Archaeological trial trench evaluation at North Quay, Hayle Cornwall June 2016

Report No. 16/123
Planning Reference: W1/08-0613

Author: Simon Markus

Illustrator: Joanne Clawley

Project Manager: Anthony Maull
Site Code: NQH 16
NGR: SW 556 379

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OASIS REPORT FORM

PROJECT DETAILS	**molanort1-258847**	
Project name	Archaeological trial trench evaluation on North Quay, Hayle, Cornwall, June 2016	
Short description (250 words maximum)	MOLA (Museum of London Archaeology) was commissioned by Prospect Archaeology to carry out archaeological trial trenching at a proposed development on North Quay, Hayle, Cornwall. A number of prehistoric ditches, pits, postholes and a gully were located across the north-eastern part of the development, sealed by a buried plough soil. Two phases of ditch, with associated banks, were cut through this layer. The banks were buried by a series of windblown sand deposits, interspersed with re-established land surfaces. A modern pit and a field boundary visible on the 1877 Ordnance Survey map were also located within the development area.	
Project type	Trial trench evaluation	
Site status	None	
Previous work	Geophysical Survey (Walford 2016)	
Current Land use	Arable and sand dunes	
Future work	Unknown	
Monument type/ period	Prehistoric ditches, pits, postholes and gully, undated banks and ditches, modern pit and ditch	
Significant finds (artefact type and period)	Worked flint, medieval pottery and animal bone, metal working debris.	
PROJECT LOCATION		
County	Cornwall	
Site address	North Quay, Hayle, Cornwall	
Study area (sq.m or ha)	16ha	
OS Easting & Northing	SW 556 379	
Height OD	5m to 41m	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project Design originator	Nansi Rosenberg (Prospect Archaeology)	
Director/Supervisor	Simon Markus	
Project Manager	Anthony Maull	
Sponsor or funding body	Prospect Archaeology, on behalf of Sennybridge	
PROJECT DATE		
Start date/End date	13.06.2016 to 24.06.2016	
ARCHIVES	**Location (Accession no.)**	**Content (eg pottery, animal bone etc)**
Physical	MOLA Northampton NQH 16	Flint, pottery, animal bone, metal working debris
Paper		Site file, plan and section drawings, maps
Digital		Mapinfo plans, pdf report
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (MOLA report)	
Title	Archaeological trial trench evaluation on North Quay, Hayle, Cornwall, June 2016	
Serial title & volume	16/123	
Author(s)	Simon Markus	
Page numbers	45	
Date	12/08/2016	

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Archaeological trial trench evaluation at North Quay, Hayle Cornwall June 2016

Abstract

MOLA (Museum of London Archaeology) was commissioned by Prospect Archaeology to carry out archaeological trial trenching on a proposed development at North Quay, Hayle, Cornwall. A number of prehistoric ditches, pits, postholes and a gully were located across the north-eastern part of the development, sealed by a buried ploughsoil. Two phases of ditch, with associated banks, were cut through this layer. The banks were buried by windblown sand deposits interspersed with re-established land surfaces. A modern pit and a field boundary visible on the 1877 Ordnance Survey map were also located within the development area.

1 INTRODUCTION

MOLA (Museum of London Archaeology) was commissioned by Prospect Archaeology to carry out archaeological trial trenching for the North Quay development site north of Hayle, Cornwall (NGR SW 556 379; Fig 1). The work was required in accordance with *The National Planning Policy Framework* (DCLG 2012).The scope of works is outlined in a Written Scheme of Investigation prepared by Prospect Archaeology (Rosenberg 2016). The works were designed to investigate potential archaeological remains identified during a geophysical survey (Walford 2016). The fieldwork took place in June 2016.

2 BACKGROUND

2.1 Location, topography and geology

The North Quay development encompasses an area of sand dunes (Area 1) and three arable fields (Areas 2-4) totalling 16ha. The site is bounded to the north by Hayle Cricket Club and a holiday park, to the east by arable fields, to the south by buildings and to the west by sand dunes (Fig 2).

From a height of *c*37m above Ordnance Datum (aOD) in the north-western corner of Area 3 (A3), the land slopes down to *c*20m aOD in the south-east corner of Area 4 (A4), and *c*27m aOD in the south-west corner of Area 2 (A2). The sand dunes in Area 1 (A1) undulated greatly from a high of *c*41m aOD to a low of *c*5m aOD.

The underlying bedrock comprises mudstone and sandstone of the Porthtowan Formation formed approximately 375 to 398 million years ago (BGS 2016). The site is located at the south-western end of the Gwithian-Mexico Towans and is in an area covered with extensive blown sand deposits (Bell and Brown 2009)

2.2 Historical and archaeological background

The Cornwall and Scilly Historic Environment Record (HER) has information about a number of prehistoric and Roman finds from in and around the survey area. A Bronze Age funerary urn (HER No.139294) and a scatter of Mesolithic flints (139239) are recorded as having been found in the south-eastern field and there is a record of a Roman brooch having been found slightly east of the survey area, close to Riviere Farm (39836). Other records relate to a cemetery (31899) and a Bronze Age axe fragment (56496), but these are imprecisely located so their exact association with the survey area is unclear. Likewise, there is a record of an undated human burial having been found somewhere to the west of the survey area (31925), but the location is not precisely known. To the west, a bronze razor or 'tranchet' has been found (31948).

East of the development site, sand extraction around Phillack Churchyard has uncovered an extensive cist cemetery comprising over 60 burials, as well as a midden of possible Neolithic date (31823, 31824).

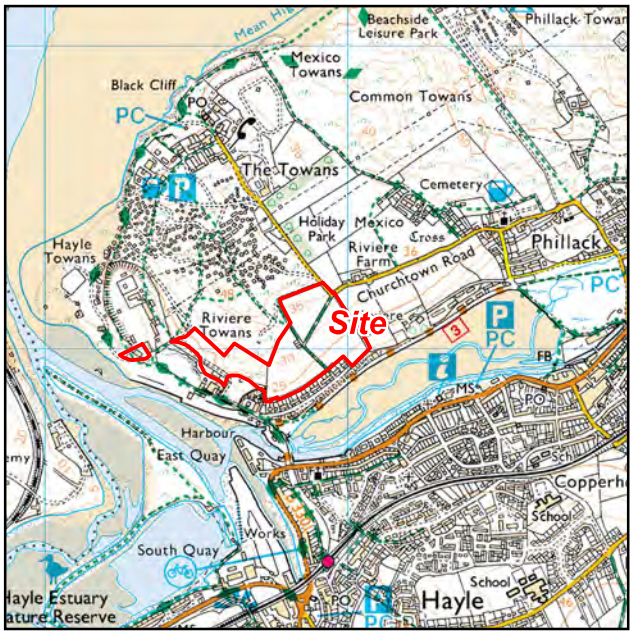
The 1877 Ordnance Survey map shows the area to have been fields and undeveloped sand-dunes at that time. The northern and south-eastern fields existed in something close to their modern form, but the western field had not then been fully enclosed. In the northern field, the map depicts a moderately large, elongated mound, apparently with a flat top, but this is not identified with any name or caption. The same map also show a rifle range to the north of A1 and a series of sand and gravels pits to the west and south.

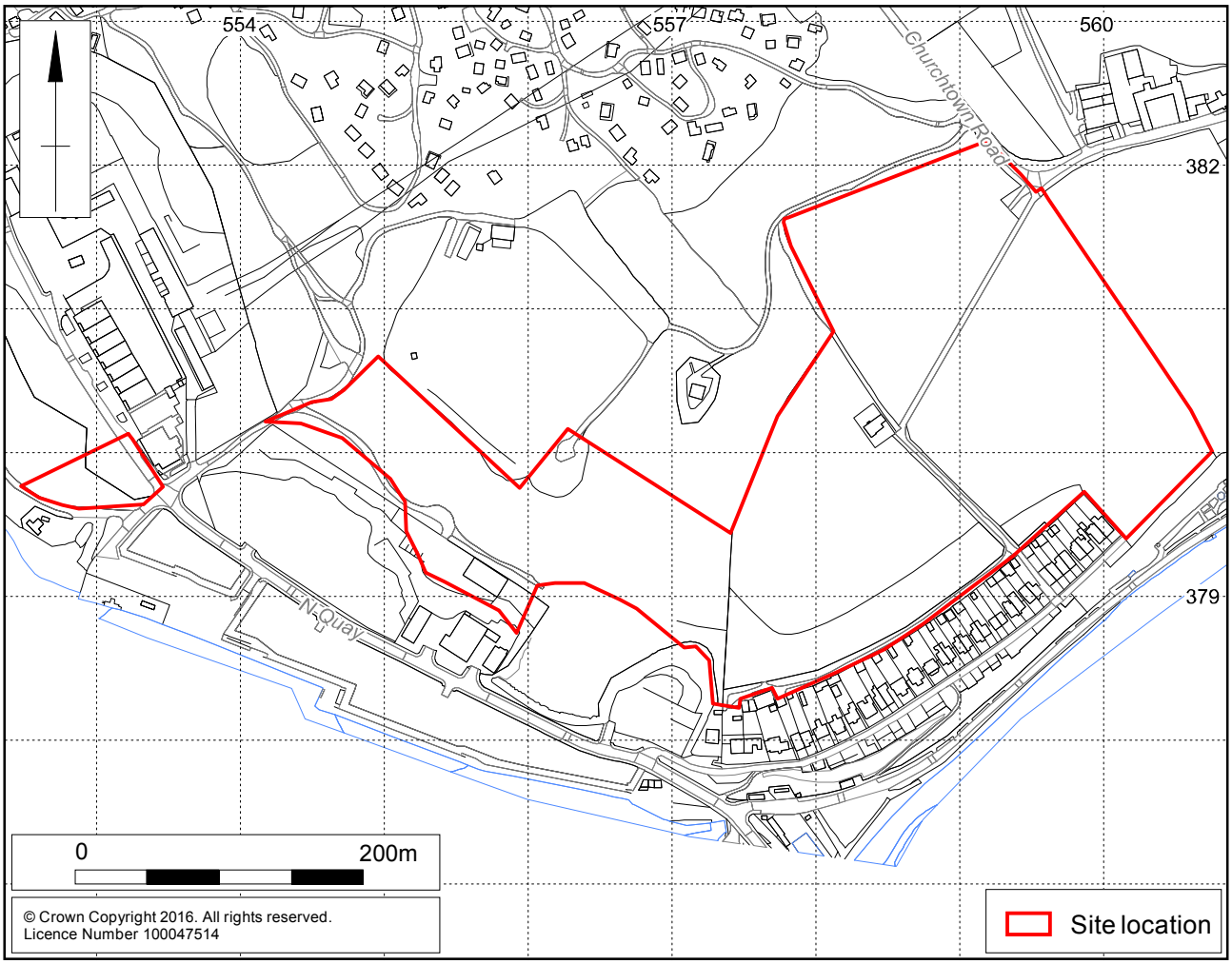
During the Second World War an anti-aircraft battery was located slightly to the north-west of the development area, but does not appear to have encroached into it (53597).

Approximately 400m to the south of this development site there are records of a small earthwork, sometimes referred to as Carnsew Hill-fort, dating to later prehistory and an early Christian memorial stone dating to the 5th century (MCO7140).

Approximately 300m to the south of the North Quay development, a programme of desk based assessment, trial trench evaluation, watching brief and building recording was undertaken on the South Quay, Hayle in preparation for the redevelopment of the Quay (Mason 2010; Upson-Smith 2011). In 2006 Hayle Harbour was designated as a World Heritage Site as part of the Cornwall and West Devon Mining Landscape (UNESCO ref. 1215). The South Quay falls within the Hayle Conservation Area and it stone fabric is Grade II listed. Quays were first established in Hayle Harbout in 1735, with the South Quay constructed in 1818. The South Quay continued to see commercial traffic until 1977.

Previous work on the site consists of a geophysical survey undertaken by MOLA Northampton in May 2016 (Walford 2016). The survey detected a series of linear anomalies provisionally interpreted as prehistoric or Roman, medieval and post-medieval agricultural features, as well as tenuous evidence of prehistoric or Roman occupation remains.





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Site location Fig 1

3 OBJECTIVES AND METHODOLOGY

3.1 Objectives

The general aims of the archaeological evaluation were to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development. Specifically, the work aimed to:

- establish the character, date, nature and extent of activity or occupation within the development;
- recover artefacts to assist in the development of type series within the region.

The principal aim of the trial trench evaluation was to investigate a number of geophysical anomalies identified within the proposed development (Walford 2016) and assess the potential for archaeological remains within the unsurveyed sand dunes.

Where applicable, specific research aims were identified used the South West Archaeological Research Framework (Webster 2007).

