Must Farm, Whittlesey 2011-2012

Palaeochannel Investigations

Interim Statement

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Summary

On behalf of Hanson UK, a further programme of excavation and recording was undertaken within the palaeochannel at Must Farm quarry prior to mineral extraction. Some 200m (approximately 1.0 Hectare) of the fresh water channel was investigated in detail between June 2011 and October 2012 together with the roddon and the underlying sequence of earlier channels and old former surfaces through which it carved. The palaeochannel was stripped under strictly controlled conditions in order to best facilitate the identification of potential archaeological materials within. In addition, baulks were strategically left in place to allow for the comparison of deposition sequence along the length of the channel, these were later removed as the final stage of the process.

The excavation exposed not only a significant quantity of later prehistoric wooden structures including fish traps, weirs, and post alignments, but also eight well preserved later Bronze Age/ Early Iron Age logboats, each unique in form. The significance of these logboats lies not only in their collection as a group of artefacts, but in the quality of the contextual detail in which they were discovered. In addition, a number of artefacts of both organic and non-organic material were uncovered demonstrating the extent of exploitation within and more importantly throughout the channel's existence. This is reflected in the collection of metalwork which also spans approximately 1200 years and includes bronze swords, daggers, rings, rapiers, a razor, a pin, a brooch and iron swords still riveted to their wooden handles.

The investigations represent a comprehensive excavation of a section of a later Bronze Age river situated within the Flag Fen Basin and just 200m upstream of the Must Farm Platform. The navigable channel and accompanying natural causeway or roddon were contemporary with the construction, use and demise of the adjacent Flag Fen post-alignment and its associated metalwork deposition. These investigations have major implications in terms of our understanding of the scale of later Bronze Age and Iron Age occupation and movement and, in particular, the increasing colonisation of 'deep fen'.

Introduction

Between 27th June 2011 and 10th October 2012, the Cambridge Archaeological Unit undertook the latest phase of excavation within the ongoing investigation of the fresh water channel at Must Farm Quarry, Whittlesey, Cambridgeshire (centred on TL). An area of 1.3 hectares of former agricultural land and outbuildings for the farm (1.07mOD) was machined under archaeological conditions revealing approximately 200m of channel below (Figure 1). This excavation was undertaken on behalf of SLR consulting Ltd, for Hanson UK and the site was machined at various times by Hanson UK and Fox Plant Ltd. This interim statement summarises, in brief, the results of this excavation, prior to detailed stratigraphic and specialist analyses.

Excavation History

Earlier excavations of the palaeochannel revealed a number of preserved wooden structures and objects. These have previously been discussed and therefore this information will not be repeated in detail in this statement, however it is relevant to briefly summarize the phases of work thus far in order to establish the character of the archaeological excavations to date. In short, the preceding projects helped to establish: 1) the existence of the later Bronze Age channel (2004/2005): 2) the presence of discrete pile-built structures as well as broader river-wide occupation/activity (2006); 3) the environmental context of the channel/roddon (2009); and 4) an understanding of the potential scale of river/roddon related activity (2010).

2004/ 2005 – Trenched evaluation; the excavation of two trenches on the southern edge of the existing quarry and subsequently, the identification of *in situ* timbers within the palaeochannel, radiocarbon dated as LBA/ EIA (Evans & Knight 2005). A further trench machined across the channel close to the then present quarry face, enabled a profile of the channel and the lower deposits to be mapped for the first time (Evans *et al*. 2005).

2006 – The excavation of part of a timber causeway/platform; which comprised an intricate pattern of vertical piles and continuous palisade built across the palaeochannel (Gibson *et al*. 2010). This was the first detailed encounter of the palaeochannels complex sediment sequence and its exceptional preservation qualities. This exceptional evidence from this site revealed an astounding impression of occupancy through its unique set of finds from the 'cultural horizons' which are unparalleled in the UK.

2009 – Palaeochannel excavation; this represented the first opportunity to investigate an area of palaeochannel up stream and therefore unaffected (directly) by the platform. This 50m stretch established an environmental norm/ control and although archaeologically 'quiet', enabled a master section to be created through the entire fen sequence including the relationship between the channel, roddon and underlying fen deposits (Knight 2010).

2010 – Palaeochannel excavation; with the basis of the environmental background established, the aim was to refine the sediment sequence and identify and locate

anthropogenic deposits and potential features (Knight & Murrell 2011a). A 60m stretch was excavated which immediately revealed several pieces of metalwork including a bronze spear attached to its shaft, a thin copper alloy cone, two bronze rings and a lead/ tin strap end all from the same shell rich horizon. Below this layer, two V-shaped weirs were encountered and below these were four fish-traps all of which were located on the southern side and in the centre of the channel. The reason for this bias could clearly be seen in the section as the channel appeared to migrate from the south to the north, carving out both roddon and channel deposits on the north in the process, thus leaving behind an asymmetrical profile. As well as woven timber features (such as a weir and fish traps), large felled trees/ logs were recorded which lay parallel to the southern edge of the channel. This phase represented the first tangible evidence of 'off-platform' habitation of this fresh water channel.

