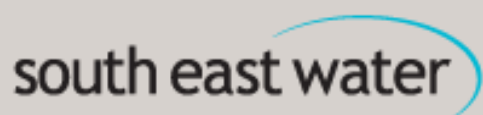


Archaeological Observation

On behalf of:



Concerning:

**Staplecross to Iden: Field 12 Mains
Renewal scheme
Playden
East Sussex**

March 2019



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1 Non-Technical Summary

Border Archaeology (BA) was commissioned by South East Water (SEW) to undertake an Archaeological Observation (also referred to as a watching brief) on engineering groundworks in respect of the proposed Staplecross to Iden: Field 12 Mains Renewal Scheme (East Sussex).

The programme of archaeological observation was carried out between 8th of August and 10th of October 2017 on a section of the Staplecross to Iden: Field 12 Mains Renewal Scheme. The works comprised monitoring of the topsoil strip within an established easement, and subsequent trenching for the insertion of a water pipeline which extended for about 1km across a series of fields from a connection point on the A268 (Rye Road) to the W of Bowlers Town, to another connection point on the N fringes of the village of Playden, just outside the historic town of Rye. Natural substrata was encountered at a relatively shallow depth across the majority of the pipeline route, on average between 0.20m and 0.30m below modern ground level (bmgl), although it was encountered at a greater depth in Trench 4 (between 0.45-0.75m bmgl) where the pipeline crossed an existing watercourse.

A considerable number of post-medieval and modern drainage features, furrows, plough scars, and tree-throws were encountered in several of the fields traversed by the pipeline works. No finds were recovered from any of these agricultural features, although some of the ceramic field drains were horseshoe-shaped and date between the mid-18th to mid-19th century.

Whilst no significant archaeological features were encountered, three colluvial deposits were identified in Trench 003. Deposit (003008) was found to have accumulated within a natural depression; the palaeoenvironmental profile producing little of interpretative value. Deposits (003009) and (003010), on the other hand contained significant waterlogged plant remains, an incisor tooth of a sheep or goat, and indeterminate slag (common in post-medieval field spreading activities). The results of the palaeoenvironmental analysis suggests that these two deposits formed in a probable waterlain depression, such as a pond feature, surrounded by damp open grassland with occasional disturbed ground, possibly associated with post-medieval agricultural activity.

The results of this archaeological observation reflect only an absence of archaeology within the designated pipeline route. It is possible that archaeology exists outside of the 3m - 6m wide area explored along the route and thus the archaeological potential of the general area surrounding the Field 12 Mains Renewal Scheme should not be discounted.

2 Introduction

Border Archaeology (BA) was commissioned by South East Water (SEW) to undertake Archaeological Observation on engineering groundworks in respect of the proposed Staplecross to Iden: Field 12 Mains Renewal Scheme (East Sussex) (Figs. 1 & 2).

The water mains pipeline runs for approximately 1km SE from a connection point on the A268 (Rye Road) to the W of Bowlers Town (NGR TQ 91087 22628) to another connection point on the N fringes of the village of Playden (NGR TQ 91863 22057), about 2km N of the historic town of Rye, East Sussex. The entirety of the route lies within the High Weald Area of Outstanding Natural Beauty (AONB). The pipeline scheme did not cross any Scheduled Ancient Monuments (SAMs) or Archaeological Notification Areas (ANAs), although it did run very close to the ANA associated with the medieval settlement of Playden.

The table below shows the lengths of the individual sections of open-cut trenching across the route (Fig. 1).

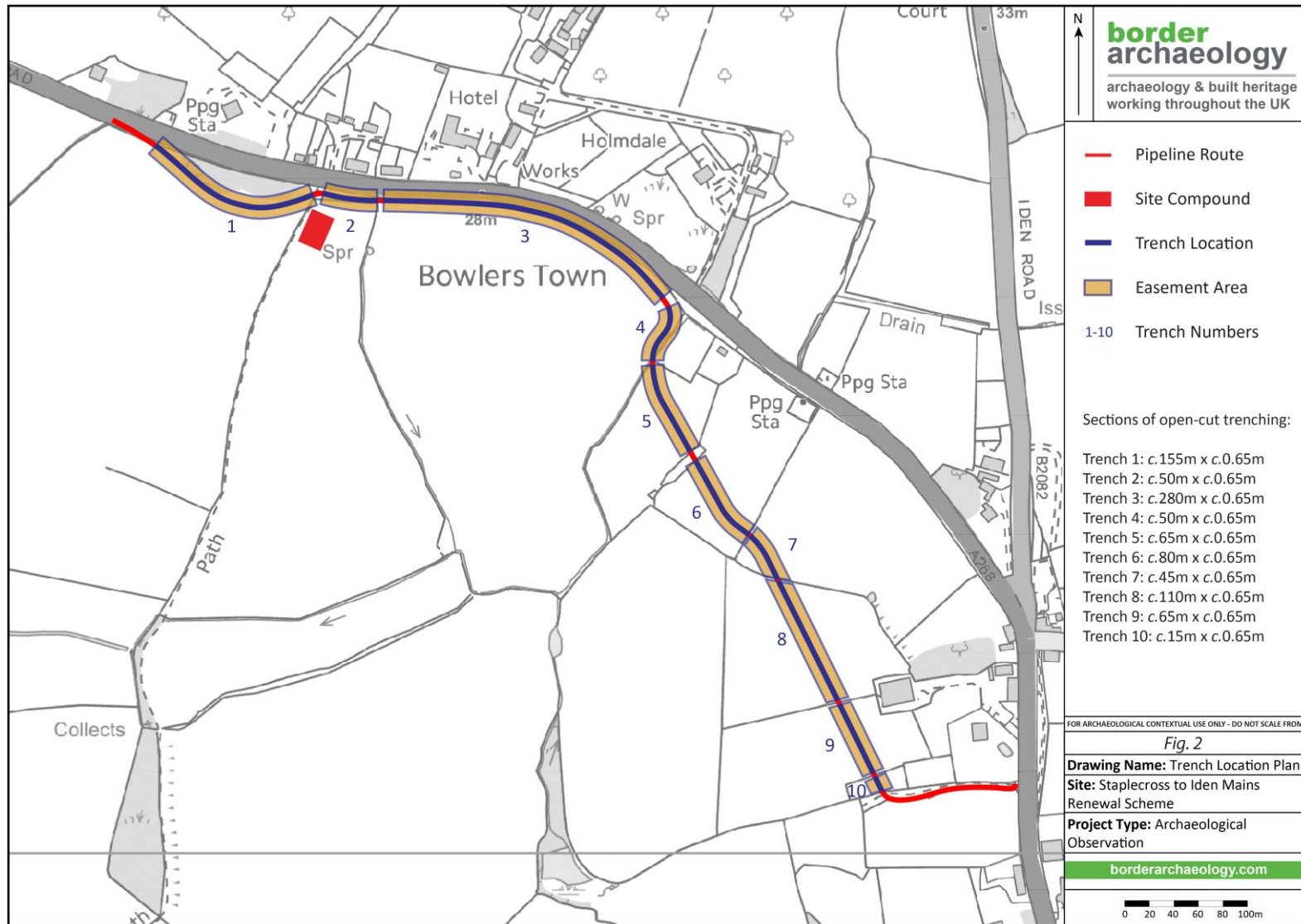
- Trench 1 (approximately 155m)
- Trench 2 (approximately 50m)
- Trench 3 (approximately 280m)
- Trench 4 (approximately 50m)
- Trench 5 (approximately 65m)
- Trench 6 (approximately 80m)
- Trench 7 (approximately 45m)
- Trench 8 (approximately 110m)
- Trench 9 (approximately 65m)
- Trench 10 (approximately 15m)

3 Topography & Geology

Modern ground level was shown to vary across the landscape within which the 1km long pipeline route traversed. The superficial deposits in this area comprise alluvium – a combination of clay, silt and sandy soils overlying bedrock of the Tunbridge Wells Sand formation group, consisting of sandstone and siltstone interbedded; and mudstone (BGS, 2018).

The soils are characterised as silty soils over Cretaceous and Jurassic siltstone, slowly permeable with slight seasonal waterlogging. Well-drained silty soils and coarse loamy soils over sandstone are also present. During the archaeological observation, the natural geological strata encountered along the route was for the most part formed of a sandy clay which varied between a light greyish-orange and light orange-grey sandy clay. Where observed, it was seen on average between c. 0.20 – c. 0.30m below modern ground level (hereafter referred to as bmgf).





