

Fitz Park, Cockermouth, Cumbria.

Archaeological Excavation 2014



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Executive Summary

In February 2014 Archaeological Research Services Ltd was commissioned by Lovell Partnerships to undertake an archaeological excavation at Fitz Park, Cockermouth, Cumbria as a follow up to archaeological evaluation trenching in advance of a proposed housing development scheme for the construction of up to 217 homes. The site is situated on pasture land west of Cockermouth, is bounded to the south by the A66 and is centred on grid reference NY10558 30792.

Archaeological evaluation trenching carried out in January 2014 led to the discovery of a silted palaeochannel from which numerous fragments of prehistoric pottery were recovered. The purpose of this excavation was to attempt to determine the probable origin of the pottery, understand its distribution within the palaeochannel, and determine the extent, if any, of archaeological features in the immediate vicinity.

The palaeochannel was well defined towards the western end of the trench, and more ephemeral towards the east, where it was confined to a thinner channel, although this appeared to be widening as it reached the limit of excavation. The channel was generally curving from the south-west to north-east.

*Potsherds recovered from the lower deposits of the channel were spread over a distance of c.20m They appear to originate from the same vessel, a carinated bowl, and date to the Early Neolithic period. A single grain of Emmer Wheat (*Triticum diococcum*) recovered from the same deposit was dated with 95.4% probability to 3707 - 3638 cal BC. The pottery did not display any evidence of rolling or abrasion, having crisp and fragmented edges, and with the addition of the presence of conjoining 'sherds would appear to suggest that the broken vessel may have been deposited into standing water. The distribution of charcoal fragments alongside the ceramics may also support this theory. If the water was flowing the charcoal would remain in suspension when deposited and continue downstream. It is possible that the palaeochannel had become silted up and cut-off from the main flow of water during the Neolithic period when deposition occurred.*

The process which led to the deposition of pottery within the river channel has left no other evidence within the area of excavation. It is possible that the silted-up channel may have held a special significance for the Neolithic people of the area, and the fragmented bowl was placed into the water as some form of offering.

1 Introduction

1.1. This report describes an archaeological excavation undertaken at Fitz Park, Cockermouth, Cumbria in 2014 by Archaeological Research Services Ltd (ARS Ltd) on behalf of Lovell Partnerships. The excavation took place on land situated to the north of the A66 in advance of a housing development scheme as a result of a potential feature of importance being identified during archaeological evaluation trenching work. Excavation and sampling of the site took place over a four-day period.

1.2. Archaeological evaluation trenching carried out in January 2014 (Lotherington 2014, 11) led to the discovery of a silted-up palaeochannel from which numerous fragments of probable prehistoric pottery were recovered. The purpose of this excavation was to attempt to determine the probable origin of the pottery, understand its distribution within the palaeochannel, and determine the extent, if any, of archaeological features in the immediate vicinity.

2 Location, Land Use and Geology

2.1. The proposed development site comprises two fields north of the A66 west of Cockermouth that are bisected by the westernmost portion of Fitz Woods and bordered to the north by Low Road (B5292) and the River Derwent beyond. The site is centred on grid reference NY 10557 30792 (Figure 1).

2.2. The solid geology of the area comprises Mudstone and Siltstone of the Hope Beck formation overlain by alluvial deposits of clay, silts, sandstone and gravels (BGS 2014).

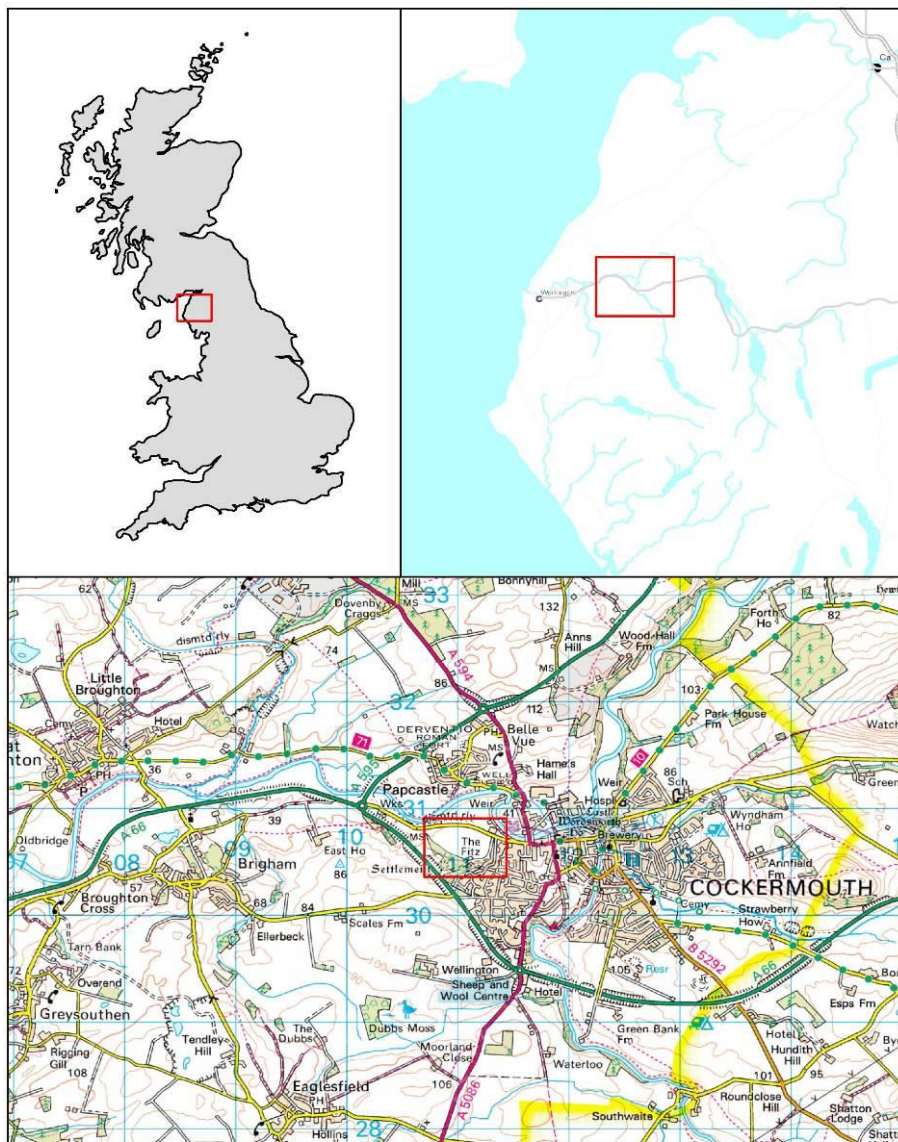


Figure 1. Site location

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3 Archaeological and Historical Background

3.1. *Prehistoric and Romano-British periods*

3.1.1. The earliest known activity within the vicinity is a settlement dating to the Romano-British period situated at Papcastle, c.1km to the north of the proposed development area. It seems likely that the settlement is derived from the Roman fort of *Devensio* and the associated civilian centre (*vicus*).

3.1.2. South-east of the site is a banked and ditched enclosure (SAM 27706), considered to be Romano-British in date and it has been considered that features associated with this Scheduled Ancient Monument (SAM) may be present within the proposed development area (Giecco 2009).

3.2. *Medieval period*

3.2.1. Cockermouth town developed under the Normans who had occupied the former site of the nearby Roman fort at Papcastle and market charters were granted to the town in 1221 and 1227. The town developed a distinctive medieval layout, comprising a broad main street of burgesses' houses, each associated with a burgage plot. As a consequence, there is the potential for medieval agricultural activity to have occurred within the area of the proposed development.

3.3. *Post-Medieval period*

3.3.1. The Fitz is an early 19th century manor house with Grade II Listed status located off The Parklands, Cockermouth, Cumbria. (UID No.72603). The building is a late Georgian mansion built between 1834 and 1839 (Cracknell 2009). The mansion is situated within Fitz Park, an area of parkland approximately 23 acres in size within which the proposed new development is located (Giecco 2010).

3.3.2. A geophysical survey of the site was conducted by North Pennines Archaeology in 2009-2010 and identified only a limited number of features. These were interpreted to be possible palaeochannels, land drains and two service trenches located in the northern-west corner of the site. The service trenches are on an ENE-WSW orientation and run towards the modern sewage works. Additionally, trial trenching conducted on the southern area of the site adjacent to the SAM revealed no archaeologically significant finds, features or deposits (Giecco 2010).

4 Method Statement

4.1. The excavation was carried out over a four day period in February 2014 by stripping back the topsoil in spits with a 360° tracked excavator equipped with a toothless ditching bucket to open a trench measuring 20m by 17m in size. The location and dimensions of the excavation trench were based on a projection of the palaeochannel resulting from the previous evaluation trenching work. The underlying deposits and palaeochannel were exposed. The entire process was monitored by archaeologists.

4.2. Once the course of the palaeochannel had been identified during the stripping process it was noted that it did not follow the projected route, therefore the trench dimensions were altered and extended accordingly to allow for this. Three 2m wide slots were excavated across the palaeochannel to enable sample excavation and recording. This involved the collection of artefacts and samples suitable for radiocarbon dating and

environmental analysis. All excavation was undertaken with trowels and small tools. The content of all deposits within the palaeochannel containing artefacts, or with potential for containing organic material, were sampled and subject to flotation through a 500µm sieve. Each excavated slot was photographed using digital and black and white print film. All sections and features were drawn and planned at 1:20. The section lines were surveyed to provide an Ordnance Survey datum for each feature.

4.3. All the deposits were described in the field on pro-forma context sheets. The sheets contain prompts for the recording of sediment composition, compaction and colour, the dimensions of the deposit, its relationship to other deposits and features, artefact content, environmental samples, drawing and photographic records and an interpretative discussion to ensure consistency across all records. All features were described in accordance with MoLAS conventions. Drawings were produced on drawing film. Registers of all contexts, samples, finds, and drawings were also made. Artefacts were bagged individually and assigned an individual find number, with the site code and the deposit from which they were recovered clearly indicated. Ceramic finds were bubble-wrapped before being placed in labelled bags or boxes as appropriate. Any single entity charred material samples suitable for radiocarbon dating were wrapped in aluminium foil before being placed in labelled bags.

