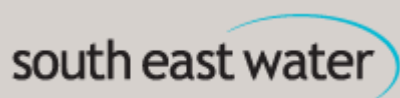




Archaeological Observation

On behalf of:



Concerning:

**Fleet PS to Greywell PS Mains
Reinforcement Scheme Phase 1 (080320)
Hampshire**

July 2019



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1 Non-Technical Summary

Border Archaeology, on behalf of South East Water, undertook an Archaeological Observation (also referred to as 'Watching Brief') in respect of the western extent (Phase 1) of the Fleet PS to Greywell PS Mains Reinforcement Scheme. The programme of Archaeological Observation was carried out between 4th of April and 1st of August 2018. Phase 1 comprised a 2km section of a 13km route; the route extending from Greywell Pumping Station to a field located to the west of, and adjacent to Dunley's Hill Road (B3349). Off-road sections of the pipeline route comprised an initial topsoil strip, followed by traditional open-cut trenching to the required engineering depth for pipeline installation.

Archaeological features were only present in two of the eight trenches excavated. Rectilinear ditch [003004], denoting a rectangular-shaped enclosure, was uncovered within Trench 003 located north-west of Bidden Road and south-west of Deptford Lane. Only the eastern extent of the rectangular-shaped enclosure was visible as it continued beyond the south-western baulk of the trench. The eastern extent of the enclosure measured 13m (north-west to south-east) by 5.5m (north-east to south-west), indicating that the enclosure is at least 13m in width. The ditch had a regular U-shaped profile, measuring 2.03m wide with a maximum depth of 0.65m. No artefactual evidence was recovered from the excavated slot through the ditch however the presence of coke/coal in upper fill (003005) suggests a later medieval to post-medieval date for the infilling of the ditch. No internal features were identified within the enclosure. Although its function remains unknown and there is no direct evidence which links this enclosure with the site of the medieval chapel identified in the vicinity of the route through the Hampshire Archaeological and Historic Building Records (AHBR), it cannot be entirely ruled out that it could represent the extant remains of the chapel given its location, the size of the enclosure, and taking into account that medieval chapels were often situated within an enclosure. In Trench 004, located in the field to the south-east of Bidden Road, a sub-oval pit [004008] measured 3.20m (north-east to south-west) by 2m (north-west to south-east) with a depth of 0.59m. No finds were recovered from its two fills, though palaeoenvironmental sampling recovered traces of hammerscale, slag and coal/coke; byproducts of post-medieval industrial activity. A function was not determined for the pit, although it is considered to have a likely association with local farming activity, with at least two farmsteads noted within close proximity.

Analysis of snails retrieved from the palaeoenvironmental sampling of both features suggests that rectilinear ditch [003004] and pit [004008] may have been located on the fringes of a deciduous woodland but also within an open grass landscape as snails who favour both environments were recovered. Non-archaeological features such as furrows were also observed within the open fields in which Trenches 003 and 004 traversed, which evidenced more recent land-use.

The results of this Archaeological Observation are of local significance only. They may be included on the Hampshire Historic Environment Record (HER) database.

2 Introduction

Border Archaeology (BA) was commissioned by South East Water (SEW) to undertake Archaeological Observation (AO) of engineering groundworks in respect of a 2km section (Phase 1) of the 13km proposed route, of the Fleet to Greywell Mains Reinforcement Scheme (*fig. 1*).

The engineering groundworks for the 2km route (Phase 1) extended from Greywell Pumping Station at Deptford Lane Greywell Hampshire (NGR SU 72325 51360) and terminated at a point along the eastern boundary of a field next to Dunley's Hill Road Hampshire (NGR SU 73575 51216); the field situated immediately north of Western Lane. (*fig. 1*). A total of eight trenches were excavated along the 2km route (*fig. 2*).

The table below shows the dimensions of the individual sections of easement trenching across the route:

Trench	Dimensions L × W × D
Trench 001	67m (l) × 37m (w) × 1.90m (d)
Trench 002	25m (l) × 20m (w) × 2.20m (d)
Trench 003	400m (l) × 17m (w) × 0.40m (d)
Trench 004	300m (l) × 15m (w) × 1.60m (d)
Trench 005	177m (l) × 15m (w) × 1.50m (d)
Trench 006	220m (l) × 10m (w) × 1.60m (d)
Trench 007	170m (l) × 10m (w) × 1.41m (d)
Trench 008	380m (l) × 30m (w) × 1.91m (d)

