Note: Outline Planning Application (OPA) Site Boundary

The following report was produced prior to the finalisation of the application site boundary. The final application site boundary is shown on Figure 1.1 in ES Appendix 1.1. Therefore, references within the report to the site boundary do not reflect the site area and site boundary submitted with the OPA.

The reports were correct at the time of preparation, and all information within the Environmental Statement assessment reflects the latest relevant information.

Otterpool Park
Lympne, Kent

Pleistocene Geoarchaeological Test Pitting Evaluation

Planning Ref: Y19/0257/FH
Ref: 227400.04
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Summary

Wessex Archaeology was commissioned by Arcadis on behalf of Folkstone and Hythe District Council to undertake a Pleistocene geoarchaeological evaluation through a program of test pitting on land located south of the M20 and the B2067 at Aldington Road, Lympne, Kent.

The evaluation was undertaken during January 2021 and comprised the excavation, investigation and recording of three geoarchaeological test pits (TP1 to TP3) centred at NGR 611129 135542. The geoarchaeological works are part of a larger program of archaeological evaluation (Wessex Archaeology 2021).

The stratigraphic units in the three test pits comprised bedrock (Hythe Formation), overlain in TP2 by weathered bedrock (soliflucted sandstone gravels) and Pleistocene Head/Brickearth, present in all three test pits between 0.4 (TP2) and 1.1m thick (TP3). Holocene colluvium was recorded in TP2 (1.00m thick) and TP3 (1.90m), resulting in a sequence of Pleistocene and Holocene slope deposits of 3m in TP3.

Samples throughout the Head-Brickearth deposits in the three test pits in the investigation area were sieved on-site and no archaeology was recovered. Establishing chronology for the Head-Brickearth sequence within the investigation area is key to considering the deposits wider archaeological potential.

A complex sequence of three bedded stabilisation horizons was recorded in TP1 overlain and separated by colluvium. The current hypothesis is that these deposits may have formed in a moist natural hollow, representing periods of stable soil growth separated by renewed deposition of colluvium.

The date of the soil and colluvium is uncertain at present, but OSL (Optically Stimulated Luminescence) samples were recovered the Head/Brickearth, stabilisation horizons and colluvium, which provide the opportunity to determine the date of the sequence and the need for and scope for further assessment of retained environment al micromorphological samples.

The area of TP1 has not yet been trial trenched but could yield archaeological remains in association with the stabilisation horizons. Additional test pits may be required at the ends of future trail trenches in this area to fully assess this potential.

Acknowledgements

Wessex Archaeology would like to thank Kate Clover of Arcadis for commissioning the archaeological evaluation. Wessex Archaeology is also grateful to Ben Found, Senior Archaeological Advisor for Kent Country Council, who monitored the project on behalf of the Local Planning Authority; Folkstone and Hythe District Council.

The fieldwork was directed by Jon Dobbie. This report was written by John Dobbie and Dr Alex Brown. The project was managed by Nina Olofsson on behalf of Wessex Archaeology.

Otterpool Park, Lympne, Kent

Geoarchaeological Test Pitting Evaluation

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology (WA) was commissioned by Arcadis on behalf of Folkstone and Hythe District Council ('the client') to undertake a Pleistocene geoarchaeological evaluation through a program of test pitting on land located south of the M20 and the B2067 at Aldington Road, Lympne, CT21 4JD Kent. The development area is centred on NGR 610993 136854 (**Figure 1**)

1.1.2 The evaluation area forms part of a proposed development comprising 585 ha of land in the vicinity of Otterpool Park and will include up to 8,500 residential dwellings and other uses including commercial, retail, education, health, community and leisure facilities, parking, landscaping, and public open space.

1.1.3 All works were undertaken in accordance with a Written Scheme of Investigation (WSI) which detailed the aims, objectives, methodologies and standards to be employed to undertake the evaluation (WA 2020a). Kent County Council approved the WSI, on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing.

1.1.4 The evaluation was undertaken during January 2021 and comprised the excavation, investigation and recording of three geoarchaeological test pits (TP1 to TP3) centred at NGR 611129 135542. The geoarchaeological works are part of a larger program of archaeological evaluation (WA 2021).

1.2 Scope of the report

1.2.1 The purpose of this report is to provide a detailed description of the results of the test pit evaluation, to interpret the results within a local, regional or wider geoarchaeological context and assess whether the aims of the evaluation have been met.

1.2.2 The presented results will provide further information on the archaeological and geoarchaeological resource that may be impacted by the proposed development and facilitate an informed decision with regard to the requirement for, and methods of, any further archaeological and/or geoarchaeological investigations.