4 Historical and Archaeological Background

The *Initial Rapid Archaeological Appraisal* (BA 2017a) assessed the potential and significance of the archaeological resource of the area surrounding the pipeline route. This assessment formed the basis of understanding for the archaeological observation which took place, in accordance with the *Written Scheme of Investigation* (BA 2017b) (hereafter referred to as *WSI*), between August and October 2017.

A synopsis of the archaeological background of the area is outlined here:

4.1 Prehistoric activity

The Mockbeggar Archaeological Notification Area (ANA) designated by East Sussex Council is located 272m to the SW of the pipeline route. Within this ANA a late Bronze Age settlement site (a designated Scheduled Ancient Monument) was excavated between 1929-31. Findings included a circular hut within a ring-ditch; a rectangular enclosure with traces of a ditch and wattle fence; and Middle to Late Bronze Age pottery. A further area of cropmarks was identified and interpreted as representing an enclosure and a possible barrow. A significant number of Mesolithic flint scatters have been recorded and might indicate the potential of a flint production focus within this area.

4.2 Roman activity

Located approximately 667m to the NE of the pipeline route, a possible Roman road, aligned N-S and running straight for approximately 850m, was identified via a pair of parallel ditches, visible through aerial survey. While the projected course of the Roman road does not actually cross the proposed pipeline route, it is possible that archaeological evidence of settlement activity associated with the Roman road may be present in this area.

4.3 Medieval activity

The eastern terminus of the pipeline lies about 15m north of the extent of the medieval hamlet of Playden, which is situated within an Archaeological Notification Area (ANA). Evidence of medieval industrial activity includes pottery kilns, and a tilery (designated Scheduled Ancient Monument) identified at Rye Hill on the S fringes of Playden. Documentary evidence suggests that both salt production and fishing were also important industries to the area. Subsequently, there is moderate potential for evidence of occupation (including agricultural features) and small-scale industrial activity such as pottery manufacture, associated with the medieval hamlet, within the vicinity of the S extent of the pipeline route.

Medieval pottery and bloomery slag were also recovered within the Mockbeggar ANA and attest to medieval activity located to the NE of the S extent of the pipeline route.

4.4 Post-medieval activity

A number of listed and undesignated heritage assets, including a mile post and two 19th century farmsteads, are located within the vicinity of the pipeline route.

5 Aims and Objectives

The aim of the archaeological observation was to locate and record any archaeological finds, features, or deposits within the ground works area, assessing the character, extent and quality of the resource and establishing their importance within a local, regional and national context.

The *South East Research Framework (hereafter referred to as SERF)(2011)*, formed the basis for the research objectives outlined in the *WSI (BA 2017b, section 3)*. The *SERF* aims to identify what we know about the South East's historic environment and highlights what we want to know more about; and has established a research agenda and strategy for archaeological work in the South East region.

In summary, the research objectives outlined by historic period are as follows:

Prehistoric

- The discovery of any Mesolithic flints or flint-scatters might indicate possible areas of flint-production and settlement.
- The discovery of palaeoenvironmental colluvial deposits may contribute to knowledge of prehistoric environments and land-use activity, with specific reference to woodland clearance, evidence for which is generally lacking.
- It is possible that evidence for further occupation, agricultural activity, or funerary practices associated with the Late Bronze Age settlement at Mockbeggar may be encountered as the route lies approximately 500m to the SW of this settlement site.
- There is a noted knowledge gap spanning from the Middle Bronze Age to the Iron Age for East Sussex and any evidence of human activity dating from these periods would allow for greater clarification of the nature and scale of occupation in the region during these periods.
- Further evidence for Bronze Age activity in a setting outside of the South Downs would lead to a broader research focus on Bronze Age activity in the Sussex region, as research thus far has tended to have somewhat of a 'Downland' focus.

Medieval

- *SERF* identifies medieval industrial production (including ceramics) as being under-researched within Sussex. As the pipeline lies within 15m of the Archaeological Notification Area representing the medieval hamlet of Playden, it is possible that deposits associated with medieval activity may be encountered.
- Any evidence identified within the vicinity of Playden linking the hamlet with its wider medieval landscape would contribute to an under-researched, but key research aim of looking at the interaction between town and country in the medieval period, and the situation of hamlets and villages within the hinterlands of larger settlements.

6 Methodology

The programme of archaeological work was carried out in accordance with practices set out in *Standard and Guidance for an archaeological watching brief* (ClfA 2014b) and *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (ClfA 2014c). BA adheres to the *ClfA Code of conduct* (2014a) and is cognisant of *Standards for Archaeological Work in Sussex* (April 2015)*.

**Sussex Archaeological Standards (2015) was applicable at the time of the Archaeological Observation. Border is cognizant that this document has since been updated in December 2017 & 2019.*

The Chartered Institute for Archaeologists (ClfA) states (2014, 4) that the purpose of a watching brief (Archaeological Observation) is:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works.
- To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.

6.1 Open-cut trenching/easement

Topsoil was stripped under archaeological supervision to an average depth of c. 0.15 – 0.27m bmgf using a mechanical excavator fitted with a toothless grading bucket within a pipeline easement, which varied in width along the course of the route, the average easement measuring between 3m - 6m wide. The removed topsoil was stored along one side of the easement with the excavated subsoil and natural substratum stored separately for the backfilling of the trenches following the pipe installation.

Any archaeological features or deposits encountered during the topsoil strip were investigated and recorded. Where natural geological substrate didn't present during the topsoil strip, it was exposed and recorded in section during the excavation of the pipe-trenches located within the pipeline easements.

The pipe-trenches measured 0.65m wide (bucket width) and were dug to an average depth of 1.10m bmgf to allow for the installation of 250mm PE100 water pipes. In instances where existing utilities were encountered, trenches were dug to a greater depth to allow for the installation of the water pipes below the existing services.

6.2 Recording

This programme of works was recorded under the site code: **RRES17**.

An OASIS online record has been initiated and the Oasis number assigned is: borderar1-327996.

All archaeological excavation, monitoring and recording was carried out in accordance with the preceding *WSI* (BA 2017b).

H&S regulations, owing to the confined nature of the trenches (with a depth of over 1m bmgf, a width of 0.65m, coupled with the potential instability of the trench sides/edges), meant that close inspection and recording of the exposed strata was not possible. Representative measured sections were prepared, as appropriate, showing the sequence and depths of deposits, where practicable and strictly within established safety parameters. Interpretations and detailed descriptions were sometimes limited owing to these constraints.

A written, graphic and photographic record was made in accordance with BA's *Archaeological Field Recording Manual* (2017c). A pro-forma context recording sheet was compiled for each archaeological context/stratigraphic unit encountered. In the absence of archaeological deposits and/or features, the written record comprised a pro-forma trench recording sheet and an illustrated representative section for each excavated trench.

The drawn record was produced on gridded, archive-stable polyester film at an appropriate scale, 1:10 and 1:20 respectively. All drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A high-resolution digital camera was used to produce the photographic record. The record contains a number of 'working-shots' or 'general overview' photographs of the pipeline trenching in addition to photographs of archaeological features and deposits. Photographs contained appropriate scales and were indexed and cross-referenced to written site records. Details concerning subject and direction of view were maintained in a photographic register, indexed by frame number.

Trench plans and sections were located and subsequently tied to the Ordnance Survey (OS) National Grid.

6.3 Sampling

Significant archaeological horizons or features were subject to paleoenvironmental sampling. Sampling was undertaken in accordance with the excavation sampling strategy outlined in the preceding *WSI* (BA, 2017b).

7 Results

7.1 Trench 001

The pipe-trench extended approximately 155m over farmland adjacent to Rye Road in Field 001. To avoid protected vegetation situated along the N edge of the field, both the easement and pipe-trench were positioned to follow the curve of the vegetation, running as close to the boundary with Rye Road as was possible.

Approximately 0.18m of topsoil (001001), a mid to dark brown-grey silty clay of a moderate to friable compaction, was removed during the easement strip. (001001) was seen to overlay a mid orange-brown silty clay subsoil (001002) (*Plate 1*). The natural substratum (001003) was encountered at a depth between 0.18m and c. 0.33m bmg, varying due to the absence of subsoil at the eastern end of the trench, where the natural substrate was significantly higher (*Plate 3*).

A small area of disturbance, attributable to rooting, was identified within the easement and determined to be non-archaeological. A group of small linear features, orientated WNW-ESE, were also seen cutting the natural strata (001003). Investigation of one of these features, [001004], found it to have a fairly shallow, u-shaped profile, measuring 0.34m wide with a depth of 0.10m. No finds were recovered from the singular fill (001005) formed of a firmly compacted mid grey-brown silty clay. The fact that these linear features run in the same direction and are of similar form, suggests they are plough scars, the surviving remnants of ploughing activity (*Plate 2*).