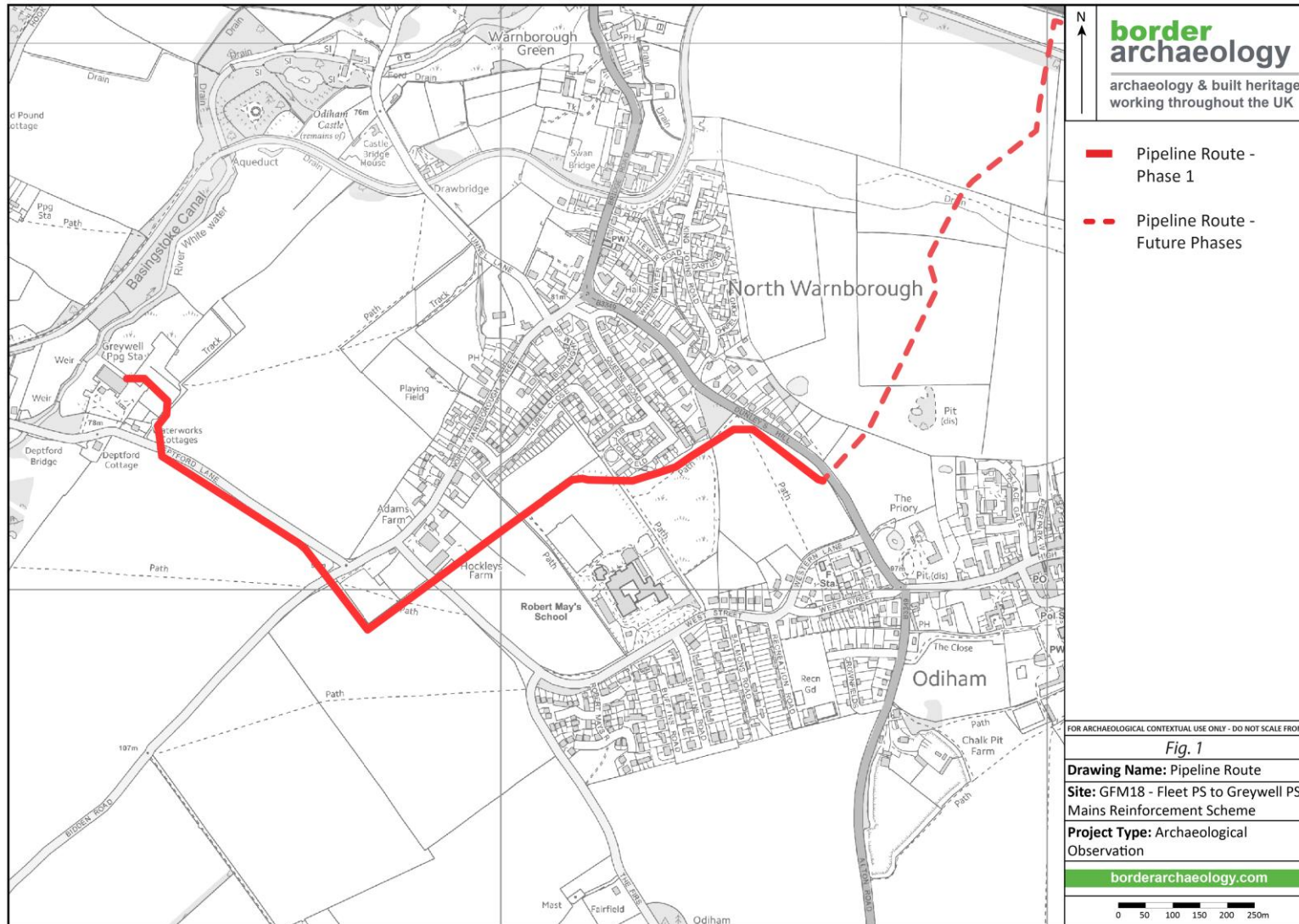
3 Topography & Geology

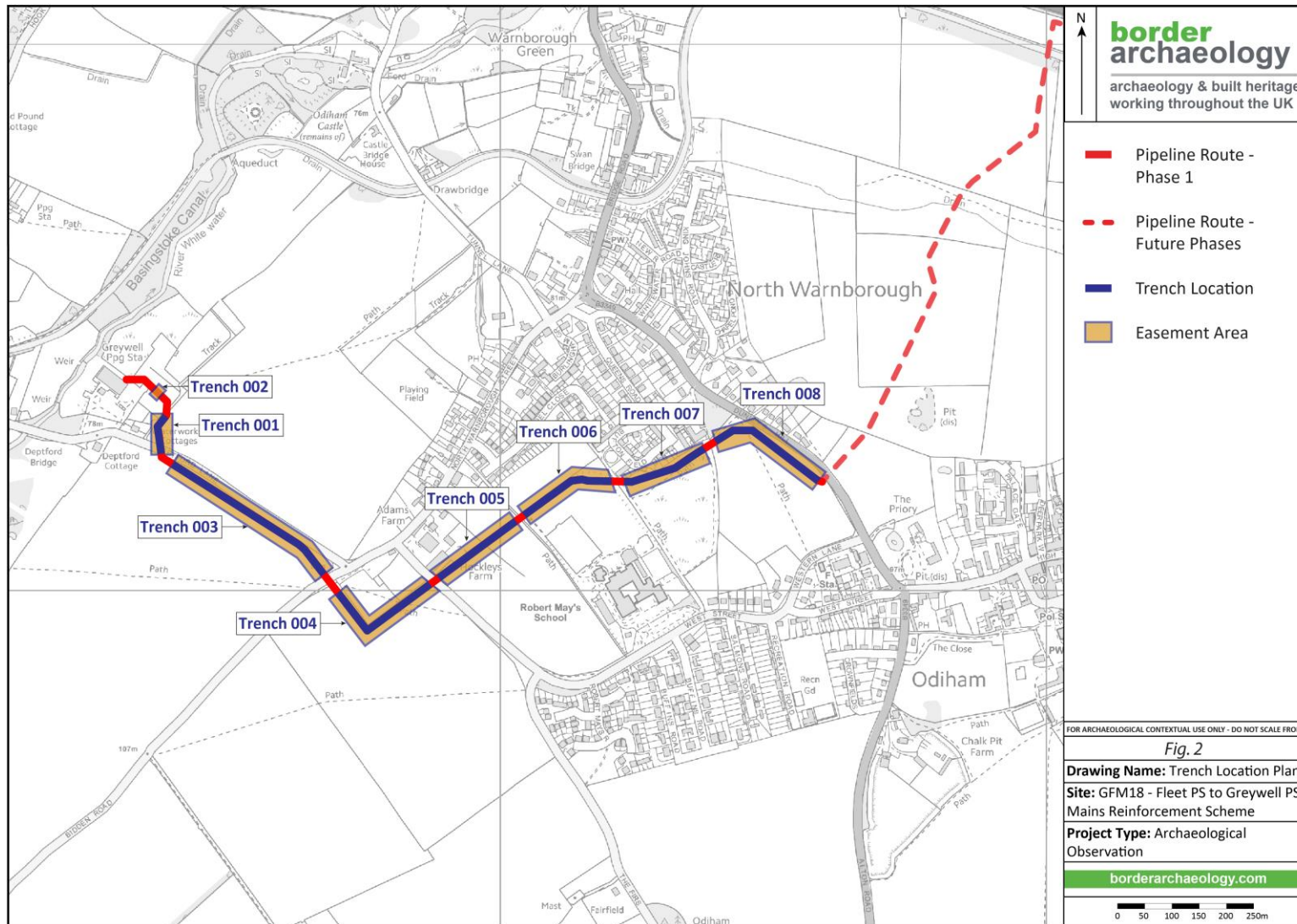
The groundworks reported here related to Phase 1 of the pipeline route which traversed the areas of Greywell, North Warnborough, and Odiham. The geology of these areas is described here but a detailed report on the geology of the whole 13km route can be found in Section 2.1 of the *Written Scheme of Investigation (WSI)*(BA 2017b).

According to the SSEW (Soils map of England and Wales), the predominant soil type in the vicinity of Greywell pumping station consists of calcareous alluvial gley soils of the FROME (812a) series, characterised by shallow calcareous and non-calcareous loamy soils over flint gravel. The underlying drift geology consists of chalky and gravelly river alluvium. Soils in the area of North Warnborough are characterised as typical stagnogley soils of the WICKHAM 3 (711g) series. This series is described as comprising slowly permeable seasonally waterlogged fine loamy over clayey soils and coarse loamy over clayey soils, with the underlying geology comprising of drift over Mesozoic and Tertiary clay and loam. In the Odiham area, the soils are characterised as typical stagnogley soils of the WICKHAM 4 (711h) series, comprising slowly permeable fine loamy soils over clayey soils and fine silty over clayey soils with the underlying geology consisting of drift over Tertiary clay. British Geological Survey (BGS) maps shows the bedrock geology of the area in which Phase 1 of the route traverses as Seaford Chalk Formation. This is described as a firm white chalk with conspicuous semi-continuous nodular and tabular flint seams. Hardgrounds

and thin marls are known from the lowest beds. Borehole data from sites near to the route have found soft chalk with flints, and mottled silty chalky clay natural.

During the archaeological observation, the natural substratum encountered along the 2km route was for the most part formed of a moderate to hard, greyish-white chalk with moderate flint inclusions. Where observed, it was seen on average between c. 0.30m – c. 2.20m below ground level (bgl).





4 Historical and Archaeological Background

A *Desk-based Assessment* (hereafter referred to as *DBA*) (BA 2016a) and a non-intrusive Archaeological Walkover Survey (BA 2016b) were undertaken as part of a two-volume report submission for SEW. The *DBA* evaluated the potential and significance of the archaeological resource of the area surrounding the pipeline route whilst the aim of the walkover survey was to characterise, quantify and locate known and unknown heritage assets likely to be affected by the engineering groundworks and also to identify areas of archaeological mitigation. These assessments 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 April and August 2018.

A synopsis of the archaeological background is outlined here in order to place the archaeological findings of this report within the context of the surrounding landscape.

4.1 Prehistoric Activity

A number of cropmark features, possibly indicative of prehistoric enclosures, were identified on aerial photographs within the vicinity of the Phase 1 route which extends through fields south and south-west of North Warnborough, from Deptford Lane to Robert May's Secondary School (NGR SU 72690 51010 to SU 73025 51140). An irregular sub-circular enclosure feature located to the south-west of West Street Odiham, at a site now occupied by a modern housing estate at Robert Mays Road (NGR SU 73160 50740), was also identified through aerial photography within the environs of the pipeline route. A site of a Bronze Age ring ditch is recorded by the Hampshire Archaeological and Historic Building Records (AHBR) in a field located to the west of Adams Farm and to the east of Deptford Lane (NGR SU 72728 51189).

On land to the south-east of Queens Road North Warnborough (NGR SU 73250 51250) and north-west of the pipeline route, an E-W aligned ditch was revealed during an archaeological evaluation. The ditch contained three pieces of burnt flint though it was not confirmed if these were of prehistoric origin. Isolated finds of prehistoric date have also been recorded by Hampshire Archaeological and Historic Building Records (AHBR) in the vicinity of North Warnborough and include a single sherd of Late Bronze Age pottery and a Late Iron Age inscribed coin of Commius (NGR SU 73393 51404; NGR SU 72910 51320).

To the north-east of Hockleys Farm (NGR SU 73000 51100), flint scatters were uncovered during watching brief works undertaken by TVAS in 1994 on the route of an earlier water trunk main from Greywell to Fleet; this location being crossed by the route. A small quantity of flint flakes was also recovered during the archaeological investigation of a low ovoid burnt mound situated within the Greywell Moors nature reserve (NGR SU 72039 51008) approximately 400m south-west of the Greywell pumping station. Several probable barrow sites have been identified further to the south of this mound, suggestive of a possible focus of funerary activity of Neolithic or Bronze Age date in this particular area.

4.2 Roman Activity

There is limited evidence for Roman occupation along the 2km section of the pipeline route. In North Warnborough, four sherds of Roman pottery were recovered from a test-pit (NGR SU 73260 51391) whilst in Odiham, occasional finds of Roman objects have been found, which include a gold ring and a gold fibula brooch of 1st-2nd century date (NGR SU 74000 51000). Sherds of Roman pottery were also found during archaeological work on the route of the Odiham bypass in 1979, although their precise location is unclear.

4.3 Medieval Activity

The western terminus of the route by Greywell pumping station lies approximately 510m south-west of the remains of Odiham Castle, first built by King John as a royal residence (*Domus Regis*) and hunting lodge between 1207 and 1214, possibly replacing an earlier royal lodging situated near Odiham church. To the north-west of the western terminus of the route, a programme of geophysical survey carried out in 2012 within Walk Meadow identified a series of linear anomalies interpreted as a formal garden, which may have been associated with the site of a late medieval or Tudor manor house (NGR SU 71845 51259). Within North Warnborough, the Hampshire AHBR refers to the site of a chapel- recorded as a chapel-of-ease in the late 1540s and 'employed in the time of the plague for the ministering of the whole parish and for a place to teach children in'. Although the precise location of this chapel is unknown, no documentary evidence has been found to positively establish the location of the chapel, the Hampshire AHBR places it within a field immediately south-east of Hockley's Farm (NGR SU 73000 51000) which is crossed by the route. The route also runs along the south-western fringes of the medieval settlement of North Warnborough, sited along North Warnborough Street, which is designated an Area of Archaeological Potential (AAP). Archaeological test-pits excavated in various locations along North Warnborough Street have provided limited evidence of medieval activity in this area, though a small number of sherds ranging in date from to the 12th -16th centuries were recovered about 75m north-west of the pipeline route at Laurel Close (NGR SU 73017 51221).

4.4 Post Medieval Activity

World War II defensive features, an octagonal concrete pillbox and a polygonal pillbox, are situated 75m and 80m south-west of the phase one route (NGR SU 72700 51100; NGR SU 72766 51056). These structures appear to have formed part of a complex of defences constructed in the 1940s.

4.5 Walkover survey identifications

BA's Walkover Survey (BA 2016b) identified no features of archaeological or historical interest in close proximity to the Phase 1 section of the route, other than those that had been identified through the *DBA*. Newly identified features of archaeological or historical interest were however observed along the section of the route running between Winchfield and Odiham, to the north-east of the Phase 1 section of the route. The survey did however conclude that there remains potential for encountering buried archaeological features to the south-west of North Warnborough, where possible evidence of prehistoric and medieval activity has been identified (BA 2016a, 20).