1.3 Location, topography and geology

1.3.1 The area comprises Lympne Industrial Estate and is bound to the north and west by Otterpool Lane, to the east by a north-south aligned hedgerow with the southern end bound by a northwest to southeast aligned hedgerow.

1.3.2 The area is on a flat base with a height of 105m aOD (above ordnance datum). The solid geology underlying the area comprises sandstone and limestone of the Hythe Formation with no recorded superficial deposits recorded (British Geological Survey 'BGS' 2020). However, a previous Geoarchaeological Desk-Based Assessment (OA 2018a) based on

Ground Investigation (GI) data established that extensive Quaternary Head-Brickearth sequences are present across the area.

1.3.3 The Site as a whole straddles several bedrock geologies, which have given rise to highly variable Quaternary geoarchaeological sequences comprising Pleistocene Head-Brickearth and Holocene colluvium/ploughwash on the higher ground and slopes, and late Pleistocene fluvial river gravels overlain by alluvium associated with the East River Stour in lower-lying locations.

2 GEOARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment and Written Scheme of Investigation (Arcadis 2018; Wessex Archaeology 2020a). A geoarchaeological desk-based assessment has also been undertaken for the Site and investigation area (OA 2018a), which assessed the Pleistocene and Early Holocene stratigraphy and potential of the Site as a whole.

2.1.2 Information on previous archaeological and geoarchaeological investigations relevant to the investigation area is summarized below, and summary of the archaeological and geoarchaeological potential of the area is provided.

2.2 Previous investigations

2.2.1 A geoarchaeological survey was carried out by the Stour Basin Palaeolithic Project in 2013 and 2014 (Wenban-Smith 2015) at Otterpool Manor House which investigated mapped Head-Brickearth to determine the age and depositional process associated with these deposits. In all three test pits a sequence of Head-Brickearth (2-3m thick) was recorded with a gravelly base, overlying Sandgate Formation bedrock. The Head-Brickearth was demonstrated to be colluvial.

2.2.2 Geophysical surveys in the western part of the Site (Headland Archaeology 2018*a-b;* Sumo 2018*ac;* Magnitude 2018) revealed a network of linear geological anomalies interpreted as potential bedrock fissures associated with the sandstone bedrock of the Hythe Formation. Previous investigations (Pope et al. 2013) on similar geologies have shown that such features can act as sediment traps, preserving Palaeolithic archaeology and faunal remains, as well as later archaeological remains at shallower depths.

2.2.3 In 2018 Oxford Archaeology (OA 2018a) undertook a desk-based geoarchaeological assessment of the Pleistocene and Holocene stratigraphy across the Site. The assessment was intended to aid in the development of evaluation fieldwork strategies, addressing primarily the Palaeolithic/Pleistocene potential of the Site, but also considering the Holocene alluvial tract associated with the East River Stour.

2.2.4 The desk-top assessment utilised GI data to establish that significant Head-Brickearth sequences are present across the Site, and within the current investigation area. These Head-Brickearth sequence could contain Pleistocene aeolian and colluvial sequences, in which stabilisation horizons, sometimes associated with soil formation, can contain minimally disturbed Palaoelithic archaeology.

2.2.5 Holocene alluvium and Late Devensian fluvial gravels are present in low-lying areas associated with the River East Stour, although investigations for High Speed One (HS1) to the north of the Site concluded that the sequences there were of limited paleoenvironmental

potential. Waterlogged Holocene floodplains sequences are more likely to exist in the area surrounding the East Stour and have the potential to preserve remains such as (pollen, plant remain and insects), whereas wetland edge locations, complex deposits may exist with colluvial and alluvial sequence interdigitate, preserving stratified *it situ* evidence of human activity (e.g., flint scatters, burnt mounds).

2.2.6 In 2018 Oxford Archaeology carried out an assessment of new GI data to further consider the archaeological and geoarchaeological potential of Head-Brickearth sequences within the Site (OA 2018b). This GI data recorded Head-Brickearth deposits, which in places exceeded 3.0m in thickness, in 29 geotechnical interventions and distributed across the Site. Most of the Head-Brickearth deposits were sandy clay or silt units and interpreted for the most part as likely to be of Pleistocene in date. Monitoring of further GI investigations in 2018 by Wessex Archaeology established that variable depths of Head-Brickearth are present across the Site (WA 2018), the upper units of which are Holocene colluvium, whilst the lower units are Pleistocene, primarily colluvial, deposits.