3.2 Methodology

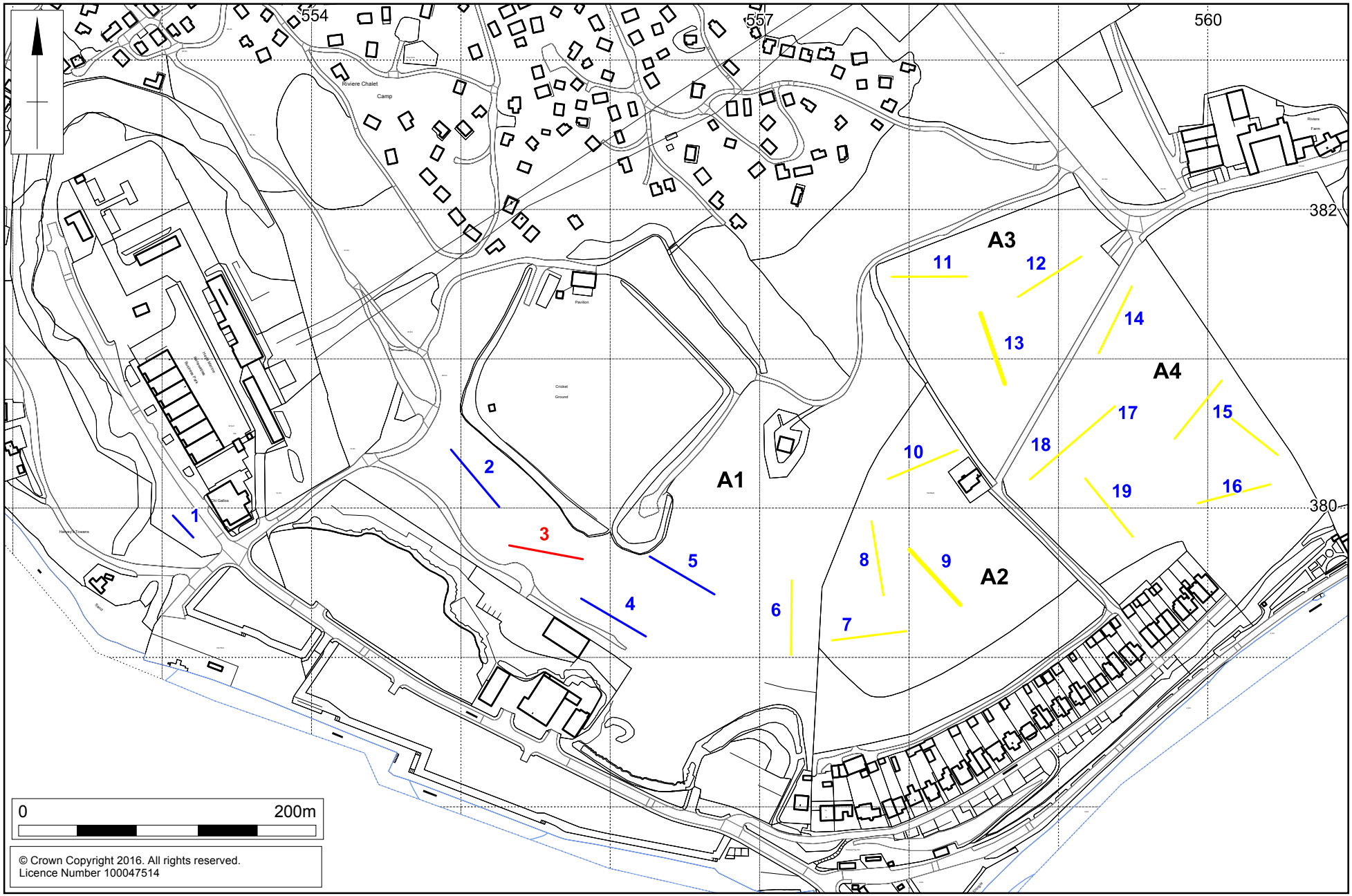
The WSI for the project envisioned the excavation of 19 trial trenches; six in A1, four in A2, three in A3 and six in A4 (Fig 2). All trenches were 50m in length, with the exception of Trench 1 (20m) and Trench 18 (75m), and 2m wide, with the exception of Trenches 9 and 13 (4m).

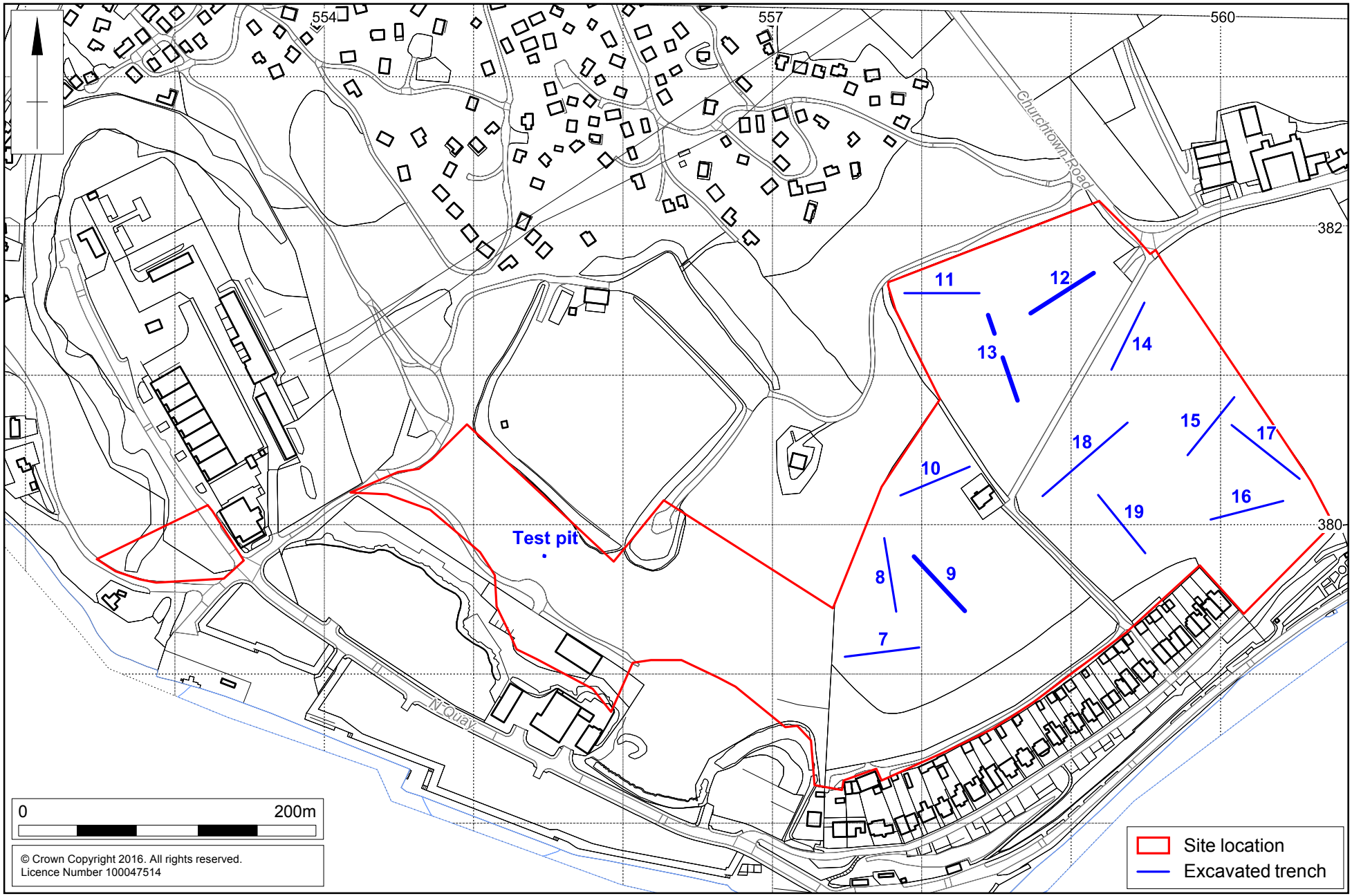
Trenches 1-6 in A1 were not excavated due to the nature of the landscape in this area, instead a single 1m x 1m test pit was excavated. Trench 12 was widened to 4m, and Trench 17 was extended by 8m to the south-east (Fig 3). Due to the depth of drift sands within the trenches, it was not possible to excavate all of the trenches to the natural substrate. Instead, a series of machine excavated sondages were placed over areas of potential archaeology to identify remains where possible.

All of the trenches were set out with a Leica Viva GPS and excavated under constant archaeological supervision. Most were excavated by a 14 ton 360^{o} tracked mechanical excavator fitted with a toothless ditching bucket. Topsoil and drift sands were removed sequentially and stored in separate stockpiles adjacent to each trench. Test Pit 1 was excavated by hand. The spoil heaps and features were scanned with a metal detector to ensure maximum finds retrieval.

Cleaning of exposed surfaces, hand excavation and recording was carried out in accordance with the methodology set out in the Written Scheme of Investigation (Rosenberg 2016) and in accordance with the Chartered Institute for Archaeologists' *Standard and Guidance: Archaeological Field Evaluation* (CIfA 2014a), *Code of Conduct* (2014b) and the MOLA fieldwork manual (MOLA 2014).

Following the completion of the work the trenches were backfilled and lightly compacted with the excavated material.





Scale 1:3500

Excavated trenches and test pit location Fig 3

4 THE EXCAVATED EVIDENCE

4.1 General stratigraphy

The natural geology exposed in the trenches was, where present, green-blue slaty mudstone with an orange sand matrix. This was overlain by varying layers of buried soils and sand drifts discussed below. These were overlain by up to 0.42m of topsoil comprising brown-grey plough soil with a high sand content.

Archaeological remains, comprising gullies, ditches, pits, postholes and banks were identified in Trenches 9, 11, 12, 13, 14, 15, 16, 17 and 18. The remainder of the trenches contained no archaeological features.

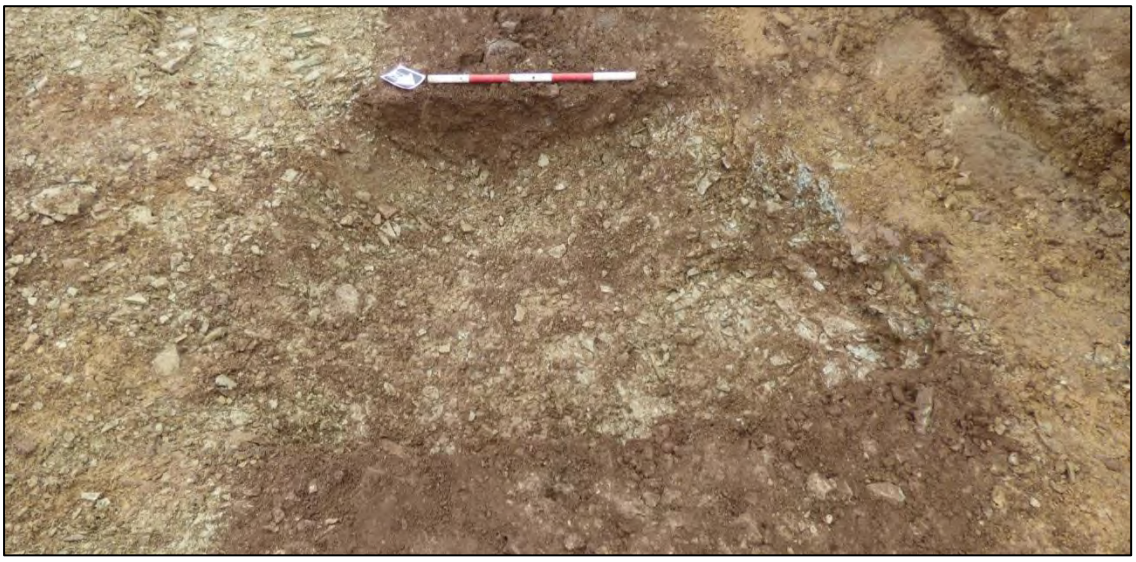
Features sealed by the earliest buried soil have been classified as prehistoric using evidence from excavations around Gwithian (Nowakowski *et al* 2007).

4.2 Prehistoric pits, ditches and gullies

In Trench 12 there was a gully terminal [1231], aligned north-west to south-east, 0.63m wide and 0.24m deep, with a U-shaped profile (Figs 4 and 9, section 14). To the north of this was a linear ditch [1229], aligned east-west, 0.87m wide and 0.19m deep with a U-shaped profile (Figs 5 and 9, section 13). To the west was a further linear ditch [1227], aligned west-north-west to east-south-east, 0.95m wide and 0.16m deep also with a U-shaped profile (Figs 6 and 9, section 12). To the west of this was a sub-oval pit [1225], with an irregular profile and uneven base (Figs 7 and 9, section 11). All of these had fills of brown-red silty sands with frequent stone inclusions. No finds were recovered.

Gully terminal [1231] and pit [1238], looking south-south-east Fig 4

At the southern end of Trench 13 there was a ditch [1306], aligned east to west, which turned to the south, 0.56m wide and 0.10m deep with a shallow U-shaped profile (Figs 8 and 15, section 2). Further to the north were two postholes [1310 and 1312], sub-circular in plan, 0.31m and 0.37m in diameter and up to 0.26m deep (Figs 10, 11 and 15, sections 4 and 5). These all had fills of dark brown-red silty sands with frequent stones. North of these was an irregular pit [1308] located next to the eastern limit of excavation, 0.91m wide and 0.17m deep, with a fill (1307) of dark grey-black sand with frequent stone and occasional charcoal (Figs 12 and 15, section 3). Two pieces of ferrous hammer scale were recovered from this.

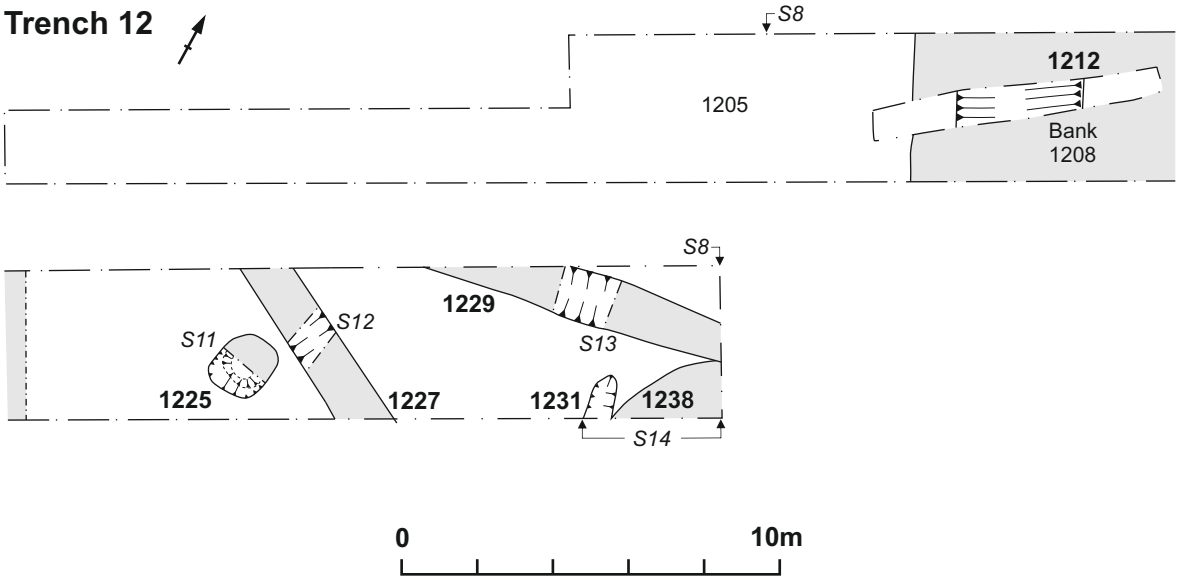


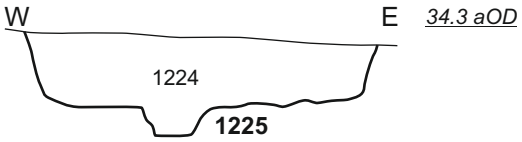
Ditch [1229], looking west Fig 5

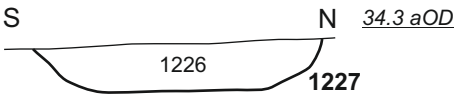
Ditch [1227], looking north-west Fig 6

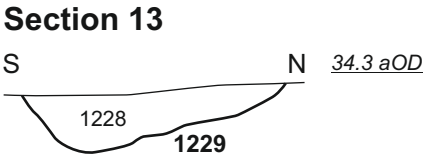
Pit [1225], looking north-north-east Fig 7