Four ceramic land drains were observed crossing the pipe-trench in a NNE – SSW direction. These are most likely of 19th century or later date.

No features or deposits of archaeological significance were encountered during the groundworks.



Plate 1: Overview of the topsoil strip in Trench 001, looking ESE (1m & 2m scales)



Plate 2: Plough Scars (darker soil) running ESE in Trench 001, showing investigative slot in [001004] (1m scale)



Plate 3: Pipe-trenching in Trench 001, looking ESE

7.2 Trench 002

The pipe-trench extended 50m in a WNW-ESE direction through farmland adjacent to Rye Road in Field 002.

A graveled access track was located at the WNW end of the field, thus an easement strip measuring 40m long × 3m wide was excavated from the edge of this track along the N field boundary towards Field 003. This revealed a moderately compacted, friable topsoil (002001) of c. 0.15m depth overlying a mid grey-brown silty clay subsoil (002002), c. 0.20m thick (*Plate 4*). Natural substrate (002003), a light grey-orange sandy clay, was observed during the pipe-trenching at a depth of c. 0.35m bmgf (*Plate 5*).

An apparent cut, [002004], located approximately 20m from the WNW end of the trench was identified as a possible linear feature (*Fig. 3*). The narrowness of the pipe-trench made identification of the feature in plan during excavation very difficult and as a result the feature was only seen in the SSW-facing section. The feature, measuring c. 6.50m (l) WNW-ESE × c. 0.35m (d), was not identified in the opposite section, which means that, if [002004] was indeed a linear cut, then the feature's terminus would have been present within the trench. However, no terminus was identified. Whilst a linear nature (shallow gully or ditch) for the feature cannot be entirely ruled out, it seems more likely that the feature picked up was the edge of a shallow depression. The size of such a depression would seem to rule out it being a tree bole, and it seems more likely to represent a feature related to agriculture. Features

such as this are sometimes formed by cattle or other livestock at feeding or watering points, by gates or by trees (used for sheltering) along field boundaries, where ground can become churned. It is worth noting that [002004] is located near to both the field boundary and access gate and the fills ((002005), (002006), (002007)) identified within the feature were very similar in appearance to the surrounding soil matrix. The absence of finds to inform what processes led to the creation or filling of the feature however, negate further comment.

No features or deposits of archaeological significance were thus encountered in Trench 002.



Plate 4: General view of topsoil strip in Trench 002 showing subsoil (002002), looking ESE



Plate 5: S-facing section showing natural substrate (002003) within the pipe-trench in Trench 002, looking ENE

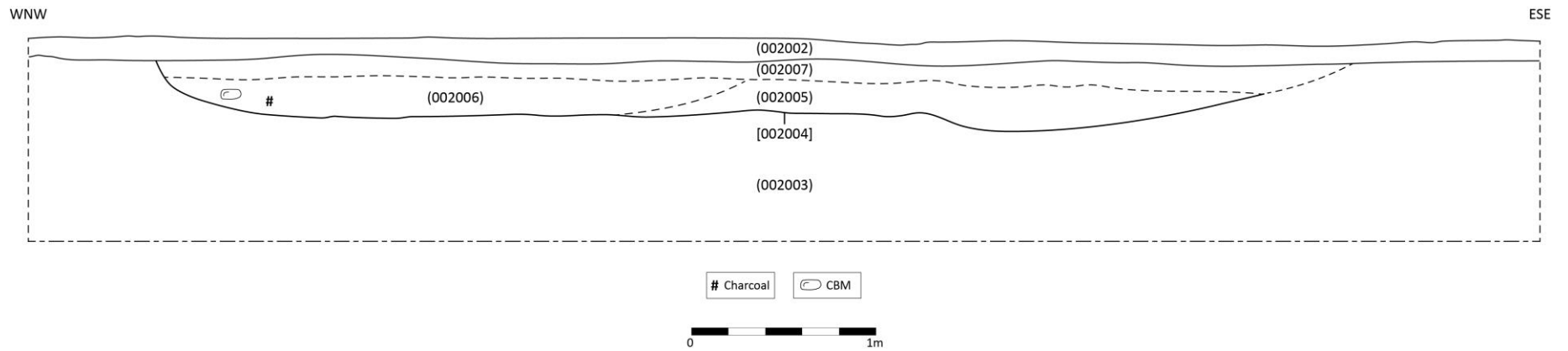


Fig 3: SSW-facing section showing [002004]

7.3 Trench 003

The pipe-trench extended E-W approximately 280m through farmland adjacent to Rye Road, within a 6m wide easement.

The groundworks revealed a friable, dark brown-grey silty clay topsoil (003001), c. 0.16m in depth, overlying subsoil (003002), which comprised a mid grey-brown silty clay. Natural substrate (003003), a firmly compacted light grey-orange sandy clay, was encountered at an average depth of c. 0.25m, however subsoil reached depths of up to 0.40m bmgf in a natural low point of the field.

Two sub-circular features were identified approximately 60m and 65m from the W end of the field. The first of these sub-circular features appeared irregular in profile, was heavily disturbed by rooting, and is thus considered to represent a probable tree-throw. A ceramic land drain was also visible in this area. The second, [003006], appeared to have a more regular profile with gradual sloping sides leading to a concave base, measuring c. 2.30m (w) × 0.35m (d). [003006] was seen to truncate the natural underlying sandy clay (003003), and had a single fill (003007) which appeared to comprise a mid-dark brown-grey silty clay with occasional charcoal inclusions. [003006] could not be fully investigated, thus its function and date are undetermined. It may represent a modern pit or perhaps a tree-throw, although rooting was not present.

Located approximately 190m from the W end of the field, in an area of low-lying ground, a firmly compacted light blue-grey clay (003008) was observed, roughly covering an area c. 4m (w) × 3.4m (l) in plan, interleaved within the natural substrate to the base of the pipe-trench at a depth of c. 1.10m bmgf (*Plate 6*). This was sampled to confirm the interpretation of this clay as a naturally occurring band or seam, or if it perhaps represented colluvial wash. The latter was confirmed through the paleoenvironmental analysis. Six flecks of charcoal were identified within the sample; likely the subject of wind-blown inclusion, and of little interpretative value.

Approximately 65m from the E end of the field were two further notable deposits. Deposits (003009) and (003010) comprised a mid grey-blue and dark grey-blue clay respectively, with (003010) containing organic, peat-like material- potentially indicative of an early date for deposition. The full extent of these deposits is unknown, as they were only identified in plan at the very base of the trench. They were sealed by deposit (003011), observed underlying (003002), comprising a firmly compacted light orange-grey clay, of similar composition to natural substratum (003003); likely representing redeposited natural. Both (003009) and (003010) were sampled and found to have contained abundant uncharred material, likely representing waterlogged vegetation. Modern charred cereal chaff was identified from (003009); the chaff is not considered to be a contaminant. Palaeoenvironmental analysis of (003010) revealed monocotyledonous leaf and stem fragments consistent with peat like deposition that may represent a waterlain deposit formation. An incisor tooth of a sheep/goat was identified along with inclusions of indeterminate slag. No datable material was present.

Both deposit (003009) and (003010) are considered to represent colluvial accumulations in a probable depression, and are indicative of a damp open grassland environment with occasional disturbed ground that may be related to human activity. The presence of human activity was attested by the occurrence of indeterminate slag, common in post-medieval field spreading activities. Given the paleoenvironmental results it can be tentatively suggested that

the deposits represent a field pond with possible post-medieval agricultural activity surrounding it, which was subsequently infilled with redeposited orange-grey clay.

Considerable agricultural activity was noted in Trench 003. A series of furrows, situated at the W end of Field 003, running N-S, were observed during the topsoil strip whilst a total of 17 land drains were seen crossing the trench on differing alignments, evidencing agricultural drainage. Both plastic and ceramic pipes were encountered. The drainage activity likely dates from the 19th century or later, and it is probable that the ploughing activity dates within this period also.



Plate 6: Trench 003 easement showing deposit (003008) in plan, looking E (2m scale)



Plate 7: Trench 003, pipe-trench showing south-facing section, looking N (1m scale)

7.4 Trench 004

The pipe-trench continued in a SSW-NNE direction, perpendicular to the course of Rye road, for a distance of 50m through agricultural land.

