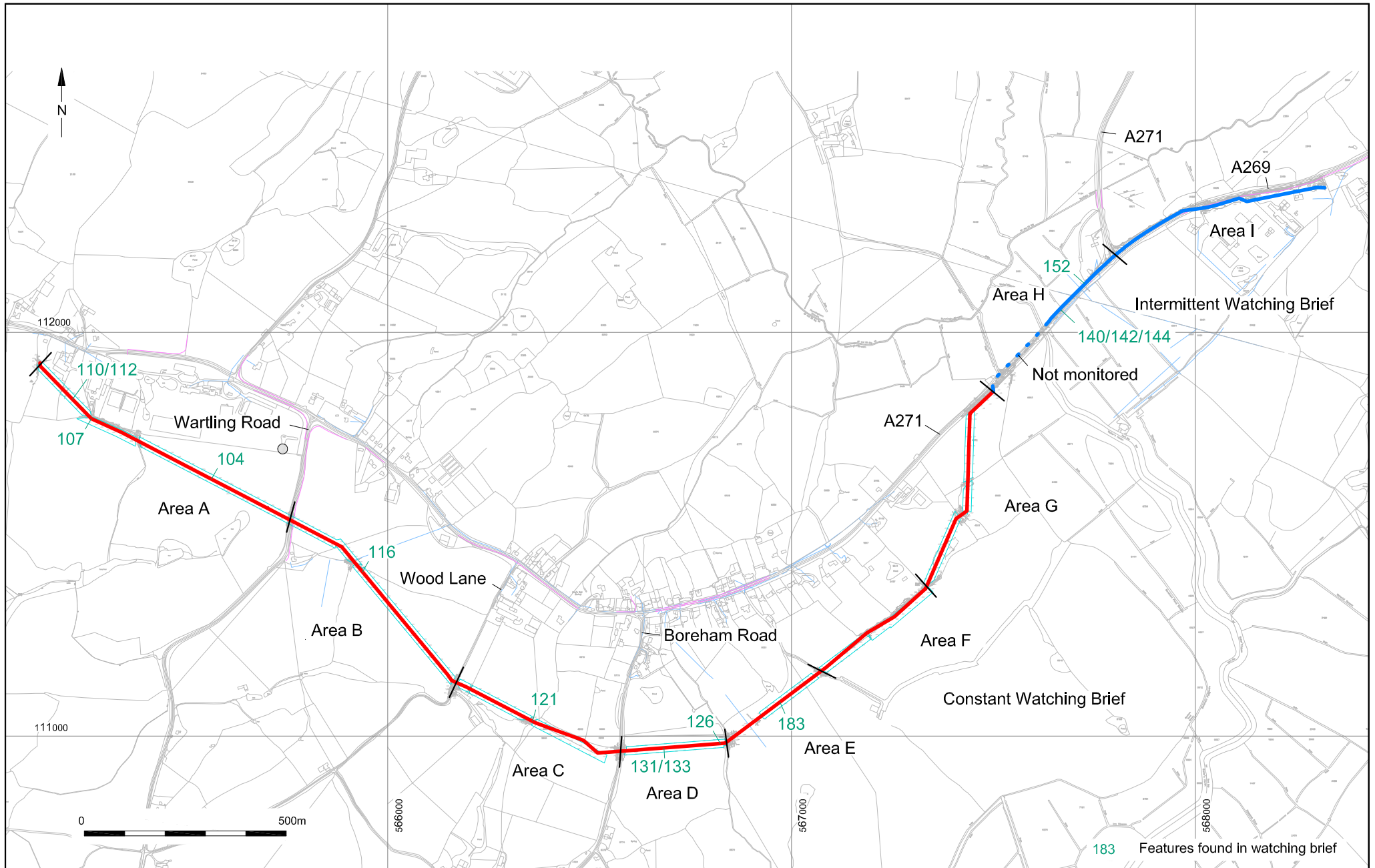
66

67

68

© Archaeology South-East		Windmill Hill to Hazards Green Transfer	Fig. 1
Project Ref: 3177	Sept 2008	Site Location Plan	
Report Ref: 2008007	Drawn by: SM		

Reproduced from the Ordnance Survey's 1:25000 map of 1997 with permission of the Controller of Her Majesty's Stationary Office. Crown Copyright. Licence No. AL 503 10 A