2.3 Quaternary archaeological and geoarchaeological potential of investigation area

2.3.1 Some of the thickest Head-Brickearth sequences identified across the Site (>3.0m) have been identified adjacent to the investigation area (OA 2018a). The Palaeolithic potential of Head-Brickearth deposits from analogous contexts within the Weald Basin is demonstrated by the key localities of Oldbury, near Ightham, in Kent and Beedings in West Sussex. In the case of the former, a large assemblage of late Middle Palaeolithic artefacts in fresh condition were recovered from within Head-Brickearth deposits on the slopes of a Folkestone Beds escarpment (Cooke and Jacobi 2001). At Beedings Middle and early Upper Palaeolithic artefacts have been recovered from Head-Brickearth deposits filling fissures in the Lower Greensand Hythe Beds (Pope et al. 2013).

2.3.2 Head-Brickearth deposits within the Site at Otterpool Manor Farm, investigated as part of the Stour Valley Palaeolithic Project (Wenban-Smith 2015), provide OSL dates for the Head-Brickearth sequence which indicated a late Devensian age (28-11.7 Ka ‘thousand years’) demonstrating that these deposits could preserve Palaeolithic archaeology; older Head-Brickearth deposits may also be present in other areas.

2.3.3 Palaoelithic archaeology is recorded from analogous deposits in the area. A Palaeolithic handaxe from Head-Brickearth is recorded from Folkestone (c. 3 km to the south-east of the Site) and another from Port Lympne (c. 2.5km to the south-west of the Site). An evaluation undertaken on the racecourse in 1969 retrieved some waste and worked flints of possible Upper Palaeolithic or Mesolithic date.

2.3.4 Monitoring of GI works within the Site (WA 2018) has indicated that the upper part of the Head-Brickearth sequence may include Holocene colluvium. Such deposits can contain reworked archaeology of multiple dates and can bury stable horizons associated with *in-situ* Holocene archaeology,

2.4 Summary of Quaternary archaeological and geoarchaeological potential

2.4.1 The archaeological and geoarchaeological potential of the investigation area can be summarised as follows:

- Head-Brickearth deposits have potential to contain Palaeolithic archaeology, including artefacts and faunal remains. These deposits also have potential to contain stabilisation horizons/buried land surfaces associated with minimally disturbed Palaeolithic archaeological evidence and palaeoenvironmental datasets.

- Holocene colluvial deposits have the potential to contain buried soils and stabilisation horizons which can be associated with in-situ archaeological remains and contain valuable palaeoenvironmental evidence.

3 AIMS AND OBJECTIVES

3.1 General aims

3.1.1 The general aims (or purpose) of the evaluation, in compliance with the CIfA' *Standard and guidance for archaeological field evaluation* (CIfA 2014a), were:

- to establish the broad presence/absence, nature and distribution of Pleistocene and Holocene deposits across the evaluation area and, where necessary, to correlate these as a deposit model;
- to develop a preliminary assessment of the possible Palaeolithic potential of the evaluation area, and
- to inform either the scope and nature of any further archaeological and geoarchaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.2 General objectives

3.2.1 To achieve the above aims, the general objectives of the evaluation were:

- to determine the presence or absence of Quaternary deposits with archaeological and geoarchaeological potential, within the specified area;
- to establish, within the constraints of the evaluation, the extent, character and date of any such deposits;
- to establish, within the constraints of the evaluation, the potential of any such deposits to preserve archaeological and/or palaeoenvironmental remains;
- to place the results of the evaluation within wider historical and geoarchaeological context; and
- to make available information about the archaeological and geoarchaeological resource within the site by reporting on the results of the evaluation.

3.3 Site-specific objectives

3.3.1 Following consideration of the geoarchaeological potential of the evaluation area and the relevant national and regional research frameworks, the site-specific objectives of the evaluation, as identified in the WSI (WA 2020) were:

- to refine understanding of the depositional processes associated with of any Quaternary sediments, in particular that of Head-Brickearth deposits;
- to assess the potential of the deposits to preserve Palaeolithic and later archaeology;
- to take samples from suitable deposits and assess their palaeoenvironmental potential;
- to assess the dating potential of the deposits and, if appropriate, take OSL dating samples, and

- making recommendations for further archaeological and/or geoarchaeological investigations as appropriate.

4 METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (WA 2020) and in general compliance with the standards outlined in relevant CIfA and Historic England guidance (CIfA 2014a, Historic England 2015). The methods employed are summarised below.