The groundworks revealed a moderate to friable mid-dark brown-grey topsoil (004001), approximately 0.25m in depth, overlying subsoil (004002), which comprised a mid grey-brown silty clay. Natural substrata (004003), a light orange-grey sandy clay, was encountered at a depth of c. 0.45 – c. 0.75m bmgf.

The pipe-trench was excavated to a greater depth, c. 2m bmgf, at the crossing point between Trench 004 in Field 004 and Trench 005 in Field 005. This was due to the presence of a c. 1m deep, V-shaped drainage ditch which formed the boundary here. To avoid the waterpipe running through this ditch and disturbing the watercourse, it was installed below it, and the ditch fully reinstated.

Several land drains, running NNW-SSE and ESE-WNW, were encountered traversing the pipe-trench, and are most likely of 19th century or later date.

No features of archaeological significance were revealed.



Plate 8: Trench 004 pipe-trench showing subsoil (004002) and natural substrate (004003), looking SSE

7.5 Trench 005

The pipe-trench was excavated within a 6m wide easement orientated SE – NW for 65m through agricultural land. The topsoil strip revealed a moderate to friable mid to dark brown-grey silty clay (005001), approximately 0.15m in depth, overlying subsoil (005002), which comprised a mid grey-brown silty clay with modern inclusions of ceramic building material (hereafter referred to as CBM), ceramic, and iron (Fe), possibly incorporated into the subsoil via agricultural activities. The natural substrata (005003) (Plate 9) was encountered at a depth of 0.30m bmgf.

During groundworks ten ceramic horseshoe-shaped field drains running ENE-WSW and SSW-NNE were encountered. Horseshoe-shaped ceramic drains were in use from the mid-18th to mid-19th century (McComish, 2015).

The boundary between Trench 005 and Trench 006 was demarcated by a modern, stone lined drainage ditch, which the pipe trench truncated.

No features of archaeological significance were revealed.



Plate 9: Trench 005 showing natural substrate (005003) in E-facing section of pipe-trench

7.6 Trench 006

The route of the pipeline continued in a SE – NW direction for a distance of 80m. The 6m wide easement revealed a moderate to friable mid to dark brown-grey silty clay topsoil (006001), approximately 0.08m in depth. This overlay a mid grey-brown silty clay subsoil (006002), which contained occasional modern inclusions such as CBM, ceramic, and iron (Fe), possibly incorporated into the subsoil via agricultural activities. The natural substrata (006003), formed of a mid orange-grey sandy clay, was encountered at a depth of 0.23m bmgf.

Three linear cut features were identified in the pipe-trench, approximately 25m from the E end of the trench. Features [006004], [006006], and [006008] (*Fig. 4*) measured c. 1.45m (w) x 0.25m (d); c. 1.27m (w) x 0.28m (d); and c. 3.00m (w) x 0.45m (d) respectively. All three features had similar profiles- gradual to moderately sloping sides and concave bases and their respective fills (006005), (006007), and (006009) were similar in appearance and composition to subsoil (006002). It was primarily considered that these might represent NE-SW aligned ridge and furrow or drainage ditches. The fairly equal spacing between the features suggests some form of agricultural field system. However, the lack of any inclusions visible within the fills, and their similarity to the subsoil (006002) coupled with the fact that they were not visible in plan, could suggest that what was encountered here were natural undulations/shallow depressions in the underlying substrate.

Eight ceramic horseshoe-shaped land drains running ENE-WSW were also encountered across Trench 006. Horseshoe-shaped ceramic drains were predominantly in use between the mid-18th to mid-19th century thereafter being replaced by cylindrical-shaped drains.



Plate 10: SW-facing section of Trench 006 showing [006004], looking NNW (1m scale)

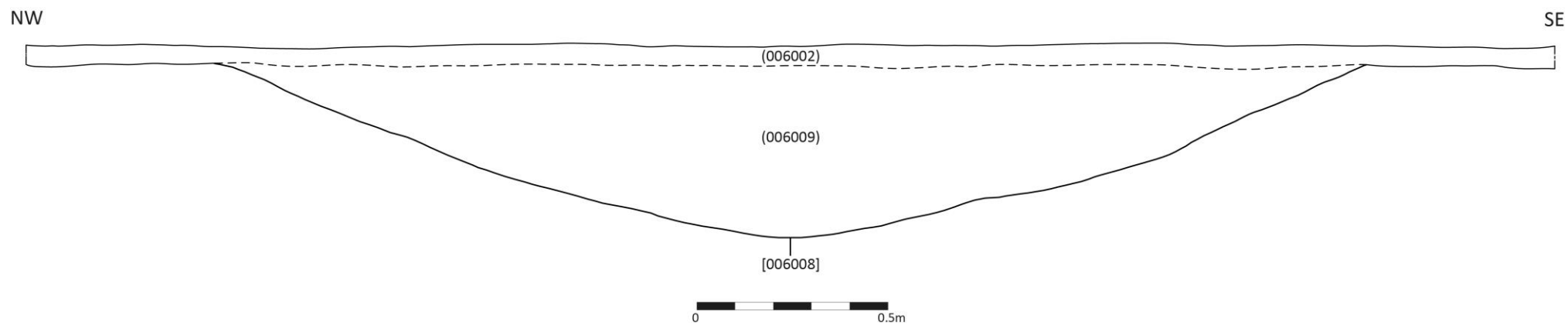


Fig 4: SW -facing section showing [006008]

7.7 Trench 007

Trench 007 comprised a 5m wide × 45m long easement excavated in a SSE – NNW direction through agricultural land revealing a moderate to friable mid to dark brown-grey silty clay topsoil (007001), approximately 0.15m in depth, overlying subsoil (007002), which comprised a mid grey-brown silty clay. The natural substrata (007003), a mid orange-grey sandy clay, was encountered at a depth of c. 0.25m bmgf. At the N end of the field, the pipe-trench had to be hand-dug to a depth of 2.30m bmgf to allow the waterpipe to be installed below an existing gas mains running NNE-SSW through the trench.

No features of archaeological significance were encountered.

7.8 Trench 008

Trench 008 continued for 110m in a SSE – NNW direction across agricultural land. A 6m wide easement revealed a moderate to friable mid to dark brown-grey silty clay topsoil (008001), c. 0.25m in depth, overlying a mid grey-brown silty clay subsoil (008002) (*Plate 11*). Natural substrata (008003), a light grey-orange sandy clay, was encountered at a depth of 0.35m bmgf.

Buried features observed during the pipe-trenching included three land drains running E-W and NW-SE, in addition to two modern water services, running E-W. At the S end of the field, a series of plough scars were evident. The land drains and plough scars attest to agricultural activity and are of post-medieval to modern date.

No features of archaeological significance were encountered.



Plate 11: General overview of easement in Trench 008, looking NNW (1m & 2m scale)

7.9 Trench 009

Trench 009 extended for 65m NNW-SSE within a 5m easement through agricultural land. This revealed topsoil (009001), a moderate to friable mid-dark brown-grey silty clay reaching c. 0.25m in depth, overlying a mid grey-brown silty clay subsoil (009002). Natural substrata (009003) comprised a mid orange-grey sandy clay, which was encountered at an approximate depth of 0.35m bmgf.

A modern water pipe was encountered running NNE-SSW approximately 2m from the NW end of the field. Approximately 20m north of the S field boundary, a possible linear was encountered (*Fig. 5*). [009007] appeared linear in shape due to its orientation ESE-WNW across the SSW-facing section. The linear measured c. 7.20m visible (l) x unknown (w) x c. 0.28m (d). It had a regular profile with gradual to moderate breaks of slope at top, moderately sloping sides and gradual break of slope to a near flat base. Lower fill (009008) was a moderate, mid grey-brown deposit of unknown composition and compaction; it spanned for c. 7.20m visible (l) x unknown (w) x c. 0.28m (d). Upper fill (009009) was a mid to dark grey-brown with dimensions c. 4.13m visible (l) x unknown (w) x c. 0.22m (d). No dating evidence was recovered thus an interpretation for the feature could not be determined other than to say it likely represents a linear feature, such as a ditch or furrow, as it was not visible in plan and thus only recorded in section.