Channel (Methodology & Stratigraphy)

The basic methodology established in 2009 and 2010 was again employed within the 2011-2012 investigations. The majority of the channel was machined using a long armed 360º tracked excavator, designed to reach further across the channel from fewer fixed locations, thus preventing, or at least limiting, damage to the silts. This was carried out in controlled spits determined by the limit of the metal detector (normally 34cm), which was occasionally reduced to 10cm or less where more delicacy was required around features/ finds. A series of control baulks were left in place at strategic intervals along the channel in order to study the deposit sequence and locate anthropogenic features and deposits, all of which were located using an Leica Smartnet GPS and TCRP 1205 (total station).

The key difference during the 2011-12 investigations was the size of the excavation; a natural bend in the channel significantly changed its course and instead of running roughly perpendicular to the quarry face as in previous years, it turned south by approximately 45º to run almost parallel to the quarry face, thus revealing nearly 200m of channel. Larger stretches of the channel were therefore exposed at a time revealing the majority of features in their entirety. The site was split into five sections, Pal Secs 1-5, (Figure 2) ranging from 30m to 40m in length, each separated by a full height stepped section inclusive of post-channel deposits and plough soil. The sections ranged from 3m to 5m in height and at their widest point at the base, were approximately 8.5m-11m across and represented approximately 18% of the site. The excavated width of the channel ranged from 27m-40m across, however this dimension represents the channels final or total width and not its functioning size at any fixed point in time.

The basic principle of the 'meander' chronology, (Knight & Murrell 2011a), established in the 2010 excavation still applies, in that the channels asymmetric infill sequence is caused by the silts accumulating on one side while the flow of the water eroded the opposing side. As previously the channel was perched off-centre at the top of the roddon, suggesting that the roddon too was subject to a meander when it formed leaving a small depression into which the fresh water found its way. This season's excavation has advanced the above hypothesis threefold.

Firstly there is greater depth (height) to the sequence than before. This year it was possible to investigate the 'muds' (Charly French *per. comms.*) immediately covering the roddon and the muds and peats across the top of the channel. These muds produced metalwork which stretched the later end of the depositional sequence to include the Middle and Late Iron Age, more precisely up to 100BC as an iron sword was found at the top of the section, located at a height of 0mOD, thus sealing approximately 1200 years of deposition.

Secondly it was possible to track the sideways migration of this stretch of the channel by comparing like for like deposits from one section to the next working our way upstream along its length. This demonstrated that the asymmetric profile recorded in 2010 subsequently centralises (section 1, Figure 3) before flipping sides, reversing the profile, (i.e. eroding the southern edge and depositing silts on the north, (sections 2 and 3, Figure3). Eventually, by section 4, the profile of the channel began to centralise again and when viewed in plan the channel was flowing along a straight line. This demonstrates that the channel was continuously altering its course, in order to stay fluid and avoid being choked by the deposition of silts.

Thirdly, and perhaps most importantly, the deposit sequence can no longer be separated into simple chronological layers containing discrete feature sets. The anthropogenic features are now better discussed within ranges/ zones that are interdigitating (Figure 4). For example; the boats were recovered throughout the earlier (lower) two thirds of the sequence, but can be split into distinct upper and lower ranges, the metalwork was recovered within eight of the twelve main zones i.e. throughout the majority of the sequence and, the traps and weirs were contained within but throughout the lower half of the sequence. Despite fluctuations in flow and deposition rates, the evidence suggests that anthropomorphic activity was constant, not intermittent. The only major lull or change in intensity was the result of environmental factors and was visible as a 'dark smile' towards the top of the section.

Along the vast majority of the southern side of the channel edge there was a clear delineation between oxidized and non-oxidised roddon silts marking the waters edge, representing an extended dry spell. Certainly it was dry enough underfoot to enable the river bank to be utilised as a causeway between islands and naturally, the resulting occupational debris from this activity was visible on the riverside. This came in the form of split planks, posts, timber debris and some semi-articulated horse remains lying within the muds formed directly on top of the roddon. This also acknowledges that environmental conditions both at the time and post deposition, although dryer, were suitable for the survival of organics and remained undisturbed. Along the southern side within Pal Sec 2 artefacts were also recorded on a flatter area or 'plateau' that was naturally carved out by the asymmetric migration of water flow. It is possible that this naturally occurring access point and others further along the channel would have been utilised as such, in fact Boat 1 was situated parallel to and just on this ledge. There was also evidence for smaller residual channels on the top of the roddon, which would have fed into the channel and are likely to be the remnants of significant flooding events.

Despite the complexity of the thousands of seasonal lenses within the channel's deposition sequence, there were approximately 13 distinct phases (groups of lenses

and fills) that were distinguishable from section to section. The simplified sequence of phases was as follows:

> (1) Dark rich basal silts, covered by (2) near organically sterile silts, which in turn were sealed by (3) highly laminated silts.
>
> There was then a succession of (4) woody, shelly and sterile silt fills, which were covered by (5) a thick silt band which extended across the extent of the channel.
>
> This was superseded by (6) pale silts; (7) very woody silts then (8) a thick, sometimes interrupted silt.
>
> It was at this point that (9) the dark clayey band or 'dark smile', commensurate with the later stages of the platform identified downstream in 2006, re-cut the underlying deposits (to one side or the other depending on the asymmetry) which were then followed by (10) a sequence of clayey silts.
>
> This marks the end of the channels life in earnest, as it is then capped by (11) humic peats interlaced with silty olive muds, which in turn are covered by (12) a band of peat, sealed by (13) a red alluvium and then topsoil.