5 Aims & Objectives

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

BA is cognisant of the Hampshire Archaeological Strategy (2012). Research aims were identified with reference to the Solent-Thames Research Framework (STRF) for the Historic Environment (Hey & Hind 2014). In summary, the research aims and objectives are as follows:

5.1 Prehistoric

- To investigate sites with good environmental sequences with potential for environmental reconstruction.
- To obtain more knowledge on Neolithic and Bronze Age landscape and land use
- To gain a better understanding of the later prehistoric landscape and the pattern of Late Bronze Age and Iron Age land use and its development through palaeoenvironmental data and through studies of alluvial and colluvial deposit
- To identify and characterise Neolithic and early Bronze Age settlements
- To establish the relationship between the different kinds of settlements and social organisation, particularly social hierarchy and changes in economy during the later prehistoric
- To establish the reasons for the shift from earlier prehistoric patterns of seasonal occupation to an increase in intensity of settlement towards the later prehistoric period
- To develop spatial chronologies for settlement via palaeoenvironmental evidence

5.2 Roman

- To further our understanding of non-villa settlement, settlement hierarchies, and site economies in the sub-region areas of the Thames valley; the claylands, heathlands, chalklands and river gravels of the upper Ouse
- To collate any evidence found for major change in settlement occupation across the diverse landscapes of the region to illustrate the patterns of development and abandonment during the Roman period
- The discovery of datable material culture, of all types, has the potential to contribute to our understanding about the development of markets and settlement hierarchies
- Increase knowledge of Roman pottery industries; to further develop regional pottery fabric series; to explore relationships between kilns, workshops and settlements and to collect evidence for localised pottery manufacture
- Small-scale ironworking in the region – aim to characterise and quantify iron slag assemblages; establish a chronology of local assemblages; and characterise and quantify wood charcoal used in the iron industry
- To further knowledge of Roman exploitation of local stone and imported stone for manufacturing of querns and roofing materials

- More research on ceramic building material; characterisation and quantification of assemblage type, fabric of material, and extent of trade
- Sampling of inland settlements for the recovery and quantification of marine resources

5.3 Medieval

- To increase knowledge on rural settlement types and patterns with a focus on: nucleated villages and dispersed settlements such as farms, granges, moats, and hamlets
- To obtain more information on the origins of manorial sites and their chronology, character, special types and reasons for abandonment
- Gain further knowledge in regards to the origins and development of towns, markets and ecclesiastical centres

5.4 Post-Medieval

- To gain a greater understanding of post-medieval settlement in relation to the mix of settlement types across the region
- To research environmental evidence for the quality of the urban environment

6 Methodology

The programme of archaeological work was carried out in accordance with the *WSI* (BA 2017b); and 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).

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

The methodology cited in the *WSI* (BA 2017b) for the off-road groundworks specified a topsoil strip, under archaeological supervision and using a mechanical excavator fitted with a toothless bucket, within an established easement width up to 30m. The removed material was stored along one side of the easement. Where significant archaeological features were revealed during the course of the topsoil strip, these were investigated by hand; recorded; and the archaeological deposits were subject to environmental sampling. Machine excavation of the pipe-trenches resumed under archaeological supervision until the first significant archaeological horizon or geological natural was reached.

The pipe-trenches measured c. 1.20m wide (bucket width) where two water pipes were installed side by side; and c. with the depth ranging between 1.40 – 2.20m (bgl) to allow for the installation of the water pipes.

6.2 Recording

This programme of works was recorded under the site code **GFM18**.

An OASIS (Online AccesS to the Index of archaeological investigations) online record has been initiated and the OASIS number assigned is: borderar1-325453.

Trench numbers were assigned to each section of easement and pipe-trench which traversed separate land parcels located between Greywell Pumping Station at Deptford Lane Greywell Hampshire (NGR SU 72325 51360) and Dunley's Hill Road Hampshire (NGR SU 73575 51216). A total of eight trenches were recorded along the 2km route.

Full written, graphic and photographic records were made in accordance with BA's *Archaeological Field Recording Manual* (BA 2017a). 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. Representative measured sections (1:10) were prepared, as appropriate, showing the sequence and depths of deposits, where practicable and strictly within established safety parameters. All drawings were numbered and listed in a drawing register; these drawing numbers being cross-referenced to written site records.

The photographic record was made using a high-resolution digital camera, comprising photographs of archaeological features and appropriate groups of features and structures. An appropriate scale was included in each photograph and all records 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.

7 Results

7.1 Trench 001

Trench 001 (*Plate 1*), located north-east of Deptford Lane and to the south-east of Trench 002, consisted of a large rectangular area measuring approximately 67m (north-south) × 37m (east-west); an area which would later be employed for the site compound.

The initial topsoil strip of the easement area revealed a soft, dark brown, silt clay topsoil (001001), 0.30m thick, with moderate flint and occasional chalk inclusions. Underlying this was a soft, dark orange-brown silt clay subsoil (001002), 0.20m thick with moderate to frequent flint inclusions. Modern debris was also noted within this deposit. Natural substratum (001003) was exposed during the excavation of the pipe-trench. It consisted of a moderate to hard, light orange silt, mottled white with moderate flint and chalk inclusions, with a maximum thickness of 1.40m. A previous pipeline trench, dating to the 1990s, was visible traversing the trench during the groundworks. No features of archaeological significance were uncovered.



Plate 1: Trench 001 easement strip, looking north (T-scale × 1m)

7.2 Trench 002

Trench 002 (*Plate 2*) covered an area measuring approximately 25m (north-east to south-west) × 20m (north-west to south-east), located north of Trench 001.

The groundworks revealed a soft, dark brown, silt clay topsoil (002001), ranging from 0.10m - 0.20m in thickness, with moderate flint, occasional chalk and modern debris inclusions. Underlying was subsoil (002002), a soft, mid orange-brown silt clay with occasional chalk, moderate flint and frequent modern debris. This deposit was heavily disturbed by groundworks associated with water mains installed within the designated route during the 1990s. In order to locate the original SEW mains pipeline, two trial holes were excavated (*Plate 3*) with the maximum depth of the trial holes reaching 2.20m below existing ground level. During the trial hole excavation, disturbed subsoil (002002) was observed between 0.40m - 1.30m below existing ground level. Natural substratum (002003) comprised a moderate to hard, light orange silt with moderate inclusions of flint and chalk, up to 1.40m thick.

The only feature encountered in Trench 002 easement was the lower portion of a modern stone and brick wall, aligned north-east to south-west, which traversed the trench. This had been truncated by the water services installed during the 1990's. No archaeologically significant remains were encountered in Trench 002.



Plate 2: Trench 002 easement strip, looking south-west (T-scale × 1m)



Plate 3: West-facing section of trial hole 2, Trench 002, showing original water mains pipe looking east (1m scale)

7.3 Trench 003

Trench 003 consisted of a linear easement measuring approximately 400m × 17m, orientated north-west to south-east, within the field located south-west of Deptford lane and situated north-west of Bidden Road (*Plate 4*). Topsoil (003001), up to 0.10m thick, comprised a soft, dark brown silt clay with moderate flint and occasional chalk sub-angular stone inclusions. Underlying this deposit was a soft, mid-dark brown silt clay subsoil (003002) with moderate to frequent flint and modern debris inclusions, up to 0.20m thick. The easement was reduced to the top of the natural substratum, a moderate-hard, light-mid orange silt mottled with white chalk, with moderate flint inclusions. Several features were revealed cutting the natural; these features were investigated, recorded, and sampled.

Located in the south-west corner of the trench, approximately 20m north-west of Bidden Road, a rectilinear ditch [003004] was revealed (*Plates 5 & 6; Fig. 3*). The full extent of the rectilinear ditch was not uncovered as it extended beyond the south-western baulk of the easement, though it does appear to form the eastern extent of a rectangular-shaped enclosure. The ditch measured approximately 13m in length north-west to south-east with a maximum width of 5.50m north-east to south-west. On the basis of the dimensions visible, this indicates that the enclosure is at least 13m wide which infers that the enclosure was of considerable size. A machine slot was excavated through the ditch revealing a u-shaped profile, moderate-gradually sloping sides and a concave base. The ditch measured 2.03m in width and 0.65m in depth and contained two fills. Upper fill (003005) comprised a soft-moderate, dark brown silt clay with frequent small-medium sub-angular and angular flint and chalk stones, 0.31m thick. Paleoenvironmental sampling retrieved occasional to moderate quantities of charcoal as well as a

single occurrence of charred indeterminate cereal in addition to fragments of undiagnostic pottery, coal/coke, and unburnt bone that included large mammal, amphibian, and bird. Lower fill (003006) was formed of a soft-moderate, light brown-orange silt clay with moderate chalk, sub-rounded and angular stones, 0.34m thick. Paleoenvironmental sampling showed it to contain occasional charcoal as well as possible worked stone with large and small unburnt mammal bone. Inferences on the local environment were deduced via the analysis of molluscan species recovered from the fills, which infer that the enclosure may have been situated close to woodland around the time the ditch was open and subject to natural and anthropogenic deposition. No finds were recovered from the ditch fills thus the feature remains undated and its function unknown.

Several linear furrows, some more ephemeral than others, aligned north-east to south-west were observed to the north-west of [003004] also cutting the natural chalk within the easement. One of these features was investigated and confirmed to be a furrow [003007], up to 1m wide and up to 0.20m in depth, filled by a soft-loose, mid brown-orange, silt clay (003008).

As the natural chalk substratum had been exposed during the topsoil strip, and the archaeological features had been investigated, archaeological monitoring of the pipe-trench excavation was not required.