A pit feature [009004] = [010004] (*Fig. 6*) was identified in the ESE-facing section of the pipe-trench at the boundary with Trench 010. It appeared to be sub-circular/sub-ovoid in shape with a slightly irregular profile showing moderately sloping undulating sides breaking to a slightly concave, undulating base measuring c. 3.65m (w) x c. 0.65m (d). Two fills were observed. A reddish-brown burnt clay layer (009005) = (010005), c. 0.05m thick, was observed along the edge of the feature and suggests in-situ burning. The main fill (009006) = (010006), appeared to comprise a mid to dark brown-grey mottled orange-grey silty clay with a moderate quantity of charcoal inclusions visible. The shape and profile of this feature taken together with its location on the boundary line would suggest that it most likely represents the surviving remains of a tree-throw. The presence of charcoal and burnt clay presents strong evidence for in-situ burning. Fire may have been used as a method of clearance in this instance.

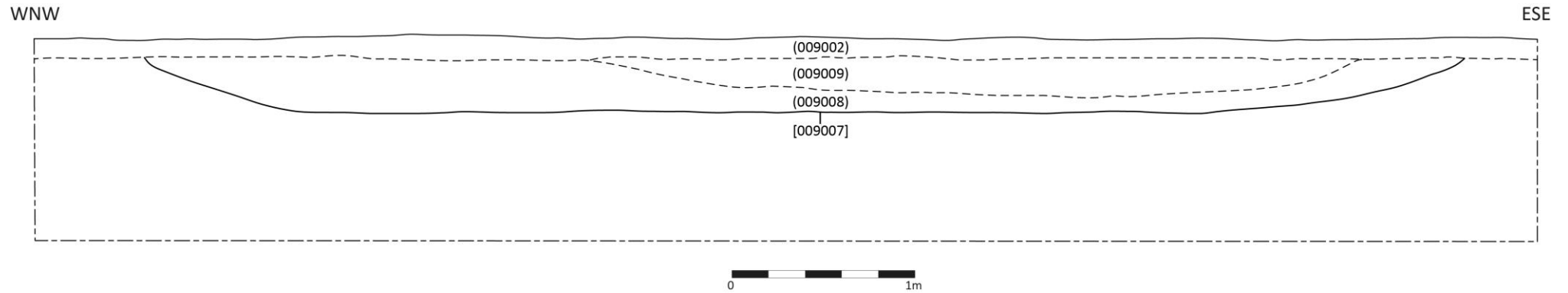


Fig 5: SSW-facing section showing [009007]

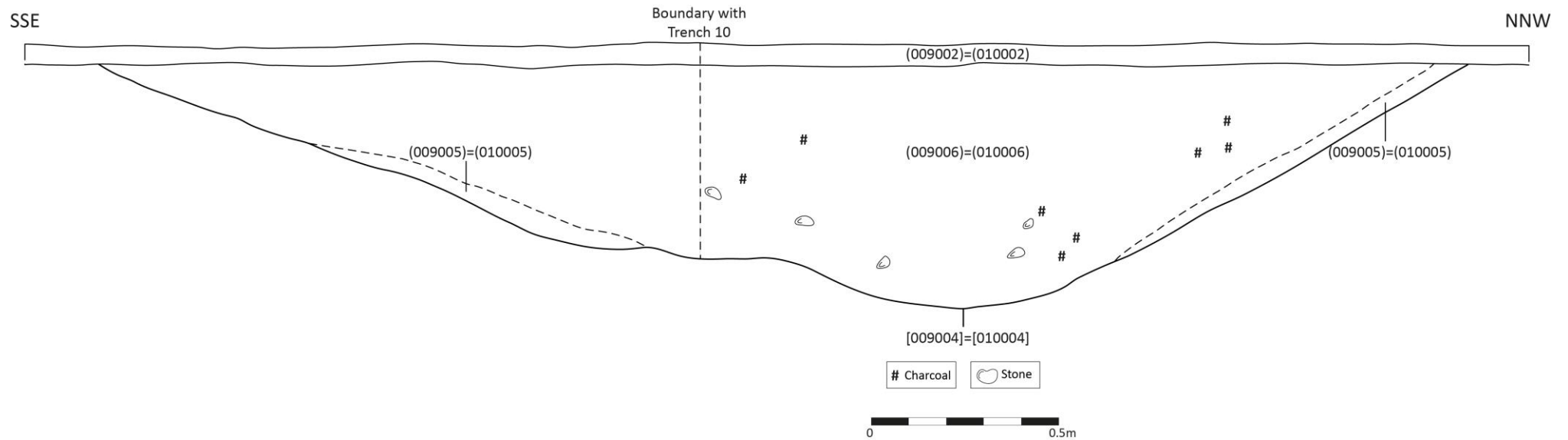


Fig 6: ESE-facing section showing [009004] = [010004]

7.10 Trench 010

A 15m long section of the pipe-trench extended in a NNW-SSE direction. A 4m wide easement strip revealed a moderate to friable mid to dark brown-grey silty clay topsoil (010001), c. 0.25m in depth, overlying a mid grey to mid orange-brown silty clay subsoil (010002) of moderate to firm compaction. Natural substrata (010003), a light orange-grey sandy clay, was encountered at a depth of 0.40m bmgf.

As discussed in the previous section, feature [009004] = [010004] was identified at the boundary with Trench 009, cutting subsoil (010002), and has been interpreted as representing the remains of a tree-throw.

No features of archaeological significance were encountered.

8 Significance of Results and Conclusion

No archaeologically significant features or deposits were encountered during the groundworks undertaken for the watermain pipeline from Staplecross to Iden.

The easement strip generally covered a 3m to 6m wide area which encompassed the deeper pipe-trench within which the watermain was laid. The negative findings of the archaeological observation are notable in that they demonstrate an absence of archaeological features and deposits within the pipe-trench and its immediate environs. Initially, it was anticipated that colluvial deposits (003009) and (003010) recorded in Trench 003 might be of an early date, potentially prehistoric given the peat-like waterlogged vegetation, however the palaeoenvironmental results considered together with the inclusions of indeterminate slag suggests a much later post-medieval date for the deposition of these colluvial accumulations, which are considered to have formed within a field pond, associated with the agricultural use of the land.

Agricultural land-use is prevalent in the landscape, seen both above and below ground. Plough scars and furrows were recorded below ground- indicative of past arable land-use. In addition to this, a substantial number of land drains (horseshoe-shaped and cylindrical) were observed traversing the route. Field boundaries were often formed of relatively deep drainage ditches; with one recorded instance of a stone-lined drainage ditch. Such features attest to the waterlogged nature of these soils and demonstrate that from the mid-18th century onwards (the earliest use of horseshoe-shaped drains) drainage was required for agricultural use of the land. It could therefore be considered that the land here was historically prone to waterlogging and thus might explain the lack of archaeology encountered.

Whilst there were no archaeological features recorded along the route that did not relate to agricultural activities, this is not to say that significant archaeological features and deposits might exist beyond this 3m to 6m wide zone demarking the pipeline route. These results should not be seen to reflect the archaeological potential of the surrounding area.

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11 Appendix 1: Context tables

11.1 Trench 001

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(001001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.18m deep. Overlies (001005).	Topsoil	-	-	Modern
(001002)	-	Deposit	-	-	Moderately compacted mid orangey brown to mid grey-brown silty clay; very occasional small sized stones, c. 0.15m deep. Overlies (001003). Cut by [001004].	Subsoil	-	-	Undated
(001003)	-	Deposit	-	-	Very firmly compacted light grey-orange sandy clay; moderate to frequent naturally occurring iron panning. Seen at c. 0.33m bmgf. Underlies (001002), truncated by [001004].	Natural	-	-	-
[001004]	-	Cut	(001005)	-	Linear in plan & orientated WNW-ESE, with generally very sharp breaks of slope at top, although gradual on SSW side, steeply sloping regular sides, although gradual and undulating on SSW, sharp break to an irregular, near flat base; approx. 5.00m visible length × c. 0.34m wide × c. 0.10m deep. Cuts (001002), truncates (001003), filled by (001005).	Plough scar	-	-	Undated
(001005)	-	Fill	-	[001004]	Moderate to firmly compacted mid grey-brown silty clay; very occasional small sized stones; c. 0.34m wide × c. 0.10m deep. Underlies (001001). Fills [001004].	Single fill of plough scar [001004]	-	-	Undated