4.4. Flotation of sediments to recover organic materials was undertaken on site. The fill of each deposit which contained material culture or was organic-rich were passed through flotation to maximise recovery of small finds and organic material. The sediments were passed through three mesh sieves from 5mm down to the smallest which measured 500µm. Material from the sieve was air dried and then placed in a sealed bag marked with its context and environmental sample number. All the dating and environmental samples were recorded in a separate register.

5 Results

5.1. In summary, the only feature observed within the excavation trench was the targeted palaeochannel which was examined in detail at three locations across its width. The palaeochannel was well defined towards the western end of the trench, and more ephemeral towards the east, where it was confined to a thinner channel. The channel was generally curving from the south-west to north-east, and did not follow the course as projected based on the evaluation trenching, therefore the extent of the excavation trench was altered accordingly (Figure 2).

5.2. No archaeological features were observed within the excavation trench.

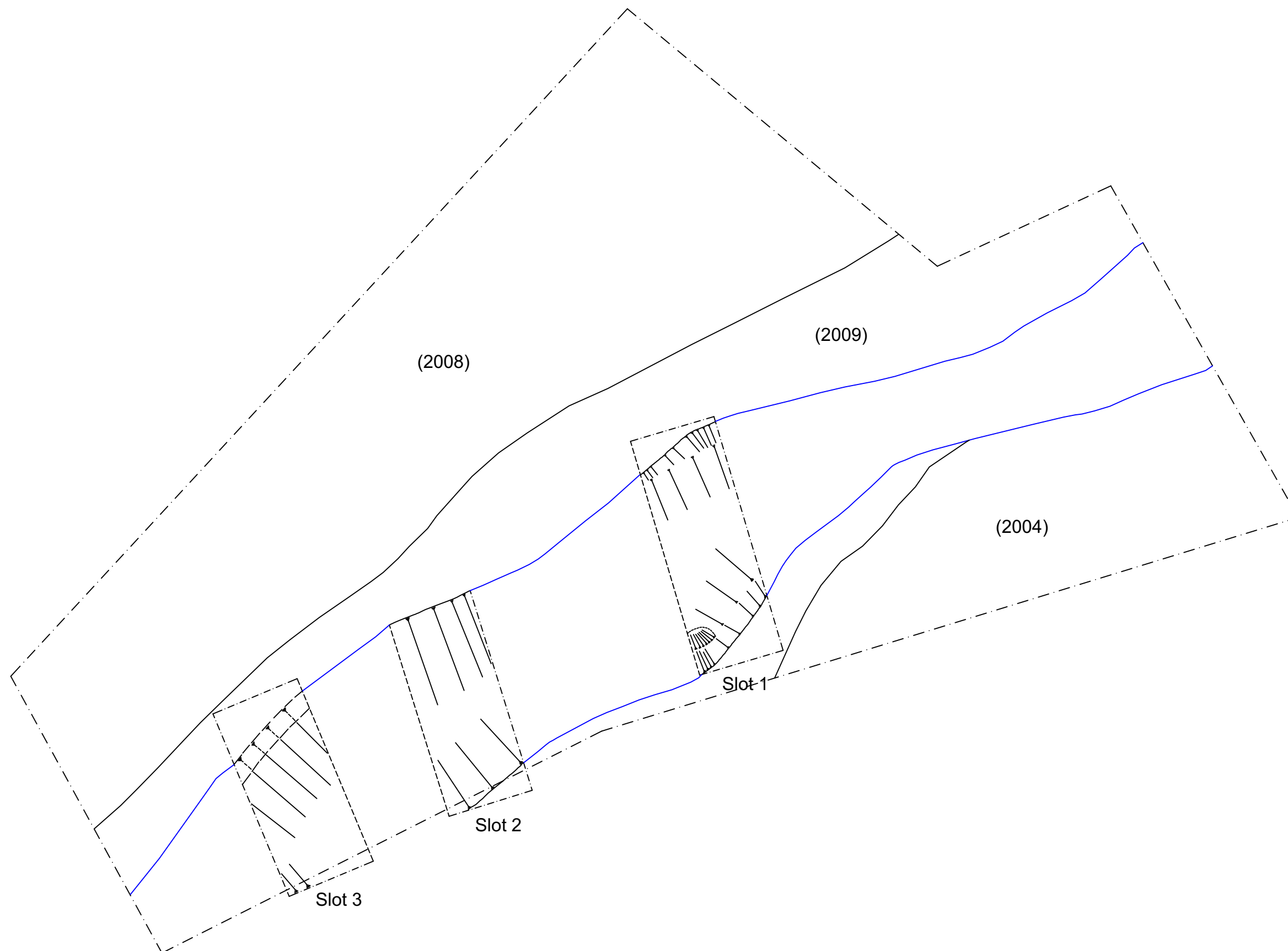
Topsoil. The topsoil (2001) consisted of a dark-grey-brown clayey silt soil containing limited gravel inclusions and measured no greater than 0.40m at its maximum recorded depth.

Subsoil. The subsoil (2002) consisted of a reddish-brown clayey silt soil containing limited pebbles and small stones and measured no greater than 0.80m at its maximum recorded depth.

Figure 2. Excavation trench plan

Scale: 1:100 at A3

Key:



metres 0 5 10

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6 Stratigraphic Report

6.1. Excavation Trench 20A (Figure 3 and Figure 4) was specifically located to target the palaeochannel which was exposed in Trench 20 during the previous evaluation trenching work (Lotherington 2014). Due to the location of a water course the trench could not be extended to the south, and an access track into a field to the east limited the trench in that direction. The palaeochannel was orientated along an east-south-east to west-south-west direction, curving towards the south at the observed western limit. Riverine gravels were observed to the north and south of the channel, which represented the limit or banks of the body of water under investigation. No archaeological features were observed.

6.2. *Palaeochannel, Slots 1 - 3*

6.2.1. A sandy yellow clay deposit (2003), which was probably the result of alluviation, extended across the palaeochannel and was excavated to a maximum depth of 0.30m. This deposit was overlain to the north by a strip of silt (2009), similar in character to the overlying subsoil (2002), which filled a depression running parallel between the channel and the gravel terrace (2008) to the north to a depth of 0.30m. The alluvial deposit (2003) sealed a shallow greyish silty clay (2007) measuring approximately 0.10m in depth. This clay deposit, limited to the northern periphery of the palaeochannel, contained numerous degraded pottery fragments. An organic-rich silty clay (2005) measuring 0.15m at its maximum recorded depth was sealed at the base of the palaeochannel and extended across its width. Fragments of pottery and charcoal were recovered from this deposit, where they were distributed throughout. Deposits (2007) and (2005) were sampled for environmental floatation.



Figure 3. View across the trench, facing east-north-east. Scale = 2m x 2m.



Figure 4. View across the trench, facing west-south-west. Scale = 2m x 2m.



Figure 5. Palaeochannel Slot 1 plan, facing north-west. Scale = 2m x 2m.



Figure 6. Palaeochannel Slot 1 section, facing west. Scale = 2m x 1m.



Figure 7. Palaeochannel Slot 1 section north detail. Scale = 1m.



Figure 8. Palaeochannel Slot 1 section middle detail. Scale = 1m.



Figure 9. Palaeochannel Slot 1 section south detail. Scale = 1m.



Figure 10. Palaeochannel Slot 2 plan, facing south-east. Scale = 2m x 1m.



Figure 11. Palaeochannel Slot 2 section, facing west. Scale = 2m.



Figure 12. Palaeochannel Slot 3 plan, facing south. Scale = 2m x 1m.

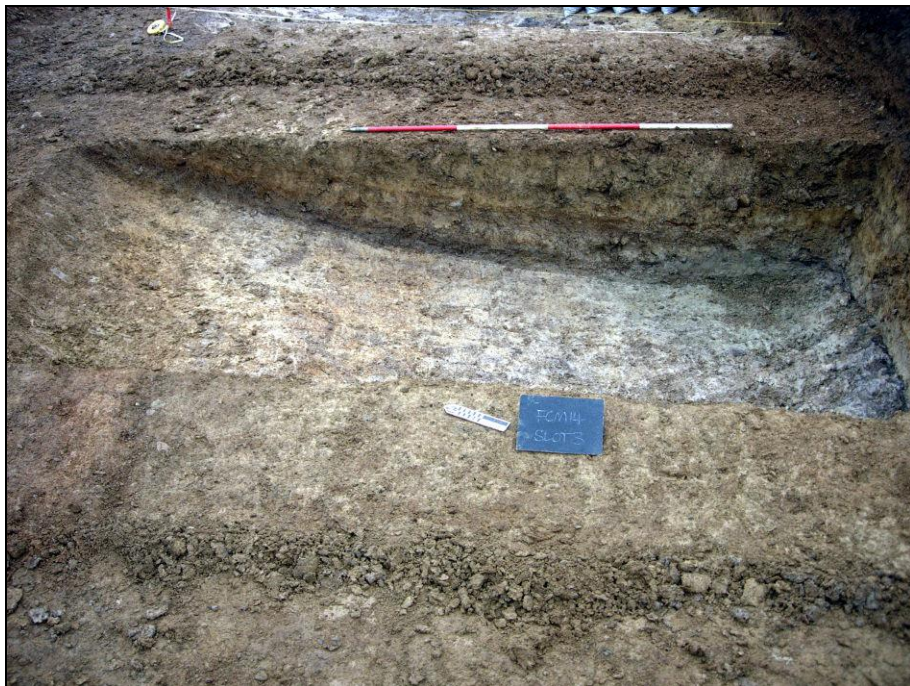
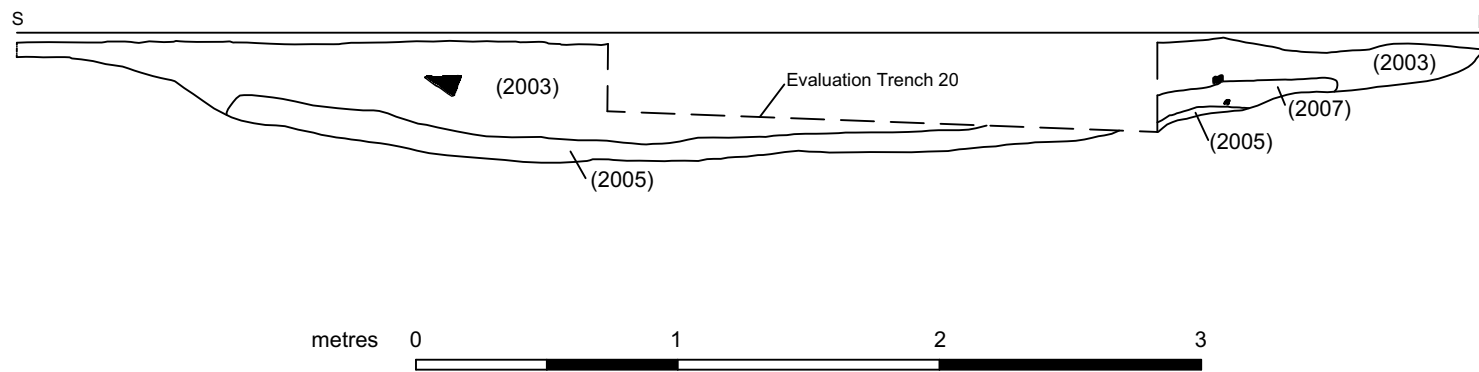


Figure 13. Palaeochannel Slot 3 section, facing east. Scale = 2m.