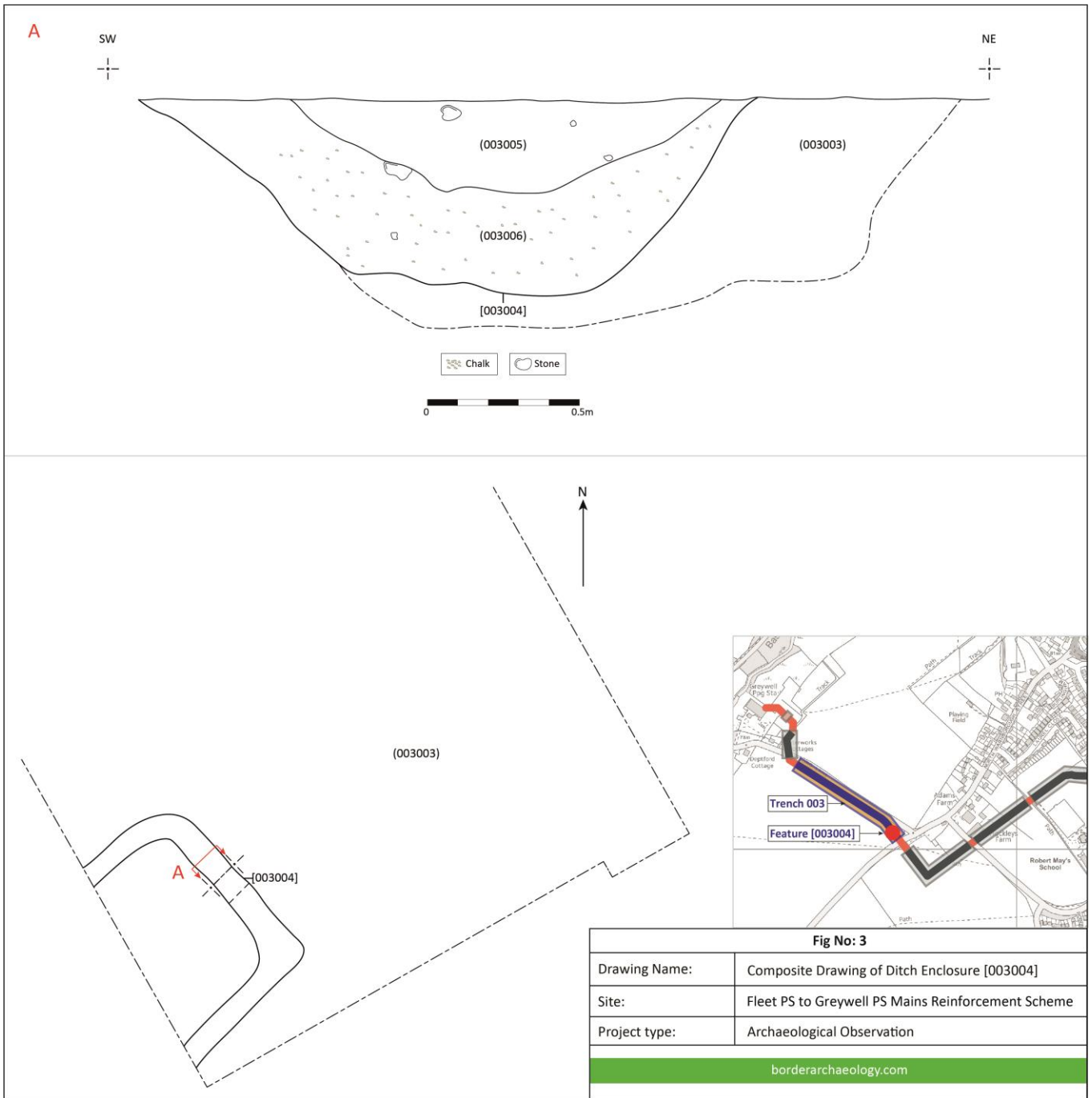
Plate 4: Trench 3 easement strip showing (003003) looking north-west (T-scale 1m x1m)



Plate 5: South-east facing section of rectilinear ditch [003004] (1m scale)



Plate 6: Rectilinear ditch [003004], (T-scale 1m x 1m), looking east



7.4 Trench 004

Trench 004 consisted of an L-shaped easement measuring 300m × 15m. The easement extended south-east of Bidden Road for approximately 145m before turning in a north-east direction for a further 155m towards West Street.

The groundworks of this trench revealed a soft, dark brown silt clay topsoil (004001), 0.20m thick, with moderate flint and occasional chalk inclusions. Underlying this was a soft, mid orange-brown silt clay subsoil (004002) with moderate to frequent flint and chalk inclusions, and a maximum thickness of 0.10m (*Plate 7*). Natural substratum (004003) consisted of a moderate-hard, light - mid orange silt clay flecked with white chalk, with moderate flint inclusions, and was observed between a depth of 0.30m – 1.60m bgl. (*Plate 7*).

Situated 125m south-west of West Lane, along the southern edge of the easement baulk, was sub-oval pit [004008] (*Plate 8; Fig. 4*) which measured 3.20m (north-east to south-west) in length and 2m (north-west to south-east) in width. The excavation of the north-western quadrant showed the pit to be 0.63m deep, with two fills, (004009) and (004010). Upper fill (004009) ranged between 0.06-0.34m in depth, and comprised a soft, mid-dark brown silt clay with occasional sub-rounded stones and displayed evidence for rooting. Moderate quantities of charcoal, undiagnostic slag, pottery, and CBM (Ceramic Building Material) were identified from palaeoenvironmental sampling of the fill, in addition to fragments of unburnt bone that included small mammal, bird and fish. Lower fill (004010) comprised a moderate, light brown silt clay with occasional sub-rounded stones and frequent chalk, with a maximum thickness of 0.50m. The sample was found to contain occasional to moderate quantities of charcoal as well as undiagnostic slag and flake hammerscale alongside CBM. No datable finds material was recovered during the excavation, though the material derived from palaeoenvironmental samples taken may infer a post-medieval date for the use of the pit and also suggests that lower fill (004010) may have gradually accumulated with upper fill (004009) accumulating at a more rapid rate, potentially being a result of deliberate backfilling.

Several linear furrows were observed to the west and north-west of sub-oval pit [004008]. Aligned north-east to south-west, these extended diagonally across the easement (15m wide). Machine slots excavated across two of the linear features, [004004] and [004006], confirmed the interpretation that they represented agricultural furrows. Both furrows were up to 0.30m deep and comprised a single fill, (004005) and (004007), of a soft-loose, light brown-mid orange silt clay with occasional sub-rounded pebbles and occasional rooting.

As the natural chalk substratum had been exposed at the NW-SE section of the trench during the easement strip, and the archaeological features revealed there had been investigated, archaeological monitoring of the pipe-trench excavation was only required at the NE extent of the trench, beyond pit [004008], where the ground sloped and the natural substratum was observed at a lower depth than the NW extent of the trench. No archaeological features were encountered during the pipe-trench monitoring.



Plate 7: Trench 004 easement strip, south-east facing section showing (004001) and (004002) (1m scale)



Plate 8: Plan of sub-oval pit [004008] showing excavated quadrant (1m scale), looking south-east

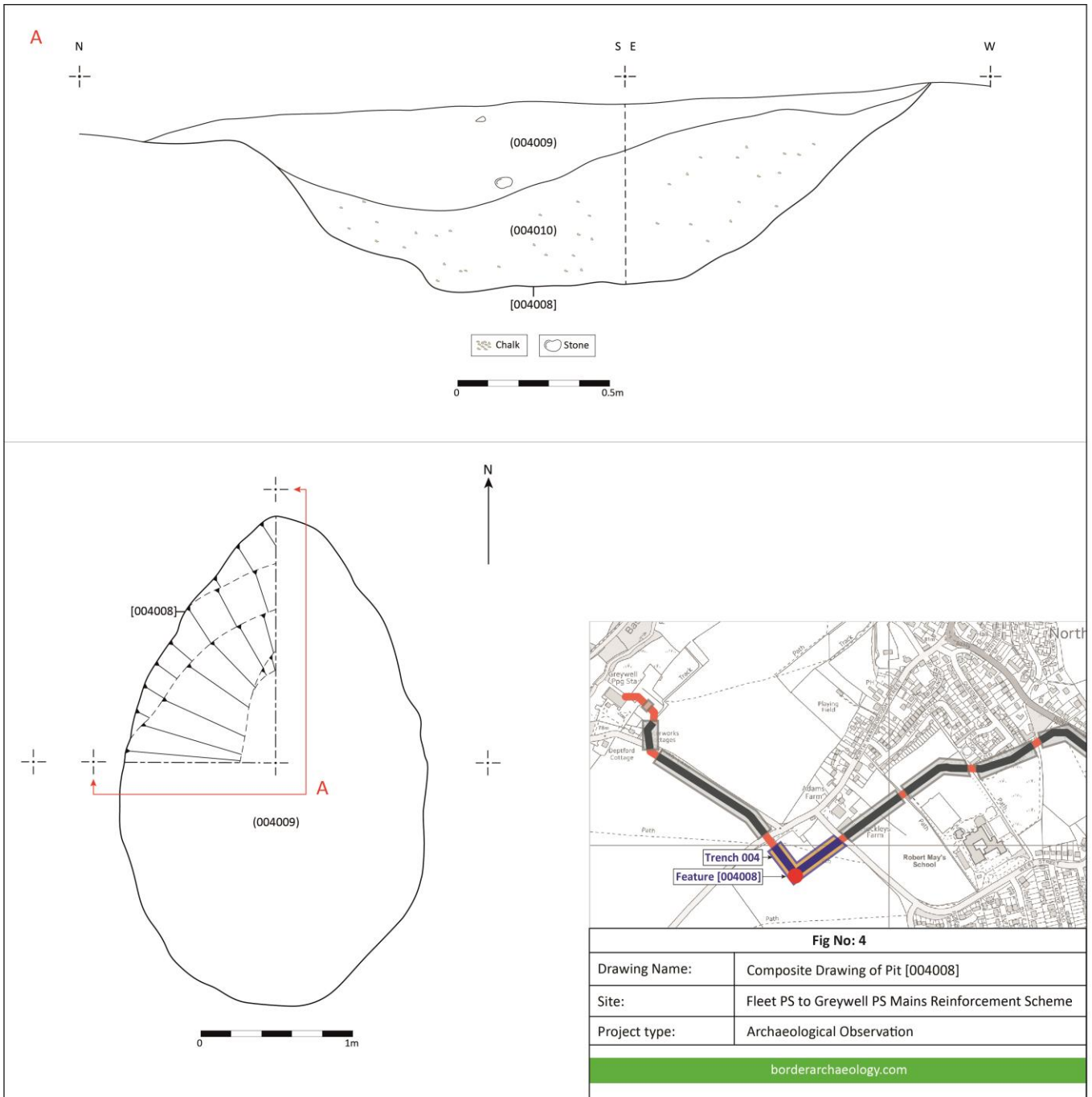


Fig No: 4

Drawing Name:	Composite Drawing of Pit [004008]
Site:	Fleet PS to Greywell PS Mains Reinforcement Scheme
Project type:	Archaeological Observation

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7.5 Trench 005

Trench 005 lay within a field positioned north-east of West Street and continued along the same alignment as Trench 004. The easement measured 177m in length with a width of 15m; the topsoil strip excavated to a depth of 0.40m and the pipeline trench within the easement excavated a further 1.10m in depth. Ground disturbance was evident in the north-eastern area of the easement trench where the 1990s water pipeline, aligned east to west, had been installed.