11.2 Trench 002

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(002001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.15m deep. Overlies (002002).	Topsoil	-	-	Modern
(002002)	-	Deposit	-	-	Moderately compacted mid grey-brown silty clay; very occasional small sized stones c. 0.20m deep. Underlies (002001). Overlies (002007).	Subsoil	-	-	Undated
(002003)	-	Deposit	-	-	Very firmly compacted light grey-orange sandy clay. Seen at c. 0.35m bmgl. Cut by [002004].	Natural	-	-	Undated
[002004]	-	Cut	(002005) (002006) (002007)	-	Only seen in SSW facing section, orientated WNW-ESE, with moderate breaks of slope at top on WNW, gradual on ESE side, moderate to gradually sloping regular sides, near flat base; c. 6.50m length × unknown width × c. 0.35m deep. Cuts (002003); filled by (002005), (002006) & (002007).	Agricultural feature	-	-	Undated
(002005)	-	Fill	-	[002004]	Unknown compaction Light brown- grey with pink hue, unknown composition; c. 2.76m length × unknown width × c .0.24m deep. Fills [002004] Underlies (002006).	Lower fill of [002004]	-	-	Undated
(002006)	-	Fill	-	[002004]	Unknown compaction mid brown-grey, unknown composition; c. 3.12m length × unknown width × c. 0.22m deep. Fills [002004] Underlies (002007), Overlies (002005).	Middle fill of [002004]	1 x CBM fragment seen in section	-	Undated
(002007)	-	Fill	-	[002004]	Unknown compaction. Light orange-grey, unknown composition; c. 6.50m length × unknown width × c. 0.14m deep. Fills [002004]. Underlies (002002). Overlies (002006).	Upper fill of [002004]	-	-	Undated

11.3 Trench 003

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(003001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown- grey silty clay, c. 0.16m deep. Overlies (003002).	Topsoil	-	-	Modern
(003002)	-	Deposit	-	-	Moderately compacted mid orangey brown to mid grey-brown silty clay; very occasional small sized stones; average c.0.15m deep, c. 0.40m (max depth). Underlies (003001); overlies (003007), (003008) & (003011).	Subsoil	-	-	Undated
(003003)	-	Deposit	-	-	Very firmly compacted light grey-orange sandy clay. Seen at c. 0.31m bmgl. Cut by [003006].	Natural	-	-	-
[003006]	-	Cut	(003007)	-	Sub circular/ovoid in shape & orientated WNW-ESE; gradual break of slope at top, moderate to gradually sloping sides, leading to a concave base; c. 2.30m wide × c. 0.35m deep; Cuts (003003); filled by (003007).	Cut of possible pit/tree throw	-	-	Undated
(003007)	-	Fill	-	[003006]	Soft to moderate mid-dark brown-grey silty clay; occasional charcoal, c. 2.30m wide × c. 0.35m deep. Fills [003006]. Underlies (003002).	Fill of pit/tree throw [003006]	-	-	Undated
(003008)	-	Deposit	-	-	Firmly compacted light blue-grey clay; c. 3.40m length × c. 4m width × c. 1.10m (min) depth. Underlies (003002).	Colluvial deposit	-	3001	Undated
(003009)	-	Deposit	-	-	Softly compacted mid grey-blue clay; unknown dimensions (only seen at base of trench). Underlies (003011).	Colluvial deposit	-	3002	Undated

(003010)	-	Deposit	-	-	Softly compacted dark grey-blue clay; organic material inclusions, unknown dimensions (only seen in base of trench). Underlies (003011).	Colluvial deposit	Goat/Sheep tooth fragment Indeterminate slag	3003	Undated
(003011)	-	Deposit			Firmly compacted light orange-grey clay. c. 1.10m deep. Overlies (003009) & (003010). Underlies (003002).	Redeposited natural	-	-	Undated

11.4 Trench 004

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(004001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.25m deep. Overlies (004002).	Topsoil	-	-	Modern
(004002)	-	Deposit	-	-	Moderately compacted mid grey-brown silty clay, orange hue; very occasional small sized stones, moderate chalk inclusions; c.0.20m-0.45m (depth). Underlies (004001). Overlies (004003).	Subsoil	-	-	Undated
(004003)	-	Deposit	-	-	Very firmly compacted light grey-orange sandy clay, Seen at c. 0.45m to c. 0.75m bmg. Underlies (004002).	Natural	-	-	Undated

11.5 Trench 005

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(005001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.15m deep. Overlies (005002).	Topsoil	-	-	Modern
(005002)	-	Deposit	-	-	Moderately compacted mid grey-brown silty clay; very occasional small sized stones, moderate chalk inclusions; average c. 0.15m deep. Underlies (005001). Overlies (005003).	Subsoil	Occasional modern finds including ceramic, CBM & iron	-	Undated
(005003)	-	Deposit	-	-	Firmly compacted mid orange-grey sandy clay. Seen at c. 0.30m bmgf. Underlies (005002).	Natural	-	-	Undated

11.6 Trench 006

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(006001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.08m deep. Overlies (006002).	Topsoil	-	-	Modern
(006002)	-	Deposit	-	-	Moderately compacted mid grey-brown silty clay; very occasional small sized stones, occasional chalk inclusions; average c. 0.15m deep. Underlies (006001). Overlies (006005), (006007), & (006009).	Subsoil	Occasional modern finds including ceramic, CBM & iron	-	Undated

(006003)	-	Deposit	-	-	Firmly compacted mid orange-grey sandy clay, seen at c. 0.23m bmgf. Cut by [006004], [006006] & [006008].	Natural	-	-	Undated
[006004]	-	Cut	(006005)	-	Linear, orientated NE-SW, with gradual to moderate breaks of slope at top, gradual to moderate sloping regular sides, gradually break to a concave base; 0.65m (min) length × c. 1.45m width × c. 0.25m deep. Cuts (006003); filled by (006005).	Cut of linear – possible furrow or drainage ditch	-	-	Undated
(006005)	-	Fill	-	[006004]	Unknown compaction, appeared moderate, mid grey-brown, unknown composition, appeared silty clay; 0.65m (min) length × c. 1.45m × c. 0.25m deep. Fills [006004].	Fill of linear [006004]	-	-	Undated
[006006]	-	Cut	(006007)	-	Linear, orientated NE-SW, with gradual to moderate breaks of slope at top, gradual to moderate sloping regular sides, moderate break to a concave base; 0.65m (min) length × c. 1.27m width × c. 0.28m deep. Cuts (006003); filled by (006007).	Cut of linear – possible furrow or drainage ditch	-	-	Undated
(006007)	-	Fill	-	[006006]	Moderate, mid grey-brown, silty clay; 0.65m (min) length × c. 1.27m width × c. 0.28m deep. Fills [006006].	Fill of linear [006006]	-	-	Undated
[006008]	-	Cut	(006009)	-	Linear, orientated NE-SW, with gradual to moderate breaks of slope at top, gradual to moderate sloping regular sides, gradually break to a slightly concave base; 0.65m (min) length × c. 3.00m width × c. 0.45m deep. Cuts (006003); filled by (006009).	Cut of linear – possible furrow or drainage ditch	-	-	Undated
(006009)	-	Fill	-	[006009]	Moderate, mid grey-brown, silty clay; 0.65m (min) length × c. 3.00m width × c.0.45m deep. Fills [006008].	Fill of linear [006008]	-	-	Undated

11.7 Trench 007

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(007001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.15m deep. Overlies (007002).	Topsoil	-	-	Modern
(007002)	-	Deposit	-	-	Moderately compacted mid grey-brown silty clay; very occasional small sized stone; average c. 0.10m deep. Underlies (007001). Overlies (007003).	Subsoil	-	-	Undated
(007003)	-	Deposit	-	-	Firmly compacted mid orange-grey sandy clay. Seen at c. 0.25m bmg. Underlies (007002).	Natural	-	-	Undated

11.8 Trench 008

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(008001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.25m deep. Overlies (008002).	Topsoil	-	-	Modern
(008002)	-	Deposit	-	-	Moderately compacted mid grey- to orangey brown silty clay; very occasional small sized stone; average c. 0.10m deep. Underlies (008001). Overlies (008003).	Subsoil	-	-	Undated
(008003)	-	Deposit	-	-	Firmly compacted light grey-orange sandy clay, seen at c. 0.35m bmg. Underlies (008002).	Natural	-	-	-