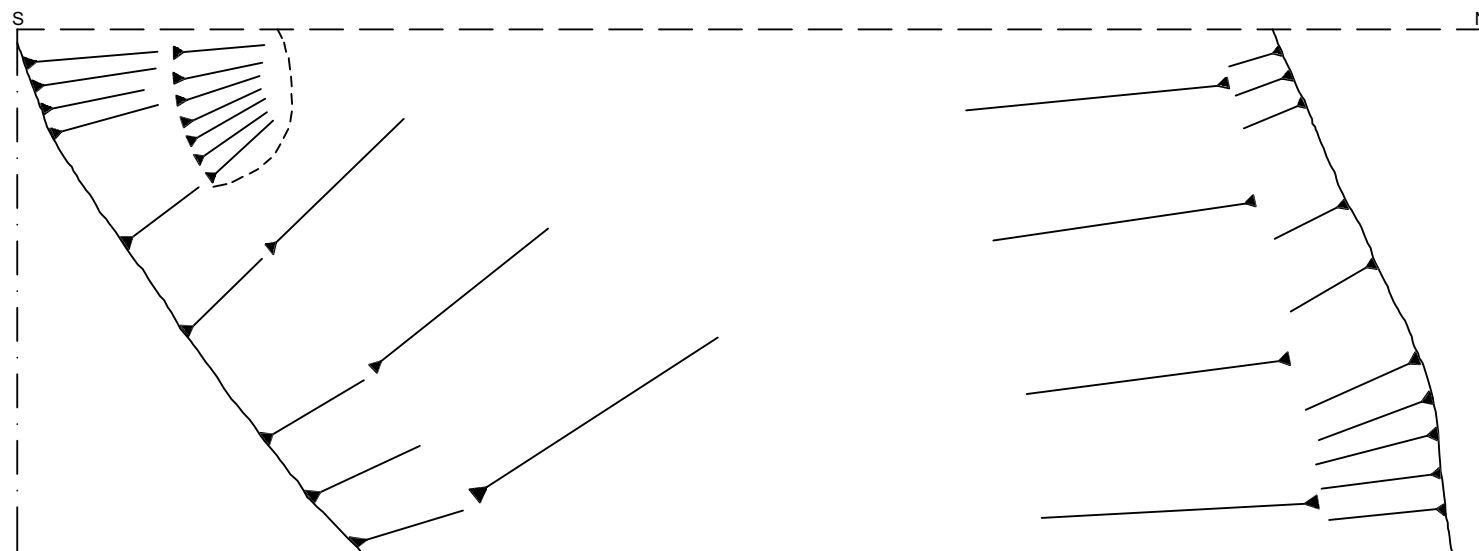


Figure 14. Deposits 2009 (to the left) and 2008 (to the right). Scale = 1m.

Figure 15. Slot 1 section and plan
Scale: 1:30 at A4



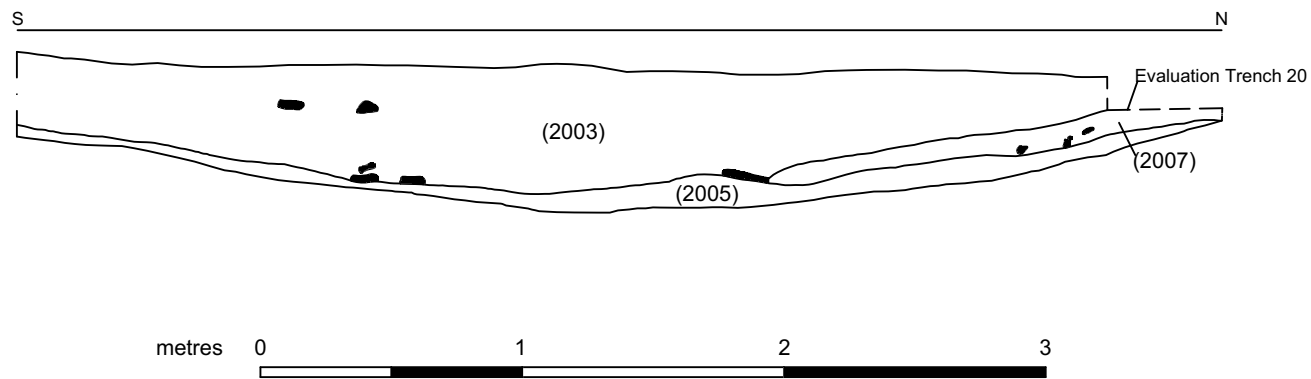
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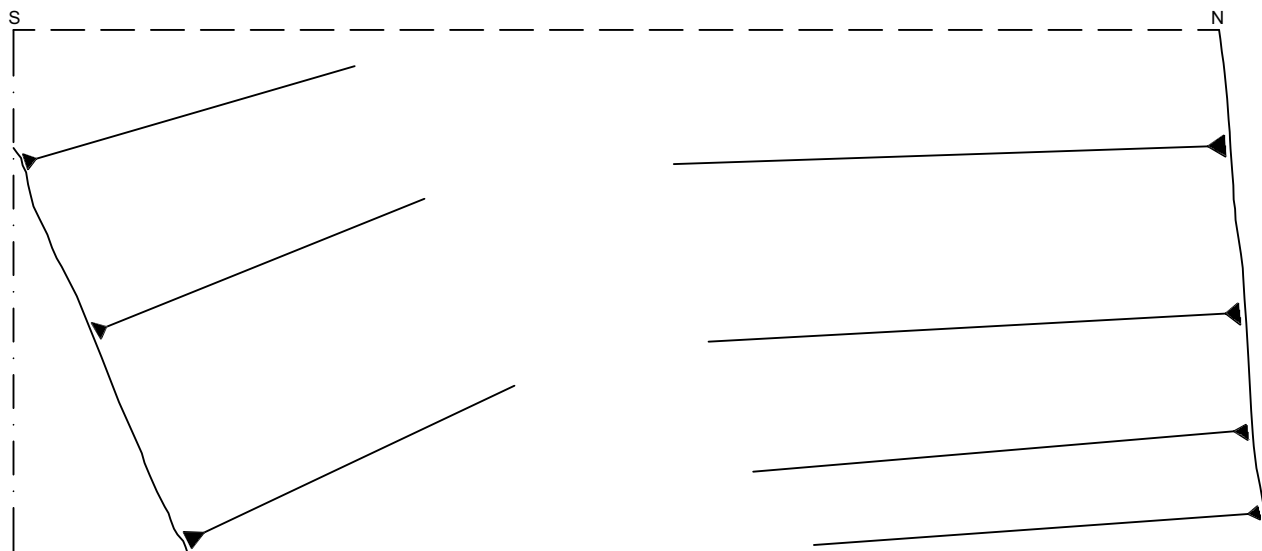
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Figure 16. Slot 2 section and plan
Scale: 1:30 at A4



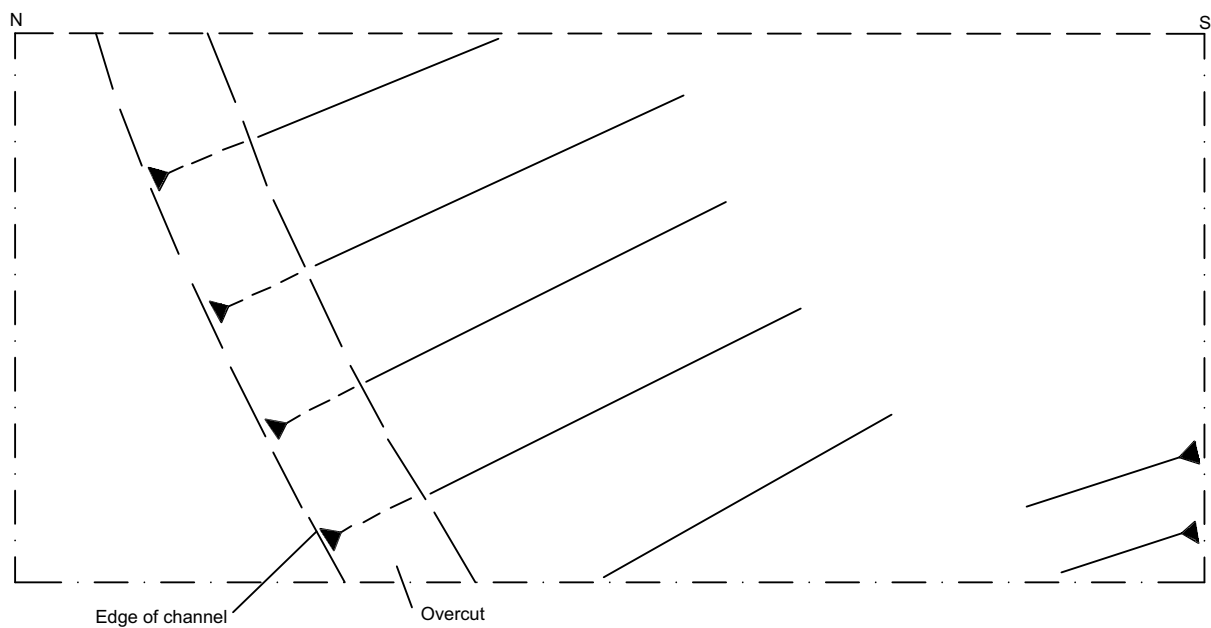
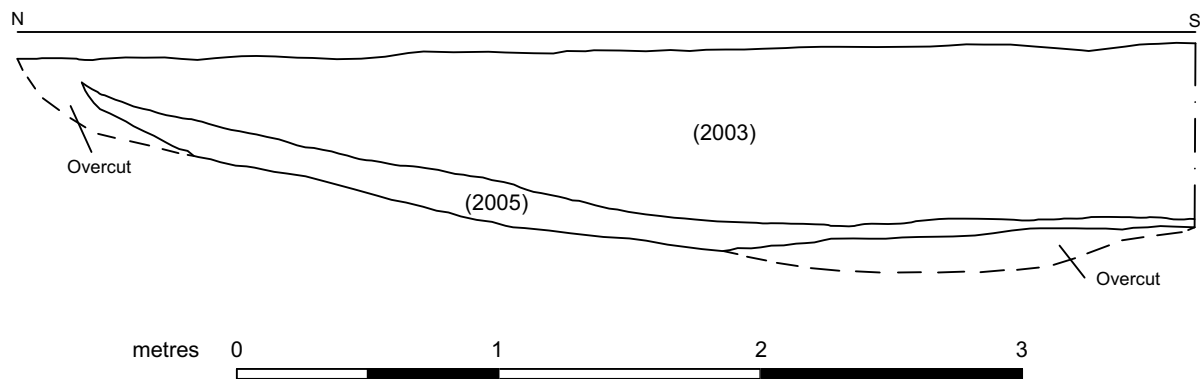
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Figure 17. Slot 3 section and plan
Scale: 1:30 at A4