During the easement strip a soft, dark brown silt clay topsoil (005001) with moderate flint, occasional chalk and modern debris inclusions was removed (*Plate 9*). This deposit was approximately 0.20m thick. Underlying this was a soft, light brown-dark orange silt clay subsoil (005002) with moderate to frequent flint and modern debris inclusions, observed to a maximum depth of 0.30m. No archaeological features were identified within the easement trench. The natural substratum (005003), a moderate to hard, light greyish-white chalk with moderate flint nodules was exposed during the excavation of the pipeline trench through the easement. The chalk, seen up to 1m thick, was observed to the base of the trench at a depth of 1.50m bgl. (*Plate 10*).



Plate 9: North-west-facing section of easement strip showing topsoil (005001) and subsoil (005002) (scale 1m)



Plate 10: South-east facing section of pipe-trench showing chalk (005003)(1m scale)

7.6 Trench 006

Trench 006 was situated to the north-east of Trench 005 and to the north-west of Robert Mays School. The trench extended for approximately 140m in a north-east direction, then extended a further 80m in an east-west alignment towards the eastern extent of the field. The trench easement ranged between 7 – 10m in width and was excavated to an average depth of 0.30m bgl. The segment of Trench 006 which was orientated east to west was stripped to the top of the natural substratum (006003). No archaeological features were seen to cut through the natural substratum in this section of the easement trench, therefore archaeological supervision of the excavation of the pipe-trench was not required here though it was undertaken for the 140m long segment.

The groundworks of the trench revealed a soft, dark brown silt clay topsoil (006001) with moderate flint and occasional chalk inclusions, 0.20m thick (*Plate 11*). The subsoil (006002) beneath this was composed of a soft, mid orange-brown silt clay with moderate-frequent flint inclusions and a maximum thickness of 0.15m (*Plate 12*). The natural substratum (006003) (*Plate 13*) consisted of a moderate to hard, light greyish-white chalk observed during excavation of the pipe-trench with a maximum depth of 1.25m exposed.



Plate 11: North-west facing representative section of topsoil (006001) following easement strip in Trench 006 (1m scale)



Plate 12: Easement strip of Trench 006 showing subsoil (006002) (T-scale 1m x 1m), looking north-east



Plate 13: South-east facing section of pipe-trench showing (006002) and (006003) (1m scale)

7.7 Trench 007

Trench 007 was located close to, and followed, the northern perimeter of the field east of and adjoining Robert May's Secondary School, situated to the east of Trench 006 and south-west of Trench 008. The easement in this area was reduced only to the top of the subsoil, therefore excavation of the pipeline trench was observed.

The groundworks of this trench uncovered topsoil (007001) composed of soft, dark brown silt clay, 0.28m thick with moderate flint and occasional chalk inclusions. Beneath this, subsoil (007002), 0.13m thick, was composed of soft, mid orange-brown silt clay with moderate to frequent flint inclusions. Modern debris was also noted within this deposit. The natural substratum (007003) was composed of a moderate-hard, light greyish-white chalk with moderate flint inclusions. The pipe-trench was excavated to a maximum depth of 1.40m bgl, with up to 1m of chalk bedrock exposed (*Plate 14*). No archaeological features or deposits were encountered in Trench 007.



Plate 14: South-east facing section of pipe-trench in Trench 007 showing (007002) and (007003)

7.8 Trench 008

Trench 008 continued north-east of Trench 007 before turning in a south-east direction along the eastern perimeter of the field located on the western side of Dunley's Hill Road (B3349). The easement, ranging in width between 10-30m, measured approximately 380m in length.

The groundworks of this trench uncovered a soft, dark brown, silt clay topsoil (008001), with moderate flint and occasional chalk inclusions observed to a depth of 0.28m bgl. Subsoil (008002) comprised a soft, dark orange-brown, silt clay, 0.13m thick, with moderate to frequent flint inclusions, along with modern debris. Natural substratum (008003) was observed during the pipe-trench excavation, seen to consist of a moderate-hard, light greyish-white chalk with moderate flint inclusions, the top of which was seen c. 0.40m bgl, with the pipe-trench being excavated to a maximum depth of 1.91m bgl (*Plate 14*).



Plate 14: South-west facing section of pipe-trench showing (008002) and (008003) (1m scale)

8 Significance of the Results

The Hampshire AHBR (Archaeology and Historical Buildings Record) refers to the site of a chapel in North Warnborough, which was recorded as a chapel-of-ease in the late 1540s and 'employed in the time of the plague for the ministering of the whole parish and for a place to teach children in'. The precise location of this chapel is not known, though the Hampshire AHBR places it within a field immediately SE of Hockley's Farm, however, no documentary evidence has been found to positively establish the location of the chapel. The discovery of the rectilinear enclosure ditch [003004] in Trench 003, positioned south-west of Hockley's Farm, though not located to the south-east as the AHBR would suggest, potentially could represent the site of a medieval chapel. Although its full extent was not visible, the ditch would have formed a rectangular enclosure, of a rather substantial size. No finds of archaeological significance were uncovered within the ditch fills or upon its surface, therefore a date was not determined during excavation; although coal/coke recovered through palaeoenvironmental sampling suggests a date no earlier than the later medieval period for the infilling of the ditch. It cannot be entirely ruled out that this feature could represent the extant remains of the chapel given its location, the size of the enclosure, and taking in to account that medieval chapels were often surrounded by a rectangular enclosure. Whilst it is noted that a long rectangular structure, aligned north-east to south-west is depicted in this field on the Ordnance Survey six-inch map of 1931, this appears to be an above ground, or superstructure, as opposed to a below ground, substructure. The structure is not depicted on earlier dated maps and therefore seems wholly unlikely to represent [003004]. It must also be considered that archaeological evidence may lie outside of the easement areas associated with this pipeline scheme, and therefore there is also the possibility that [003004] does not have any association with the Medieval chapel site.

Pit [004008] was uncovered within Trench 004 in close vicinity to furrows observed within that trench. This area was noted in the WSI (BA 2016a) as having moderate potential for archaeology. The pit is considered to be of post-medieval date, though its function is undetermined.

The results of the Archaeological Observation are of local significance only. Should [003004] be further investigated in the future, and proven to be the remains of the Medieval Chapel site, it potentially would be of regional significance and would certainly contribute to the Medieval research aims for the Solent-Thames Research Framework for the Historic Environment to gain further knowledge in regards to the origins and development of ecclesiastical centres.

9 Conclusion

The Archaeological Observation of the groundworks undertaken on the Fleet PS to Greywell PS Mains Reinforcement Scheme Phase 1 revealed only two features of archaeological significance, observed within two of the eight trenches making up the 2km section, Phase 1, of a 13km route. Both features were located in the area south-west of West Street; in the field adjoining Deptford Lane to the west and in the field south of the junction between Deptford Lane and Bidden Road. The most substantial feature of the two was rectilinear enclosure ditch [003004], uncovered within Trench 003. Although there is the potential that this may represent the extant remains of a medieval chapel noted in the Hampshire AHBR within this area, only further archaeological investigation, outside the scope of these works, will determine if there is any relationship between the rectilinear enclosure ditch and the Medieval chapel site.

A moderate-hard, light greyish-white chalk was observed in four of the eight trenches, with the natural in Trench 003 comprising a light-mid orange silt interleaved within the chalk, possibly the result of a natural marling process. The topography of the area- shallow infertile soils overlying chalk, may have been an influential factor in terms of land use, and may be the reason as to why so little archaeology was uncovered within the Phase 1 groundworks.

Significantly, the results of this archaeological observation contribute to the corpus of information that already exists for Hampshire, with the addition of two features/sites to the archaeological record. The results did not however contribute to the research aims of the Solent-Thames Research Framework for the Historic Environment as set out for this scheme; though the next phase of works traverse an area of greater archaeological potential.