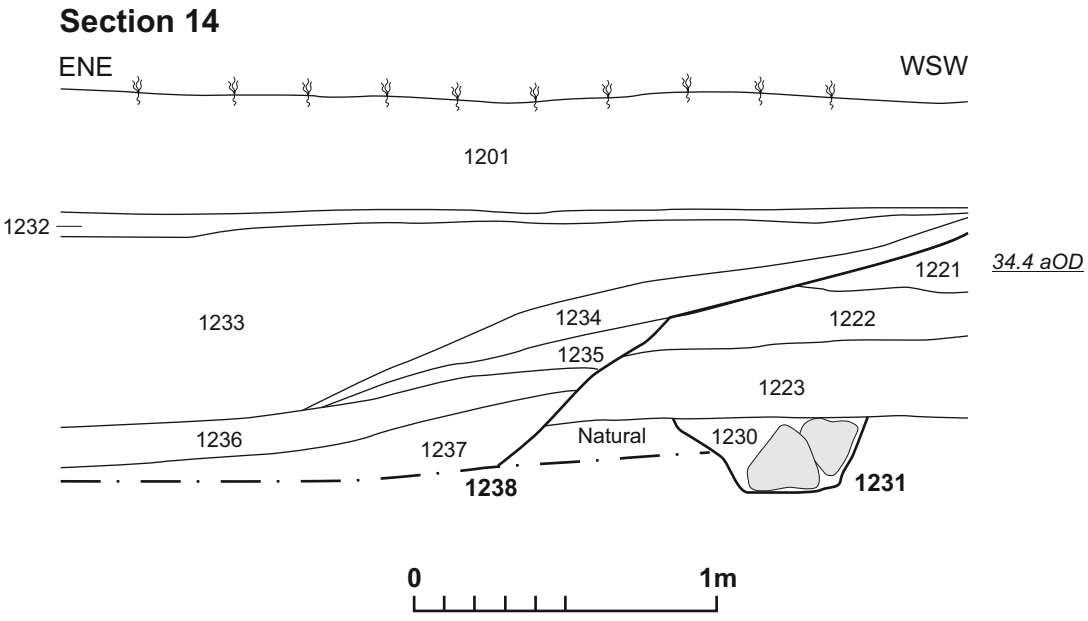
Ditch [1306], looking north Fig 8











Scale 1:200 (Plan) 1:25 (Sections) Trench 12 plan and sections Fig 9

Posthole [1310] looking east Fig 10

Posthole [1312], looking south Fig 11

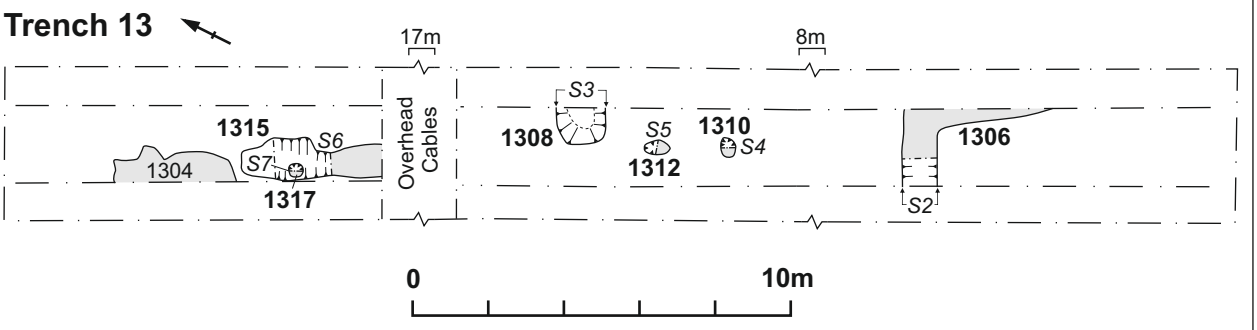
Pit [1308], looking east Fig 12

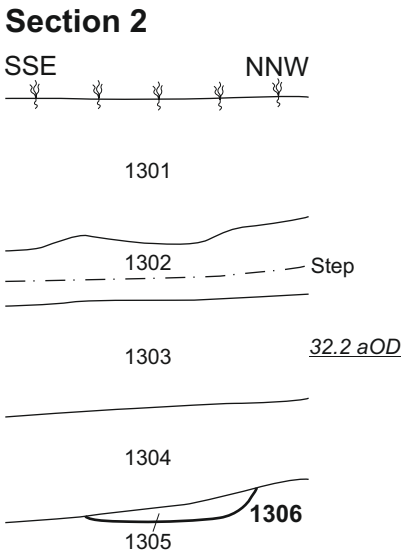
Ditch [1315], looking south-east Fig 13

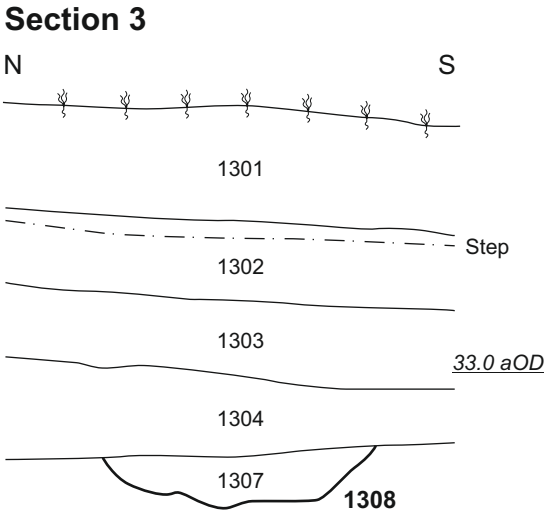
Posthole [1317], looking south-west Fig 14

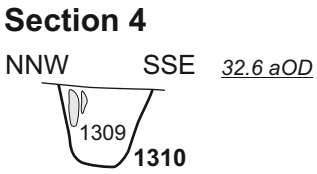
Posthole [1610], looking east Fig 16

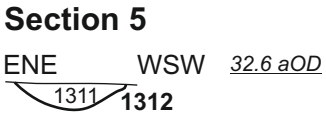
Posthole [1608], looking north-west Fig 17

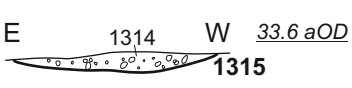


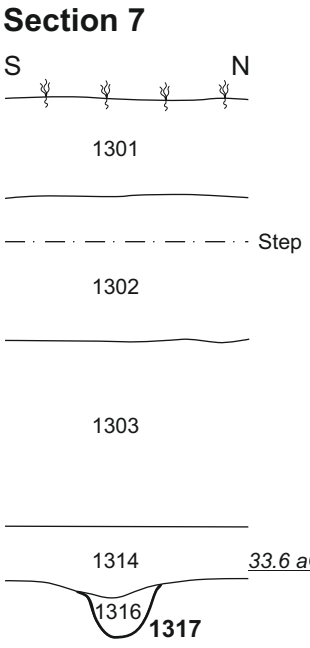


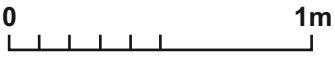




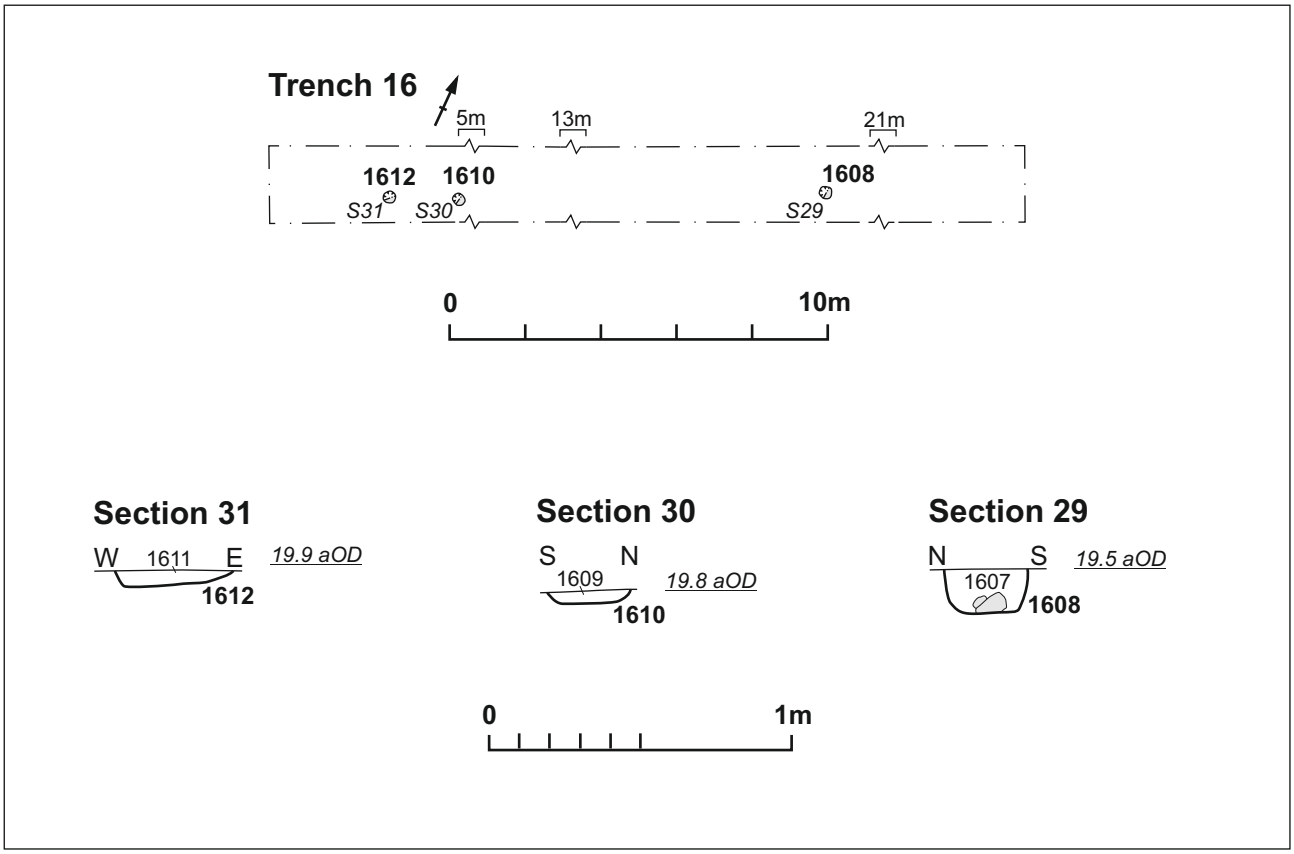








Scale 1:200 (Plan) 1:25 (Sections) Trench 13 plan and sections Fig 15



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Trench 16 plan and sections Fig 18

Further to the north was a circular posthole [1317], 0.24m wide and 0.17m deep (Figs 14 and 15, section 7). This was overlain by a ditch [1315], aligned north-north-west to south-south-east, 0.60m wide and 0.07m deep with a shallow U-shaped profile (Figs 13 and 15, sections 6 and 7). These had fills of dark brown-black sands with frequent stone. No finds were recovered.

At the western end of Trench 16 were two circular postholes [1610 and 1612], 2m apart, 0.30-0.35m wide and up to 0.06m deep (Figs 16 and 18, sections 30 and 31). To the east of these was a further circular posthole [1608], 0.27m wide and 0.25m (Figs 17 and 18, section 29). All had fills of grey-brown silty sands with few stone inclusions. No finds were recovered.

Towards the south-eastern end of Trench 17 was linear gully [1706], aligned north-east to south-west, 0.68m wide and 0.16m deep, with a shallow U-shaped profile, with a fill (1705) of brown-red silty sand with frequent stone inclusions (Figs 19 and 21, section 9). A single flint blade dating somewhere between the late Neolithic and early Bronze Age was recovered from this. Further to the north-west was a single sub-oval pit [1708] with a shallow U-shaped profile, and a fill (1707) of brown-red silty sand with frequent stone (Figs 20 and 21, section 17). No finds were recovered.

In Trench 18 there were two circular postholes [1811 and 1815], 7m apart, 0.30m and 0.35m wide and up to 0.20m deep (Fig 24, sections 25 and 27). Between these was an irregular pit [1813], 0.80m wide and 0.20m deep, with gently sloping sides (Figs 22 and 24, section 26). Further to the north-east there was a linear ditch [1819], aligned east-west, 1.2m wide and 0.24m deep, with concave edges and a flat base (Figs 23 and 24, section 28). This was cut by another linear ditch [1817], aligned north-east to south-west, 1.0m wide and 0.18m deep (Fig 24, section 33). These both had fills of grey brown silty sands with occasional stones. No finds were recovered.

All of these features were sealed by a layer of brown-red silty sand with frequent stone inclusions, between 0.20m and 0.60m deep. This was overlain by a layer of orange-brown sand with few stone inclusions in all trenches with the exception of the southern half of Trench 17 (see Appendix 1).

4.3 Undated banks and ditches

In the centre of Trench 12 was a ditch [1212], aligned north-west to south-east, with a near vertical south-western edge and broad, gently sloping north-eastern edge, 3.14m wide and 0.98m deep (Fig 25). It had a fill (1211) of green-brown silty sand with frequent mudstone. The ditch was overlain by fill (1210) of mid orange-brown silty sand with frequent stones.

In Trenches 14 and 15 there was a broad shallow ditch [1408, 1508]. This was aligned north-west to south-east, and was between 4m and 7m wide and up to 1.0m deep (Fig 26). Both had fills of brown-red silty sand with frequent stones. Ditch [1408] also had a layer of dark grey-black silty sand which was likely derived from the adjacent bank.