Fragments of wood were examined from two deposits (a thin peat layer and a shelly silt) which lay on top of the gravel beneath the roddon in a mix of earlier channels and fluvial deposits (at -4.35mOD). The majority were un-worked roundwood, with the exception of a split plank and four pieces of timber debris all within the silt. On the same horizon there was also a small cluster of animal bone including a few butchered fragments. The occurrence of butchered bone and the condition of the wood recovered demonstrates great potential for very early activity at this depth, potentially even Late Mesolithic/ Early Neolithic, pending the results of further stratigraphical and radiocarbon analysis.

Metalwork Sequence

The collection of metalwork spans from the Middle Bronze Age to the Late Iron Age. In fact the sequence of metalwork deposition is associated directly with the stratigraphy of the sediments, in that the older metalwork is located in the earlier deposits, and the later metalwork in the upper/ later deposits. The later metalwork was the key to understanding this latest phase of the channel, and overall this spread of metalwork may in fact help to refine the dating sequence of the sediments. It is also worth noting that the composition of the metalwork shows remarkable parallels to that found at the Fengate Power Station site near Flag Fen (Pryor 2001), with two exceptions: its remarkable condition (a result of the channel silts), and its deeply sealed context.

Once again the quality of the preservation was astonishing (Figure 5). Two iron La Tène swords were recovered still with their wooden handles attached by their rivets, and one, which was laid flat, still had the remnants of its scabbard underneath. The Second La Tène sword was bent and broken into two pieces which were still in

contact with each other suggesting that it too was deposited within a scabbard, hence avoiding separation during natural post-depositional movement. Initial x-rays have revealed a triskele on the blade of one of the swords, the style of which is in fact very similar to that found on metalwork from Flag Fen. Other La Tène metalwork included three bronze rings from a baldric, one of which was adorned with a decorated stamp, a further three rings and an involuted brooch, as well as an Early to Middle Iron Age ring headed pin.

Deeper into the channel sequence, the Bronze Age metal work consisted of two Wilburton type II leaf-shaped swords, one with an attached pommel, the blade of which was again bent and broken in two with the pieces remaining in contact. Other Late Bronze Age metal work included two daggers and one Middle Bronze Age rapier. Going deeper still towards the base of the channel sequence there was even a Middle Bronze Age leaf-shaped razor.

Logboats

The potential to find a logboat within the fresh water channel was always a possibility, however finding eight within 135m of each other all within sealed contexts was unpredictable. The logboats varied in their dimensions, style, fragility, and species and in their deposition, all of which are summarised in the table overleaf and Figures 6 and 7. As with the metalwork the boats were not discrete to one layer or phase but were spread throughout many layers spanning potentially 600 years. However, unlike the metalwork which already has a reasonably tight typology, these boats do not, and this collection therefore has the potential to create or contribute to such a typology.

The logboats also varied in their level of use wear, in that some showed evidence of repair and re-working almost to the point of destruction, while others appeared to survive in an almost usable state. This suggests that they were not used in the same way and were perhaps intentionally scuttled as evidenced by the removal of the transom boards. Further to this the boats demonstrated the potential to enhance our understanding of boat building technology. Including the tree selection process in creating a functioning vehicle, i.e. the makers pre-empted weak points (branches, knots) during the construction process and made alterations accordingly. These boats also represent an opportunity for further study into exposure or abandonment, load capacity and displacement which would naturally lead to a better understanding of use and function. What is clear is that when considered together with the other features found within the channel (e.g. traps, weirs and the platform), that this was a place of sustained activity and movement.

The unique nature of each of the boats meant that the methodology of excavation, recording and retrieval was adapted as required. Each of the boats was excavated in plan leaving small baulks at strategic places along the length in order to identify any in-situ deposits and for added support. As expected the natural flow of the water washed away in-situ deposits leaving behind the natural flotsam of the river, with the exception of those with puddled clay (see table overleaf). Once excavated, all boats were recorded including drawing, photographing and, for the first time at Must Farm,

laser scanning. The results from the laser scanning may potentially allow more complex analysis of the functionality of the boats.