4.2 Fieldwork methods

General

4.2.1 The test pit locations (TP1 to TP3) were set out in the approximate positions as those proposed in the WSI (**Figure 1**). This was achieved through real time kinematic (RTK) survey using a Leica GNSS connected to Leica's SmartNet service. All survey data was recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSGM15 and OSTN15, with a three-dimensional accuracy of at least 50 mm.

4.2.2 Prior to fieldwork commencing the client provided information regarding the presence of any below/above-ground services, and any ecological, environmental or other constraints.

4.2.3 Before excavation commenced, the area was walked over and visually inspected to identify, where possible, the location of any below/above-ground services. Additionally, all the locations were scanned before and during investigations with a Cable Avoidance Tool (CAT) to verify the absence of any live underground services.

4.2.4 Two test pits, measuring 4.00 m in length and 1.8m wide and a single stepped test pit measuring 5.00 in length and 4.00m wide, were excavated using a 13 tonne 360º excavator equipped with a toothless bucket.

4.2.5 Machine excavation was carried out under the constant supervision and instruction of a geoarchaeologist with experience of recording and interpreting Quaternary sediments and identifying Palaeolithic artefacts, who recorded and numbered the sequence of sedimentary units as excavation progressed following standard descriptive practices. The textural characteristics (grain-size, consolidation, colour, material and sedimentary structures) of sedimentary units were recorded, and the shape and nature of their lithostratigraphic contacts (dip, conformity and overall geometry). Machine excavation proceeded in level spits of approximately 50-100 mm, respecting the interface between sedimentary units, until either the solid geology was exposed, or further excavation became impractical.

4.2.6 The test pits were entered at the maximum safe depth (usually c. 1.2m, but less if loose sands/gravel are present) to record the upper stratigraphy. Additionally, the upper 2m of TP1 was stepped to enable direct recording of continuous sedimentary sequences, sampling for palaeoenvironmental evidence and dating evidence. After excavation has progressed beyond 1.2m depth at TP2 and TP3, and 2.0m depth at TP1, recording took place without entering the test pit.

4.2.7 Test pits completed to the satisfaction of the client and the Senior Archaeological Advisor for Kent County Council were backfilled using excavated materials in the order in which they were excavated, and left level on completion. No other reinstatement or surface treatment was undertaken.

Sampling

4.2.8 Samples of Quaternary deposits were taken at appropriate intervals (usually 100l every 20 cm), in stratigraphic succession and sieved on site through a 10-mm mesh to investigate whether artefacts and/or macro mammalian faunal remains are present. Where found, these were collected and bagged by context.

4.2.9 Appropriate sampling strategies, including for the recovery, processing and assessment of environmental samples, were in line with those detailed in the WSI (WA 2020). The treatment of environmental remains was in general accordance with Wessex Archaeology's in-house guidance, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015). *Guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b) and *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011).

Recording

4.2.1 Measured sketch sections of at least one representative section of each test pit were drawn. Accompanying geoarchaeological descriptions and interpretations were recorded (see **Appendix 1**).

4.2.2 A full photographic record was made using digital cameras equipped with an image sensor of not less than 10 megapixels. This recorded both the detail and the general context of the principal lithological and stratigraphic features, and the evaluation area as a whole. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

4.3 Monitoring

4.3.1 The Senior Archaeological Officer to KCC, on behalf of the LPA, monitored the evaluation. Any variations to the WSI, if required to better address the project aims, were agreed in advance with both the client and the Senior Archaeological Officer.

5 RESULTS

5.1 Stratigraphic evidence

5.1.1 The specific lithologies and stratigraphic succession encountered in test pits TP1, TP2 and TP3 are outlined below and in **Appendix 1**.

5.1.2 The stratigraphic sequence identified in the test pits is includes the following deposits:

- Modern soil profile (Recent)
- Colluvium (Holocene?)
- Stabilisation horizons (Holocene)
- Head/Brickearth (Pleistocene)
- Sandstone Gravels (Pleistocene)
- Hythe Formation (Early Cretaceous)

Colluvium

5.1.3 Mid-dark brownish red silty clay with patches of greyish yellow clayey silt with very occasional inclusions of manganese flecks were present beneath a modern soil profile in TP2 and TP3; 1.00m thick in TP2 and 1.90m thick in TP 3 (**Plate 1**). This material is Holocene colluvium, and reflects material reworked down-slope through colluvial processes most likely as a result of human land management activity.

Stabilisation horizons

5.1.4 Two distinct stabilisation horizons were recorded between in TP1 between 1.25-1.30, 1.45-1.50 and 1.55-1.70mbgl (metres below ground level) (**Plates 2 and 3**), overlying and separated by colluvially reworked Head-Brickearth deposits. The stabilisation horizons comprise dark brownish grey and greyish brown moderately consolidated and poorly sorted clayey medium sands with rare charcoal flecks.