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7 Pottery Analysis

Dr Robin Holgate MifA, FSA

7.1. *Introduction*

7.1.1. The ceramic assemblage consists of 36 'sherds and 36 crumbs which all appear to originate from a single vessel. The 'sherds were recovered from the palaeochannel deposits, mostly from (2005) but with 8 small body 'sherds and 18 crumbs from 2007. The 'sherds comprised four rim 'sherds and 32 body 'sherds, of which two were conjoining 'sherds from the shoulder of the vessel. The vessel can be classified as Early Neolithic Carinated Bowl.

7.2. *Method Statement*

7.2.1. The 'sherds were in a friable condition. Some were gently finger-washed in cold water and then, with the others, were left to air dry. Once they had dried the remaining soil was gently brushed off with a sable shaving brush. The pottery was examined macroscopically with the aid of a x10 hand lens. No microscopic analysis was undertaken. Joining 'sherds were refitted using HMG adhesive.

7.3. *Fabric*

7.3.1. Tempering includes poorly-sorted crushed-stone fragments from 1mm to 4mm in diameter. The outer and inner surfaces are mainly orange-brown or dark grey brown in colour with mica flecks visible; the core of the vessel is either orange-brown, grey-brown or dark grey brown. The clay and the inclusions would be consistent with a relatively local glacio-fluvial deposit source. Surface colouration and condition is typical of oxidising effects obtained when fired in an open bonfire.

7.4. *Form and surface treatment*

7.4.1. The 'sherds are from a hand-made Early Neolithic Carinated Bowl. The term Carinated Bowl is used here as representative of the full range of Early Neolithic shouldered, S-profiled and bag-shaped bowls and plain wares that comprise the tradition as defined by Sheridan (2007). The vessel has a slightly outwardly flared rim (Figure 18, Figure 19, and Figure 20), with a complete absence of decoration and a burnished and/or well-smoothed, external and internal surfaces. The outer diameter of the vessel is approximately 270mm. The wall is of variable thickness, averaging between 5mm (at the shoulder) and 12mm (near the rim). A line of three finger tips can be seen inside the vessel running parallel with the shoulder, left from when the person making this coil-built vessel was creating the shoulder.

7.5. *Discussion*

7.5.1. The 'sherds recovered from the evaluation trench 20 are part of the same vessel that was recovered from this excavation, making a total of 53 'sherds (of which 4 are rim 'sherds) and 45 crumbs. The vessel is fairly typical of the Early Neolithic Carinated Bowl tradition (Herne 1988; Sheridan 2007). The 'sherds represent part of a bowl which had broken (possibly deliberately) and placed in the palaeochannel. The broken edges were all unabraded and the presence of two conjoining 'sherds suggests they had not moved very far from their place of deposition.



Figure 18. Bowl rim (top) and shoulder 'sherd (bottom). Scale = 100mm



Figure 19. Bowl rim (top) and shoulder 'sherd (bottom) in reverse. Scale = 100mm



Figure 20. Potsherds and crumbs. Scale = 100mm

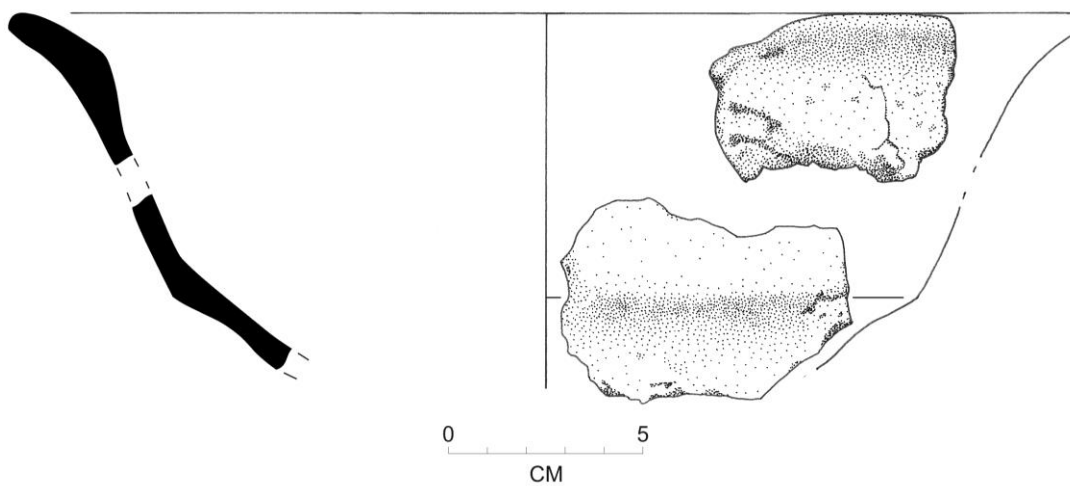


Figure 21. Carinated Bowl illustration.

8. Palaeoenvironmental Assessment

Laura Strafford AIfA

8.1. Introduction

8.1.1. In total three environmental samples were submitted for analysis. All samples came from within a palaeochannel: sample 001 was taken from context (2007), mid-grey alluvial silt clay which was only present in the northern end of the feature; sample 002 was taken from context (2005) at the northern end of slot 1, and sample 003 was also taken from context (2005), at the southern end of slot 1. Context (2005) consisted of dark grey/black alluvial silt and was present across the entire feature. All three samples produced flots for analysis. In addition, one bag of hand-collected charcoal from context (2005), and one bag of hand-collected charcoal from context (2007) was submitted for assessment.

8.2. Methodology

8.2.1. Each sample comprised 24 litres of sediment. Samples were processed on-site for the recovery of charred plant remains (CPR) using bucket flotation. The flots were collected on a 300µm mesh and the heavy residue was sieved to 1mm, and both were air-dried at room temperature, after which the residue was sorted by eye for artefacts and ecofactual remains. The flots were scanned for charred plant remains using a binocular microscope at between x12 and x40 magnification. In all cases 100% of the flots and hand-picked/residue charcoal was scanned. Nomenclature for the plant remains follows Stace (2010). For the charcoal assessment, a representative selection of charcoal fragments from each sample were fractured to expose a fresh transverse section (TS) and sorted into groups based on anatomical features under a binocular microscope at magnifications of up to x40. Representative fragments were selected for detailed examination. These were fractured to expose a tangential (TLS) and radial longitudinal (RS) sections and mounted on to a slide using blu-tack. These were then examined using a binocular microscope at x90 magnification. Identification was made according to anatomical characteristics described by Schweingruber (1990). Both plant and charcoal identifications were made without consulting a reference collection and therefore, should all be seen as provisional.

8.3. Results

8.3.1. All of the charred material in the samples was found to be heavily covered in sediment, and even though re-washed it was not possible to clean off the material without causing fragmentation. In the case of the charcoal, it was found that the sediment had settled within the anatomical structure of the wood, so even when broken to establish a clean section, sediment was still adhered to the charcoal which resulted in the identification of morphological features extremely difficult.

8.3.2. In general, the flots were fairly productive, with the exception of sample 002 which yielded very little charcoal, all of a very small size. Sample 001 was the most productive, with one charred cereal grain and several charred hazelnut (*Corylus avellana*) shell fragments present. The cereal grain was poorly preserved and sediment was adhered to the majority of its surface, rendering identification difficult, however the overall shape suggests it may be of emmer (*Triticum dicoccum*). None of the other samples produced any CPR other than charcoal.

8.3.3. In the case of the charcoal, the majority of the material was fragmented and identification down to species or even genus level was in most cases not possible. The vast majority of charcoal fragments examined were clearly ring-porous with wide rays, which is indicative of oak (*Quercus* sp.); however the low magnification of the microscope rendered

the examination of the TLS and RS not possible, which means that the identification cannot be confirmed. Likewise, one large fragment of possible beech (*Fagus* sp.) was identified, but this could not be verified with the low-powered microscope.

8.3.4. Whilst assessing the flots and charcoal hand-picked from the heavy residues, suitability of the charcoal for radiocarbon determination was considered. Round wood (small twigs/ branches of less than 10 – 15 years growth) is considered the most suitable material for radiocarbon determination although no round wood was observed in any of the samples or hand-collected charcoal. As most of the tentatively-identified charcoal comprises oak (*Quercus* sp.), which is a long-lived species, this is not recommended for radiocarbon dating as a narrow AMS date would not be possible from such material. Those other samples tentatively identified comprise ash (*Fraxinus* sp.) and beech (*Fagus* sp.), which again are both relatively long-lived species and are not recommended for radiocarbon dating.

8.3.5. Sample 001 contained both cereal grain and hazelnut (*Corylus avellana*) shell, both of which would be ideal candidates for radiocarbon submission and should provide narrow AMS dates.