11.9 Trench 009

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(009001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown- grey silty clay, c. 0.25m deep. Overlies (009002).	Topsoil	-	-	Modern
(009002)	-	Deposit	-	-	Moderately compacted mid grey- to orangey brown silty clay; very occasional small sized stone; average c. 0.10m deep. Underlies (009001). Overlies (009006) & (009009).	Subsoil	-	-	Undated
(009003)	-	Deposit	-	-	Firmly compacted mid orange-grey sandy clay. Seen at c. 0.35m bmgf. Cut by [009004] & [009007].	Natural	-	-	Undated
[009004]	-	Cut	(009005) (009006)	-	Sub-circular/sub-ovoid in shape & orientated ESE-WNW, with gradual to moderate breaks of slope at top, moderately sloping undulating sides, moderate break to a slightly concave, undulating base; c. 3.65m wide × c. 0.65m deep. Cuts (009003); filled by (009005) & (009006). Same as [010004].	Cut of Tree throw	-	-	Undated
(009005)	-	Fill	-	[009004]	Firm, mid red-brown silty clay; c. 0.05m thick. Fills [009004]. Underlies (009006). Same as (010005).	Lower fill of tree throw [009004]	-	-	Undated
(009006)	-	Fill	-	[009004]	Moderate, mid to dark brown-grey, mottled with light orange-grey, silty clay; moderate charcoal inclusions; c. 3.55m wide × c. 0.65m deep. Fills [009004]. Underlies (009002). Overlies (009005). Same as (010006).	Upper fill of tree throw [009004]	-	-	Undated

[009007]	-	Cut	(009008)	-	Linear, orientated ESE-WNW, with gradual to moderate breaks of slope at top, moderate sloping sides, gradual break to a near flat base; c. 7.20m visible length × unknown width × c. 0.28m deep. Cuts (009003), filled by (009008).	Cut of possible linear	-	-	Undated
(009008)	-	Fill	-	[009007]	Moderate, mid grey-brown, silty clay; c. 7.20m visible length × unknown width × c. 0.28m deep Fills [009007]. Underlies (009009).	Lower fill of possible linear [009007]	-	-	Undated
(009009)	-	Fill	-	[009007]	Moderate, mid to dark grey-brown, unknown composition; c. 4.13m visible length × unknown width × c. 0.22m deep. Fills [009007]. Underlies (009002). Overlies (009008).	Upper fill of possible linear [009007]	-	-	Undated

11.10 Trench 010

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(010001)	-	Deposit	-	-	Moderately compacted to friable mid to dark brown-grey silty clay, c. 0.25m deep. Overlies (010002).	Topsoil	-	-	Undated
(010002)	-	Deposit	-	-	Moderately compacted mid grey orange-brown silty clay; very occasional small sized stone; average c. 0.10m deep. Underlies (010001). Overlies (010006).	Subsoil	-	-	Undated
(010003)	-	Deposit	-	-	Very firmly compacted light orange-grey sandy clay. Seen at c. 0.35m bmg. Cut by [010004].	Natural	-	-	Undated

[010004]	-	Cut	(010005)	-	Sub-circular/sub-ovoid in shape & orientated ESE-WNW, with gradual to moderate breaks of slope at top, moderate sloping undulating sides, moderate break to a slightly concave, undulating base; c. 3.65m wide × c. 0.65m deep. Cuts (010003); filled by (010005) & (010006). Same as [009004].	Cut of Tree throw	-	-	Undated
(010005)	-	Fill	-	[010004]	Firm, mid red- brown, slightly silty clay; c. 0.05m thick. Fills [010004]. Underlies (010006). Same as (009005).	Lower fill of tree throw [010004]	-	-	Undated
(010006)	-	Fill	-	[010004]	Moderate, mid to dark brown-grey, mottled with light orange-grey, silty clay; moderate charcoal inclusions; c. 3.55m wide × c. 0.65m deep. Fills [010004], Underlies (010002). Overlies (010005). Same as (009006).	Upper fill of tree throw [010004]	-	-	Undated

12 Appendix 2: Palaeoenvironmental Report

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12.1 Non-technical Summary

This report has been prepared by the Palaeoenvironmental Department at Border Archaeology Ltd (BA) to facilitate and elucidate the palaeoenvironmental, palaeoeconomic and palaeodietary interpretations of waterlogged deposits discovered during Archaeological Observation on the Mains Renewal Scheme between Staplecross and Iden, East Sussex.

A total of three samples, comprising 30ℓ of material, were processed by flotation, having originated from possible colluvial deposits that presented as waterlogged and were not associated with dateable material.

While one colluvial deposit returned a severely limited palaeoenvironmental profile, the other two deposits returned significant waterlogged plant remains that may indicate the environment at the time of deposition - a probable waterlain depression surrounded by damp open grassland with occasional disturbed ground that may be related to human activity. The presence of human activity was attested by the occurrence of indeterminate slag, common in post-medieval field spreading activities. It can be tentatively suggested that the deposits represent a field pond with possible post-medieval agricultural activity surrounding it.

12.2 Introduction

This report details the results derived from three samples, constituting a total of 30ℓ of soil, retrieved from waterlogged colluvial deposits revealed in pipe-trenching in Trench 003.

In accordance with the WSI (BA, 2017), at least 40ℓ or 100% of the deposits were sampled. However, the restrictions of pipe-trenching resulted in three samples comprising 30ℓ of material being received by the Palaeoenvironmental Department with the resultant archaeological and archaeobotanical material sorted and identified.

The samples were processed by means of flotation and any potential archaeobotanical remains from both the floating element and the heavier residue/retent were sorted and visually identified. The nature and interpretative significance of the recovered remains is detailed in Section 12.4.1 below.

The three samples were taken in multiples of 10ℓ sample buckets and derived from three contexts, from which 10ℓ was taken. The results are presented by context in Section 12.4.2 below.

12.2.1 Site Description

The land comprising the pipeline route extended for approximately 1.1km SE from a connection on the A268 (Rye Road), to the W of Bowlers Town, to a connection on the N fringes of Playden village, about 2km N of the historic town of Rye, East Sussex.

At the time of works, the land was an amalgamation of agricultural fields.

12.2.2 Soils and Geology

The surrounding geology of silty soils over siltstone or well drained loamy soils over sandstone results in seasonal waterlogging (SSEW, 1983) or, as apparent in Trench 003, permanent waterlogging in topographical depressions filled by colluvial wash.

12.3 Introduction

12.3.1 Objectives of Analysis

The purpose of the palaeoenvironmental sampling strategy implemented during archaeological observation is the retrieval of non-specific palaeoenvironmental remains and the further characterisation of features that cannot be fully investigated due to the confines of the non-archaeological works. Information garnered should inform on the features revealed whose destruction was necessitated by works but monitored by the archaeologist.

12.3.2 Sampling methodology

Sampling methodology followed the *Palaeoenvironmental Department Manual* (BA, 2017) for environmental sampling and processing and with reference to Historic England guidance (Campbell, et al., 2011). On site, the samples were collected in sample buckets and identified by context and sample number. Following receipt into the Palaeoenvironmental Department, they were assigned bucket numbers for tracking purpose. The samples were not subject to sub-sampling and their entirety was processed by means of flotation.

Flotation was undertaken in Siraf-style tanks (Williams, 1973) with a 500µm retent mesh and 250µm flot sieve. No refloating was required for these samples. Retents were initially scanned by magnet to retrieve any archaeometallurgical debris and a sieve bank was used to facilitate visual sorting with the smaller fractions sorted by means of magnifying lamp and/or illuminated stereo zoom microscopy ($\leq \times 10$). The flots were sorted entirely by means of illuminated stereo zoom microscopy ($\leq \times 10$). The results of this analysis are reported with the flot and retent data recombined due to limited to no variance in the species being reported.

12.3.3 Personnel

Flotation and primary analysis were undertaken by staff within BA's Palaeoenvironmental Department managed by Robin Putland BSc MSc. The department consists of a minimum of ten members of staff, predominantly with post-graduate palaeoenvironmental qualifications. This work was further assisted by BA's field staff as part of a programme of Continuing Professional Development (CPD). Analysis and identification were only undertaken by the palaeoenvironmental department under the guidance of Robin Putland BSc MSc and Amy Bunce BSc MA ACIfA.

External and internal specialists were consulted for all archaeological finds and faunal material recovered from palaeoenvironmental samples. Archaeological, archaeometallurgical and archaeozoological assemblages from the

palaeoenvironmental material were recombined with the full site assemblages to ensure unbiased and broader specialist reporting on those materials.

12.4 Description of Results

12.4.1 Description and implications of materials recovered

Detailed below are the general implications of the discovery of certain materials within the palaeoenvironmental samples. Section 12.4.2 details such information by context. Of particular note is the general absence of archaeological material beside slag fragments. The absence of shell would be expected from the waterlogged material.

Bone

Both burnt and unburnt bone may be present within palaeoenvironmental samples with taphonomic conditions occasionally proportionately affecting their preservation. Burnt bone is reasonably conclusively of anthropogenic origin, deriving from domestic activities as well as some industrial and funeral practices. Unburnt bone may additionally have become incorporated due to animal death in the vicinity of the context while it was forming and therefore cannot always be used as an indicator of human activity. Incidences of the inadvertent inclusion of unburnt bone from decomposed individuals, especially of small mammals and reptiles, can highlight specific ecological niches. However, it is by no means the case that all unburnt bone derives from such cases and unburnt bone from large mammals is a good indicator of nearby settlement and potential butchery.