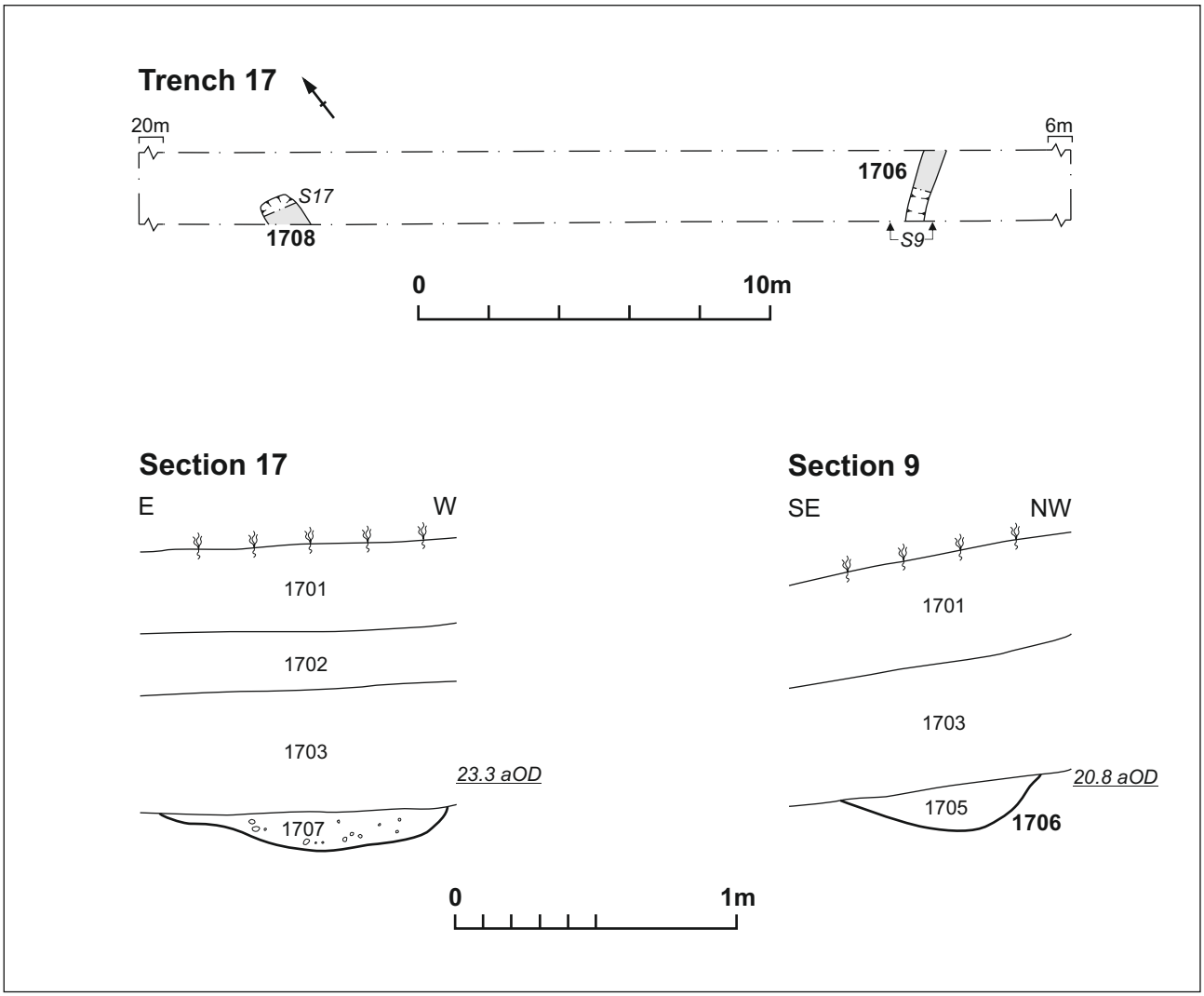
In Trenches 12 and 14 there was an in-situ bank aligned north-west to south-east (Figs 25 & 26). In Trench 14 the bank consisted of a core (1412) of brown-orange silty sand with frequent stone and a capping layer of dark brown-grey silty sand with frequent stone (1407/1411). In Trench 12, the bank comprised a core of dark grey-black silty sand with occasional stone (1209) and a capping of dark grey-brown silty sand with frequent stone. The bank overlay ditch [1212]. Adjacent to the bank was ditch [1214], with a U-shaped profile 0.66m wide and 0.20m deep, with a fill (1213) of dark grey-black silty sand. No finds were recovered.

Ditch [1706], looking south-west Fig 19

Pit [1708], looking south Fig 20

Pit [1813], looking west-south-west Fig 22

Ditch [1819], looking west Fig 23



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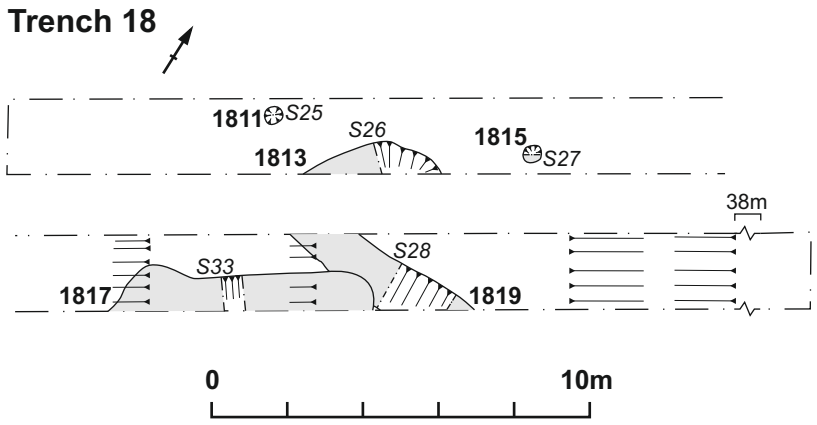
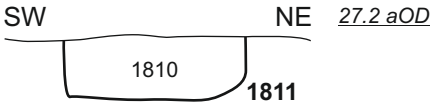
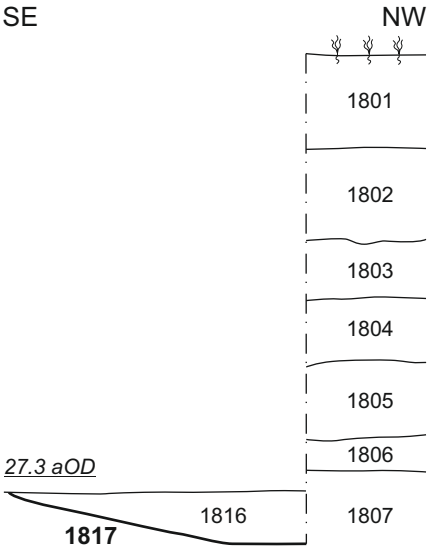
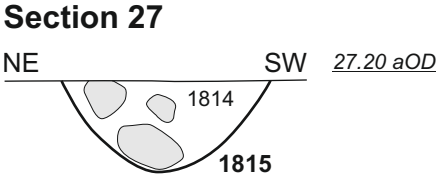
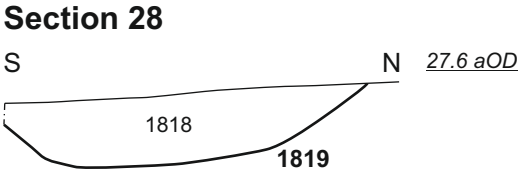
Trench 17 plan and Sections Fig 21

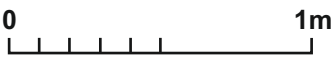






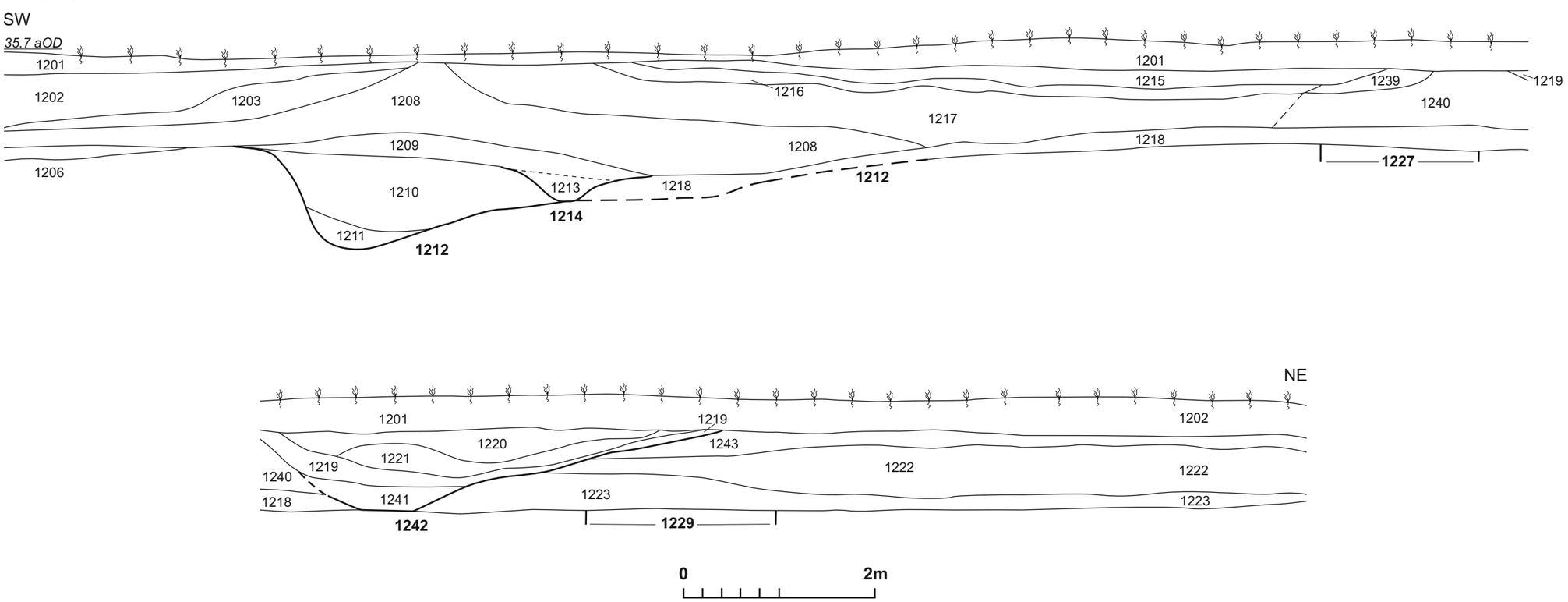






Scale 1:200 (Plan) 1:25 (Sections) Trench 18 plan and sections Fig 24

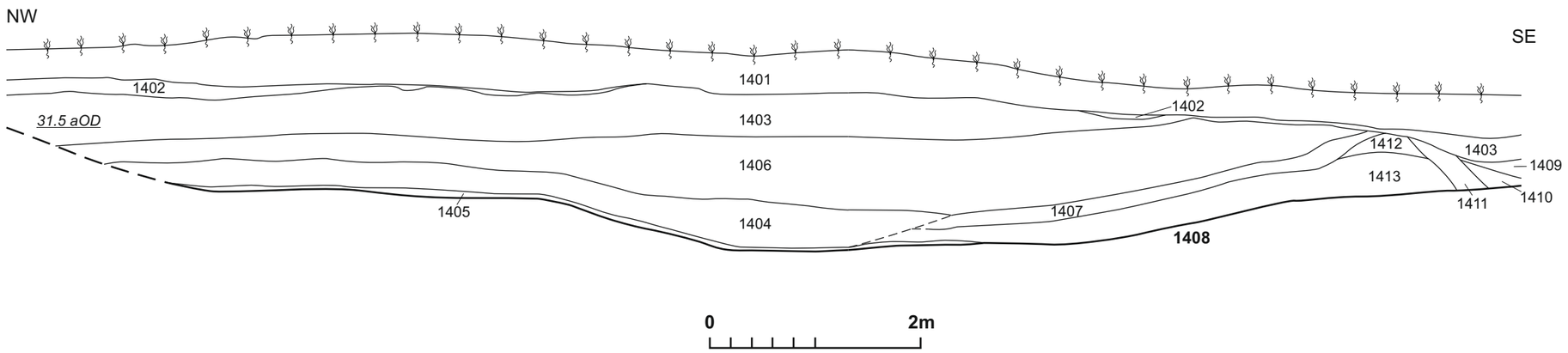
Section 8



Scale 1:50

Trench 12, section Fig 25

Section 16



Scale 1:50

Trench 14, section Fig 26

Towards the eastern end of Trench 12 there was a further bank and associated ditch [1242], aligned north-west to south-east (Fig 25). The bank comprised a core (1240) of orange-brown sand and a capping (1239) of dark brown silty sand with frequent stone. This was locater over shallow ditch [1227]. Ditch [1242], to the east of the bank, had a U-shaped profile 1.75m wide and 0.30m deep. This had a basal fill (1241) of orange-brown sand. The eastern side of the bank and ditch [1242] were overlain by a layer (1219) of mid grey-brown sand.

In Trench 11 there was a similar bank and ditch [1118] (Fig 27). The bank comprised a core (1107) of orange sand with occasional stones, overlain by a capping layer (1106) of mid orange-brown silty sand with frequent stone. The associated ditch to its west [1118] was aligned north-south, with a U-shaped profile, 1.80m wide and 0.50m deep. The fill was a combination of slumped bank material from the east and windblown sands from the west.

Bank and ditch [1118], looking north Fig 27

4.4 Sand drifts and buried soils

Overlying the banks and associated ditches, as well as the rest of the site, was a layer of yellow-white sand, present in all trenches except Trench 17. The thickness of this deposit varied greatly between trenches (see Appendix 1). Within this layer were a series of stabilisation layers comprising grey-brown sands. These occurred at varying depths below the existing ground level and in varying thicknesses (Figs 28 to 31).

4.5 Post-medieval ditch and pit

At the eastern end of Trench 12 there was a large pit [1238], over 3m wide and 0.80m deep, extending beyond the eastern and southern limits of excavation (Figs 4 and 9, section 14). This cut through ditch [1229] and all of the yellow-white sand deposits built up within the trench. It had varying fills of yellow-white and brown sands. It was not fully excavated due to its depth.

At the southern end of Trench 9 there was a linear ditch [914], aligned north-east to south-west, with a U-shaped profile, 2.31m wide and 0.60m deep (Figs 32). This had varying fills of yellow and brown sands. This cut all of the sand layers within the trench.