© Archaeology South-East

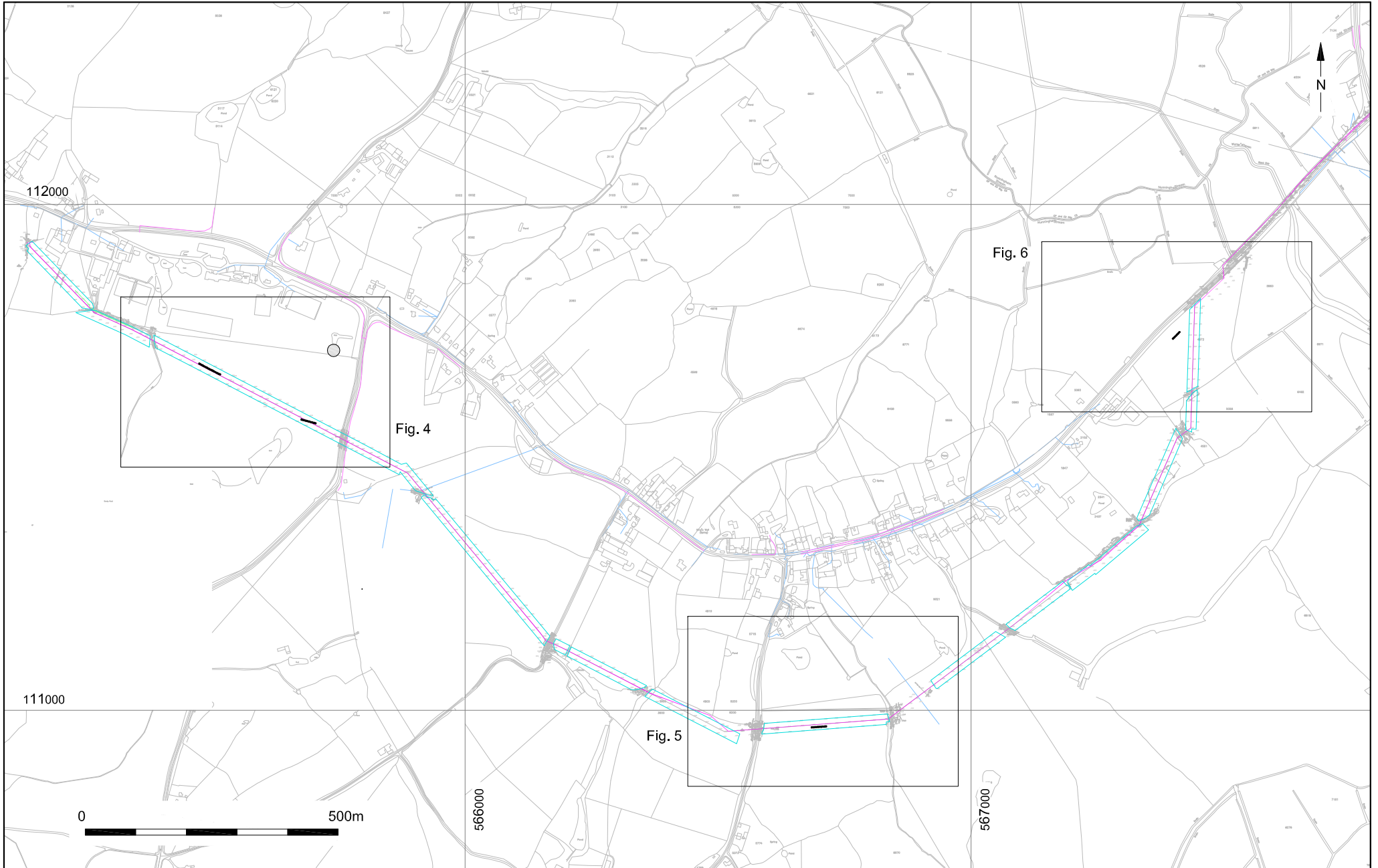
Project Ref: 3177
Report Ref: 2008007

Sept 2008
Drawn by: SM

Windmill Hill to Hazards Green Transfer

Plan showing route of pipeline and monitored groundworks by area