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11 Bibliography

British Geological Survey, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [accessed 18.06.2019]

Border Archaeology, 2017a, *Archaeological Field Recording Manual*

Border Archaeology, 2016a, *Archaeological Desk Based Assessment on behalf of South East Water concerning the Fleet to Greywell Mains Reinforcement Scheme (08-0320) Hampshire, BA Ref:BA1626GFM*

Border Archaeology, 2016b, *Archaeological Walkover Survey for South East Water concerning the Fleet to Greywell Mains Reinforcement Scheme (08-0320) Hampshire, BA Ref:BA1626GFM*

Border Archaeology, 2017b, *Written Scheme of Investigation on behalf of South East Water concerning the Fleet to Greywell Mains Reinforcement Scheme (08-0320) Hampshire, BA Ref:BA1626GFM*

ClfA, 2014a, *Code of conduct*

ClfA, 2014b, *Standard and guidance for an archaeological watching brief*

ClfA, 2014c, *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*

Hampshire Archaeology and Historic Building Record (AHBR): Report and GIS Dataset

Hampshire Archaeology Strategy, Hampshire County Council 2012.
<https://www.hants.gov.uk/landplanningandenvironment/environment/historicenvironment/planners> [accessed 18.06.2019]

Hey, G. & Hind, J. (Eds.), 2014, *Solent-Thames Research Framework for the Historic Environment: Resource Assessments and Research Agendas, Oxford Wessex Monograph No. 6*

SSEW, 1983, *Soil Map of England and Wales Scale 1: 250,000, Silsoe*

12 Appendix 1: Context Tables

12.1 Trench 001

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(001001)	-	Deposit	-	-	Soft, dark brown, silt clay; moderate flint and occasional chalk; depth 0.30m.	Topsoil	-	-	Modern
(001002)	-	Deposit	-	-	Soft, dark orange-brown, silt clay; moderate - frequent flint, modern debris; depth 0.20m.	Subsoil	-	-	Modern
(001003)	-	Deposit	-	-	Moderate - hard, light orange silt, mottled white; moderate flint and chalk inclusions; depth 1.40m.	Natural	-	-	-

12.2 Trench 002

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(002001)	-	Deposit	-	-	Soft, dark brown, silty clay; moderate flint, occasional chalk and modern debris; depth 0.10m - 0.20m.	Topsoil	-	-	Modern
(002002)	-	Deposit	-	-	Soft, mid orange-brown, silty clay; occasional chalk moderate flint and modern debris; depth 0.40m - 1.30m	Subsoil	-	-	Modern
(002003)	-	Deposit	-	-	Moderate - hard, light orange silt, moderate flint and chalk inclusions; depth 0.20m-1.40m	Natural	-	-	-

12.3 Trench 003

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(003001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint and occasional chalk sub-angular stones; depth 0.10m	Topsoil	-	-	Modern
(003002)	-	Deposit	-	-	Soft, mid-dark brown, silt clay, moderate- frequent flint and modern debris; depth 0.20m	Subsoil	-	-	Modern
(003003)	-	Deposit	-	-	Moderate-hard, light-mid orange silt mottled with white chalk, moderate flint inclusions; depth N/A	Natural	-	-	-
[003004]	-	Cut	(003005) (003006)	-	Rectilinear enclosure ditch; rounded corners; moderate - gradual sides which form a concave base; 2.03m wide, depth 0.65m, 13m long NW-SE and 5.5m long NE-SW	Cut of enclosure ditch	-	-	Medieval/Post-medieval
(003005)	-	Deposit	-	[003004]	Soft-moderate, dark brown, silt clay; frequent small-medium sub-angular and angular flint along with moderate small chalk sub- rounded and angular stones; depth 0.31m	Upper fill of ditch [003004]	-	003001	Medieval/Post-medieval
(003006)	-	Deposit	-	[003004]	Soft-moderate, light brown-orange silt clay; moderate sub-rounded and angular chalk, inclusions; depth 0.34m	Lower fill of ditch [003004]	-	003002	Medieval/Post-medieval
[003007]	-	Cut	(003008)	-	Linear in plan with a NE-SW orientation; gradual sides forming a concave to flat base; depth 0.20m	Cut of Furrow	-	-	Post-Medieval/Modern
(003008)	-	Deposit	-	[003007]	Soft-loose, mid brown-orange, silt clay, rooting; depth 0.20m	Single fill of Furrow [003007]	-	-	Post-Medieval/Modern

12.4 Trench 004

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(004001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint and occasional chalk inclusions; depth 0.20m.	Topsoil	-	-	Modern
(004002)	-	Deposit	-	-	Soft, mid orange-brown silt clay, moderate-frequent flint and chalk; depth 0.10m	Subsoil	-	-	Post-medieval/Modern
(004003)	-	Deposit	-	-	Moderate-hard, light-mid orange silt clay flecked with white chalk, moderate flint inclusions; depth 1.30m	Natural	-	-	-
[004004]	-	Cut	(004005)	-	Linear in plan, NE-SW orientation; gradual west side with a sharper east side, forming an irregular - flat base; depth 0.30m	Cut of Furrow	-	-	Post-medieval/Modern
(004005)	-	Deposit	-	[004004]	Soft-loose, light brown-mid orange, silt clay, occasional sub-rounded pebbles and occasional rooting; depth 0.30m	Single fill of Furrow [004004]	-	-	Post-medieval/Modern
[004006]	-	Cut	(004007)	-	Linear in plan with a NE-SW orientation; gradual on west side with a more sharp - gradual east side, forming a flat to irregular base; depth 0.30m	Cut of Furrow	-	-	Post-medieval/Modern
(004007)	-	Deposit	-	[004006]	Soft-loose, light brown-mid orange, silt clay, occasional sub-angular and sub-rounded pebbles along with rooting; depth 0.30m	Fill of Furrow [004006]	-	-	Post-medieval/Modern
[004008]	-	Cut	(004009) (004010)	-	Sub-oval in plan, gradual - steep sides forming a flat base; depth 0.63m	Cut of Pit	-	-	Post-medieval
(004009)	-	Deposit	-	[004008]	Soft, mid-dark brown, silt clay, occasional sub-rounded stones and rooting; depth 0.06 - 0.34m	Upper fill of Pit [004008]	-	004001	Post-medieval
(004010)	-	Deposit	-	[004008]	Moderate, light brown, silt clay, occasional sub-rounded stones and frequent chalk; depth 0.44 – 0.50m	Lower fill of pit [004008]	-	004002	Post-medieval

12.5 Trench 005

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(005001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint and occasional chalk along with modern debris; depth 0.20m	Topsoil	-	-	Modern
(005002)	-	Deposit	-	-	Soft, light brown-dark orange, silt clay, moderate - frequent flint and modern debris inclusions; depth 0.30m	Subsoil	-	-	Modern
(005003)	-	Deposit	-	-	Moderate-hard, light greyish-white chalk occasional-moderate flint nodules inclusions; depth 1.0m	Natural	-	-	-

12.6 Trench 006

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(006001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint, occasional chalk; depth 0.20m	Topsoil	-	-	Modern
(006002)	-	Deposit	-	-	Soft, mid orange-brown, silt clay, moderate - frequent flint; depth 0.15m	Subsoil	-	-	Post-medieval/Modern
(006003)	-	Deposit	-	-	Light greyish-white chalk; depth 1.25m	Natural	-	-	-

12.7 Trench 007

Context	Slot	Type	F/B	F/O	Description	Interpretation	Finds	Sample No	Provisional Date
(007001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint, occasional chalk; depth 0.28m	Topsoil	-	-	Modern
(007002)	-	Deposit	-	-	Soft, mid orange-brown, silt clay, moderate - frequent flint along with modern debris; depth 0.13m	Subsoil	-	-	Modern
(007003)	-	Deposit	-	-	Moderate-hard, light greyish-white chalk, moderate flint inclusions; depth 1.0m	Natural	-	-	-

12.8 Trench 008

Context	Slot	Type	F/O	F/B	Description	Interpretation	Finds	Sample No	Provisional Date
(008001)	-	Deposit	-	-	Soft, dark brown, silt clay, moderate flint, occasional chalk, depth 0.28m	Topsoil	-	-	Modern
(008002)	-	Deposit	-	-	Soft, dark orange-brown, silt clay, moderate-frequent flint, along with modern debris; depth 0.13m	Subsoil	-	-	Modern
(008003)	-	Deposit	-	-	Moderate-hard, light-mid greyish -white chalk, moderate flint inclusions; depth 1.50m	Natural	-	-	-

13 Appendix 2: Palaeoenvironmental Report

Robin Putland BSc MSc, Ryan Patterson BA MSc & Emily Dutton BA MSc
Border Archaeology

13.1 Non-technical summary

This report has been prepared by the Palaeoenvironmental Department at Border Archaeology (BA) to facilitate and elucidate the palaeoenvironmental, palaeoeconomic and palaeodietary interpretations of a sequence of features discovered during Archaeological Observation on the route of the Fleet to Greywell mains reinforcement scheme undertaken by South East Water.

A total of four samples, comprising 80ℓ of material, were processed by flotation having originated from a single ditch and a single pit.

The sampling confirmed the post-medieval dating and presented a comprehensive molluscan assemblage for analysis. The molluscan evidence suggests incorporation of soils deriving from woodlands and it is tempting to suggest the features demarcate woodland farmland boundaries.

13.2 Introduction

This report details the results derived from four samples, constituting a total of 80ℓ of soil, retrieved from one ditch and one pit.

In accordance with the WSI (BA, 2017), at least 40ℓ or 100% of the deposits were sampled. However, due to the restrictions of archaeological observation, this resulted in 4 samples comprising 80ℓ 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 13.4.1 below.

The four samples were taken in multiples of 10ℓ sample buckets and derived from four contexts from two features, from which 20ℓ per context was taken, resulting in 40ℓ each. The results are presented by context in Section 13.4.2 below.

13.2.1 Site Description

The land comprising the observation of the western extent (Phase 1) of the Fleet PS to Greywell PS Mains Reinforcement Scheme was a 2km section of a 13km route; the route extending from Greywell Pumping Station to a field located to the west of, and adjacent to Dunley's Hill Road (B3349).

The two fields where sampling was undertaken were located near to Bidden Road and the features were revealed during mechanical stripping of the topsoil along the easement.

13.2.2 Soils and Geology

The surrounding geology was largely of clays covered by seasonally waterlogged loams or calcareous river alluviums. As such, taphonomic impact could be extremely variable (SSEW, 1983).

13.3 Methodology

13.3.1 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.