No further archaeological features were identified during the evaluation.

Test Pit 1 section, looking north. Fig 28

Trench 8 section, looking west Fig 29

Trench 18 section
looking south-west Fig 30

Trench 19 section
looking north-east Fig 31

Ditch [914], looking south-east Fig 32

5 THE FINDS

5.1 Worked flint by Yvonne Wolframm-Murray

One blade, SF1, measuring 38mm long and 16mm wide, was recovered from the fill (1705) of a shallow gully [1706]. The condition of the artefact was moderate; the post-depositional edge consisted of frequent small nicks to the edges. The raw material is light grey-brown vitreous flint which probably derived from local beach gravel.

The worked flint is not directly dateable but the technological characteristics suggest a broadly Neolithic to early Bronze Age date.

5.2 Medieval and modern pottery by Paul Blinkhorn

The pottery assemblage comprised two sherds with a total weight of 15g. The first of these occurred in topsoil (1701), and weighs 6g. It is a hard, smooth, red fabric with few visible inclusions, and is likely to be modern. The second sherd occurred in sand layer (1702), immediately below (1701), weighs 9g, and is medieval. It is in a fairly fine, quite hard, lightly micaceous fabric with fairly dense fine sand temper, along with a few larger fragments of chert and red iron up to 3mm. It is unglazed, and probably from the base of a jar. Such wares are typical of medieval Cornwall (O'Mahoney 1989, 2-4), and have parallels at many sites, such as Penhallam (Beresford 1974, 128). It is most likely to be of 13th-14th century date.

5.3 Metalworking debris by Andy Chapman

From the topsoil (1801) in Trench 18 there is a single small lump of ferrous slag, 53mm long and 30mm wide, weighing 75g, which has come from post-medieval to modern iron working processes. From the fill (1307) of pit [1308] there are two flakes of flat ferrous hammerscale.

From the top of sand layer (1902) in Trench 19 there is single irregular lump of copper alloy working dross, up to 40mm long and weighing 35g.

5.4 Animal bone by Adam Reid

Five bone fragments were hand collected from sand layer (1208). The small assemblage comprised two fragments of sheep or goat radius, a fragment of juvenile sheep or goat mandible, a fragment of cattle tibia and a fragment of indeterminate mammal long bone. The material provides very limited interpretative value and the small size of the assemblage is a reflection of the poor quality of preservation offered by the sandy fills.

5.5 Environmental material by Karen Stewart

Introduction/methodology

During excavation at North Quay, Hayle, environmental samples were taken for the retrieval of archaeobotanical and other organic remains in order to assess their potential to contribute to the interpretation of the site. One of the samples represents the fill of a pit, one of a posthole fill, one a ditch fill and one a burnt layer within a bank.

These samples were processed by flotation, using a Siraf flotation tank, with meshes of 0.25mm and 1.00mm to catch the flot and residue respectively. The flots were stored in water to maintain waterlogged conditions. The residue was dried and sorted by eye for artefacts and environmental material. The flot was scanned briefly, using a low-powered binocular microscope, and the abundance, diversity and character (method of preservation, unusual features) of plant macrofossils and any faunal or artefactual remains were recorded. The following scale was used to record this material:

Abundance 1 = 1–10 items, 2= 11–50, 3 = 50+ items

Table 1 below presents the composition of each sample.

Plant material was preserved by charring, waterlogged and mineralisation.

Charred remains

Charred remains were the most commonly recorded organic remains from the samples. Wood charcoal was the most common of these, found in all but sample 4 from fill (1705) of ditch [1706]. In samples 1 from fill (1307) of pit [1308] and 3 from fill (1810) of posthole [1811] the fragments were extremely small and sparse, and very unlikely to be result of purposeful deposition.

Charred grain was recovered in significant volumes from sample 2 from bank layer (1209). Barley (*Hordeum vulgare*), wheats (*Triticum* spp.) and oats (*Avena* spp.) were all represented.

Table 1: Composition of samples

					Wood charcoal		**Charred grain**	
Sample	**Fill**	**Description**	**Sample vol. (L)**	**Flot vol. (ml)**	No.	Comment	No.	Comment
1	1307	Fill of pit [1308]	2.5	2	+	v small frags	-	-
2	1209	Burnt layer	40	100	++	c. 20 fragments can be ID'd	++ +	barley, oat, wheat (c.100 grains), some straw and rachis frags
3	1810	Pit fill	2	5	+	v small frags	-	-
4	1705	Fill of ditch 1706	10	10	-	-	+	1 broken grain

					Charred seeds		**Marine mollusc**	
Sample	**Context**	**Description**	**Sample vol. (L)**	**Flot vol. (ml)**	No.	Comment	No.	Comment
1	1307	Fill of pit [1308]	2.5	2	-	-	-	-
2	1209	Burnt layer	40	100	++	Grass, wild radish, goosefoot, dock, stinking chamomile.	++	mussels, cockles
3	1810	Pit fill	2	5	-	-	-	-
4	1705	Fill of ditch 1706	10	10	-	-	-	-

Faunal remains
Marine mollusc shells were recorded in moderate amounts from sample 2 of bank layer (1209).

Terrestrial molluscs were recorded in Sample 2 of bank layer (1209) and are assessed elsewhere.

General discussion
Three of the four samples contained very little or no material of archaeological significance. Sample 2 from bank layer (1209) contains moderate volumes of charred cereals and edible marine mollusc remains and is likely to be of archaeological significance.

Potential of the material
The environmental material preserved within the samples has the potential to inform us about agricultural practices, diet and fuel use at the site.

Significance of the material
The data recorded from the samples are of significance to the site only.

Further work
Sample 2 should be fully analysed and the results of that analysis should be incorporated into any further reporting on the site.

Revised research aims
RRA 1: What can the plant remains tell us about the agricultural practices and diet of the people at the site?

RRA 2: What can the charcoal assemblage tell us about fuel use at the site?

5.6 The mollusc shell by Alan Pipe

Introduction and methodology

Sample 2 of bank layer (1209) produced a moderate group of mollusc shells derived from marine and terrestrial species. This report summarises preliminary identification and quantification of the mollusan assemblage, assesses the potential for further study and estimates the resources required to carry out full post-assessment identification and interpretation. Identification and interpretation followed Cameron & Redfern 1976; Hayward, Nelson-Smith & Shields 1996; and Kerney 1999).

These samples were processed by flotation, using a Siraf flotation tank, with meshes of 0.25mm and 1.00mm to catch the flot and residue respectively. The flots were stored in water to maintain waterlogged conditions. The residue was dried and sorted by eye for artefacts and environmental material. The flot was scanned briefly, using a low-powered binocular microscope, and the abundance, diversity and character (method of preservation, unusual features) of plant macrofossils and any faunal or artefactual remains were recorded. The following scale was used to record this material:

Abundance; few = 1–10 shells; common = 11–50 shells

Table 2 quantifies, identifies and assesses the assemblage.

Potential of the material

Analysis of the terrestrial mollusc assemblage from bank layer (1209) will allow interpretation of the local habitat and conditions with particular regard to The environmental material preserved within the samples has the potential to inform us about agricultural practices, diet and fuel use at the site.

Significance of the material

The mollusc assemblage from bank layer (1209) is of local significance only.

Further work

Sample 2 should be fully analysed and the results of that analysis should be incorporated into any further reporting on the site.

Table 2: Composition of sample 2

CONTEXT		**(1209)**	
SAMPLE		**2**	
COMMON NAME	**CLASSIFICATION**		**HABITAT** (after Cameron & Redfern 1976; Hayward, Nelson-Smith & Shields, 1996; and Kerney 1999)
mussel, common	*Mytilus edulis*	3	**marine/**all British coasts/intertidal and shallow/rocky
cockle, common	*Cerastoderma edule*	1	**marine/**all British coasts/intertidal/sand/tolerant of low salinity
oyster, common/flat	*Ostrea edule*	few	**marine/**all British coasts/low water to 50 metres/coarse substrates
terrestrial snail species 1		common	**terrestrial**
? heath snail	*? Helicella itala*	common	**terrestrial**/dry, sunny, calcareous
pointed snail	*Cochlicella acuta*	few	**terrestrial**/dry, grassy, calcareous, maritime
moss snail	*Cochlicopa sp*	few	**terrestrial**/moderately damp, sheltered places

5.7 Magnetic susceptibility survey by John Walford

Magnetic susceptibility measurements were undertaken on a set of soil samples representing the natural sequence of deposits in Trench 7. The purpose of this was to provide supporting information to aid the interpretation of the sequence, and also to shed further light on the results of the magnetometer survey of the site. The samples were lightly packed into small plastic tubs of uniform size and composition, and each was placed into a Bartington MS2 bench meter for measurement. Readings were recorded in SI units to the nearest whole number, and each sample was measured three times to ensure consistency. No attempt was made to calculate volume or mass specific susceptibility, as simple measurements demonstrating the broad-scale trends in susceptibility were considered sufficient for the purposes of a rapid evaluation.

Table 3: Magnetic susceptibility of layers within Trench 7

Context	**Description**	**Magnetic susceptibility (SI units)**
702	Wind-blown calcareous sand	8
703	Mid brown sand	173
704	Light orange/yellowish brown sand	140
705	Sandy, stony buried soil	1250
706	Lower horizon of 705	242
708	Mid brown sand	77
709	Light yellowish brown sand	91
-	Mudstone clasts (*c* 1-3cm across), from 705	23

The results show that the pure windblown sand (702) under the modern topsoil has a very low susceptibility, the underlying layers of darker sand (703, 704, 708 and 709), which are probably buried soils or turf lines, have higher susceptibilities and that the buried soil over the natural bedrock (705, 706) has a very high susceptibility in its upper horizon. A selection of small bedrock clasts picked out from the buried soil (705) were tested separately, and found to have relatively low susceptibilities, so that they were evidently not the cause of the high susceptibility of that layer.

These results are broadly consistent with expectations, as calcareous sands have very low susceptibilities and topsoils are generally characterised by enhanced susceptibility. However, the very strong susceptibility of the main buried soil layer is notable, and might suggest that it is not merely a natural topsoil but one modified by human activity. Particular sources of enhancement could include microscopic fragments of domestic or industrial debris such as hearth material, burnt stone, ceramics, slag and smoke particulates. Such materials could derive directly from areas of settlement, or could have been introduced into a ploughsoil through manuring.

The results also confirm what had been suspected about the previous magnetometer survey results (Walford 2016). The low magnetism of the sand has given rise to negative magnetic anomalies where sand forms the main fill of ditches cut through the buried soil. Similarly, upcast buried soil will have given rise to positive anomalies where it survives as in-situ banks under the sand. In places, the survey detected twinned positive and negative anomalies where a sand-filled ditch and bank of upcast survived together.

6 DISCUSSION

A number of undated features were cut into the natural substrate, and sealed by between 0.80m and 1.37m (where identified) of sand deposits. Comparisons can be drawn with excavations 6km to the north, at the northern end of the Gwithian-Mexico Towans (Nowakowski *et al* 2007). There, a number of early to late Bronze Age sites were identified, sealed by a sequence of buried sand and soil layers similar to that identified on the North Quay site. With further sites located north of the development dating to both the Neolithic and Iron Age, a broad period of prehistory is represented close by. With only a single, heavily abraded, flint blade from one of the prehistoric features at North Quay, it is difficult to date this activity. The blade, dating to between the Neolithic and early Bronze Age, may be a residual find and so only indicates undefined activity in the area during this period.

Due to the limited number of prehistoric features and single find it is unclear what form the activity takes. Owing to the depth of drift sands, it was not possible to excavate all of the trenches down to the natural substrate, and therefore further undiscovered features may be present but were not exposed, not providing us a full view of the areas excavated.

At Gwithian they were able to date the earliest windblown sand deposits using Optical Stimulated Luminescence (OSL) to between 1650 and 1360 BC (±160). This form of dating has a high potential for dating the sand horizons across the site during future excavations and is a focus of the south-west archaeological research framework (*ibid;* Webster 2007).

The lowest buried layer on the site was likely the preserved prehistoric ground surface. A small magnetic susceptibility survey undertaken on layers in Trench 7 identified this layer as highly susceptible, probably indicating a presence of human activity in this area at the time this surface was exposed. Also, the presence of hammer scale within

a sample taken from one of the prehistoric features proves that metalworking occurred at this time.

After the features fell out of use, the ground was probably ploughed, degrading the features. As sand blew onto the site, the layer built up steadily, creating the lighter, orange layer above. When the site was abandoned entirely, sand was allowed to build up as pure windblown sand, stabilising at various times.

It is difficult to confidently assign the larger ditch in Trench 12 to a specific date as the bank positioned above obscures its relationship with the multiple buried soil layers. However, its profile does appear somewhat similar to the ditch in Trench 15, with the same alignment, and so these could be the same feature. This may explain why the ditch is not present on the geophysics data north of the modern road, as it is masked by the later bank.

The banks visible in the centre of Trench 12 and Trench 14 are part of the same linear earthwork, which appears to have been constructed using burnt material transported onto the site. The same earthwork would probably also be present within Trench 15, however the loose nature of the sand within the Trench made it impossible to clean and investigate further. The large amount of seeds and charcoal recovered from the bulk sample taken from this bank shows preservation within this layer is better than elsewhere on site. A focus on this deposit during future work could enhance understanding of the landscape at the time this bank was built.

The banks in Trench 11 and the eastern end of Trench 12 both consisted of material from their adjacent ditches, and so form a curving northern boundary to an enclosure. Both sets of banks were visible immediately below the topsoil and were sat on top of the early buried plough soils.

The multiple layers of sands buried the banks in situ, preserving them. These sands were likely windblown onto the site, however some may have been transported onto the site manually. A 17th century Act of Parliament allowed local farmers to extract sand from local beaches to use on their agricultural fields. Although there was likely already a substantial amount of sand on the site from windblown deposits, it is possible additional sand was added to create a more even landscape for farming. Future work could incorporate monolith tin samples to help identify and understand land conditions, particularly in areas of frequent turf re-establishment.

The single ditch identified in Trench 9 matches a linear field boundary identified on an Ordnance Survey map dating to 1877.