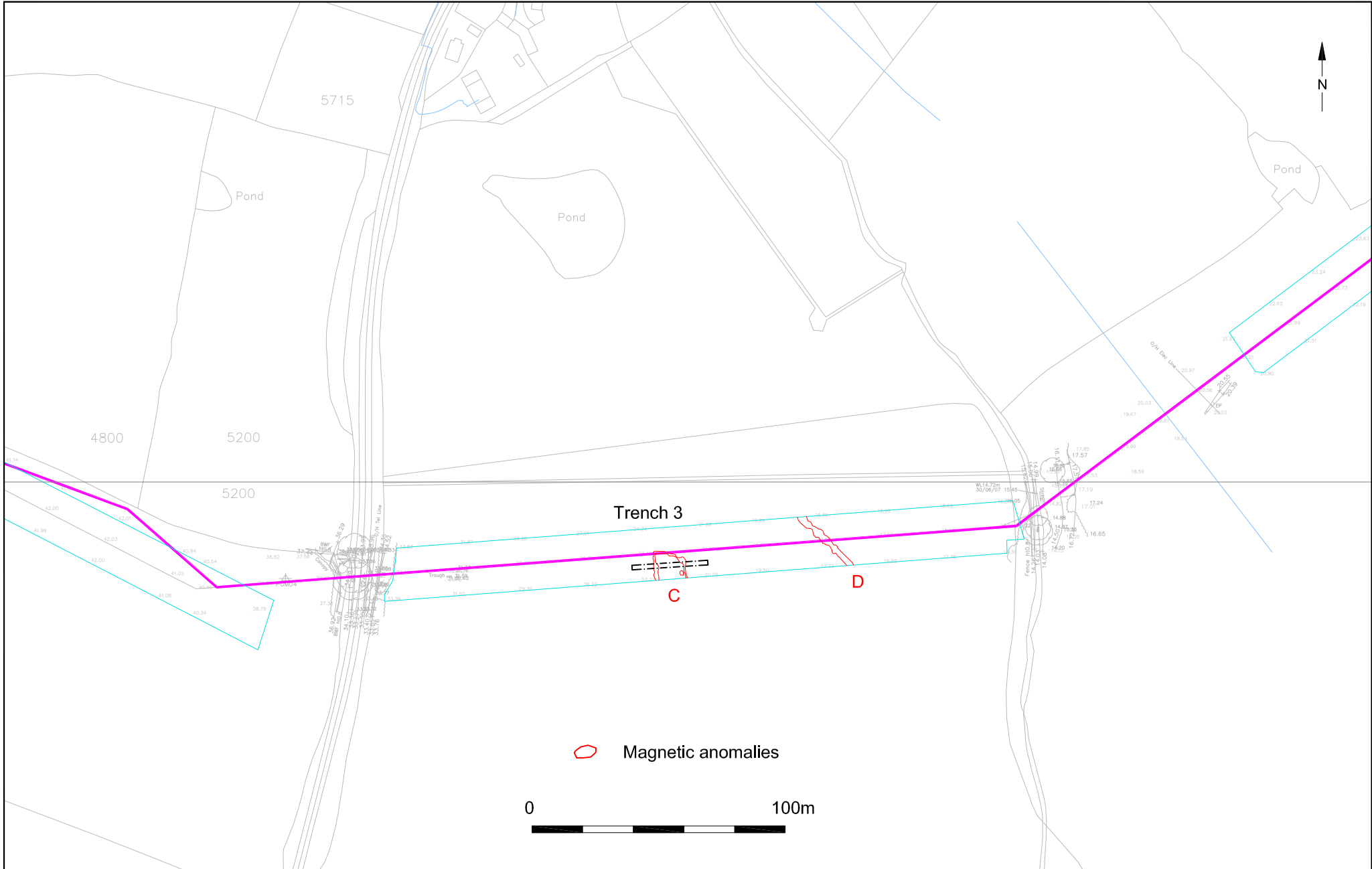
Fig. 2

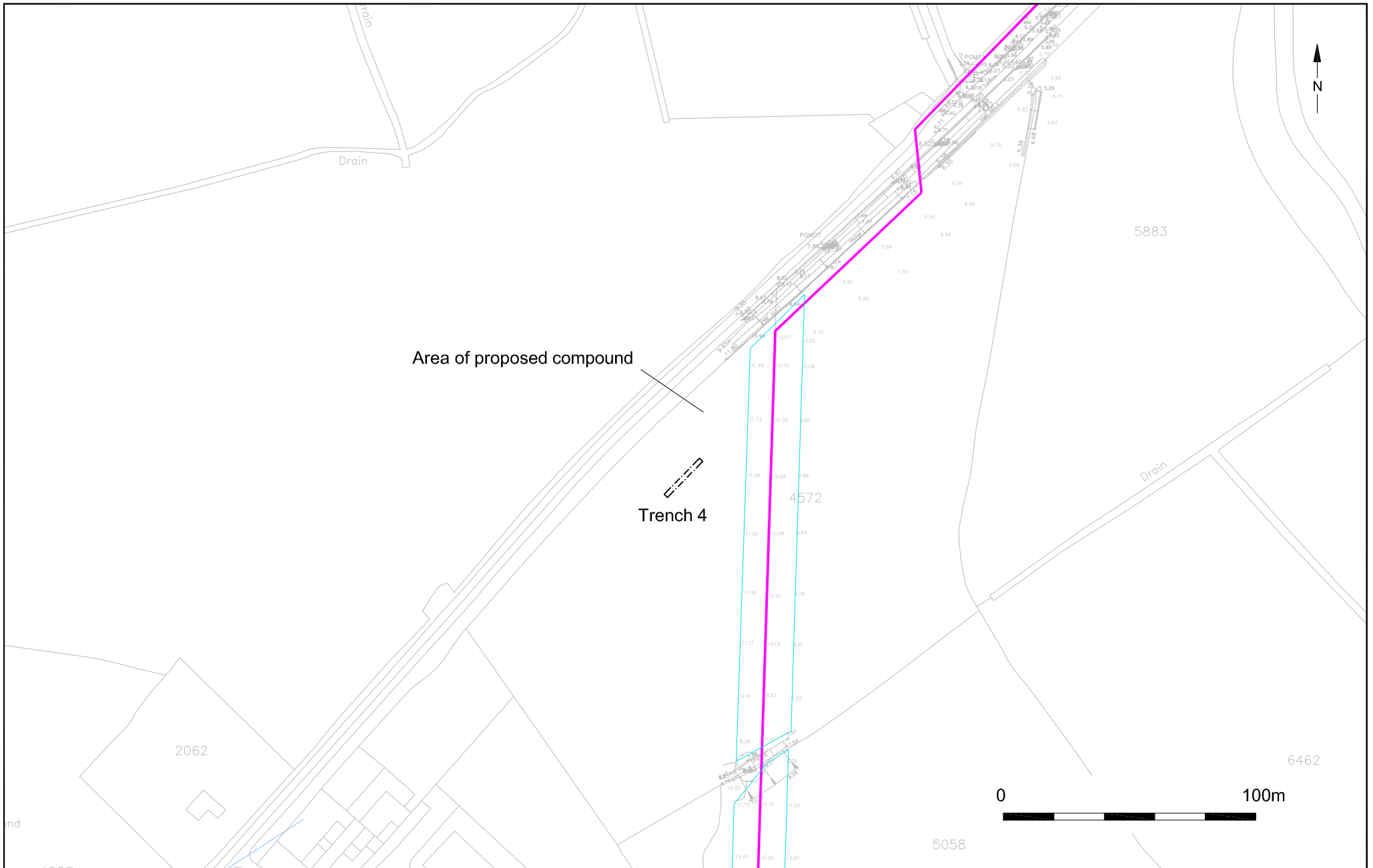


© Archaeology South-East		Windmill Hill to Hazards Green Transfer		Fig. 3
Project Ref: 3177	Sept 2008	Plan showing trench locations		
Report Ref: 2008007	Drawn by: SM			