13.3.2 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.

13.3.3 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.

13.4 Description of Results

13.4.1 Description and implications of materials recovered

Detailed below are the general implications of the discovery of certain materials within the palaeoenvironmental samples. Section 13.4.2 details such information by context. Of particular note is the comprehensive molluscan assemblage.

Finds

Archaeological finds within palaeoenvironmental samples are fairly common and help confirm that the sampling of the material was not biased in any manner.

In this case, pottery and CBM were present alongside occasional possible worked stone and coal/coke.

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.

Of particular note is the sole presence of unburnt bone with no burnt bone present. Of the unburnt bone, a comprehensive assemblage of large and small mammals alongside amphibian, bird and fish bones.

Shell

Terrestrial shell comprises that from snails that may have been present in the area during deposition of the fills. Identification of the species represented highlights any ecological niches preferred by certain species in the environments they inhabited.

Archaeomalacological identification is undertaken in-house by Ryan Paterson BSc MSc and Robin Putland BSc MSc, additionally utilising reference texts (Cameron, 2008) (Evans, 1972) (Kerney & Cameron, 1979) (Welter-Schultes, 2012). Environmental interpretations were based upon a combined autecological and synecological approach as advised by Davies (Davies, 2008), using ecological groups for terrestrial and freshwater species as designated by Evans (Evans, 1972) and Sparks (Sparks, 1961) respectively. The ecological preferences of each species were inferred by reference to Kerney and Cameron (Kerney & Cameron, 1979) and the molluscs were identified on the basis of apical and other diagnostic fragments according to nomenclature by Welter-Schultes (Welter-Schultes, 2012).

Interpretations of palaeoenvironments using mollusca are limited by taphonomic uncertainty, due to the effects of gravity, bioturbation and re-deposition by hydrological processes affecting the distribution of shells within sediments, processes which are understood only superficially (Lowe & Walker, 1997). Additionally, only well-preserved shells are suitable for identification; therefore, the recovered fauna may not be representative of the true fauna. Limitations of autecology and synecology, relating to uniformitarianist assumptions, the poorly understood factors influencing the distribution of a particular species, the broad ranges of environments inhabited by many molluscan species (Davies, 2008), unknown associations between past molluscan fauna (Bush, 1988) and the lack of applicable modern analogues for past environments limits the extent with which palaeoenvironments can be reconstructed using this method.

The molluscan assemblage was comprehensive with many shells sufficient for full identification, they were identified by Ryan Paterson BSc MSc and are detailed in Section 13.4.3.

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 $< 20\text{mm}$, $20\text{-}30\text{mm}$, $30\text{-}50\text{mm}$, $50\text{-}100\text{mm}$ and $> 100\text{mm}$ 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.

Charcoal was present in moderate quantities. However, the late date of the features invalidated any benefit to anthracological 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 flot and retent; this apparent contradiction, in that slag would normally be too heavy to float, is due to vesicles containing air in the spheroidal hammerscale 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.

Limited quantities of slag were present, including flake hammerscale. This is highly suggestive of a modern provenance.

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 valid 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 instance of charred indeterminate cereal grain and one instance of charred wild taxa of a ruderal species were present.

13.4.2 Description of palaeoenvironmental remains by selected context

Detailed below are the palaeoenvironmental remains from each context, an assessment of the localised palaeoenvironment reconstruction is attempted. Results for all contexts can be observed in the tables in Section 13.5 below.

[003004]: (003005), (003006)

(003005) and (003006) were the upper and lower fills (respectively) of rectilinear enclosure ditch [003004].

Lower fill (003006) contained occasional charcoal as well as possible worked stone with large and small unburnt mammal bone.

Upper fill (003005) contained occasional to moderate quantities of charcoal as well as a single instance of charred indeterminate cereal as well as pottery, coal/coke and unburnt bone that included large mammal, amphibian, and bird. The assemblage from upper fill (003005) would suggest a date no earlier than the late medieval period, and almost certainly of post-medieval date.

Both fills from rectilinear enclosure ditch [003004] had a comprehensive molluscan assemblage as detailed in Section 13.4.3.

[004008]: (004009), (004010)

(004009) and (004010) were the upper and lower fills (respectively) of pit [004008].

Lower fill (004010) contained occasional to moderate quantities of charcoal as well as the instance of charred *Veronica hederifolia*, a ruderal weed of limited significance. Lower fill (004010) additionally contained very occasional undiagnostic slag, pottery, CBM and unburnt bone that included small mammal, bird and fish. The assemblage from lower fill (004010) would strongly support the post-medieval interpretation.

Upper fill (004009) contained occasional to moderate quantities of charcoal as well as undiagnostic slag and flake hammerscale alongside CBM. That element of the assemblage would support a post-medieval date for this feature. However, upper fill (004009) additionally contained snail shells but in vastly limited quantities in comparison to the other samples. Lower fill (004009) was also sterile of faunal remains. These two factors suggest that the upper fill (004009) may have accumulated much quicker than other sampled fills.

Molluscan identification was possible from both fills of pit [004008] and is detailed in Section 13.4.3.

13.4.3 Detailed molluscan analysis

Methodology

In reference to the molluscan assemblage from the site, the following specific methodology was employed: Shannon (H'), Simpson (D) and Brillouin (HB) diversity indices were calculated, where possible, for each sample assemblage. Sorenson's coefficient was used to compare samples from the same feature.

Cecilioides acicula burrows deeply beneath the surface and may postdate the rest of the assemblage (Davies, 2008). Accordingly, *C. acicula* is not included in the analysis.

Pomatias elegans also displays a burrowing habit but only burrows just below the surface or leaf litter (Davies, 2008). *P. elegans* may provide useful ecological information and was included in the analysis.

Results [003004]

[003004] was a rectilinear ditch filled by upper fill (003005) and lower fill (003006). Chalk was abundant in both layers although larger fragments were present in lower fill (003006).

Only shells attributed to terrestrial taxa were identified in the assemblages. Preservation of shell was similar in the lower ($n=220$) and upper ($n=123$) fills, though shell numbers did slightly decrease down-profile. The Shannon index for the lower fill ($H'=1.99$) was higher than that of the upper fill ($H'=1.59$), indicating a greater diversity within the lower fill. The Sorenson's coefficient (CC) for the two samples was 0.518, suggesting a fair deal of overlap between the recovered faunal communities.

Shade-loving species formed the primary component of the land-snail assemblage in both samples, though a larger open-country component (38.2% of sample) was present in the lower fill, represented by *Pupilla muscorum* ($n=29$), *Vallonia excentrica* ($n=32$), *Vallonia costata* ($n=8$) and *Helicella itala* ($n=6$). *V. costata* has been associated with temporary woodland clearance but can also tolerate open woodlands (Preece, 1980). *V. costata* is also a common

inhabitant of stone walls, as is *P. muscorum* (Evans, 1972), though there is no artefactual or archaeological evidence from these fills supporting such conditions.

The microscopic shade-loving species in the samples, including *Carychium tridentatum*, *Acanthinula aculeata*, and *Vitrea* sp., are occasionally found in long grassland (Evans, 1972). However, the presence of obligate shade-lovers, including *Discus rotundatus* and members of the Clausiliidae, are indicative of a more mature woodland with abundant leaf litter. This inference is supported by the presence of *Ena montana*, a species associated with old woodland (Evans, 1972). The shade-loving species were theoretically present in the woodland soil before being redeposited in the feature, rather than being occupants of the feature micro-environment.

Two species present in the upper and lower fills— *Candidula gigaxii* and *Oxychilus draparnaudi* – represent post-Roman introductions (Davies, 2008), although no more accurate dates can be inferred from the molluscs present.

Results [004008]

[004008] was a sub-oval pit filled by upper fill (004009) and lower fill (004010). The lower fill contained frequent chalk inclusions, while no chalk was detected in the upper fill.

The lower fill of the pit displayed excellent preservation of molluscan shell (n=1191), including several opercula attributed to *P. elegans*. The molluscs in the lower fill were likely derived from the sides of the ditch, and likely accumulated slowly alongside the frequent chalk lumps. The assemblage included only terrestrial species.

Shade-loving species formed the largest component of the assemblage, largely represented by *C. tridentatum*, which was the predominant species (n=636; 61.4% of sample). Other shade-loving species also comprised a notable portion of the assemblage, including *D. rotundatus* (n=177), *Vitrea* sp. (n=97), *A. aculeata* (n=31) and *A. goodalli* (n=12). Many of these taxa particularly thrive in leaf litter. Also represented in the assemblage were several taxa commonly associated with fallen logs and tree trunks, including *A. aculeata*, *Clausilia bidentata* (n=4), and *Cochlodina laminata* (n=6).

The open-country component of the sample was restricted to single individuals attributed to *Euconulus fulvus*, *Pupilla muscorum*, and *Vallonia excentrica*. The abundance of *P. elegans* (n=41) indicates some disturbance of the soil, as *P. elegans* requires loose surface soil for burrowing and is often associated with vegetation clearance (Davies, 2008), though it is also not uncommon in shaded woodland (Evans, 1972).

Overall, the assemblage for lower fill (004010) was suggestive of a mature woodland environment with abundant leaf litter. Alternatively, the shade-loving species may have occupied the localised microhabitat of the open pit, rather than being present in the eroded soils (Allen, 2017).

The upper fill (004009) contained only three identifiable shell fragments, two of which were attributable to *C. acicula*. The low mollusc numbers are likely due to rapid incorporation of the fill into the feature.