Head/Brickearth

5.1.5 Light greenish-yellow medium sandy clay with very occasional fine to coarse angular sandstone clasts (the latter being reworked from the underlying bedrock) was encountered in all three test pits. These sediments varied in thickness from between 1.1m thick in TP3 (2.2-3.3mbgl) and 0.4m thick in TP2 (1.25-1.65mbgl). The deposit is Head-Brickearth and reflects material reworked down-slope through colluvial processes.

Soliflucted Sandstone Gravels

5.1.6 Angular sandstone gravels in a greenish brown fine sandy, silty clay matrix are recorded at the base of the Quaternary stratigraphy in TP2. The unit is 0.35m of angular sandstone clasts. The deposit reflects weathered bedrock reworked and moved down slope by solifluction processes resulting from periglacial seasonal and perennial freeze-thaw processes.

Hythe Formation

5.1.7 Bedrock sandstone of the Hythe Formation was reached in all three test pits. It was encountered between 3.3mbgl (TP3; **Plate 1**) and 2.0mbgl (TP2).

5.2 Artefactual evidence

5.2.1 Samples were sieved from throughout the Quaternary sequence in all three test pits; no archaeology was recovered.

5.3 Geoarchaeological sampling

5.3.1 Twelve samples were recovered from TP1, within which potential stabilization horizon was identified (**Table 1**).

Table 1 TP1 samples

Sample No	Context	Deposit	Sample type
14	109	Head/Brickearth	Bulk
15	103	Colluvium	OSL/Bulk
16	106	Stabilisation horizon	Bulk
17	108	Stabilisation horizon	Bulk
18	102	Colluvium	OSL
19	109	Head/Brickearth	OSL
20	102	Colluvium/Stabilisation horizons	Monolith

21	103	Colluvium/Stabilisation horizons	Kubiena series
22	105		
23	108		
24	108		
25	108		

5.3.2 The Head-Brickearth, stabilisation horizons and Holocene colluvial deposits are suitable for OSL dating; establishing chronology is key for considering the archaeological potential of these deposit. Three OSL samples were taken from throughout the sequence.

5.3.3 The colluvial sequence and stabilisation horizons have potential to preserve molluscs (although none were identified during on-site sampling) and pollen. Suitable bulk and monolith samples were taken throughout the sequence.

5.3.4 In order to establish the nature and formation processes associated with the stabilisation horizons, micro-morphological analysis may be required at a later stage. Suitable samples were taken throughout this part of the relevant part of stratigraphy.

6 CONCLUSION

6.1 Discussion

6.1.1 Excavation of three geoarchaeological test pits has identified a stratigraphy of bedrock, soliflucted gravels and Head/Brickearth, overlain by Holocene colluvium and modern soil profile.

6.1.2 The previous desk-based assessment (OA 2018a) demonstrated that Head-Brickearth deposits are significantly more widespread across the Site and in places exceeding 3m. Up to 1.1m of Head/Brickearth was recorded in the current investigation in TP2 where it was underlain by a layer of weathered bedrock.

6.1.3 Head-Brickearth deposits investigated at the southern edge of the Site as part of the Stour Valley Palaeolithic Project were OSL dated to the Last Glacial Maximum 19.36±2.23 Ka BP during the late Devensian (Wenban-Smith 2015). No archaeological remains have been recovered. Earlier Head-Brickearth sequences may be present within the Site.

6.1.4 Samples throughout the Head-Brickearth deposits in the three test pits in the investigation area were sieved on-site and no archaeology was recovered. Establishing chronology for the Head-Brickearth sequence within the investigation area is key to considering the deposits wider archaeological potential.

6.1.5 The Pleistocene Head-Brickearth is overlain by Holocene colluvium, together in TP3 totalling 3m of deposits. The date of the Holocene colluvium overlying the Head-/Brickearth is uncertain, but in general across Britain dates from the Neolithic onwards, occurring primarily following woodland clearance as a result mainly of agricultural activity.

6.1.6 In TP1 a complex sequence was recorded comprising a series of at least two stabilisation horizons bedded with colluvium. The deposits may represent localised phases of stabilisation and sediment accumulation/soil formation in a natural wet hollow, separated by phases of soil instability.