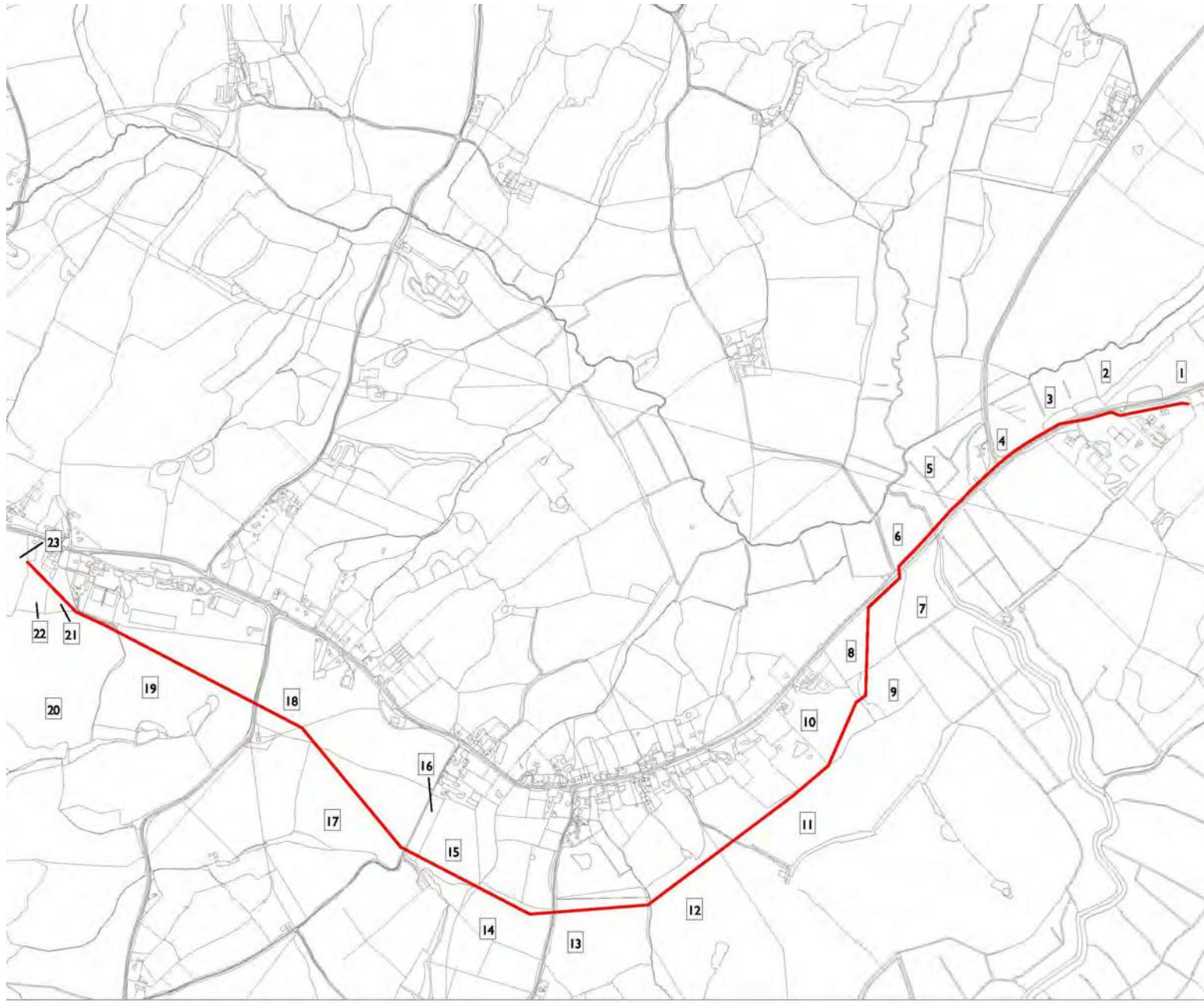
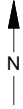


© Archaeology South-East		Windmill Hill to Hazards Green Transfer		Fig. 4
Project Ref: 3177	Sept 2008	Trench location plan		
Report Ref: 2008007	Drawn by: SM			





© Archaeology South-East		Windmill Hill to Hazards Green Transfer		Fig. 6
Project Ref: 3177	Sept 2008	Trench location Plan		
Report Ref: 2008007	Drawn by: SM			