8.4. Conclusion and recommendations

8.4.1. The low magnification of the microscope rendered identification of the charcoal extremely difficult, and as such all identifications should be seen as provisional. Despite this, it is clear that there is little diversity of wood species, with abundant ring-porous examples (very likely to be oak (*Quercus* sp.), with possibly a small amount of ash (*Fraxinus* sp.) and an infrequent amount of diffuse-porous wood (cf. beech (*Fagus* sp.)). The lack of round wood in any of the samples means that the suitability of the charcoal for radiocarbon dating is poor, and none of the charcoal is recommended to be submitted for AMS dating. The cereal grain and hazelnut fragments from sample 001 are recommended for radiocarbon dating.



Figure 22. Example of the charcoal from the flots of sample 003 (right), and the cereal grain and selection of hazelnut shell fragments from sample 001 (left). X12 magnification.

Table 1. Environmental samples

Sample Number	Context Number	Feature	Sample Size	Date	Material and Vol.	Assessed volume	Charcoal	Grain	Hazelnut	Notes	Analysis?	C14
1	2007	Palaeochannel - mid-grey alluvial silt clay	24L	Neo	Flot. 40ml	100%	+++++	+	+	Six charred hazelnut fragments. One cereal grain, poorly preserved and much sediment adhered to the surface. Many identifying morphological characteristics difficult to determine but cf. emmer (<i>Triticum dicocum</i>). Some large (~1cm) charcoal fragments in flot, however as with grain sediment adhered to surface and fragile nature of the material renders washing impossible. ~5 larger charcoal fragments assessed, all oak (<i>Quercus</i> sp.). No round wood identified in the flot.	No	Yes - hazelnut and grain
1	2007	Palaeochannel - mid-grey alluvial silt clay	24L	Neo	Charcoal picked from heavy residue. 8ml	100%	++			As with the flot, charcoal heavily covered with sediment making identifying features difficult to establish. Larger fragments identified as oak (<i>Quercus</i> sp.). No round wood present.	No	No
1	2007	Palaeochannel - mid-grey alluvial silt clay	24L	Neo	Charred hazelnut shell hand-picked from residue	100%			+	4 small fragments of charred hazelnut (<i>Corylus avellana</i>) shell .	No	Yes
-	2007	Palaeochannel - mid-grey alluvial silt clay	-	Neo	Hand-collected charcoal. 20ml	100%	+			One very large fragment of charcoal. Cf. beech (<i>Fagus</i> sp.) No round wood	No	No
2	2005	Palaeochannel - dark grey/black alluvial silt	24 L	Neo	Flot. 0.5ml	100%	+			Five small flecks of charcoal. Four fragments of ring-porous wood, cf. oak (<i>Quercus</i> sp.). or ash (<i>Fraxinus</i> sp.), but fragments not large enough and magnification too low to fully determine. One fragment of very diffuse porous wood, cf. beech (<i>Fagus</i> sp.). No round wood present.	No	No
2	2005	Palaeochannel - dark grey/black alluvial silt	24L	Neo	Charcoal picked from heavy residue. 1ml	100%	+			Six flecks of charcoal, slightly larger than those in the flot but none over 12mm. No round wood present. Mostly oak (<i>Quercus</i> sp.) but at least one fragment of non-oak which is too small for further identification.	No	No
3	2005	Palaeochannel - dark grey/black alluvial silt	24 L	Neo	Flot. 10ml	100%	++++			Abundant charcoal, although very fragmented and small. Those larger examples that could be Id'd all oak (<i>Quercus</i> sp.). Some modern roots and modern seeds (<i>Chenopodium</i> sp.) present in the flot.	No	No
-	2005	Palaeochannel - dark grey/black alluvial silt	-	Neo	Hand-collected charcoal. 40ml	100ml	++++			~50 fragments, no round wood present. Approximately half the fragments were rapidly scanned on transverse cross section and suggest oak (<i>Quercus</i> sp.).	No	No

+ = 1-10 items ++ = 11-25 items +++ = 26-50 items ++++ = >50 items

9. Radiocarbon Dating

Gordon Cook and Scott Williams

9.1. A single sample, a charred grain of Emmer Wheat (*Triticum diococcum*), was submitted for radiocarbon determination to the Scottish Universities Environmental Research Centre (SUERC). The sample was measured by AMS as described by Zondervan and Sparks (1997). The laboratory maintains a continual programme of quality assurance procedures and takes part in all international inter-calibration studies. The calibrated age ranges were determined using the Oxford University Radiocarbon Accelerator Unit calibration program OxCal4.1.

9.2. Objectives

9.2.1. The scientific dating programme aimed to establish the date of the Emmer Wheat grain in order to determine the probable date of the pottery recovered from the same context.

9.3. Results

9.3.1. The radiocarbon dating result is given in Table 2, and is quoted in accordance with the international standard known as the Trondheim convention (Stuiver and Kra 1986). They are conventional radiocarbon ages (Stuiver and Polach 1977).

Table 2. Radiocarbon date for Emmer Wheat grain.

Context	Material	Lab Code	$\delta^{13}\text{C}$ (‰)	Radiocarbon Age (BP)	Calibrated date range (95% confidence)	Calibrated date range (68.2% confidence)
2007	Emmer Wheat grain	SUERC-52877 (GU33907)	- 25.7	4886 ± 29	3707 - 3638 cal BC	3695 - 3645 cal BC

9.4. Calibration

9.4.1. The calibrations of the results, relating the radiocarbon measurements directly to calendar dates, are given in Table 2 and in Figure 23. All have been calculated using the calibration curve of Reimer *et al.* (2004) and the computer program OxCal v4.1 (Bronk Ramsey 1995; 1998; 2001; in press). Terrestrial samples are calibrated using the IntCal13 curve. The calibrated date ranges are quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years.

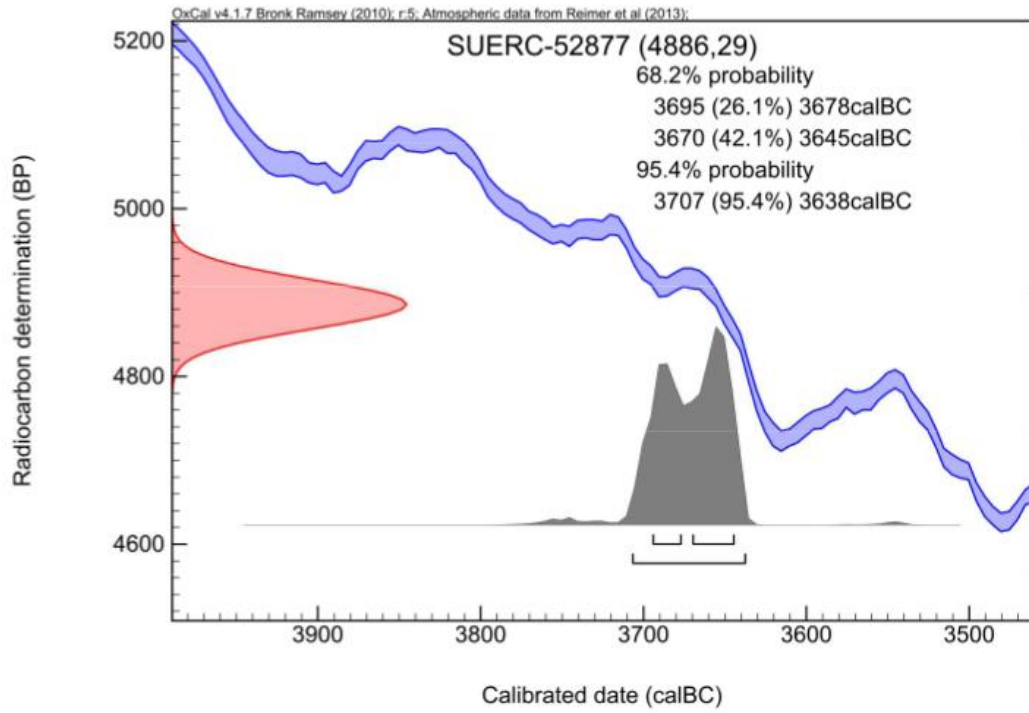


Figure 23. Calibration graph for Emmer Wheat grain.

10 Overall Discussion

10.1. The palaeochannel was well defined towards the western end of the trench and more ephemeral towards the east, where it was confined to a thinner channel, although this appeared to be widening as it reached the limit of excavation. The channel was generally curving from the south-west to north-east.

10.2. The lower deposits of the palaeochannel were securely sealed and undisturbed beneath an alluvial deposit which spanned its width. No artefacts or ecofacts were recovered from this alluvial sandy clay. Towards the east of the trench, where the channel was more ephemeral, the lacustrine basal fill of the channel was discontinuous and less distinct. Deposit (2007) which was limited to the northern periphery of the palaeochannel produced degraded fragments of pottery and charcoal, which were spread throughout, and a single grain of Emmer Wheat (*Triticum diococcum*) recovered from this context was dated with 95.4% probability to 3707 - 3638 cal BC. Basal deposit (2005), first noted during the evaluation trenching, was a very dark grey/black colour and was of a variable depth across the channel. Charcoal and pottery fragments spread throughout this deposit were generally very degraded and miniscule, aside from a limited number of more substantial pieces. The 'sherds recovered from both deposits appear to originate from the same vessel, a Carinated Bowl dating to the Early Neolithic period, which fits with the radiocarbon date obtained.

10.3. The pottery did not display any evidence of rolling or abrasion, having crisp and fragmented edges, and with the addition of the presence of conjoining 'sherds would appear to suggest that the broken vessel may have been deposited into standing water, similar examples of which can be found at the Sweet Track in Somerset (Coles & Orme 1976, 65), where 'sherds from a single pot were found distributed some distance from each other on either side of the wooden trackway. The distribution of charcoal fragments alongside the pottery may also support this theory. If the water was flowing the charcoal would remain in suspension when deposited and continue downstream. The pottery fragments were recovered from both the northern and southern edges of the channel.

10.4. It is possible that the palaeochannel had become silted up and cut-off from the flow of water during the Neolithic period when deposition occurred. The lacustrine mud of the basal fill was a fine grained sediment formed in a non-flushing environment, i.e. open water, and the area may have resembled a shallow pond in appearance.