Discussion

The comparatively limited number of samples available for molluscan analysis makes it difficult to draw broad conclusions on the landscape, though inferences can be made on the localised habitat within the vicinity of the two features sampled. The high proportion of shade-loving species in all assemblages is suggestive of a broad-leaved deciduous woodland, as several of these taxa are commonly associated with decaying plant material beneath leaf litter on a deciduous woodland floor (Evans, 1972) (Welter-Schultes, 2012). The presence of open-country taxa suggests this woodland may have been open, or may have succeeded an open grassland habitat, possibly used for grazing. The latter scenario is supported by the high abundance of *Pomatias elegans*, whose presence indicates a fair amount of disturbance of the soils.

13.5 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.			003005		0003006		004009		004010	
Sample no.			003001		003002		004001		004002	
Sample part			1/2	2/2	1/2	2/2	1/2	2/2	1/2	2/2
Bucket no.			17625	17626	17627	17628	17631	17632	17629	17630
Sample vol. (mℓ)			2000	2000	2000	2000	500	800	2000	1200
% sample analysed			100	100	100	100	100	100	100	100
Waterlogged?			N	N	N	N	N	N	N	N
Refloated?			N	N	N	N	N	N	N	N
Latin name	Common name	Plant part								
Carbonised cereal										
Cereal indet.	Indeterminate	caryopsis	+							
Carbonised wild taxa										
<i>Veronica hederifolia</i> (cf)	Ivy-leaved Speedwell									+
Charcoal										
Indeterminate <2mm	Indeterminate	fragments	++	+++	+		++	+		++
Indeterminate 2-4mm	Indeterminate	fragments	+	+	++	++	++	+	+	+
Indeterminate >4mm	Indeterminate	fragments						++		
Archaeometallurgical										
Flake hammerscale	-	-					+			
Slag	-	-					+		+	
Artefactual										
Ceramic/pottery	-	-	+	+					+	
CBM	-	-					+	+		+
Worked stone	-	-			+					

Coal/coke		-	-		+					
Faunal										
Mammal (unburnt)	Indeterminate	-		+	+	+				
Small mammal (unburnt)	Indeterminate	-				+	+			+
Amphibian (unburnt)	Indeterminate	-			+					
Bird (unburnt)	Indeterminate	-		+						+
Fish (unburnt)	Indeterminate	-								+
Molluscan										
<i>Azeca goodalli</i>		-								+
<i>Candidula gigaxii</i>					+	+	+			+
<i>Carychium</i> spp.					++	+++			+	++
<i>Carychium minimum</i>					++					
<i>Ceciloides acicula</i>	Blind snail				++++	++++	++++	+++		+
<i>Clausilia bidentata</i>						+	+	+		+
<i>Cochlicopa</i> sp.	Pillar snail				+					+
<i>Cochlodina laminata</i>					+					+
<i>Discus rotundatus</i>	Rotund disc				+++	+++	+++	+++		+
<i>Ena montana</i>							+			
<i>Hellicella italia</i>							+			
<i>Merdigera obscura</i>	Lesser bulin							+		+
<i>Oxychilus</i> sp.	Glass snail				+					++
<i>Oxychilus/Zonitoides</i> spp. (cf)							+			+
<i>Planorbis planorbis</i>	Ramshorn					+				
<i>Pomatias elegans</i>	Land Winkle				++	++	+++	+		++
<i>Punctum pygmaeum</i>	Dot snail									+
<i>Pupillidae</i> sp.										+
<i>Pupilla muscorum</i>	Moss Chrysalis snail	-			+	+	++	++		
<i>Pupilla muscorum</i> (cf)	Moss Chrysalis snail	-								+
<i>Pyramidula rupestris</i>						+				+
<i>Trochulus</i> sp. (cf)	Hairy snail	-								+
<i>Trochulus hispidus</i> (cf)										+
<i>Vallonia excentrica</i>	Eccentric Vallonia	-			++	+	++	++		+
<i>Vitrea</i> sp.					+		+		+	++
Terrestrial	Indeterminate	-			++	+++	++		+	+

13.6 Conclusions and recommendations

The intention of the non-specific palaeoenvironmental sampling was largely successful in confirming the archaeological interpretations of post-medieval features. The molluscan evidence was particularly illustrative and suggested incorporation of soils deriving from woodlands although it did not rule out open country. In contrast, the rest of the assemblage suggested open country and, in particular, farmland due to the inclusion of post-medieval material (especially the hammerscale, slag and coal/coke) that would normally be associated with post-

medieval field spreading that invariably finds its way into field boundaries. The contrast between the molluscan and remaining assemblage means that, although tenuous, it is tempting to suggest the features demarcate the boundaries between woodland and farmland.

13.6.1 Recommendations

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

Retention of the materials detailed above as an incorporation of the site archive for deposition with the museum is recommended.

13.7 Copyright

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13.8 Bibliography

- Allen, M., 2017. The geoarchaeology of context: sampling for land snails (on archaeological sites and colluvium). In: M. Allen, ed. *Molluscs in Archaeology*. Oxford: Oxbow, pp. 30-47.
- Anderburg, A.-L., 1994. *Atlas of seeds and small fruits of Northwest European plant species: Resedaceae - Umbelliferae (part 4)*. Stockholm: Swedish Museum of Natural History.
- BA, 2017. *Palaeoenvironmental Manual*. V2 ed. Milton Keynes: Border Archaeology Ltd.
- BA, 2017. *Written Scheme of Investigation on behalf of South East Water concerning Fleet to Greywell mains reinforcement scheme, Hampshire*. Leominster: Border Archaeology Ltd.
- Berggren, G., 1969. *Atlas of seeds and small fruits of Northwest European plant species: Cyperaceae (part 2)*. Stockholm: Swedish Museum of Natural History.
- Berggren, G., 1981. *Atlas of seeds and small fruits of Northwest European plant species: Salicaceae - Cruciferae (part 3)*. Stockholm: Swedish Museum of Natural History.
- Bush, M., 1988. The use of multivariate analysis and modern analogue sites as an aid to the interpretation of data from fossil mollusc assemblages. *Journal of Biogeography*, Volume 15, pp. 849-861.
- Cameron, R., 2008. *Land Snails in the British Isles*. Shrewsbury: FSC Publications occasional publication 79.

Campbell, G., Moffett, L. & Straker, V., 2011. *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*. 2nd ed. Swindon: English Heritage Publishing.

Davies, P., 2008. *Snails: Archaeology and Landscape Change*. Oxford: Oxbow Books.

Evans, J., 1972. *Land Snails in Archaeology*. London: Seminar Press.

Groningen Institute of Archaeology, 2006-present. *Digital Seed Atlas of the Netherlands*. <https://dzn.eldoc.ub.rug.nl>: online.

Hather, J., 2000. *The Identification of Northern European Woods: a guide for archaeologists and conservators*. London: Archetype Publications.

Jacomet, S., 2006. *Identification of Cereal Remains from Archaeological Sites*. 2nd ed. Basel: Institute for Prehistory and Archaeological Science.

Kerney, M. & Cameron, R., 1979. *A Field Guide to the Land Snails of Britain and North-west Europe*. London: Collins.

Lowe, J. & Walker, M., 1997. *Reconstructing Quaternary Environments*. 2 ed. Essex: Addison Wesley Longman Ltd.

Ludemann, T., 2002. Anthracology and forest sites - the contribution of charcoal analysis to our knowledge of natural forest vegetation in south-west Germany. In: S. Thiebault, ed. *Charcoal Analysis: Methodological Approaches, Palaeoecological Results and Wood Uses. Proceedings of the Second International Meeting of Anthracology, Paris, September 2000*. Oxford: BAR International Series 1063, Archaeopress, pp. 209-217.

Marguerie, D. & Hunot, J., 2007. Charcoal analysis and dendrology: data from archaeological sites in north-western France. *Journal of Archaeological Science*, 34(9), pp. 1417-1433.

Martin, A. & Barkley, W., 2000. *Seed Identification Manual*. New Jersey: Blackburn Press.

Nelle, O., 2002. Charcoal burning remains and forest stand structure - Examples from the Black Forest (south-west Germany) and the Bavarian Forest (south-east Germany). In: S. Thiebault, ed. *Charcoal Analysis: Methodological Approaches, Palaeoecological Results and Wood Uses. Proceedings of the Second International Meeting of Anthracology, Paris, September 2000*. Oxford: BAR International Series 1063, Archaeopress, pp. 201-207.

Preece, R., 1980. The biostratigraphy and dating of the tufa deposit at the Mesolithic site at Blashenwell, Dorset, England. *Journal of Archaeological Science*, 7(4), pp. 345-362.

Renfrew, J., 1973. *Palaeoethnobotany: the Prehistoric Food Plants of the Near-East and Europe*. London: Methuen & Co. Ltd.

Schoch, W., Pawlik, B. & Schweingruber, F., 1988. *Botanical Macro-Remains; an atlas for the determination of frequently encountered and ecologically important plant seeds*. Berne & Stuttgart: Haupt.

Schweingruber, F., 1990. *Anatomy of European Woods: an atlas for the identification of European trees, shrubs and dwarf shrubs*. Bern & Stuttgart: Paul Haupt Publishers.

Schweingruber, F., 1990. *Microscopic Wood Anatomy: structural variability of stems and twigs in recent and subfossil woods from Central Europe*. 3rd ed. Birmensdorf: Swiss Federal Institute for Snow and Landscape Research.

Sparks, B., 1961. The ecological interpretation of Quaternary non-marine Mollusca. *Proceedings of the Linnean Society of London*, 172(1), pp. 71-80.

SSEW, 1983. *Soil Survey of England and Wales*. 3rd ed. Cranfield: National Soil Resources Institute.

Stace, C., 2010. *New Flora of the British Isles*. 3rd ed. Cambridge: Cambridge University Press.

Welter-Schultes, F., 2012. *European non-marine molluscs, a guide for species identification*. Gottingen: Planet Poster Editions.

Williams, D., 1973. Flotation at Siraf. *Antiquity*, 47(188), pp. 288-292.

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