© Archaeology South-East

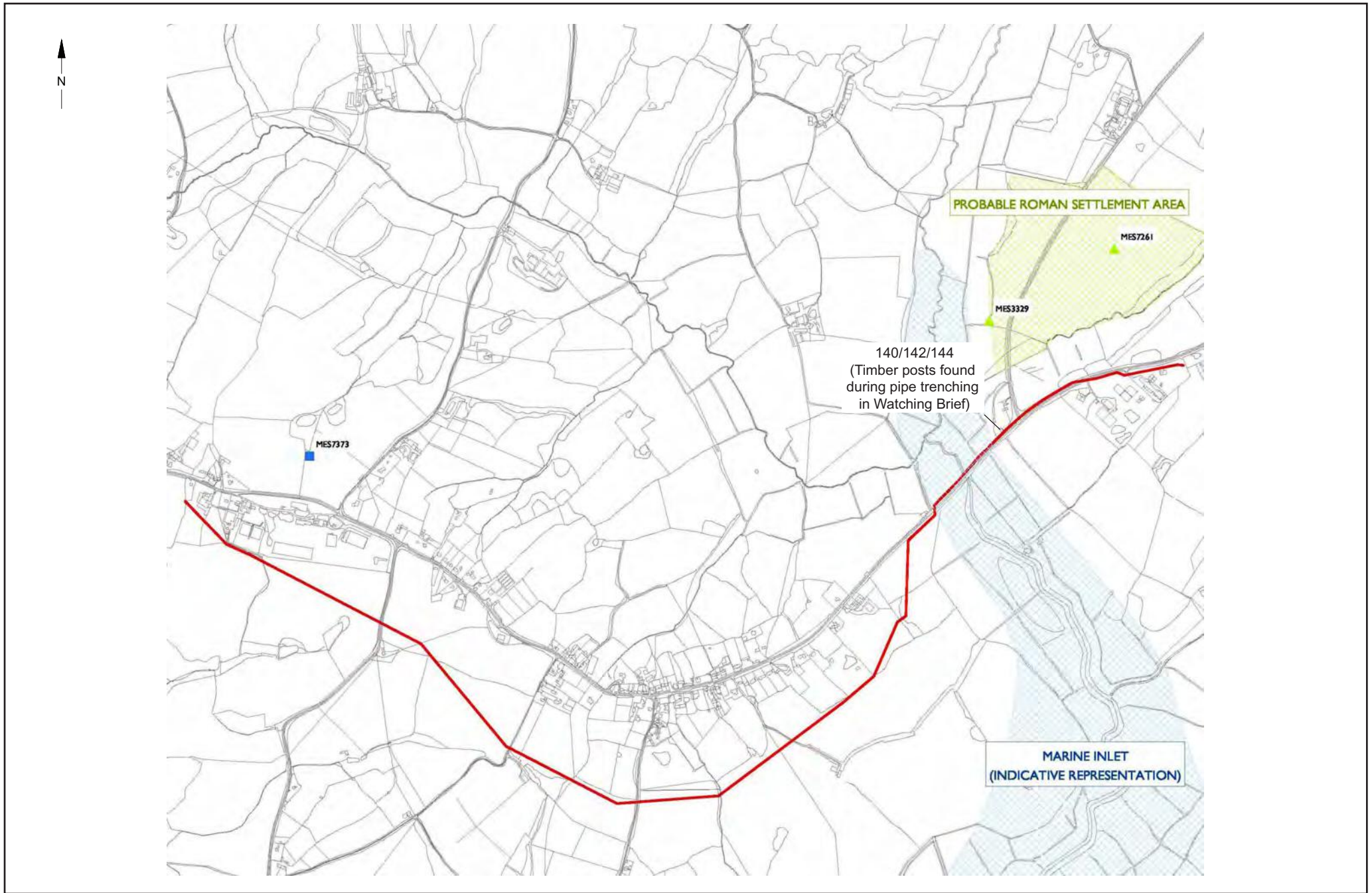
Project Ref: 3177
Report Ref: 2008007

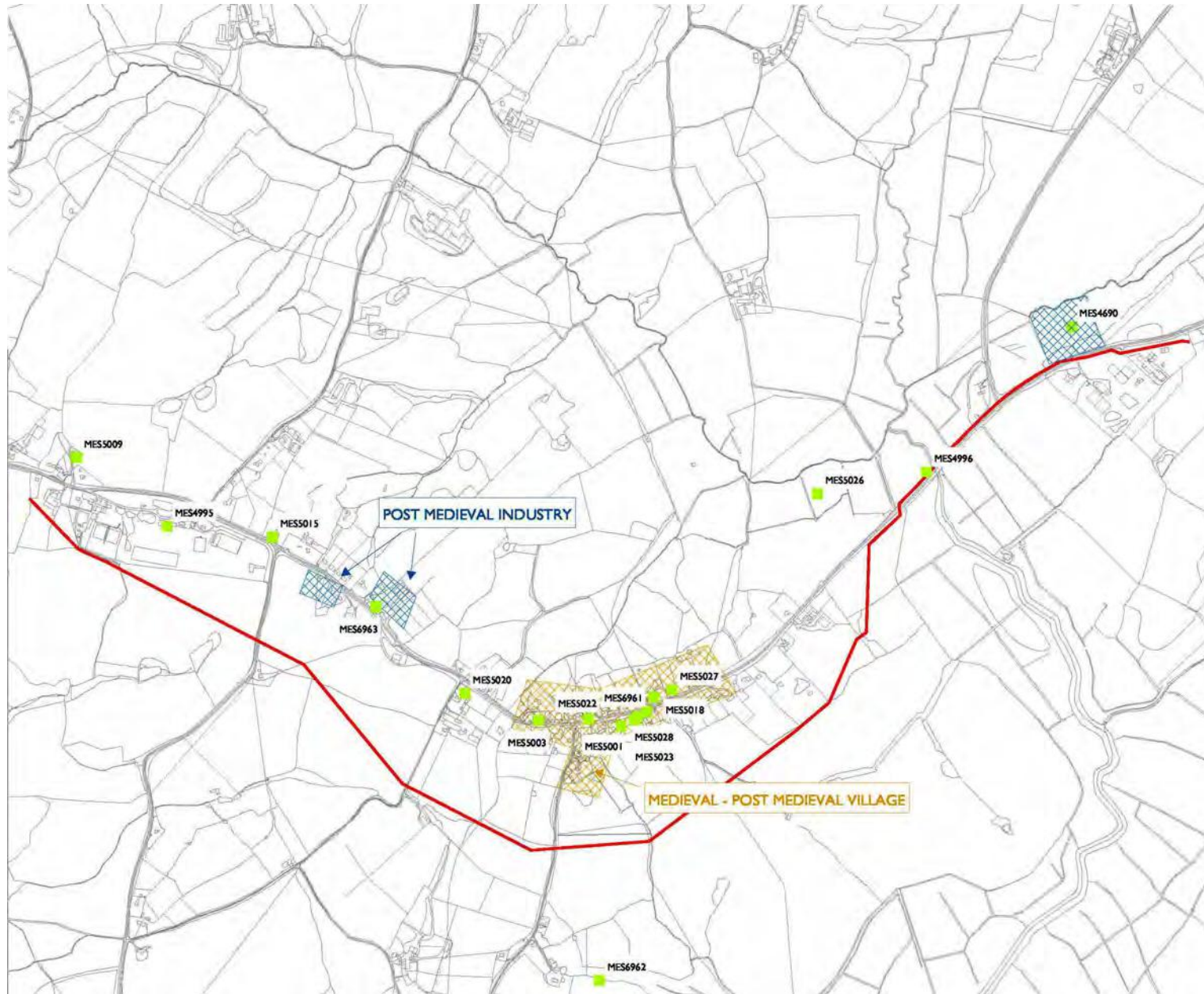
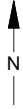
Sept 2008
Drawn by: SM

Windmill Hill to Hazards Green Transfer

Field numbers used during walkover survey (courtesy of L-P)