10.5. The pottery represented the only domestic material culture present in the excavation area, and the absence of other domestic activity debris (aside from charcoal) was notable. No archaeological features, evidence for dumping of refuse, or soil staining that may indicate degraded material, were observed within the excavation trench at the periphery of the palaeochannel along the riverine gravels. There were no animal bones or other artefacts to suggest domestic occupation in the immediate vicinity. However, the presence of Early-Neolithic pottery within the channel may represent evidence of domestic activity at or near the edge of the pond or, indeed, may represent some form of structured deposition. Taking into account the pottery sherds originating from a single vessel, structured deposition appears to be the more likely process by which the pot was deposited into the water.

10.6. The process which led to the deposition of pottery within the river channel has left no other evidence within the area of excavation. It is possible that the silted-up channel may have held a special significance for the Neolithic people of the area, and the fragmented bowl was placed into the water as some form of offering.

11 Publicity, Confidentiality and Copyright

11.1. Any publicity will be handled by the client.

11.2. Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

12 Statement of Indemnity

12.1. All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

13 Acknowledgements

13.1. Archaeological Research Services Ltd would like to thank all those who contributed to the outcome of this project, in particular Mike Mercer of Lovell Partnerships for commissioning the works, Darren Slack of The Fitz for facilitating access, and Jeremy Parsons of Cumbria County Council for his advice throughout the project.

14 References

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Appendix 1 – Registers

Context Register

Context Number	Description
2001	Topsoil
2002	Subsoil
2003	Alluvial deposit limited to palaeochannel
2004	River gravel to south of palaeochannel
2005	Basal deposit of palaeochannel
2006	Creamy-white clay at base of palaeochannel
2007	Mid-grey silty clay at northern periphery of palaeochannel
2008	River gravel to north of palaeochannel
2009	Red/brown silty infill of depression to north of palaeochannel

Drawing register

Drawing No.	Context	Description	Scale	Drawn By
1	Slot 1	Plan	1:20	BD
2	Slot 1	Section	1:20	BD
3	Slot 2	Plan	1:20	BD
4	Slot 2	Section	1:20	BD
5	Slot 3	Plan	1:20	BD
6	Slot 2	Section	1:20	BD

Photograph Register

Shot No.	Direction	Scale	Context No.	Description	Photo By	Date
1	N	2x2m	Slot 1	Plan	BD	05.03.14
2	W	2x1m	Slot 1	Section in full	BD	05.03.14
3	W	1m	Slot 1	Section – north	BD	05.03.14
4	W	1m	Slot 1	Section – middle	BD	05.03.14
5	W	1m	Slot 1	Section – south	BD	05.03.14
6	S	2x1m	Slot 2	Plan	SW	05.03.14
7	W	2m	Slot 2	Section	SW	05.03.14
8	S	2x1m	Slot 3	Plan	SW	05.03.14
9	E	2m	Slot 3	Section	SW	05.03.14
10	W	1m	2008/2009	River gravel and silt deposit	SW	05.03.14
11	W	2x2m	-	Trench plan, facing west	SW	05.03.14
12	E	2x2m	-	Trench plan, facing east	SW	05.03.14

Sample Register

Context Number	Description
2005	Basal deposit within palaeochannel
2007	Mid-grey silty clay above (2005)

Appendix 2 – Written Scheme of Investigation and OASIS summary

Fitz Park, Cockermouth, Cumbria

Written Scheme of Investigation for an Archaeological Excavation



1. Introduction

1.1. This scheme of works relates to the construction of up to 270 new homes at Fitz Park, Cockermouth, Cumbria (Fig. 1). A desk-based assessment (DBA) (Cracknell 2009), geophysical survey (Railton 2009) and evaluation trenching of part of the site (Giecco 2010; Lotherington 2014) have already been undertaken for this application.

1.2. Following the previous evaluation trenching (Lotherington 2014), Cumbria County Council have requested that further archaeological excavation be carried out. This excavation would mitigate the risk to potentially concealed prehistoric archaeological remains, which are discussed further in Section 2. A desk-based assessment, geophysical survey and previous evaluation reports have been used to inform the specification for the excavation.

1.4. This document is a Written Scheme of Investigation (WSI) specifies the nature of the archaeological excavation to be undertaken by Archaeological Research Services Ltd (ARS Ltd) at Fitz Park, Cockermouth, Cumbria.

2. Archaeological Background

2.1. The Fitz is an early 19th century manor house with Grade II Listed status located off The Parklands, Cockermouth, Cumbria. It is situated within Fitz Park, an area of parkland approximately 23 acres in size within which the proposed new development will be situated.

2.2. An archaeological desk-based assessment was undertaken during 2009 by Philip Cracknell, and subsequently a geophysical survey and programme of evaluation trenching were undertaken by North Pennines Archaeology during 2009-2010 (Railton 2009, Giecco 2010). Further evaluation trenching was carried out by ARS Ltd in January 2014. The desk-based assessment identified a Scheduled Ancient Monument (SAM 27706) believed to be the site of a Romano-British farmstead bordering their site (Cracknell 2009) and several geophysical anomalies identified as possible Romano-British features were identified within 500m of the proposed development site (Railton 2009). Survey of the northern part of site associated with the present phase of evaluation showed several possible palaeochannels, along with land drains and service trenches. Evaluation trenching in 2010 on the southern area of the site adjacent to the SAM revealed no archaeologically significant finds, features or deposits (Giecco 2010).

2.3. The most recent evaluation trenching (Lotherington 2014) revealed a palaeochannel in Trench 20 (Fig. 2 below), which contained prehistoric pottery. There is the potential for further concealed archaeological remains on the northern and southern banks of the palaeochannel which may relate to the deposition of the pottery within it. It is this area which will be the focus of the excavation.

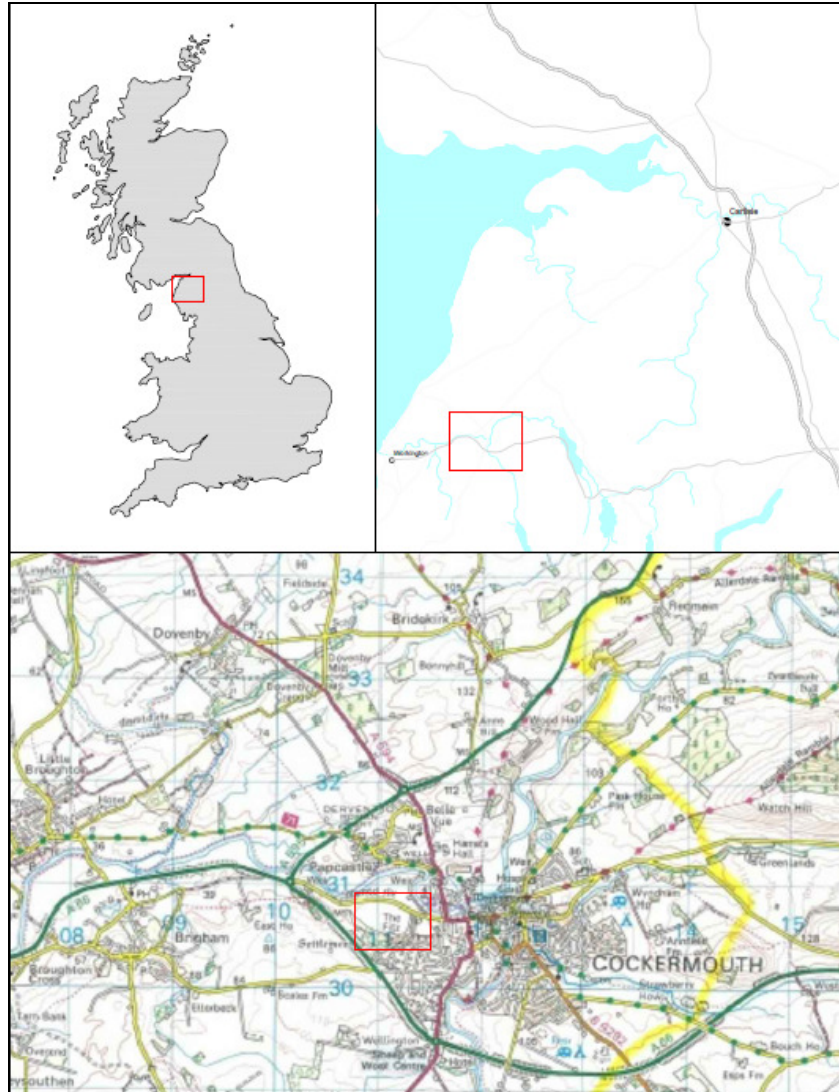


Figure 1. Location of site

(Ordnance Survey Data © Crown copyright. All rights reserved. Licence No. 100045420)

3. Aims and Objectives

3.1. The excavation work outlined in this WSI is designed to mitigate the risk to potentially concealed prehistoric archaeological remains identified during evaluation trenching. The purpose of the excavation is to establish, investigate and record the presence or absence of archaeological remains, their quality, depth and preservation.

3.4. Any changes to the agreed WSI will be discussed with, and agreed with Jeremy Parsons, Cumbria County Council's Historic Environment Officer (Development Control) before implementation.

4 Archaeological Excavation

4.1 Coverage

4.1 The course of the palaeochannel that was found in Trench 20 of the archaeological evaluation (Lotherington 2014) will be stripped along its length for a minimum of 20m (Figs. 2 and 3 below). The width of the stripped area should extend 5m beyond either edge of the palaeochannel. The original channel was 7m wide and if it continues at this width then the total area of stripping would measure 20m by 17m.

4.2 Three sections, initially 1m in width, through the palaeochannel are to be excavated by hand, and any archaeological features revealed in the stripped area are also to be to hand excavated.

4.3 Any alterations to the above requirements due to the presence of services will be confirmed with the Cumbria County Council Historic Environment Officer (Development Control). A CAT scan will be used to determine the presence of services on site.

4.2 Objectives

4.2.1 The objective of the excavation is to examine and record the archaeological features within the area of the proposed development in order to inform:

- the location, extent and potential significance of buried archaeology features on the site
- the nature and date of any archaeological features encountered.

The excavation will enable a better understanding of and compile a lasting record of that resource, and allow an analysis and interpretation of the results.

4.2.2 All elements of the archaeological excavation will be carried out in accordance with the Institute for Archaeologists (IfA) *Standards and Guidance for Archaeological Excavation* (2009) and with the IfA *Code of Conduct* (2012). A risk assessment will be undertaken before commencement of the work and health and safety regulations will be adhered to at all times.