With the exception of the modern field boundary, none of the features expected from the previous geophysical survey were identified within A2. There may be a number of reasons for this. The depth of overlying sand deposits may have distorted the data, with areas of deeper stabilisation layers or buried prehistoric ground surface showing up as positive anomalies. It may also be that, due to the high susceptibility of the prehistoric ground surface, shadows of features which once were present are showing up more clearly. The regular nature of these anomalies makes the latter argument more likely. A number of features, with similar geophysical signatures as the banks and ditches in Trench 11 and 12, were also not detected. It is unlikely these features, given the strength of the anomalies, were not present in the locations of the trenches; however the instability of sand layers within the trench may have resulted in them not being easily visible.

Although little understanding can be drawn from this early phase of works within the North Quay development area, future works have the potential to contribute to several research aims identified within the regional framework (Webster 2007):

- Research Aim 2 – Encourage works of synthesis within and across periods, settlements, monuments and areas;
- Research Aim 3 – Address apparent “gaps” in our knowledge and assess whether they are meaningful of simply biases in current knowledge;
- Research Aim 10 – Address our lack of understanding of key transitional periods;
- Research Aim 16 – Increase the use and improve the targeting of scientific dating;
- Research Aim 18 – Target specific soil and sediment contexts for environmental information;
- Research Aim 28 – Improve or understanding of Neolithic settlements and landscapes;
- Research Aim 39 – Understand better the relationships of Neolithic and Bronze Age people to plants and animals;
- Research Aim 40 – Improve our understanding of agricultural intensification and diversification in later prehistory.

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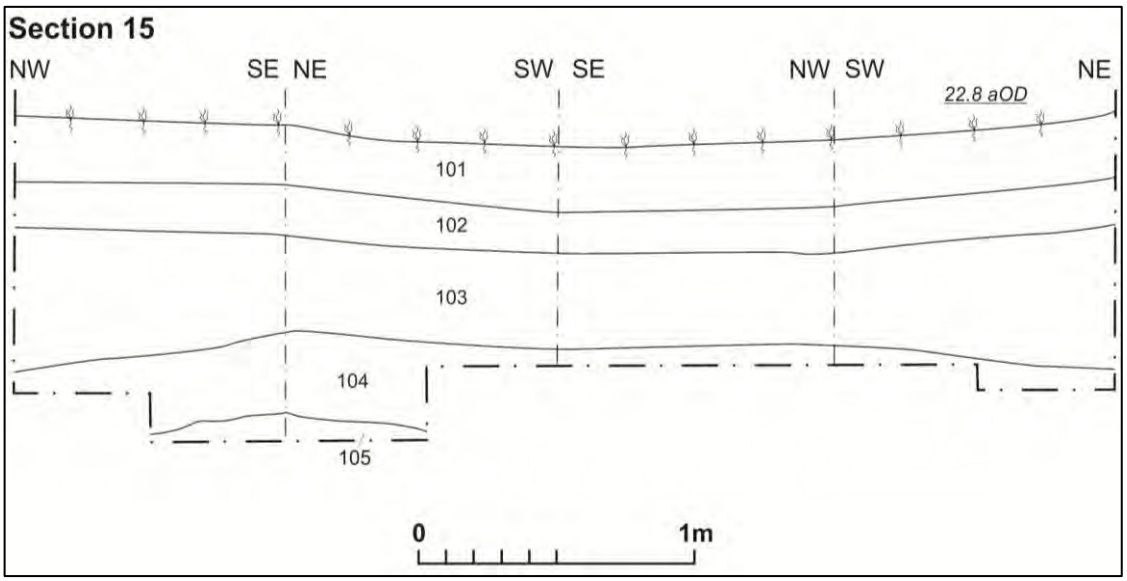
MOLA Northampton
21 January 2016, revised 18 March 2016

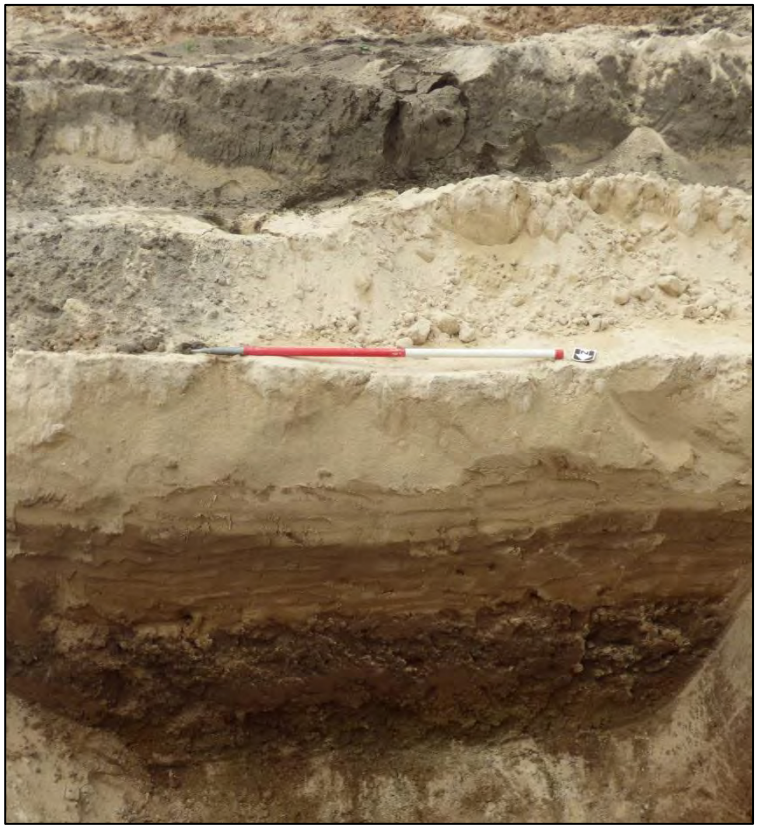
APPENDIX 1: CONTEXT INVENTORY

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
1	**1m x 1m**		**NW: 22.78m SE: 22.64m**	**-**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
101	Topsoil	Dark brown sandy loam	D: 0.24m	-
102	Layer	Light yellow sand, sand drift	D:0.16m	-
103	Layer	Mid yellow sand, sand drift	D: 0.35-0.53m	-
104	Layer	Mid orange-brown sand, rare stone	D:0.26m	-
105	Layer	Dark brown-red silty sand 30% mixed stones	D:0.10m	-



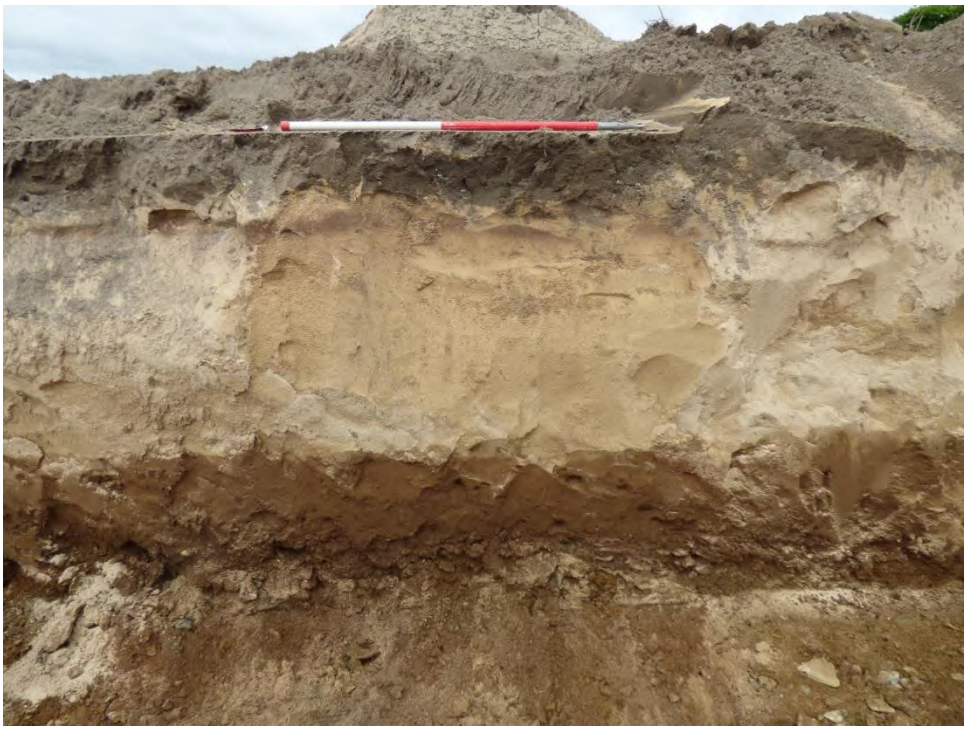
Test Pit 1, section (1:20) and photograph, looking north Fig 33

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
7	**50m x 1.8m ENE-WSW**		**ENE: 27.04m WSW: 27.74m**	**2.00m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
701	Topsoil	Dark brown-grey sand	D: 0.42m	-
702	Layer	White sand	D:0.09m-0.80m	-
703	Layer	Light brown sand	D:0.20m	-
704	Layer	Mid orange-brown sand	D:0.20m	-
705	Layer	Dark brown silty sand with 20% mixed irregular stones	D:0.30m	-
706	Layer	Mid-dark red-brown silty sand with 20% stones	D:0.20m	-
707	Natural	Green-blue mudstone	-	-
708	Layer	Yellow sand with grey mottling	D:0.09m	-
709	Layer	Light grey sand	D:0.10m	-



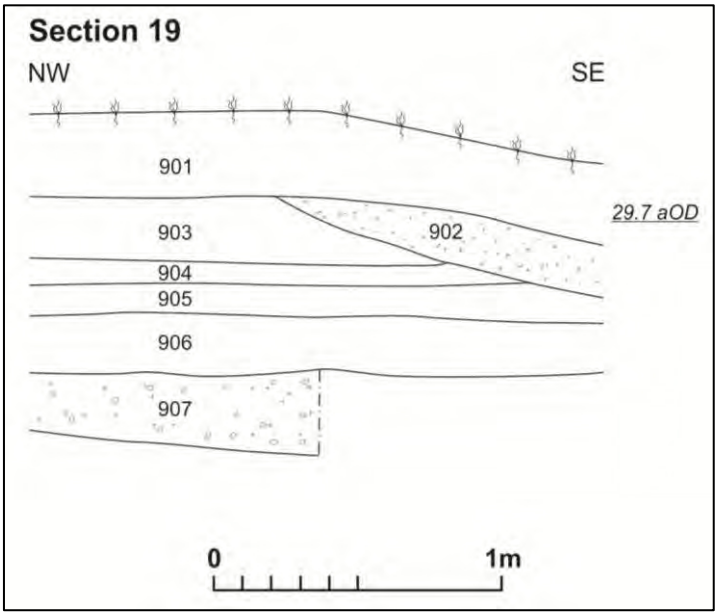
Trench 7, section, looking south Fig 34

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
8	**50m x 1.8m NNW-SSE**		**NNW: 32.22m SSE: 28.62m**	**1.27m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
801	Topsoil	Mid brown-grey sand	D: Up to 0.35m	-
802	Layer	White sand with grey mottling	D:0.12m	-
803	Layer	Grey-brown sand	D:0.10m	-
804	Layer	Yellow-white sand	D:0.12-0.70m	-
805	Layer	Light brown sand	D:0.30m	-
806	Layer	Red-brown silty sand with 60 % mixed irregular stones	D:0.22m	-
807	Natural	Green-blue mud stone	-	-
808	Layer	Light orange-brown sand	D:0.10m	-
809	Layer	Dark grey-brown sand	D:0.10m	-



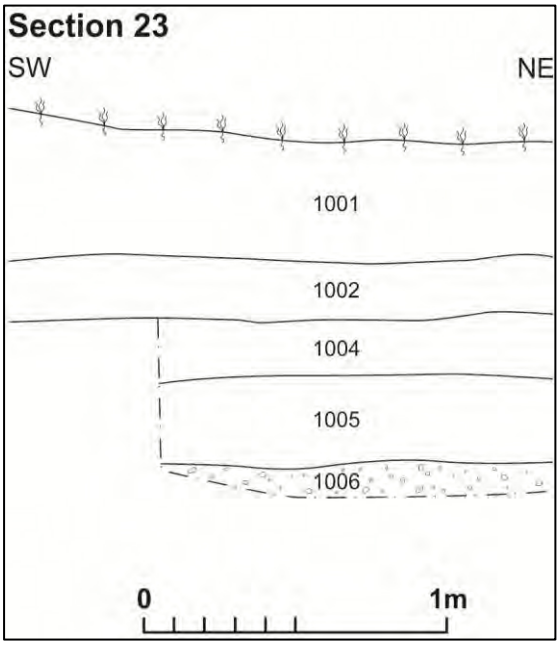
Trench 8, section, looking west Fig 35

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
9	**50m x 4m NW-SE**		**NW: 30.44m SE: 27.10m**	**1.39m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
901	Topsoil	Mid brown-grey sand	D: 0.30m	-
902	Layer	Mid brown silty sand with 5% stones	D:0.10m	-
903	Layer	White-yellow sand with grey mottling	D:0.20m	-
904	Layer	Light grey sand	D: 0.10m	-
905	Layer	White-yellow sand with grey mottling	D: 0.17-0.51m	-
906	Layer	Orange-brown sand	D:0.20m	-
907	Layer	Red-brown silty sand with 30% mixed irregular stones	D:0.30m	-
908	Natural	Green-blue mudstone	-	-
909	Layer	Light brown sand	D:0.15m	-
910	Fill of 914	Mixed white and orange sand	W:1.96m D:0.40m	-
911	Fill of 914	Dark orange-brown sand	W;1.22m D:0.30m	-
912	Fill of 914	White sand	W:0.36m D:0.19m	-
913	Fill of 914	Dark grey-brown sandy silt	W:1.56m D:0.20m	-
914	Ditch	NE-SW, U -shaped with a flat base	W;2.31m D:0.60m	-