BOAT	1	2	3	4	5	6	7	8
Feature	618	627	629	630	638	644	639	643
Length (m) External	6.34	5.44	4.34	8.42	3.94	6.25	2.25	4.78
Length (m) Internal	6.08	5.20	4.07	8.20	3.80	5.96	2.12	4.49
Width (m) External	0.80	0.68	0.70	0.70-0.85	0.35	0.71	0.56	0.42
Width (m) Internal	0.43-0.60	0.48-0.50	0.45-0.50	0.52-0.74	0.14	0.48	0.46	0.33
Depth (m)	0.18-0.30	0.16-0.23	0.14-0.30	0.07-0.12	0.25	0.31	0.15	0.1
Base Height (m OD)	-2.29	-2.35	-3.12	-1.97	-2.29 to -2.40	-1.86 to -2.47	-2.71 to -2.50	-2.92 to -3.26
Context	[2636]	[2636]	[2628]-[2629]	[2636]	[2630]	[2633]	[2633]	[2628]-[2629]
Orientation	NE-SW	NW-SE	NE-SW	NE-SW	NE-SW	E-W	NE-SW	NE-SW
Species	Oak	Oak	Oak	Oak	ID sample	Oak	Oak	ID sample
Transom Slot	Yes	No	Yes	Yes	No	No	No	No
Transon Board	No	N/A	No	No	N/A	N/A	N/A	N/A
Prow	Yes	Yes	Yes	Yes	Yes	½	½	Yes
Stern	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Port	Yes	Yes	Yes	Yes	Yes	Yes	½	Yes
Starboard	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Decoration	Yes	No	Potential	Potential	No	No	No	No
Plug/ bung	Yes	No	No	Yes	No	Yes	Yes	No
Repairs (other)	Yes	No	No	Yes	No	No	No	No
Puddled Clay	Yes	Yes	Yes	Yes	No	No	Yes	No
Internal Ribs	4	No	No	6	1	1	No	2
Lugs	No	No	Yes	No	No	No	No	No
Charring	No	No	Yes	Yes	No	Yes	No	Yes
Special Features •	Yes	No	No	Yes	No	No	No	Yes
Potential for Dendro	No	Good/ certain	Good/ certain	Good/ certain	Not known	Not known	Not known	Not known
General Condition	Very good/ excellent	Good	Excellent	Very good	Very good	Very good	Good	Good

• indicates other features not separately discussed in table, tool marks are not included in table

The retrieval process was equally bespoke in that each boat was removed under differing circumstances e.g. depth, space and water level. In fact Boat 3 utilised the natural impermeable properties of the roddon and was floated onto its base support by slowly re-introducing the accumulated water (rainfall) that had previously been removed to allow excavation to proceed. This water was subsequently removed again to allow the remainder of the support cage to be built and lifted out. All logboats were gradually undermined while a support frame (made of scaffolding, wood and polystyrene) was incrementally built beneath. The boats were entirely wrapped in a geo-textile which kept them wet and stable. They were then filled with made-to-measure polystyrene blocks and then wrapped entirely in foam sheets. The boats were

then gently strapped around the exterior foam sheets which provided both internal and external tension support. They were then sealed in a large sheet of neoprene which acted as a tank preventing water from draining or evaporating. The remainder of the scaffolding cage was then built around each of the boats leaving space for polystyrene padding; they were then lifted and placed in a cool, dark storage facility.

Weirs and Fish-traps

Unlike previous investigations, in which the eel traps only occurred beneath the weirs, this year both were encountered throughout the earlier portion of the channel sequence from the shell horizon down. In fact quite often they appeared to deliberately occupy the same space with some traps even positioned at the apex of the weirs. It is highly likely therefore, that they formed part of a connected system. There were however a number of exceptions as some traps were positioned with no correlation to weirs. These tended to be much larger in both the diameter of the wood selected for the weave and their overall construction size, producing a much more robust structure. This again appears to have been a conscious choice as they were placed where the water would have been either deeper, darker or faster flowing, for example on the outside edges of bends within the channel.

In total there were twenty eel traps spread along this stretch of the channel and with the exception of the range in size (between 0.87m-1.95m long) they were all constructed using a very similar methodology (Figure 8). They all contained an internal basket or 'chair' which was attached to the main (outer) cylindrical basket by trimming and tucking the ends into the weave and all were woven using a series of sails and weavers. The sails most frequently occurred in pairs but varied from just 1 to bundles of 4 depending on both the overall size and at which point on the trap they are positioned. i.e. towards the tip of the funnel there were less sails towards the wider 'mouth' of the funnel there were more. Due to variations in the final resting positions of the traps, it was possible to enhance some of the detail of some of the different elements of the traps as their survivability varied from one to another. For example; a twisted handle was woven into the mouth to one of the traps, a complete chair on another and a large section of weave on the upper portion of the cylinder (which was normally missing) on another. There was even a rodent skull and long bones tucked within the weave of one trap, which was either placed there as bait or subsequently died in the trap whilst trying to get at the bait. Pending further analysis it is likely that the traps were made of a combination of hazel and willow.