One sheep/goat (*ovis/capra*) mandibular second incisor was recovered from (003010). As this is the entirety of the faunal assemblage, no inferences can be drawn from it.

Charcoal

Charcoal is ubiquitous in palaeoenvironmental samples as it is used in domestic, funerary and industrial settings or may be present as a result of accidental firings. Identification of the wood species making up the charcoal assemblage can add valuable data as to wood selection for the varying purposes.

While often relied upon for dating, in particular C^{14} , charcoal is not the best material to use. Charcoal is subject to the 'Old Wood problem', whereby wood is known to be frequently reused and charcoal redeposited. In addition, wood grows over many years and it is not possible to know precisely where within the tree a charcoal fragment has derived.

Anthracological analysis is undertaken in-house by Amy Bunce BSc MA ACIfA additionally utilising reference keys (Hather, 2000) (Schweingruber, 1990) (Schweingruber, 1990). Anthracological analysis was generally undertaken at $\times 100$ magnification although higher magnifications to $\times 400$ were used where necessary. Lighting was by incident lighting with transmitted lighting where necessary. Charcoal was transversally sectioned with tangential or radial sectioning undertaken where required. Any waterlogged or otherwise preserved wood present would be presented in a separate Wood Identification and Technology report.

Growth ring curvature and diameter size was classified by reference to Ludemann-Nelle (L-N) templates (Ludemann, 2002) (Nelle, 2002) whereby classes I, II, III, IV & V represented diameters <20mm, 20-30mm, 30-50mm, 50-100mm and >100mm respectively. Growth ring curvature was additionally classified by reference to Marguerie-Hunot (M-H) test cards (Marguerie & Hunot, 2007) whereby weak, moderate and strong curvature were categorised 1, 2 and 3 respectively.

Occasional charcoal fragments were found in (003008) and (003009). However, none were suitable for species identification.

Slag

Archaeometallurgical debris may be present in the form of unspecific slag fragments, diagnostic slag fragments, vitrified structures and, more commonly for environmental samples, as hammer scale of the spheroidal or flake variety. Slag may be retrieved from both the float and retent; this apparent contradiction, in that slag would normally be too heavy to float, is due to vesicles containing air in the spheroidal hammer scale and the smaller fragments of slag. Droplets of slag become spheroidal if they cool while travelling through the air after having been propelled during iron working.

Slag was recovered from (003010) and may suggest post-medieval field spreading activity.

Uncharred archaeobotanical material

In the vast majority of instances of uncharred archaeobotanical material in palaeoenvironmental samples, it must be disregarded as of potentially modern origin. However, waterlogged conditions and some other preservational conditions can allow uncharred archaeobotanical remains or certain archaeobotanical remains within the assemblage to be considered.

Abundant waterlogged botanical material was retrieved from (003009) and (003010) as a result of waterlogged formation in a natural depression in Trench 003.

Charred archaeobotanical material

Charred archaeobotanical material is generally the most illustrative palaeoeconomic remnant. Charring is generally accepted to be almost solely of anthropogenic origin and the material can therefore be used to directly reconstruct the past agricultural or consumer economy and diet. Caution must be taken by the intrinsic bias a charred assemblage presents over the uncharred plant remains of palaeoeconomic utility. However, such variance is built into the study of charred plant remains.

Archaeobotanical identification is undertaken in-house utilising reference texts that include the most relevant to the British assemblages (Anderburg, 1994) (Berggren, 1969) (Berggren, 1981) (Groningen Institute of Archaeology, 2006-present) (Jacomet, 2006) (Martin & Barkley, 2000) (Renfrew, 1973) (Schoch, et al., 1988) with classification following Stace (Stace, 2010).

One charred tuber/corm/rhizome was present in (003009) but further identification was not possible. Modern charred cereal chaff was present in (003009).

12.4.2 Description of palaeoenvironmental remains by selected context

Detailed below are the palaeoenvironmental remains from each context and an assessment of the localised palaeoenvironment reconstruction is attempted. Results for all contexts can be observed in the table in Section 12.5 below.

(003008)

Deposit (003008) comprised a colluvial accumulation in a probable natural depression. Palaeoenvironmental analysis revealed only six flecks of charcoal (less than 2mm in size). Such flecks were likely subject to wind-blown inclusion and say little other than the deposit was accumulating at a time of human activity in the general vicinity.

(003009)

Deposit (003009) comprised a colluvial accumulation in a probable depression. Palaeoenvironmental analysis revealed abundant uncharred material that likely represents the surrounding vegetation at the time of deposit formation. In addition to those detailed on the table below, waterlogged monocotyledonous leaf and stem fragments were recognised. The presence of the charred waterlogged tuber/corm/rhizome is of interest but, without the possibility for further identification, little can be inferred. The species present may suggest a slightly disturbed environment in which the vegetation became established. Modern charred cereal chaff and wind-blown charcoal flecks were also present.

(003010)

Deposit (003010) comprised a colluvial accumulation in a probable depression. Palaeoenvironmental analysis revealed monocotyledonous leaf and stem fragments consistent with peat like deposition that may represent a waterlain deposit formation. Abundant uncharred material likely represents the surrounding vegetation at the time of deposit formation, suggesting a slightly disturbed and damp environment in which the vegetation became established. The inclusion of indeterminate slag and sheep/goat (*ovis/capra*) tooth fragments may suggest activity in the broad vicinity, such as field spreading common to the medieval and post-medieval periods.

12.5 Table of Results

The following table details the abundance results from both the archaeobotanical material and the archaeological finds. Weight and quantity records have been recorded but are not presented here due to the variation between materials.

Abundance key: + = rare; ++ = occasional; +++ = common; ++++ = abundant.

Context no.			3008	3009	3010
Sample no.			3001	3002	3003
Sample part			1/1	1/1	1/1
Bucket no.			E13113	E13114	E13115
Sample vol. (mℓ)			-	-	-
% sample analysed			100	100	100
Waterlogged?			Y	Y	Y
Refloated?			N	N	N
Latin name	Common name	Plant part			
Carbonised cereal					
Cereal indet.	Indeterminate	chaff		+	
Uncarbonised palaeodietary taxa					
<i>Rubus fruticosus</i> (cf)	Blackberry	seed			+
Carbonised wild taxa					
Indeterminate	Indeterminate	tuber / corm / rhizome		+	
Uncarbonised wild taxa					
<i>Asteraceae</i> spp.	Daisy	seed			+
<i>Carex</i> sp.	Sedge	seed			+
<i>Chenopodium album</i>	Fat Hen	seed		+	+
<i>Juncus</i> sp.	Rush	seed			+
<i>Poaceae</i> spp.	Grass	seed			+
<i>Polygonum aviculare</i>	Knotgrass	seed			+
<i>Ranunculus</i> sp.	Buttercup	seed		+	+
<i>Rumex</i> sp.	Dock	seed			+
<i>Solanaceae</i> spp.	Nightshade	seed		+	
<i>Stellaria</i> sp.	Stitchwort	seed		+	+
Charcoal					
Indeterminate <2mm	Indeterminate	fragments	++	++	
Archaeometallurgical					
Slag	-	-			+
Faunal					
Mammal (unburnt)	Indeterminate	-			+

12.6 Conclusions and Recommendations

The intention of the non-specific palaeoenvironmental sampling was largely successful in confirming the waterlogged interpretation of the deposits.

While (003008) only demonstrated that the deposit accumulated at a time when human activity was present in only the general vicinity, both (003009) and (003010) suggest significantly greater anthropogenic influence.

The waterlogged material from (003009) and (003010) suggested some waterlain deposition surrounded by a damp grassland environment with some disturbed habitats that contributed floral material to the depression where the waterlogged conditions preserved it. The presence of slag and modern charred cereal chaff suggests activity in the general vicinity, probably field spreading, but does not contradict the suggestion that the depression filled naturally.

It is tempting to suggest a field pond environment of a probable medieval or post-medieval date.

12.6.1 Recommendations

Due to the nature of the materials recovered and the full analysis undertaken, no further work is recommended.

Retention of the materials detailed in this report, as an incorporation of the site archive for deposition with the museum, is not recommended due to the nature of the waterlogged material and limited archaeological merit.

12.7 Copyright

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12.8 Bibliography

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