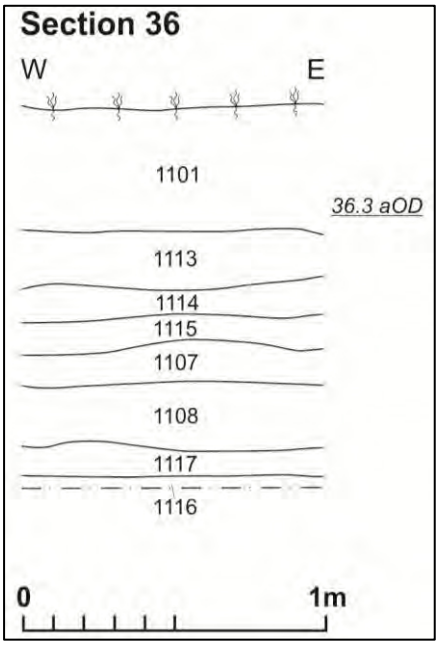
Trench 9, section (1:20) Fig 36

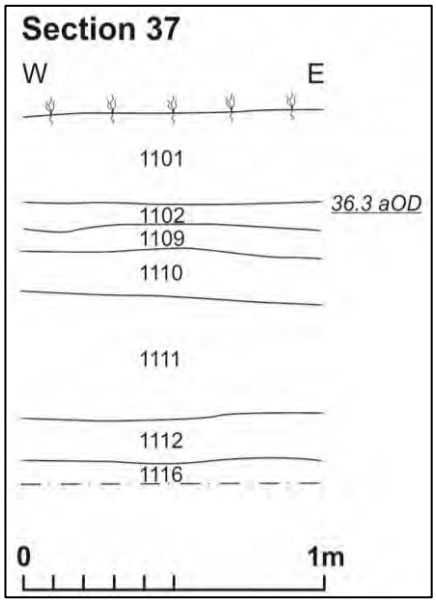
Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
10	**50m x 1.8m NE-SW**		**NE: 31.45m SW: 33.14m**	**1.25-1.70m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1001	Topsoil	Mid grey-brown sand	D: 0.40m	-
1002	Layer	White sand with grey mottling	D:0.30-0.60m	-
1003	Layer	Mid-dark red-brown sand with 30% mixed stones	D:0.40-0.60m	-
1004	Layer	Light orange-brown sand	D:0.10m	-
1005	Layer	Orange-brown sand	D:0.40m	-
1006	Natural	Green-blue mudstone	-	-



Trench 10, section (1:20) and photograph, looking north-west Fig 37

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
11	**50m x 1.8m E-W**		**E: 36.06m W: 36.75m**	**1.30m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1101	Topsoil	Mid brown-grey sand	D: 0.29-0.40m	-
1102	Layer	Yellow sand	D:0.53m	-
1103	Layer	Mixed yellow and grey sand, buried soil	D;0.27m	-
1104	Layer	Orange sand, buried soil	D:0.17m	-
1105	Layer	Brown sand with 10% stone on the west side of bank	D:0.40m	-
1106	Layer	Dark orange sand with 10% stone, capping of bank	D:0.16m	-
1107	Layer	Grey-yellow sand, core of bank	D:0.25m	-
1108	Layer	Dark brown-orange sand with 10% stone	D:0.29m	-
1109	Layer	Mid brown-grey sand, buried soil	D:0.08m	-
1110	Layer	Yellow sand, sand drift	D:0.16m	-
1111	layer	Brown-orange sand	D:0.42m	-
1112	Layer	Dark red-brown silty sand, buried soil	D:0.15m	-
1113	Layer	Mid brown-grey sand, buried soil	D:0.20m	-
1114	Layer	Yellow sand, sand drift	D:0.12m	-
1115	Layer	Mid brown-grey sand, buried soil	D:0.11m	-
1116	Natural	Green blue mudstone	-	-
1117	Layer	Dark red-brown silty sand, buried soil	D:0.16m	-
1118	Ditch	N-S, U -shaped profile with rounded base.	W: 1.80m D: 0.50m	

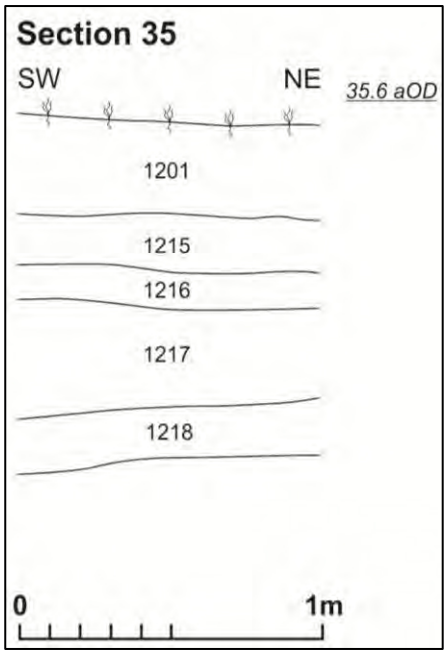


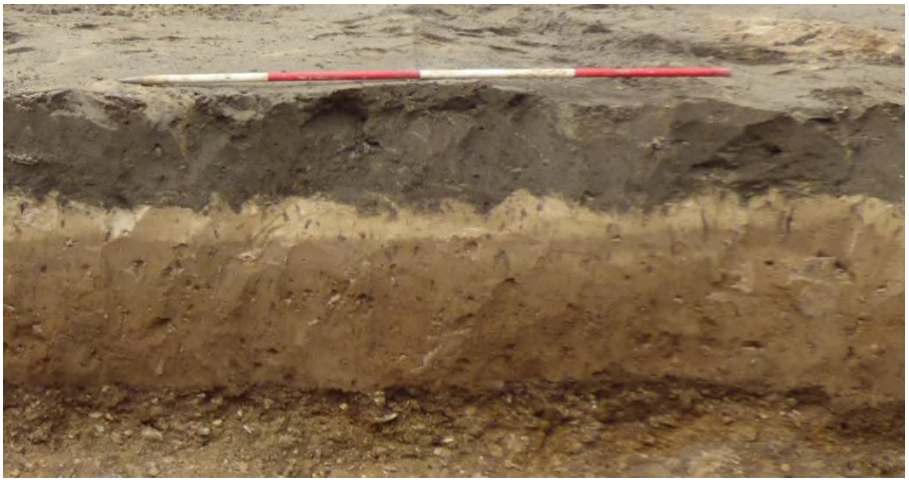


Trench 11, sections (1:20) inside bank (S.36) and outside bank (S.37) Fig 38

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
12	**50m x 4m NE-SW**		**NE:35.10m SW:35.11m**	**1.20m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1201	Topsoil	Dark brown plough soil	D: Up to 0.30m	-
1202	Layer	Light-mid orange-brown sand	D:0.39m	-
1203	Layer	White sand	D:0.50m	-
1204	Layer	Light brown sand	D:0.35m	-
1205	Layer	Red brown silty sand with 20% mixed irregular stones	D:0.40m	-
1206	Natural	Green-blue mudstone	-	-
1207	Layer	Orange sand	D:0.12m	-
1208	Layer	Dark grey-brown silty sand	D:0.75m	-
1209	Layer	Very dark black-grey silt with some charcoal	D:0.26m	Sample 2
1210	Fill of 1212	Friable mid brown-orange silty clay with 30% mixed stones	W:3.14m D:0.76m	Animal bone
1211	Fill of 1212	Friable light greenish-brown silt with 20% mixed stones	W:1.40m D:0.22m	-
1212	Ditch	NW-SE, wide U shape with rounded base	W:3.14m D:0.98m	-
1213	Fill of 1214	Dark blackish-grey silty sand	W:0.66m D:0.20m	-
1214	Ditch	U shape with a rounded base	W:0.66m D:0.20m	-
1215	Layer	Light white sand	D:0.12m	-
1216	Layer	Mid grey sand , buried soil	D:0.12m	-
1217	Layer	Mid grey-orange sand	D:0.32m	-
1218	Layer	Dark grey-brown silty sand	D:0.24m	-
1219	Layer	Mid grey-brown sand, buried soil	D:0.20m	-
1220	Layer	Mid brown sand	D: 0.10-0.35m	-
1221	Layer	White sand	D:0.18m	-
1222	Layer	Mid reddish-brown sand	D:0.54m	-
1223	Layer	Dark grey-brown silty sand	D:0.18-0.50m	-
1224	Fill of 1224	Friable dark brown-red silty sand with 20% stone	W:1.16m D:0.33m	-
1225	Pit	Sub-oval , with an irregular profile and uneven base	W:1.16m D:0.33m	-
1226	Fill of 1227	Friable dark brown-red, silty sand with 20% small-med stones	W:0.95m D:0.16m	-
1227	Ditch	N-S, shallow U shape with flat base	W:0.95m D:0.16m	-
1228	Fill of 1229	Friable dark brown-red, silty sand with 20% small- med stones	W:0.87m D:0.19m	-
1229	Ditch	E-W, shallow U shape with a rounded base	W:0.87m D:0.19m	-
1230	Fill of 1231	Friable dark brown-red silty sand, with 20% small-med stones and 10% large stones	W:0.63m D:0.24m	-
1231	Gully	NNW-SSE, steep sided U shape with flat base	W:0.63m D:0.24m	-
1232	Layer	Mixed brown and yellow sand with root disbrance	D:0.06m	-

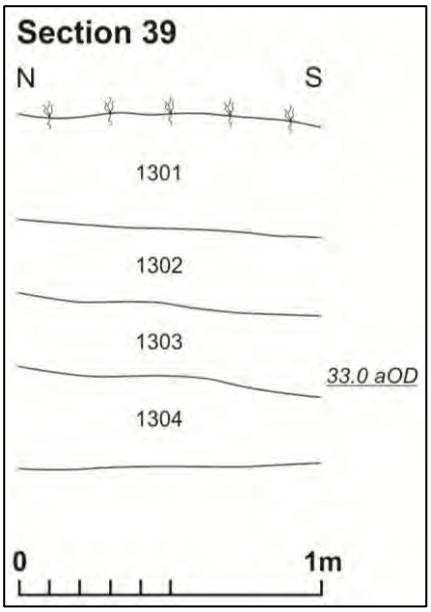
1233	Fill of 1238	Loose yellow sand	D:0.62m	-
1234	Fill of 1238	Loose mid grey-brown sand	D:0.10m	-
1235	Fill of 1238	Loose mid grey-yellow	D:0.13m	-
1236	Fill of 1238	Loose mid brown-orange sand	D:0.14m	-
1237	Fill of 1238	Loose yellow sand	D:0.20+	-
1238	Pit	Sub-circular, profile and base unknown, not fully excavated	W:3m+ D:0.80m+	-
1239	Layer	Dark brown silty sand with 20% stone	D:0.22m	-
1240	Layer	Mid orange-brown sand	D:0.56m	-
1241	Fill of 1242	Orange-brown sand	W:1.75m D:0.30m	-
1242	Ditch	NW-SE, U -shaped profile with rounded base	W:1.75m D:0.30m	-
1243	Layer	Brown sand, mixed root and worm disturbance	D:0.10m	-





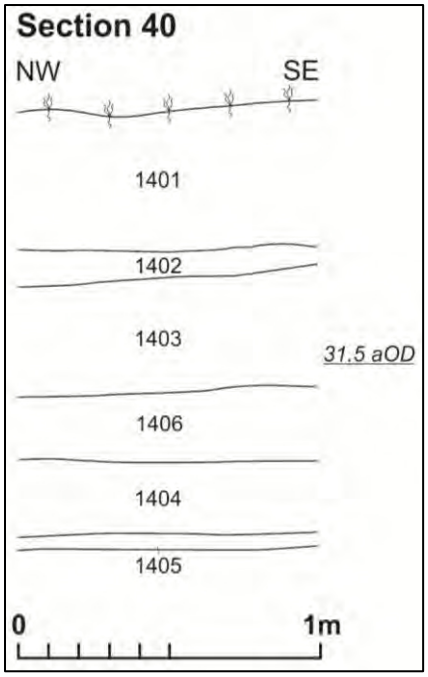
Trench 12, section (1:20) and photograph, looking north-west Fig 39

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
13	**50m x 4m NNW-SSE**		**NNW: 35.44m SSE: 32.26m**	**1.37m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1301	Topsoil	Mid grey-brown sand	D:0.38m	-
1302	Layer	Yellow sand, sand drift	D:0.26m	-
1303	Layer	Mid orange-brown sand	D;0.24m	-
1304	Layer	Dark brown-red silty sand with 20% stones	D:0.34m	-
1305	Fill of 1306	Friable dark red silty sand with 20% stones	W:0.56m D:0.10m	-
1306	Ditch	E-W, cornering to N-S, rectilinear, shallow irregular U shape with a flat base	W:0.56m D:0.10m	-
1307	Fill of 1308	Friable dark grey-black, silty sand, 20% stones and some charcoal	W:0.91m D:0.17m	-
1308	Pit	Amorphous, irregular sides and base	W:0.91m D:0.17m	-
1309	Fill of 1310	Friable dark brown-red, silty sand with 10% stones	W:0.31m D:0.26m	-
1310	Posthole	Circular, near vertical sides with a flat base	W:0.31m D:0.26m	-
1311	Fill of 1312	Friable dark brown-red silty sand with 10% small stones	W:0.37m L:0.50m D:0.08m	-
1312	Posthole	Oval shallow U shape with an even base	W:0.37m L:0.50m D:0.08m	-
1313	Natural	Green blue mudstone	-	-
1314	Fill of 1315	Firm dark brown sand and gravels,1% charcoal	W:0.60m D:0.07m	-
1315	Gully	Very shallow U shape with uneven base	W:0.60m D:0.07m	-
1316	Fill of 1317	Firm dark brown sand and gravels, 1% charcoal.	W:0.24m D:0.17m	-
1317	Posthole	Circular, U -shaped with rounded base	W:0.24m D:0.17m	-



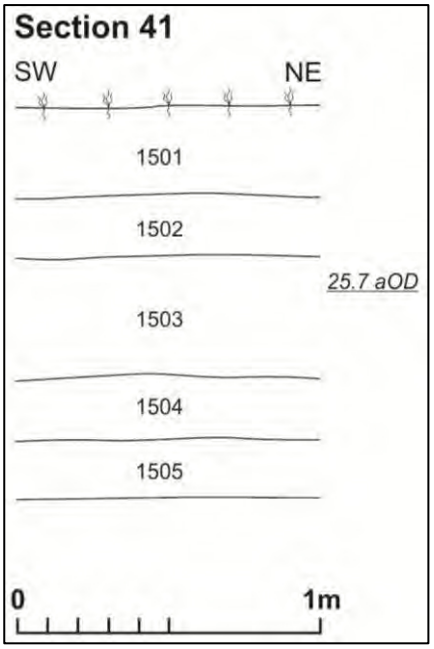
Trench 13, section (1:20) and photograph, looking east Fig 40