Nine weirs were recorded at intervals along this stretch of the channel. They were no longer biased towards the southern edge of the channel (as previously recorded) but instead were positioned in the middle of what would have been the deepest part of the channel at the time they were constructed. They varied in form from simple single sailed hurdles held *in situ* by strategically placed posts to complex weaves with several layers of repair up to 9.25m long. Pending further analysis the majority appear to be constructed out of willow or hazel with the exception of one. This weir consisted of a primary hurdle constructed out of double roundwood sails neatly arranged at approximately 20cm intervals. This was followed by a repair layer woven into the initial hurdle with sails constructed out of bundles of smaller roundwood, less neatly arranged. This in turn was repaired in part by cruder radially split oak sails pierced

through the preceding weave, this appeared to be a very ad hoc addition. This exceptional level of detail suggests that these weirs were regularly maintained and long lived as opposed to used once and abandoned. The weirs must have been set in the water long enough to become entrapped within the silts hence they couldn't remove it to repair it. In addition it appears that this weir eventually became un-repairable and subsequently collapsed backwards as it was revealed lying flat in the silts behind, thus providing an accurate height and therefore date of abandonment. Following further analysis of the distribution of 'stray' posts within the channel it may also be possible to identify more weirs within the jumble of posts and stakes recorded.

Posts, logs, other structures

In addition to the recognisable features (weirs, traps, boats etc) there were also a large quantity of *in situ* outliers such as posts and stakes. These were encountered at all depths throughout the channel and varied greatly in size, length (62mm to 3140mm), shape and character. Most notably a number of these appeared to have been subjected to compression under the weight of the silts which resulted in the wood buckling and bending but not breaking. The lignin component of the wood must have been almost liquid for this to occur (Mike Bamforth *per. comms*) and may be the result of environmental factors within the channel. Together with further analysis of spatial distribution (both laterally and vertically) these compression bends may help to distinguish further features or even built structures from within clusters. The sheer quantity of posts and timber debris further illustrates how dynamic this channel would have been.

There were a number of felled trees and logs distributed throughout the lowest/ earliest third of the sequence which were often parallel to the sides of the channel, although not exclusively so. These varied greatly in size, some appeared to be whole felled trees while others had been rudimentarily trimmed. Within Pal Sec 2, close to a small segment of weir, there was even a log that had been pegged against the side of the channel by a series of simply shaped stakes. It is likely this formed part of a basic system of revetment, either to keep the weir free from sliding silts, or to support a small structure protruding from the edge, such as a jetty.

A number of other features were excavated including a fragment of woven hurdle situated beneath Boat 2 which was neither weir nor eel trap, and a 'stretcher'. The stretcher consisted of a framework of two roundwood poles set approximately 80cm apart interwoven by a series of smaller roundwood lengths. This stretcher was situated high in the depositional sequence above the dark smile in a layer otherwise associated with Iron Age metal work. This suggests that although the flow of the channel may have dissipated by this point in the sequence, the channel was still being visited as objects were still being carried to and fro. This also highlights the potential to find additional wooden structures high in the sequence within future phases of work.

Floating artefacts

Due to the nature of the channel many of the anthropomorphic artefacts (and ecofacts) became caught up within the natural flotsam and dispersed accordingly. Therefore, the majority of artefacts were not *in situ* but were floating within the layers/ bands of the channel. The majority of artefacts were animal bones (approximately 30kg), more specifically bird, fish and mammals associated with watery environments such as beaver. However there were occasionally other mammal bones some of which showed evidence of butchery and a few of which were worked into tools. In addition there were also three human bones from this phase of work. Pottery was sparse but again was subject to the same process of dispersal.

In addition to the large amount of timber debris revealed, both worked and natural, there were a number of wooden artefacts. Examples of artefacts include a semicircular artefact whose function is yet unknown (Maisie Taylor *per. Comms.*), a beam with a mortise joint at one end and a transom board (Figure 6.4). The transom board (back board of a boat) was decorated in relief with a cross or X, similar that seen on Boat 1. To find a solitary transom board independent to the boats further supports the theory that the boats were deliberately scuttled.

Initial thoughts

The 2011-12 palaeochannel investigations have revealed the most remarkable account of daily life associated with the occupation and manipulation of a later prehistoric river within the Flag Fen Basin. It is clear that from the Middle Bronze Age through to the Iron Age people were working close to if, not in constant contact with, the water; it was a major part of their way of life. As with previous phases, this year has further expanded our understanding of the channel's full depositional sequence and further connected the channel to the activity at the platform (Figure 9). In fact it is no longer correct that the platform should be viewed as an isolated structure but is better considered as part of a connected system of structures along the length of the watercourse. If anything the anthropomorphic activity increased in intensity towards the south-western end (against the flow of the channel) suggesting there may be other unknown/ different timber structures within close proximity.

It would be inappropriate to assume that this stretch of channel is unique or atypical in its level of activity. What is more likely is that this level of exploitation is typical of the channel as each time there has been an investigation archaeological remains have been encountered. Further to this, the data collected can be used as a tool to predict the likelihood and/ or quantity of features not just within the bounds of the quarry, but wherever this fresh water channel is encountered. For example, approximately 350m of channel have been investigated thus far (incorporating approximately 50m related to the platform and local environs) which has revealed 8 boats plus a potential degraded fragment recovered in the 2009 investigation, 11 weirs, 25 fish traps and, of course, the platform. Therefore, on average, for every 50m excavated we could expect to find 1.3 boats, 1.6 weirs, 3.6 traps, 0.15 platforms and so on. This is a little crude at this stage as features were often bunched together but it demonstrates the idea. In addition, the potential to find something new is always a possibility as demonstrated by the range of finds and features found in each phase.