6.1.7 OSL samples recovered from TP1 covering the Head/Brickearth, stabilisation horizons and colluvium would be significant in determining the date of the principal sedimentary units, in particular the Head-Brickearth and stabilisation horizons which have not previously been identified from this Site, and which have the potential to be associated with archaeological remains.

6.1.8 No buried soils or stabilisation horizons were identified during the earlier DBA (OA 2018) but the potential for these to be preserved at the base of the colluvium and/or Head was nonetheless highlighted. The precise date of the stabilisation horizons in TP1 is unclear although a Holocene date appears most likely at present and given the occurrence of occasional charcoal fragments in the deposits. The stabilisation deposits have yet to be trial trenched and as such could yield archaeological remains.

6.2 Recommendations

6.2.1 Recommendations are made for further targeted works where appropriate.

6.2.2 The area of TP1 preserving the stabilisation horizons has not as yet been trial trenched and could yield archaeological remains. Additional test pits should be excavated at the ends of trial trenches in this area.

6.2.3 Three samples were taken for OSL dating from Trial Pit TP1; samples 18 (102), 14 and 19 (109). The date of the deposits will determine the need for and scope of subsequent palaeoenvironmental assessment of retained monoliths, kubiena and bulks

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APPENDICES

Appendix 1 Test pit summaries

Site Code: 227400	**Site Name:** Otterpool Park	**Test Pit ID:** TP1
Coordinates (NGR) X: 611199.33	**Coordinates (NGR) Y:** 136027.75	**Level (top):** 98.67 m aOD
Length: 4.00 m	**Width:** 4.00 m	**Depth:** 2.80 m

Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
101	Dark greyish brown silty clay. <1% fine to coarse angular sandstone, cbm, charcoal, plastic. **Sharp sub-horizontal contact**	Modern soil profile	0.00-0.30	98.67-98.37	18
102	Mid-dark reddish brown silty clay. <1% fine to coarse (5-50mm) sub-angular and angular flint clasts, concentrated towards base of deposit. Poorly sorted. structureless. Moderately consolidated. **Abrupt undulating contact**	Holocene colluvium	0.30-1.10	98.37-97.57	
103	Mid-dark reddish brown medium clayey sand. No apparent clasts. Rare iron staining, rare manganese flecks. Structureless. Poorly consolidated. Occasional rootlets. **Sharp sub-horizontal contact**	Holocene colluvium	1.10-1.30	97.57-97.37	8, 9, 10, 14, 15, 20
104	Dark brownish grey clayey medium sand. Rare fine charcoal flecks (<3mm). Structureless. Moderately consolidated. Organic smell. **Sharp undulating contact**	Stabilization horizon	1.30-1.35	97.37-97.32	20, 21
105	Mid reddish yellow clayey medium sand. Slightly coarser than above unit. No apparent clasts. Structureless. Poorly sorted <1% fine (<3mm) charcoal flecks. **Sharp undulating contact**	Colluvial sand	1.35-1.50	97.32-97.17	11, 14, 21, 22
106	Dark greyish brown medium clayey sand. <1% fine charcoal flecks (<3mm). <1% very fine (<3mm) flint flecks. Structureless. Moderately consolidated. Organic smell. **Sharp undulating contact**	Stabilization horizon	1.50-1.55	97.17-97.12	11, 14, 16, 22