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
14	**50m x 1.8m NE-SW**		**NE:33.35m SW:31.42m**	**1.46m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1401	Topsoil	Dark brown plough soil	D: Up to 0.40m	-
1402	Layer	Light yellow sand	D:0.17-0.62m	-
1403	Layer	Light brown sand	D:0.17m	-
1404	Layer	Red-brown silty sand with 30% mixed irregular stones	D:0.40m	-
1405	Natural	Green-blue mudstone	-	-
1406	Layer	Light red-brown silty sand	D:0.68m	-
1407	Layer	Black silty sand with burnt material and mixed stones	D:0.14m	-
1408	Ditch	NW-SE, shallow U shape with an even base	W:6.5m D:0.50m	-
1409	Layer	Brown silty sand with 10% stone	D:0.18m	-
1410	Layer	Orange-brown sand	D:0.20m	-
1411	Layer	Dark brown-grey silty sand with 20% stone	D:0.20m	-
1412	Layer	Red-brown silty sand with 20-30% stone	D:0.17m	-



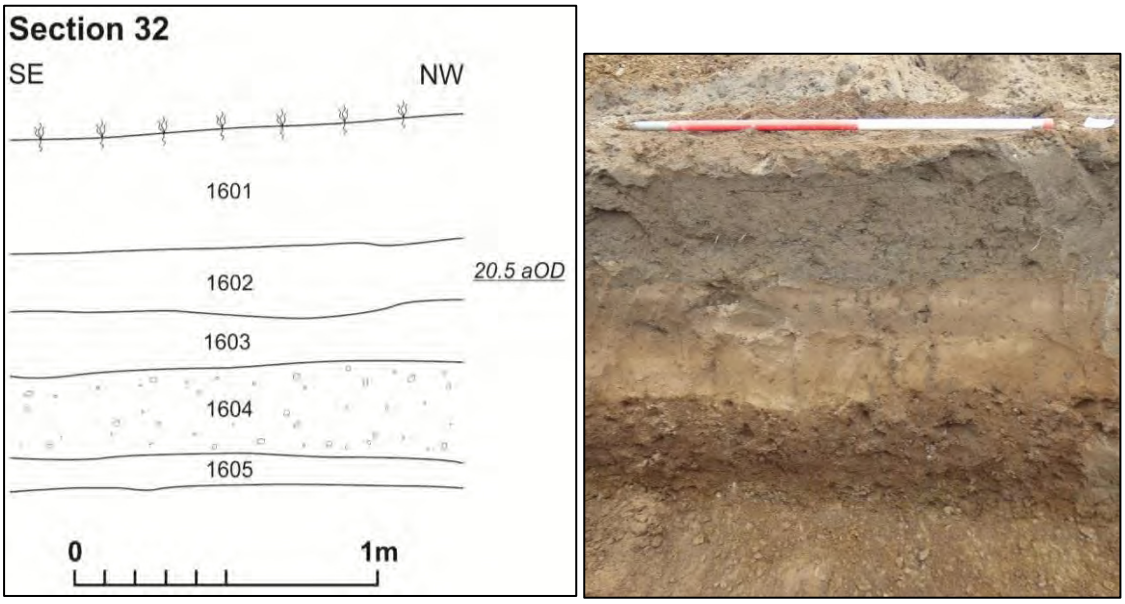
Trench 14, section (1:20) and photograph, looking north-east Fig 41

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
15	**50m x 1.8m N-S**		**NE:26.20m SW:25.58m**	**1.40m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1501	Topsoil	Mid brown-grey sand	D:0.30m	-
1502	Layer	Mid orange-brown sand with 5% small mixed stones	D:0.20m	-
1503	Layer	White sand with grey mottling	D:0.40m	-
1504	Layer	Red-brown sand with 10% mixed stones	D:0.20m	-
1505	Layer	Mid brown sand with 40% mixed stones	D:0.20m	-
1506	Natural	Green-blue mudstone	-	-
1507	Fill of 1508	Mid red-brown silty clay with 30% mixed stones	W:6.00m D:1m+	-
1508	Ditch	NW-SE, broad U shape with unknown base. Machine excavated	W:6.00 D:1m+	-



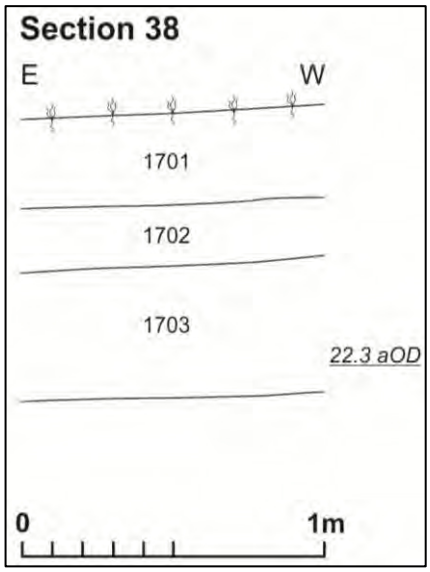
Trench 15, section (1:20) Fig 42

Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
16	**50m x 1.8m ENE-WSW**		**ENE: 19.43m WSW: 21.74m**	**1.15m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1601	Topsoil	Mid brown-grey sand	D: Up to 0.40m	-
1602	Layer	Mid brown-grey sand	D:0.20m	-
1603	Layer	Yellow sand with grey mottling	D:0.20m	-
1604	Layer	Dark brown silty sand with 30% small stones	D;0.25m	-
1605	Layer	Orange-brown silty sand with 30% small mixed stones	D:0.10m	-
1606	Natural	Green-blue mudstone	-	-
1607	Fill of 1608	Compacted light grey-brown silty sand with 1% small stones	W:0.27m D:0.25m	-
1608	Posthole	Circular, steep sided with a flat base	W:0.27m D:0.25m	-
1609	Fill of 1610	Compacted mid brown silty sand with 5% small stone	W:0.30m D:0.05m	-
1610	Posthole	Circular, with gentle sloping sides and a board flat	W:0.30m D:0.05m	-
1611	Fill of 1612	Firm mid-light grey-brown, silty sand with 1% small stones	W:0.35m D:0.06m	-
1612	Posthole	Circular, steep sided with a flat base	W:0.35m D:0.06m	-



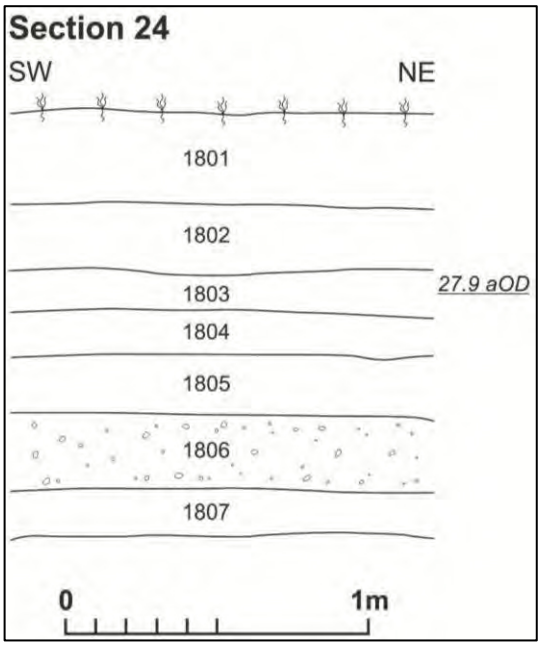
Trench 16, section (1:20) and photograph, looking south-west Fig 43

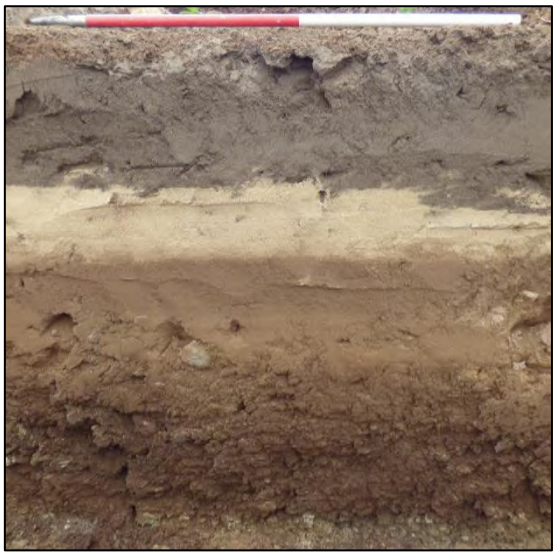
Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
17	**58m x 1.8m NW-SE**		**NW:25.20m SE:20.57m**	**0.85m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1701	Topsoil	Mid grey-brown sand	D:0.36m	Pottery
1702	Layer	Yellow-orange sand, sand drift	D:0.10m	Pottery
1703	Layer	Dark brown-red silty sand with 30% stones, buried soil	D:0.38-0.48m	-
1704	Natural	Green-blue mudstone	-	-
1705	Fill of 1706	Friable dark brown-red silty sand with 20% small-med stones	W:0.68m D:0.16m	Small find 1 Sample 4
1706	Gully	Shallow U shape with a flattish base	W:0.68m D:0.16m	-
1707	Fill of 1708	Friable dark brown-red silty sand	W:1.00m D:0.15m	-
1708	Pit	Sub-oval, shallow U shape with a flat base.	W:1.00m D:0.15m	-



Trench 17, section (1:20) and photograph, looking south Fig 44

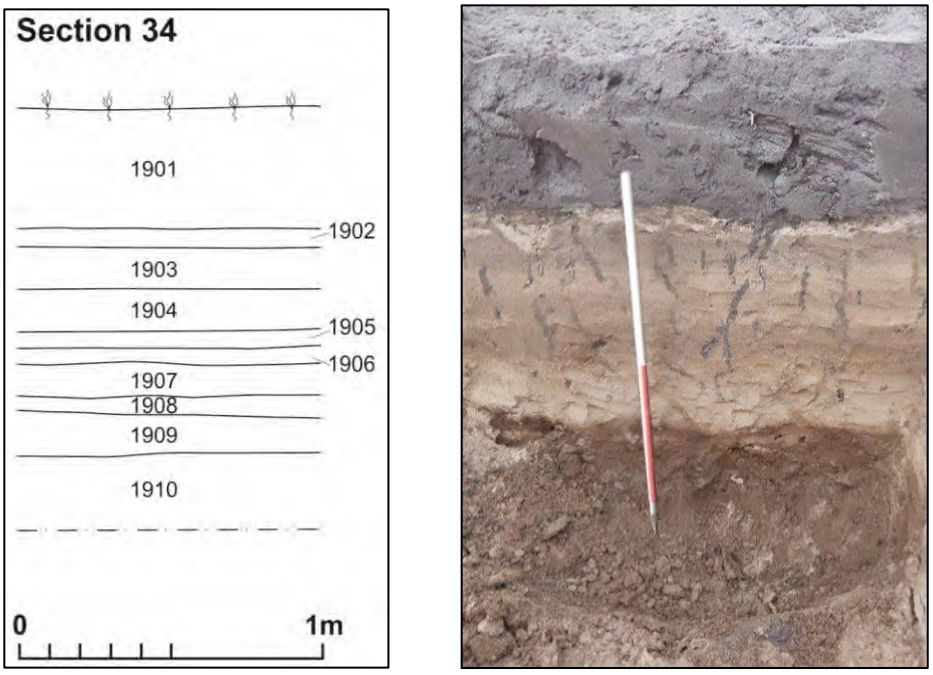
Trench No.	**Length, width & alignment**		**Surface height, (aOD)**	**Depth to natural**
18	**75m x 1.8m NE-SW**		**NE:28.57m SW:28.79m**	**1.40m**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1801	Topsoil	Mid grey-brown sand	D:0.30m	Slag
1802	Layer	Yellow sand	D:0.15m	-
1803	Layer	Light-mid brown-orange sand	D:0.15m	-
1804	Layer	Light brown sand with 1% stones	D:0.17m	-
1805	Layer	Mid-dark grey-brown silty sand	D:0.16m	-
1806	Layer	Dark red-brown silty sand with 30% mixed stones	D:0.26m	-
1807	Layer	Mid brown silty sand with 30% mixed stones	D:0.14m	-
1808	Natural	Green-blue mudstone	-	-
1809	Layer	Light-mid grey brown sand	D:0.14m	-
1810	Fill of 1811	Friable light brown silty sand with 5% stones and <1% charcoal	W:0.30m D:0.20m	Sample 3
1811	Posthole	Circular, straight sided with a board flat base	W:0.30m D:0.20m	-
1812	Fill of 1813	Friable mid red-brown, silty sand with 10% mixed stones	W:0.80m+ D:0.20m	-
1813	Pit	Irregular, gentle sloping sides and a sloping base	W:0.80m+ D:0.20m	-
1814	Fill of 1815	Friable mid red brown, silty sand with 10% mixed stone	W:0.35m D:0.15m	-
1815	Posthole	Circular, gentle sloping with a rounded base	W:0.35m D:0.15m	-
1816	Fill of 1817	Firm dark grey-brown silty sand with 10% mixed stones	W:1.00m D:0.18m	-
1817	Ditch	NE-SW, gently sloping with flat base	W:1.00m D:0.18m	-
1818	Fill of 1819	Firm dark grey-brown, silty sand with 30% mixed stone	W:1.20m D:0.24m	-
1819	Ditch	E-W, gently sloping sides with a board flat base	W:1.20m D:0.24m	-





Trench 18, section (1:20) and photograph, looking north-west Fig 45

Trench No.	Length, width & alignment		Surface height, (aOD)	Depth to natural
19	**50m x 1.8m NW-SE**		**NW:26.93m SE:23.01m**	**1.40m+**
Context	***Context type***	***Description***	***Dimensions***	***Artefacts/ Samples***
1901	Topsoil	Mid grey-brown sand	D:0.40m	-
1902	Layer	Mixed yellow, brown and orange sand	D:0.08m	-
1903	Layer	Brown sand, buried soil	D:0.12m	-
1904	Layer	Yellow and orange sand, buried soil	D:0.14m	-
1905	Layer	Brown sand, buried soil	D:0.08m	-
1906	Layer	Yellow-orange sand, drift sand	D:0.06m	-
1907	Layer	Brown sand, buried soil	D:0.12m	-
1908	Layer	Orange sand, drift sand	D:0.06m	-
1909	Layer	Yellow sand , drift sand	D:0.14m	-
1910	Layer	Red-brown silty sand with 20% stones	D:0.22m	-



Trench 19, section (1:20) and photograph, looking north-east Fig 46

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