Burnt surface

In addition to the channels, a watching brief was carried out on a small part of the lower terrace (at approx -2.65mOD) immediately north of and beneath the channels which revealed a relatively large area of burning. This burning was a continuation of the heat affected natural encountered in Phase 3 of the 2010 investigation (Knight & Murrell 2011b). As before, no artefacts or ecofacts were recovered in association with this layer, or from test pits through the comminuted charcoal layer above, which could present the likely cause/ motivation.

The 'burning' was machined slightly higher than when previously encountered in order to reveal in plan the heavily scorched buried soil formally seen in section. This buried soil was characterised by a swirling mix of deep orange, red and pink smears indicative of conflagration, and as expected, trenches through it revealed the heated affected gravel below. Although there were no artefacts, large 'lumps' of buried soil, which appeared to have been crudely formed, were piled up within the intense centre of the inferno, becoming fired in the process (C14 analysis pending). In addition a distinct edge/ limit to the inferno was clearly visible in the form of a ring of tree bowls that were unaffected by heat, encompassing an area of heat affected/ burnt down specimens within the conflagration area. This suggests that there was a deliberate and controlled clearance event.

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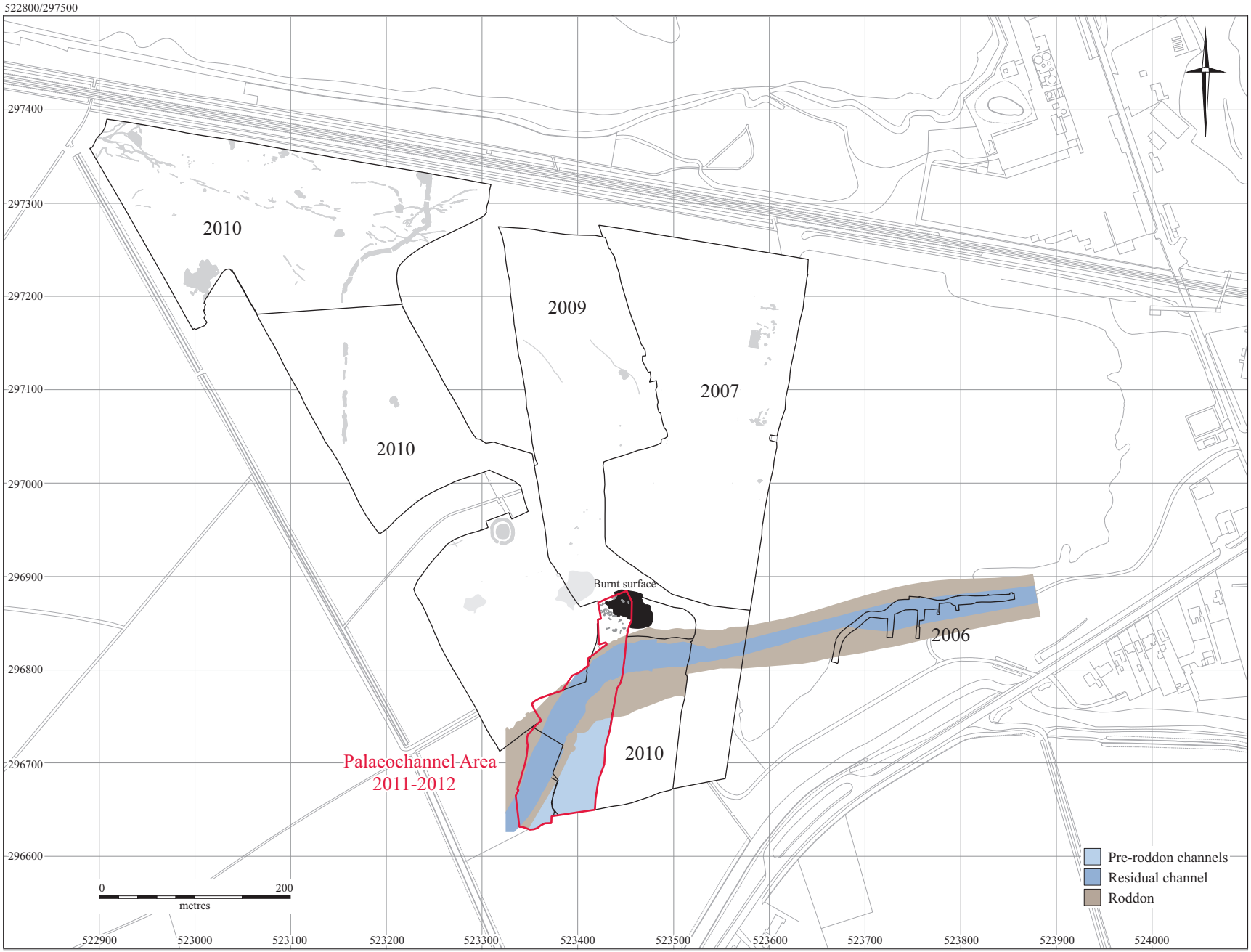