4.3 Excavation Methodology

4.3.1 Initially, topsoil and unstratified modern material will be removed mechanically by a machine using a wide toothless ditching bucket, under continuous archaeological supervision. The topsoil or recent overburden will be removed down to the first significant archaeological horizon in successive level spits. No machinery will track over areas that have previously been stripped until the area has been signed off by ARS Ltd.

4.3.2 The areas will be appropriately cleaned using hand tools in order to expose the full nature and extent of archaeological features and deposits. From then on, three sections through the palaeochannel will be excavated by hand, and any archaeological features revealed in the stripped area and when the palaeochannel is sectioned are also to be hand excavated.

4.3.3 All spoil removed during ground works will be scanned visually to recover small finds. Any finds so recovered will be recorded and their location noted on a site plan at a relevant scale. The finds will be retained and recorded.

4.3.4 All archaeological features will be planned and sectioned as a minimum objective.

4.3.5 Isolated, discrete features such as pits and postholes not belonging to structures or industrial activities will be 50% sampled, although if they produce artefacts then provision is made for full

excavation.

4.3.6 Sampling of linear features such as ditches and gullies relating to agricultural activity will be sufficient to determine their character, stratigraphy and relationship to other features and attempts made to obtain dating evidence.

4.3.7 Any deposits relating to funerary/ritual activities, such as burials and cremation deposits, will be 100% excavated. Domestic/industrial activity (such as walls, postholes, floors, hearths) will be sufficiently excavated to understand their form and function and to recover potential dating evidence and artefact and ecofact assemblages.

4.3.8 Area deposits such as buried soils or middens, will be hand excavated at a minimum 10%. Subsequent excavation by machine will be considered. Large intrusions, such as reservoirs, will be sufficiently excavated by machine, within safe limits, to provide information on their character.

4.3.9 Limited representative samples of bricks from brick-built structures will be retained for specialist analysis where appropriate.

4.3.10 Discovery of any human remains will be reported to the coroner and excavated following receipt of the appropriate Ministry of Justice Guidelines.

4.3.11 For deposits that have potential for providing environmental or dating evidence, a minimum of 10 litres of sample will be taken, or 100% of the sample if smaller. This material will be floated and passed through graduated sieves, the smallest being a 500 μ mesh. Should other types of environmental deposits be encountered appropriate specialist advice will be sought and an appropriate sampling strategy devised. Samples will be assessed by a suitable specialist with provision for further analysis as required. Advice from the English Heritage Scientific Adviser will be taken as appropriate.

4.3.12 All site operations will be carried out in a safe manner in accordance with ARS Ltd's health and safety policy. Deep sections such as those across ditches or pits will be shored as necessary. A risk assessment will be prepared before commencement on site.

4.4 Recording

4.4.1 The site will be tied accurately into the National Grid and located on a 1:2500 or 1:1250 OS base map of the area. The site will be recorded using a single context planning system in accordance with the ARS Ltd field recording manual.

4.4.2 A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings will be drawn where required at 1:50, 1:20 and 1:10 scales, as appropriate.

4.4.3 The stratigraphy of the site will be recorded even where no archaeological deposits have been identified.

4.4.4 All archaeological deposits and features will be recorded with above ordnance datum (AOD) levels.

4.4.5 A photographic record will be produced. All images will be taken in black and white print and digital format, and will contain a graduated photographic scale. The main photographic archive will comprise 35mm b/w SLR print film, supplemented by digital SLR (minimum 12 megapixels). A

register of all photographs will be kept. A selection of working shots will be taken to demonstrate how the site was investigated and what the prevailing conditions were like during excavation. Record photographs will be printed at a minimum of 5" x 4". Photographic prints will be mounted in appropriate archival stable sleeves.

4.4.6 Where stratified deposits are encountered, a 'Harris' matrix will be compiled.

4.5 Finds Processing and Storage

4.5.1 All finds processing, conservation work and storage of finds will be carried out in compliance with the IfA *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (2008) and those set out by UKIC (1990).

4.5.2 Artefact collection and discard policies will be appropriate for the defined purpose.

4.5.3 Bulk finds which are not discarded will be washed and, with the exception of animal bone, marked. Marking and labelling will be indelible and irremovable by abrasion. Bulk finds will be appropriately bagged, boxed and recorded. This process will be carried out no later than two months after the end of the excavation.

4.5.4 All small finds will be recorded as individual items and appropriately packaged (e.g. lithics in self-sealing plastic bags and ceramic in acid-free tissue paper). Vulnerable objects will be specially packaged and textile, painted glass and coins stored in appropriate specialist systems. This process will be carried out within two days of the small find being excavated.

4.5.5 During and after the excavation all objects will be stored in appropriate materials and storage conditions to ensure minimal deterioration and loss of information (including controlled storage, correct packaging, and regular monitoring, immediate selection for conservation of vulnerable material). All storage will have appropriate security provision.

4.5.6 All retained artefacts and ecofacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

4.6 Post-excavation assessment and analysis

4.6.1 The aims of the post-fieldwork phase of the project are as follows.

- Produce a concise post-excavation assessment strategy.
- Prepare an orderly archive of the records of the fieldwork.
- Clean, conserve and prepare artefacts/ecofacts/environmental and/or radiocarbon dating samples for analysis and long-term museum storage.
- Prepare a report describing the basic nature of the archaeological deposits discovered.
- Undertake artefact/ ecofact/ environmental and/or radiocarbon dating analysis and prepare specialist reports as appropriate.

5. Monitoring Arrangements

5.1. Consultation between the client, ARS Ltd and the Cumbria County Council Historic Environment Officer (Development Control) will be required during and at the end of the archaeological excavation to ensure that all the below ground archaeology has been adequately

recorded.

5.2. ARS Ltd will liaise with Jeremy Parsons of Cumbria County Council at regular intervals throughout the course of the work:

Jeremy Parsons
Historic Environment Officer (Development Control)
Cumbria County Council
County Offices
Kendal
Cumbria
LA9 4RQ
jeremy.parsons@cumbria.gov.uk
01539 713431

6. Report

6.1. Following completion of the excavation and any post-excavation analysis ARS Ltd will produce a report which will include the following.

- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology
- A location plan showing all excavated areas and any archaeological features with respect to nearby fixed structures and roads
- Illustrations of all archaeological features with appropriately scaled hachured plans and sections.
- An objective summary statement of results
- Conclusions
- Supporting data – tabulated or in appendices
- Index to archive and details of archive location
- References
- Statement of intent regarding publication
- Confirmation of archive transfer arrangements
- A copy of the approved WSI
- A copy of the OASIS form

6.2. Within the report:

- All plans will be clearly related to the national grid.
- All levels will be quoted relative to ordnance datum.

6.3. If significant archaeological remains are identified the report will include:

- Detailed description and plans (at 1:50 scale) of any areas which provided significant archaeological information, all feature plans and sections (at 1:10 or 1:20 scale), select artefact illustrations, photographs and an overall site plan showing all recorded archaeological features.

- Finds quantification and assessment.
- Assessment of any palaeo-environmental samples taken.
- A summary of the extent, depth and state of preservation of archaeological deposits across the site.

6.4. Copies of the final report will be deposited with the Cumbria County Council Historic Environment Record, and will be submitted to the Cumbria County Council Historic Environment Officer (Development Control) within six weeks of the completion of fieldwork.

7. Archive Deposition

7.1. A digital, paper and artefactual archive, which will consist of all primary written documents, plans, sections, photographs and electronic data will be submitted to the a suitable repository museum, in a format agreed in discussion with the Cumbria County Council Historic Environment Officer (Development Control).

7.2. All artefacts and associated material will be cleaned, recorded, properly stored and deposited in the archive (see above).

7.3. If they are forthcoming as a result of the work, a full set of annotated, illustrative pictures of the site, excavation, features, layers and selected artefacts will be supplied to the HER and deposited with the archive as digital images on a CD ROM.

7.4. The Cumbria County Council Historic Environment Officer (Development Control) will be notified on completion of fieldwork, with a timetable for reporting and archive deposition.

7.5. Written confirmation of the archive transfer arrangements, including a date (confirmed or projected) for the transfer, will be included as part of the final report.

7.6. An OASIS online record <http://ads.abds.ac.uk/project/oasis/> will be initiated and data will be added to this record. Key fields will be completed on Details, Location and Creators forms. All parts of the OASIS online form will be completed for submission to the HER. This will include an uploaded .pdf version of the entire report (a paper copy will also be included within the archive).

7.7. The Cumbria County Council Historic Environment Officer (Development Control) will be notified of the final deposition of the archive.

8. Standards and project management

8.1 ARS Ltd is a Registered Organisation with the Institute for Archaeologists (IfA). Registered Organisations are continuously assessed to ensure that the highest standards of work are carried out, in line with the *Code of Conduct* of the IfA (2012). In addition to our key management staff, who have achieved the highest grade of corporate IfA membership, many of our field staff also hold corporate grade membership.

8.2 All staff employed on the project will be suitably qualified and experienced for their respective project roles and have practical experience of archaeological excavation and recording. All staff will be made aware of the archaeological importance of the area surrounding the site and will be fully briefed on the work required by this specification. Each member of staff will be fully conversant with

the aims and methodologies and will be given a copy of this WSI to read. All members of staff employed by ARS Ltd are fully qualified and experienced archaeologists, this will ensure that appropriate decisions regarding excavation and sampling will be made in the field.

8.3 The team for this project include the following.

Project Management: Chris Scott MifA
Fieldwork Project Officer: Scott Williams or other as may be appointed (ARS Ltd)
Post-fieldwork & reporting: Scott Williams or other as may be appointed (ARS Ltd)
Pottery Specialists: Dr Robin Holgate MifA and/or Dr Jane Timby MifA
Struck Flint Specialist: Dr Robin Holgate MifA
Stone Specialist: Ann Clarke (consultant)
Metalwork Specialist: Dr Jenny Price or equivalent (Durham University Conservation Laboratory)
Plant macrofossils and charcoals: Laura Strafford AifA (ARS Ltd) or Dr Glynnis Jones (University of Sheffield)
Pollen: Emma-Jayne Hopla (Consultant)
Human Remains: Dr Victoria Park (ARS Ltd)
Faunal remains: Rupert Loveridge MifA (ARS Ltd) or Dr Louisa Gidney (Durham University)
Radiocarbon dating: SUERC.