Fig. 7





© Archaeology South-East

Project Ref: 3177

Sept 2008

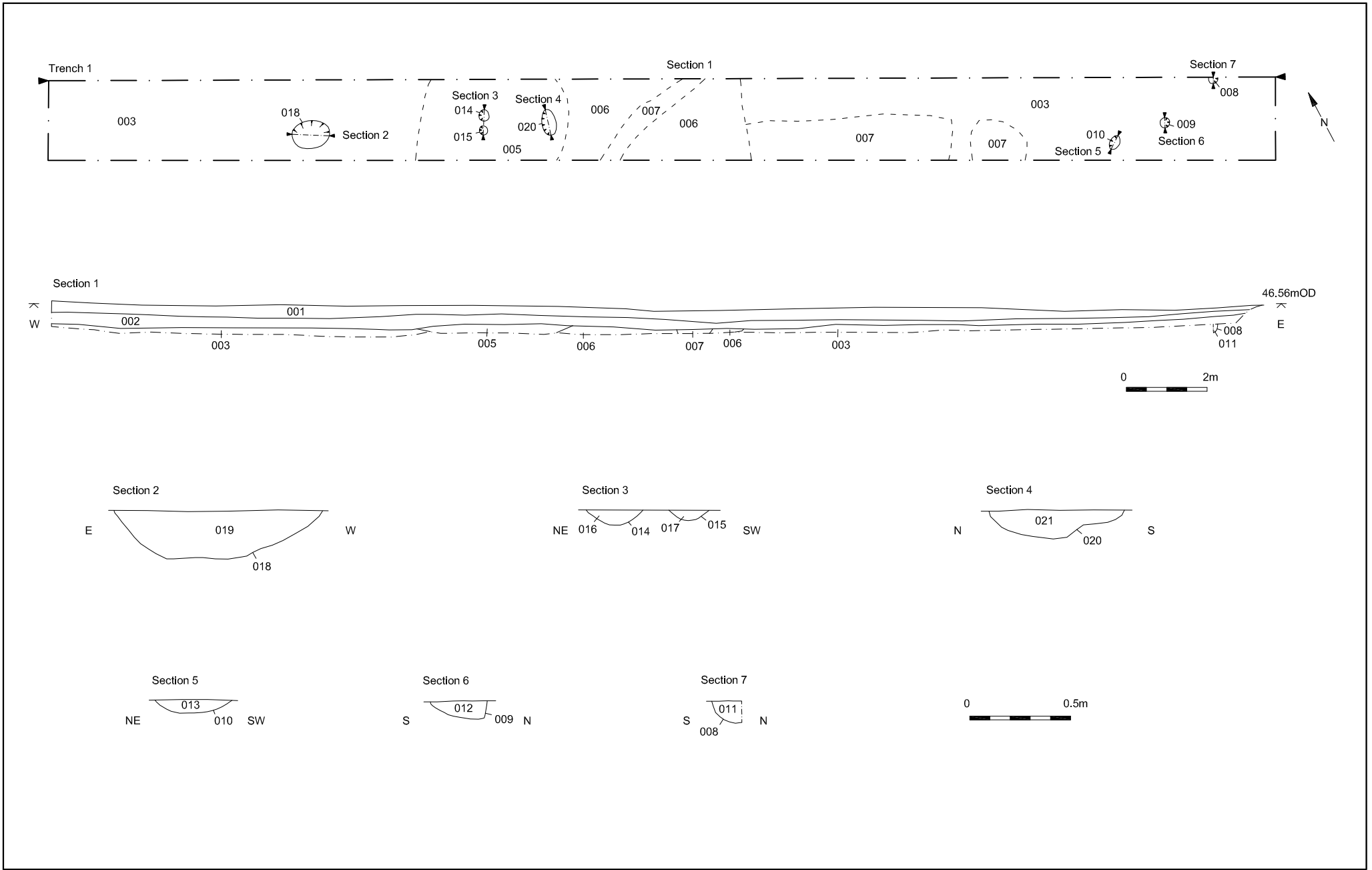
Report Ref: 2008007

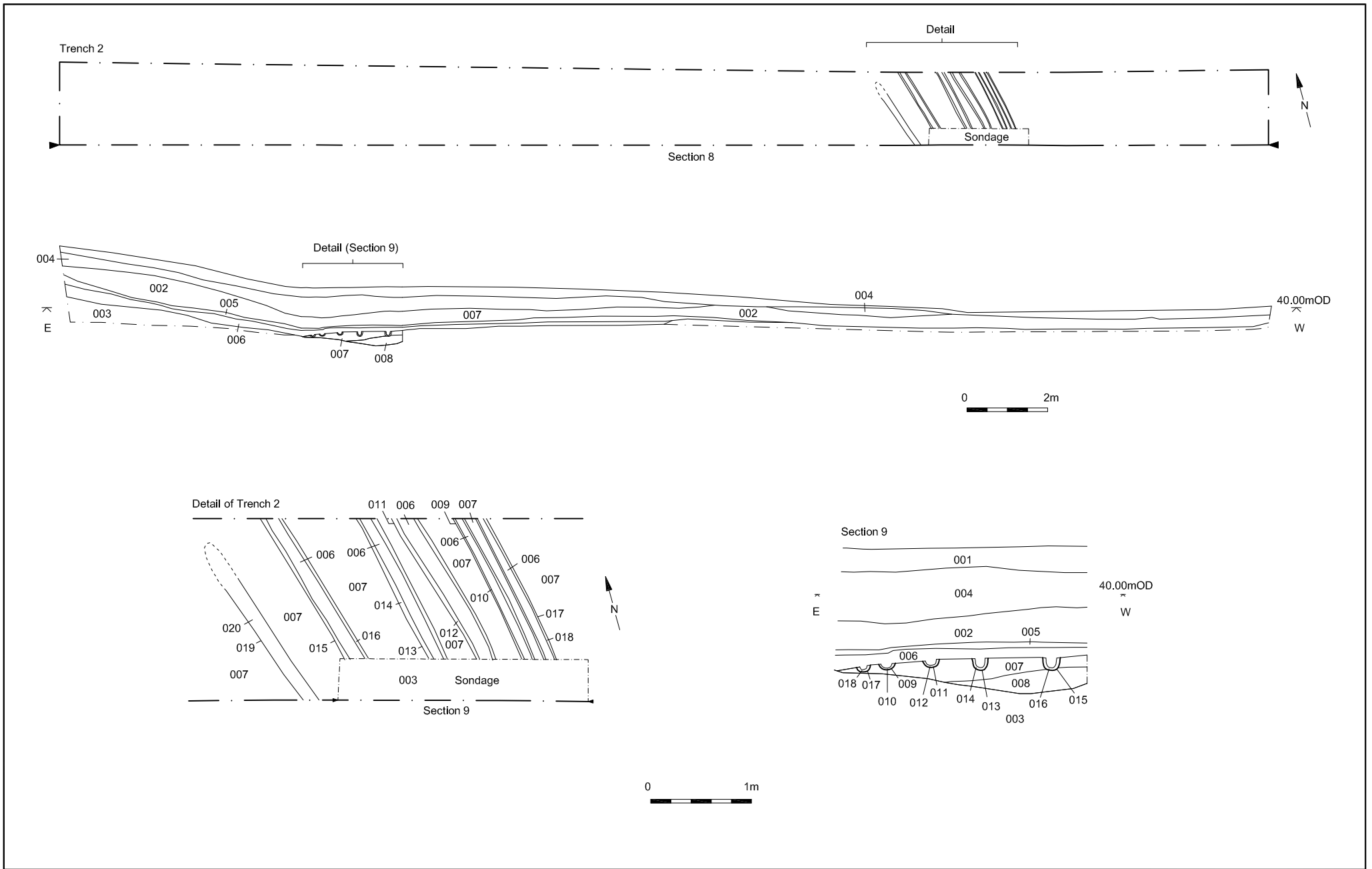