Figure 1. Area location

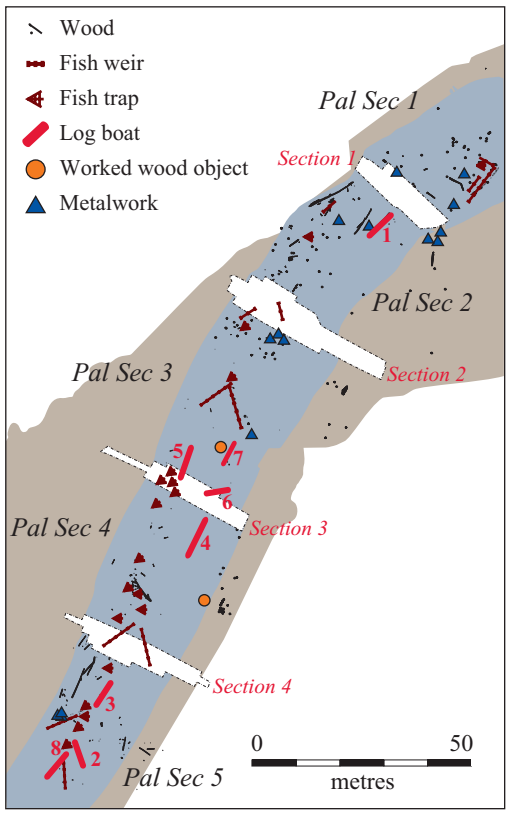
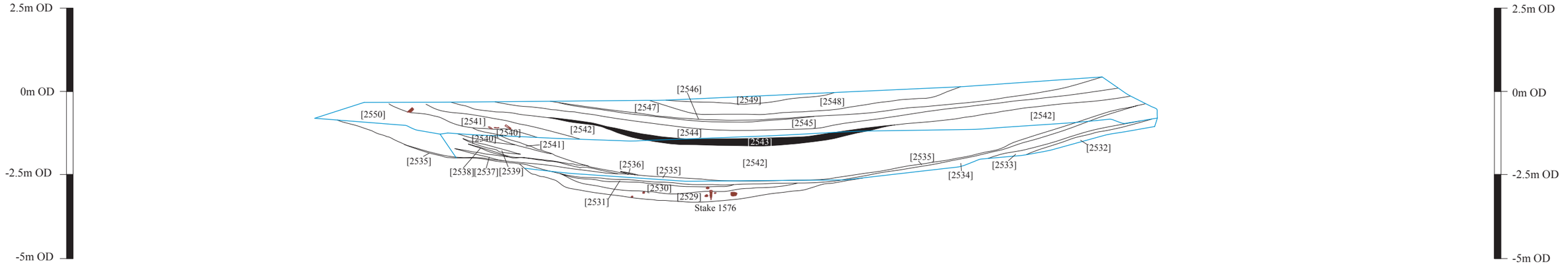