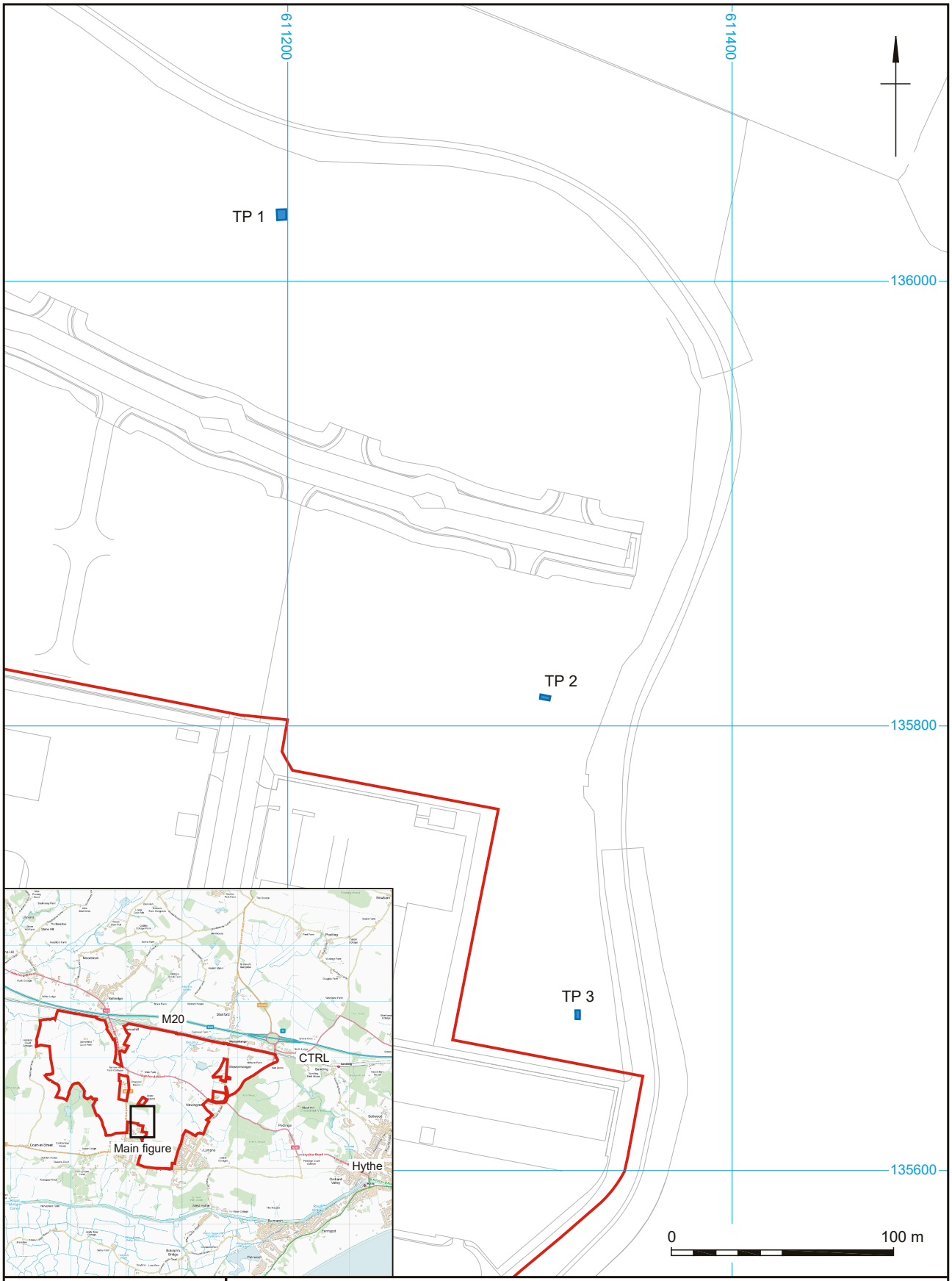
107	Light greyish yellow medium sandy clay. <1% fine (3-6mm) charcoal flecks. Poorly sorted. Structureless. Poorly consolidated. **Sharp undulating contact**	Colluvial clay (reworked from 108)	1.55-1.60	97.12-97.07	12, 14, 22, 23
108	Mid greyish brown medium sandy clay with lenses of dark greyish brown medium sandy clay. <1% fine (2-6mm) charcoal flecks. Structureless. Moderately sorted. **Sharp undulating contact**	Stabilization horizon	1.60-1.75	97.07-96.92	12, 14, 17, 23, 24, 25
109	Light greenish yellow medium sandy clay. <1% fine to coarse angular sandstone clasts. Poorly sorted. Structureless. Moderately consolidated.	Head-Brickearth	1.75-2.45	96.92-96.22	13, 14, 19, 20, 25, 2
110	Sandstone	Hythe Formation	2.45-2.85	96.22-95.82+	

Site Code: 227400	**Site Name:** Otterpool Park	**Test Pit ID:** TP2
Coordinates (NGR) X: 611318.22	**Coordinates (NGR) Y:** 135813.30	**Level (top):** 100.61 m aOD
Length: 3.00 m	**Width:** 1.80 m	**Depth:** 2.60 m

Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
201	Dark greyish brown silty clay. Clast free. Structureless. Moderately consolidated. Well rooted. **Abrupt horizontal contact**	Modern soil profile	0.00-0.20	100.61-100.41	
202	Mid-dark greyish brown silty clay. Clast free. Structureless. Moderately consolidated. <1% fine to coarse (5-50mm) flint clasts concentrated at base of deposit. Poorly sorted. **Sharp undulating contact**	Holocene colluvium	0.20-1.20	100.41-99.41	28, 29, 30
203	Mid-light brownish green fine sandy silty clay. <5% fine to coarse (5-80mm) sub-angular and sub-rounded sandstone. Poorly sorted. <1% fine to medium (5-20mm) sub-rounded and sub-angular flint clasts. Poorly sorted. Structureless. Poorly consolidated. Common manganese flecks. **Sharp undulating contact**	Head-Brickearth	1.20-1.65	99.41-98.96	31, 32, 33
204	Mid greenish brown fine sandy silty clay. <60% fine to very coarse sub-angular and angular sandstone clasts. Poorly sorted. Poorly consolidated. Structureless. Occasional manganese flecks. **Abrupt undulating contact**	Solifluction gravel	1.65-2.00	98.96-98.61	34
205	Sandstone.	Hythe Formation	2.00-2.60+	98.61-98.01+	