Drawn by: SM

Windmill Hill to Hazards Green Transfer

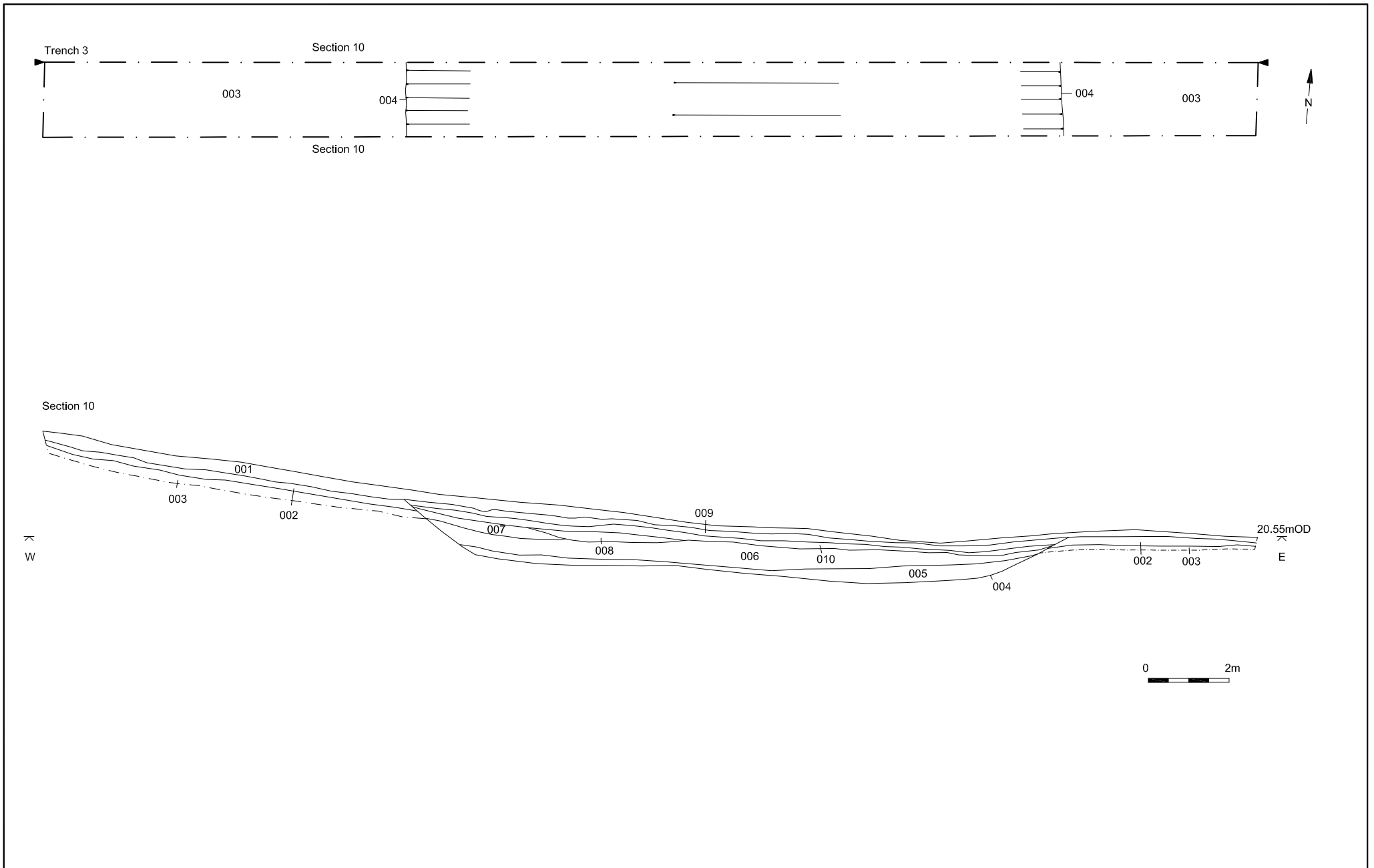
Medieval and Post-Medieval activity around pipeline
(courtesy of L-P)