9. Changes to Methodology or Work Programme

9.1 Changes to the approved methodology or programme of works will only be made with the prior written approval of the Cumbria County Council Historic Environment Officer (Development Control).

10. Publication

10.1 In the event of significant remains being encountered and excavated, there will be the need for a more formal publication than in the summary form. In this instance a suitable programme and timetable for publication and dissemination will be discussed and agreed upon by all stakeholders.

11. Health and Safety

11.1 A full health and safety risk assessment will be carried out prior to each episode of fieldwork commencing. All people working on the site will be briefed on the safety requirements whilst working on-site and given access to a copy of the risk assessment and all ARS Ltd staff working on the site will undergo a Health and Safety induction. ARS Ltd maintains a strict health and safety policy and the appointed Health and Safety Officer for the company is Chris Scott.

12. References

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Title: Figure 2- Trench Location Plan
Scale:

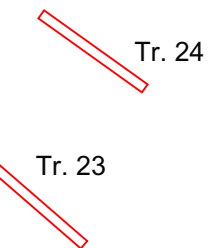
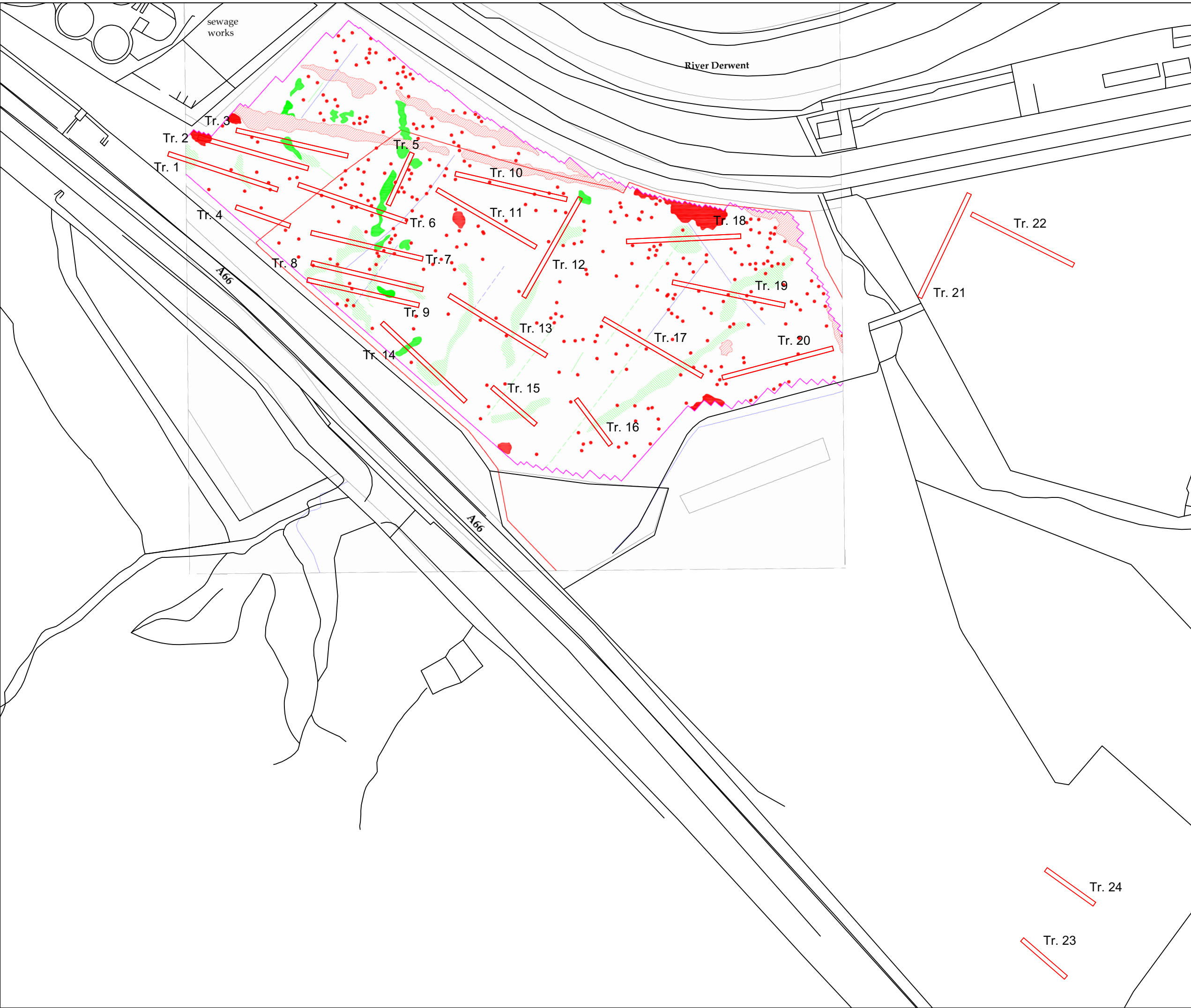


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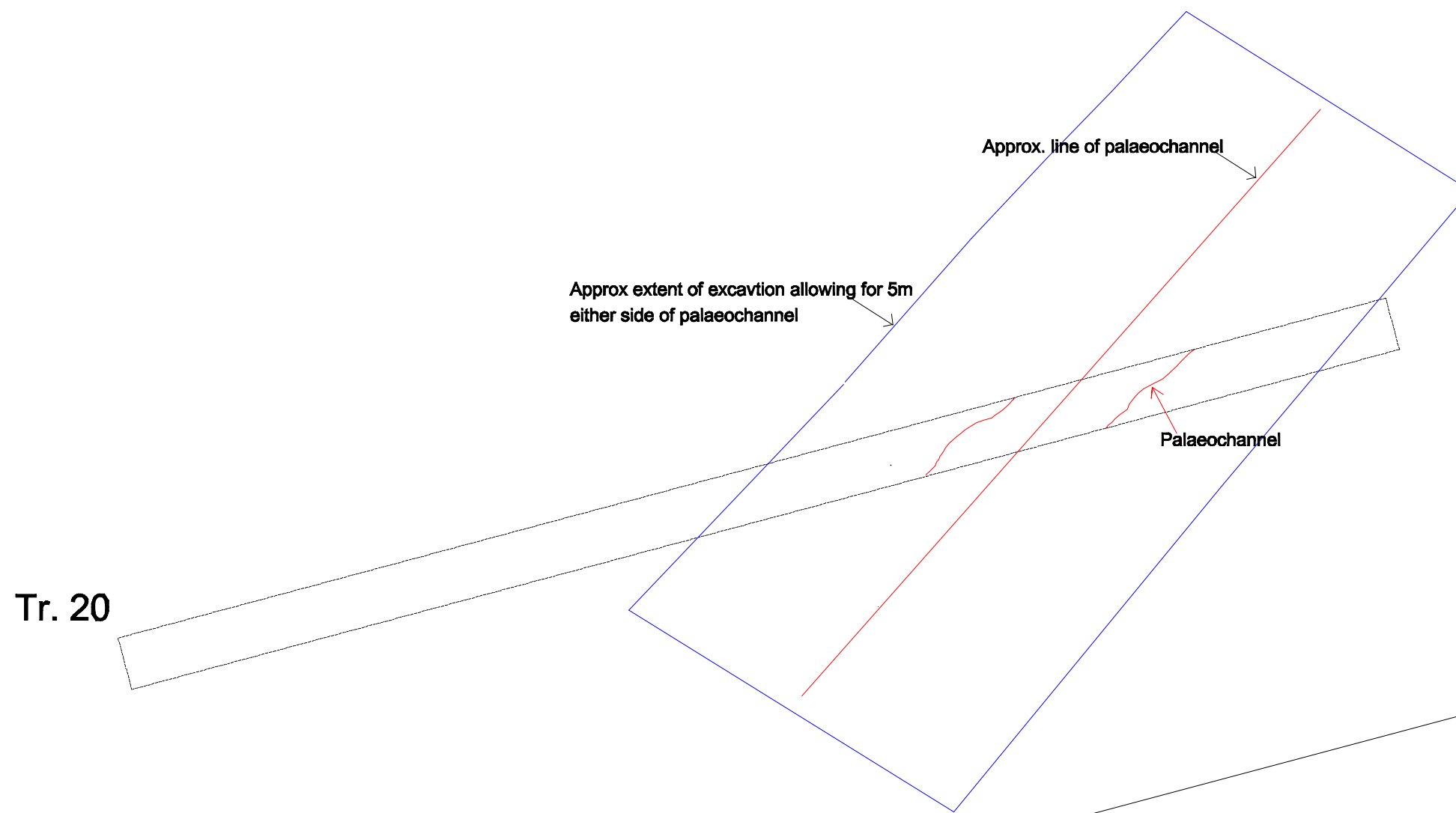
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Title: Figure 3- Excavation Location Plan



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Printable version

OASIS ID: archaeol5-175369

Project details

Project name	Archaeological Excavation at Fitz Park, Cockermouth, Cumbria
Short description of the project	In February 2014 Archaeological Research Services Ltd was commissioned by Lovell Partnerships to undertake an archaeological excavation at Fitz Park, Cockermouth, Cumbria as a follow up to archaeological evaluation trenching in advance of a proposed housing development scheme for the construction of up to 217 homes.
Project dates	Start: 04-03-2014 End: 07-03-2014
Previous/future work	Yes / No
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	PALEOCHANNEL Early Neolithic
Significant Finds	CARINATED BOWL Early Neolithic
Investigation type	"Full excavation"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	CUMBRIA ALLERDALE COCKERMOUTH Fitz Park
Postcode	CA13 0
Study area	20.00 Square metres
Site coordinates	NY 10558 30792 54.6641450206 -3.38683927657 54 39 50 N 003 23 12 W Point

Project creators

Name of Organisation	Archaeological Research Services Ltd
Project brief originator	Unitary Authority Archaeologist
Project design originator	Archaeological Research Services Ltd

Project director/manager	Chris Scott
Project supervisor	Scott Williams
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Lovell Partnerships

Project archives

Physical Archive recipient	Carlisle
Physical Contents	"Ceramics"
Digital Archive Exists?	No
Paper Archive recipient	Carlisle
Paper Contents	"none"
Paper Media available	"Photograph", "Plan", "Report"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Fitz Park, Cockermouth, Cumbria. Archaeological excavation 2014
Author(s)/Editor(s)	Williams, S.
Date	2014
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