Site Code: 227400	**Site Name:** Otterpool Park	**Test Pit ID:** TP3
Coordinates (NGR) X: 611331.43	**Coordinates (NGR) Y:** 135668.07	**Level (top):** 102.75 m aOD
Length: 3.50 m	**Width:** 1.80 m	**Depth:** 3.40 m

Context Number	Description	Interpretation	Depth m BGL	Depth m aOD	Samples
301	Dark greyish brown silty clay. <1% fine to medium sub-rounded and sub-angular sandstone clasts, poorly sorted. Cbm, plastic, iron, moderately rooted. **Diffuse undulating contact**	Modern soil profile	0.00-0.30	102.75-102.45	
302	Mid-dark brownish red silty clay with patches of light greyish yellow clayey silt. <1% manganese flecks. No apparent clasts. Structureless. Moderately consolidated. Moderate rooting. **Sharp sub-horizontal contact**	Holocene colluvium	0.30-2.20	102.45-100.55	1, 2, 3
303	Light greyish yellow fine sandy clay. <1% fine to coarse (10-70mm) angular sandstone. Poorly sorted. Structureless. Moderately consolidated. **Sharp undulating contact**	Head-Brickearth	2.20-3.30	100.55-99.45	4, 5, 6, 7
304	Sandstone	Hythe Formation	3.30-3.40+	99.45-99.35+	



Development area
Test pit

Coordinate system: OSGB36

Date:	24/03/2021	Revision Number:	0
Scale:	1:2500 at A4	Illustrator:	KJF
Path:	X:\PROJECTS\227400\Graphics_Office\Rep figs\TP Eval\2021_03_24		

Site location and plan

Figure 1

Plate 1: East facing section, TP3

Plate 2: East facing section, TP1

Date:	24/03/2021	Revision Number:	0
Scale:	Not to scale	Illustrator:	KJF
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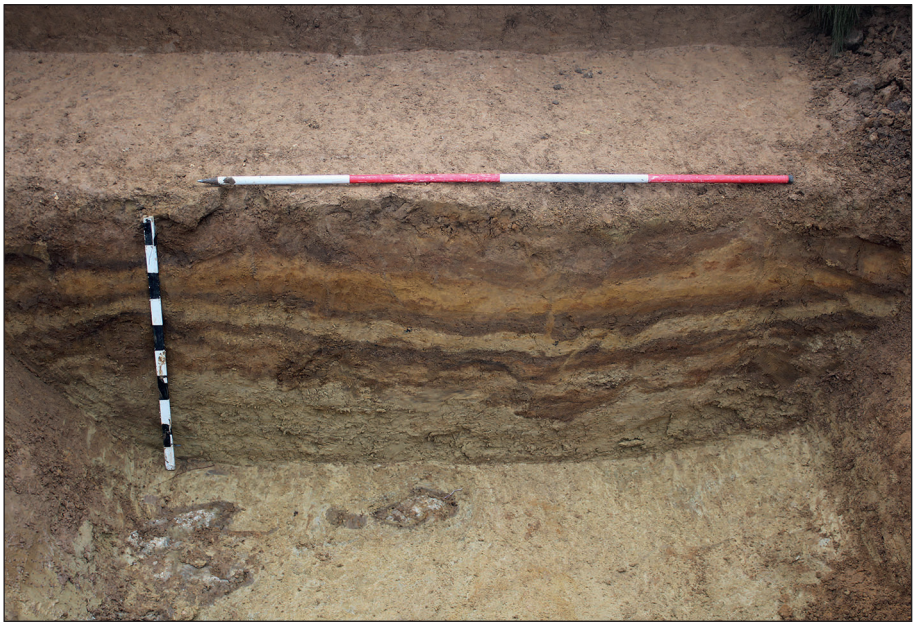

Plate 3: East facing section, TP1

Date:	24/03/2021	Revision Number:	0
Scale:	Not to scale	Illustrator:	KJF
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