Fig. 9

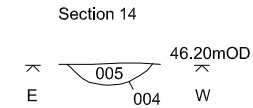
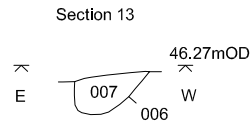
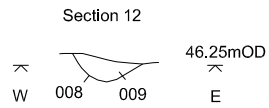
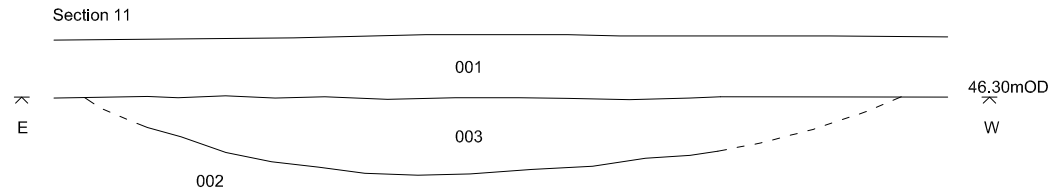
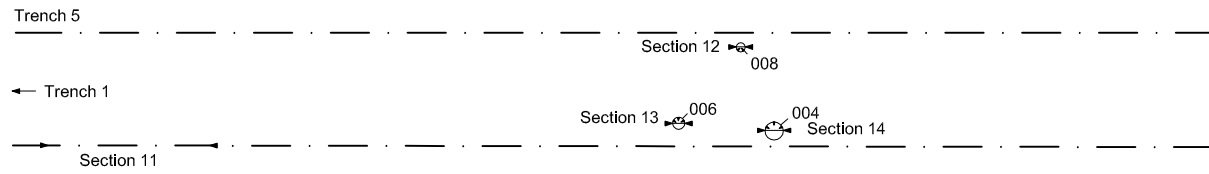




© Archaeology South-East		Windmill Hill to Hazards Green Transfer	Fig. 11
Project Ref: 3177	Sept 2008	Trench 2 plan and section	
Report Ref: 2008007	Drawn by: SM		



© Archaeology South-East		Windmill Hill to Hazards Green Transfer	Fig. 12
Project Ref: 3177	Sept 2008	Trench 3 plan and section	
Report Ref: 2008007	Drawn by: SM		



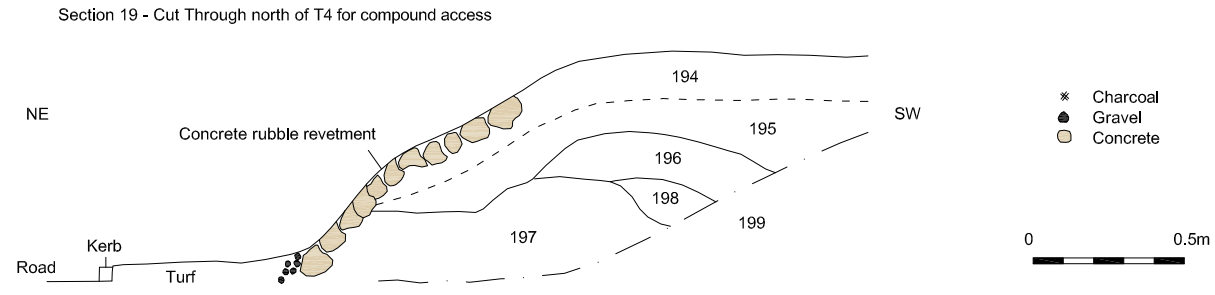
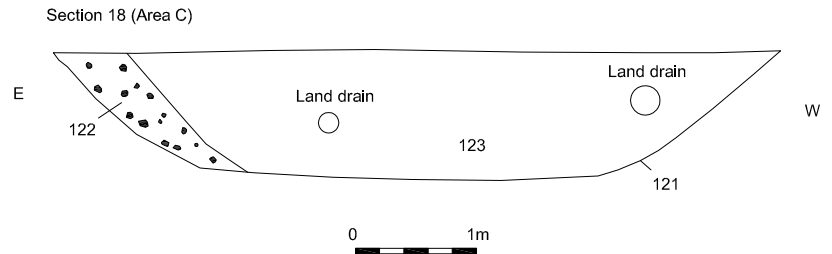
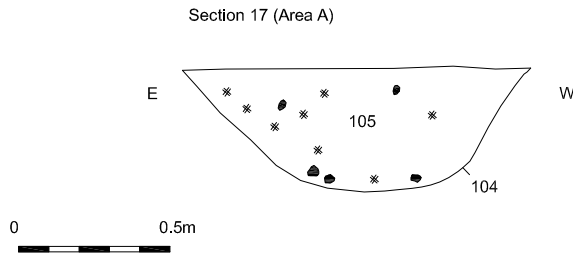
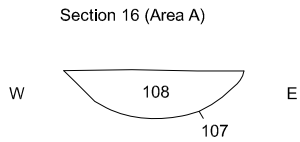
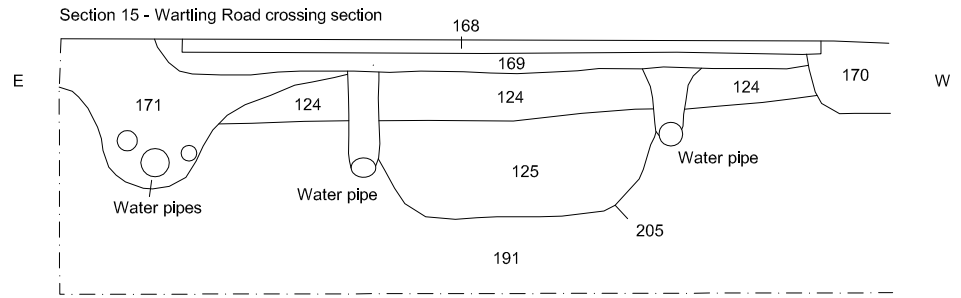




Fig. 15: Trench 2, [011], [013], [015], looking south



Fig. 16: Trench 2, [017], [009], [011], [013], [015], looking east

© Archaeology South-East		Windmill Hill to Harzards Green Transfer	Figs. 15 & 16
Project Ref: 3177	Sept 2008		
Report Ref: 2008007	Drawn by: SM		



Fig. 17: Wartling Road crossing



Fig. 18: Timbers [140], [142] and [144]

© Archaeology South-East		Windmill Hill to Harzards Green Transfer	Figs. 17 & 18
Project Ref: 3177	Sept 2008		
Report Ref: 2008007	Drawn by: SM		