Figure 2. Plan of channel

SE Section 1 NW



SE Section 2 NW

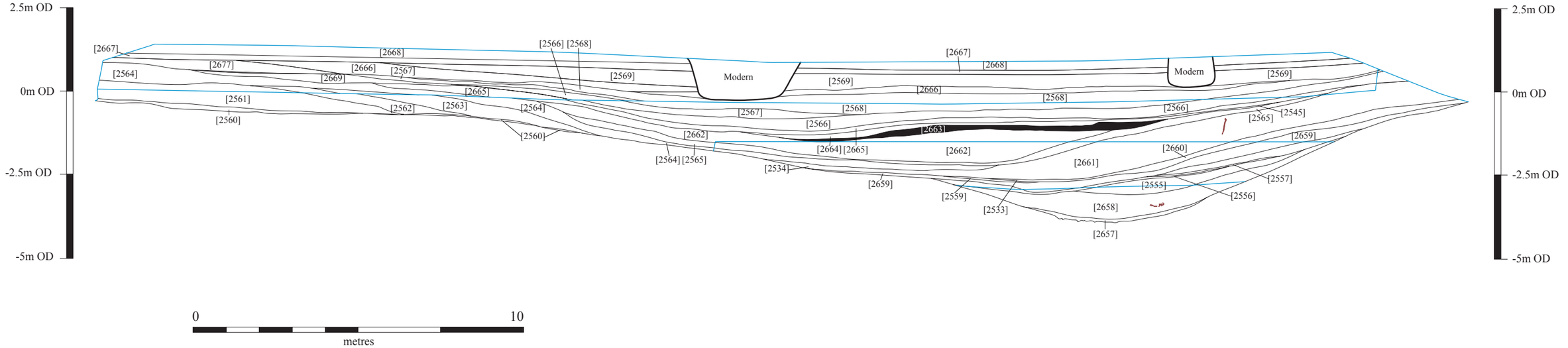


Figure 3a. Palaeochannel sections 1 and 2, showing migration of deposits

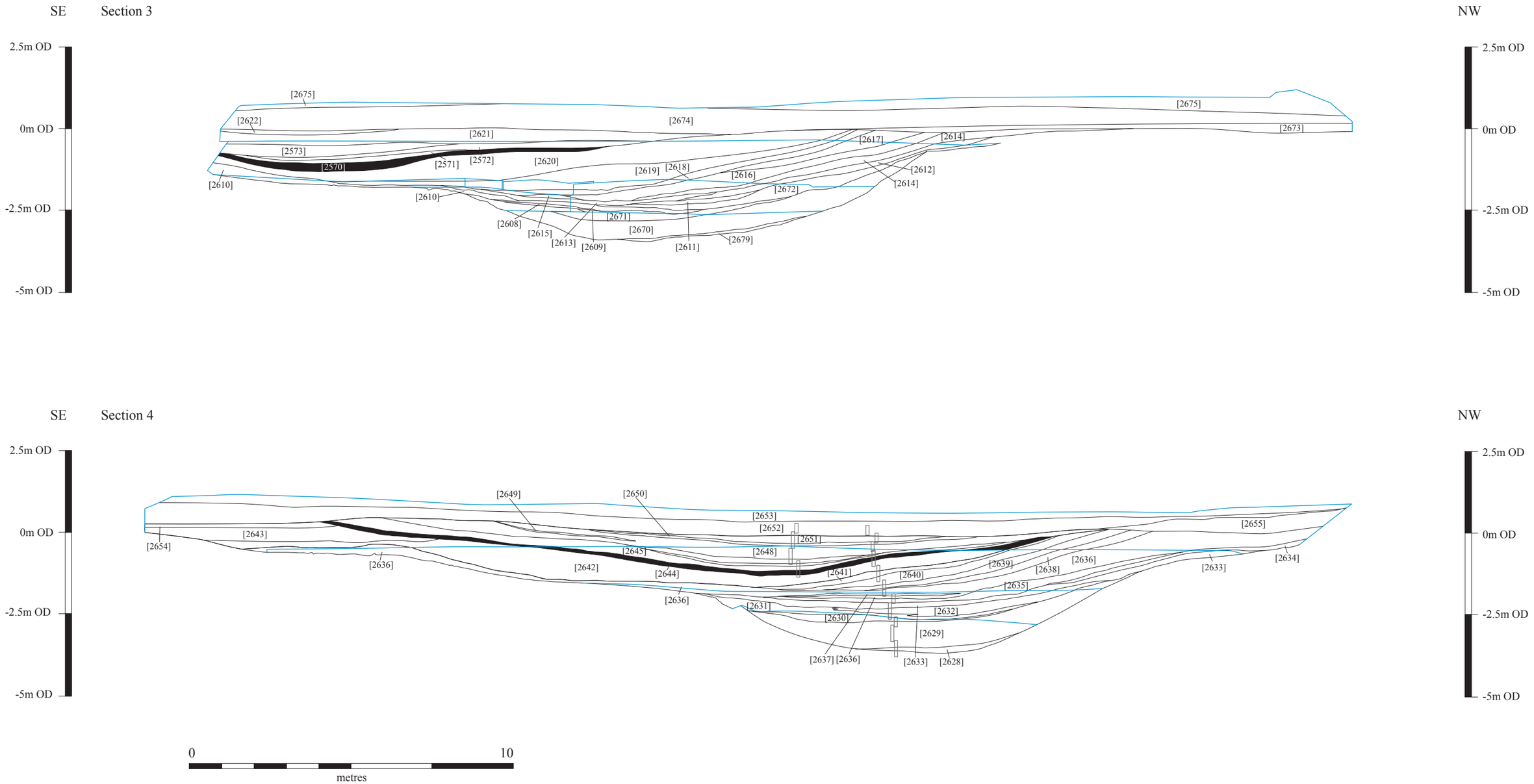
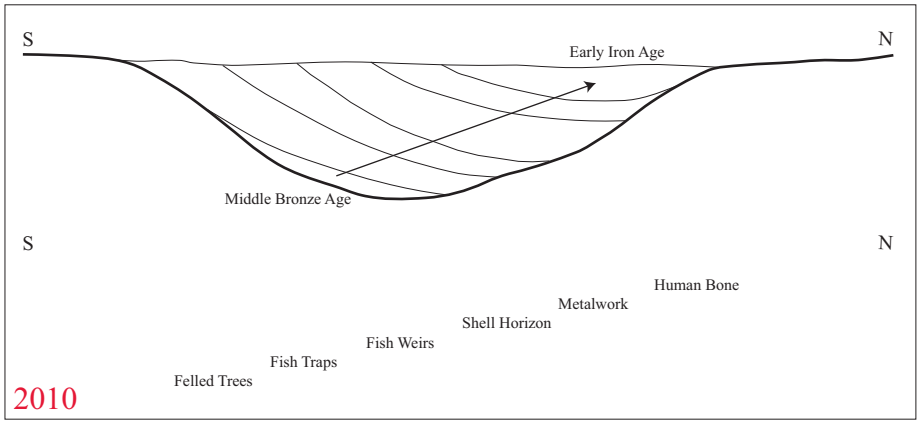


Figure 3b. Palaeochannel sections 3 and 4, showing migration of deposits



SE Section 2 NW

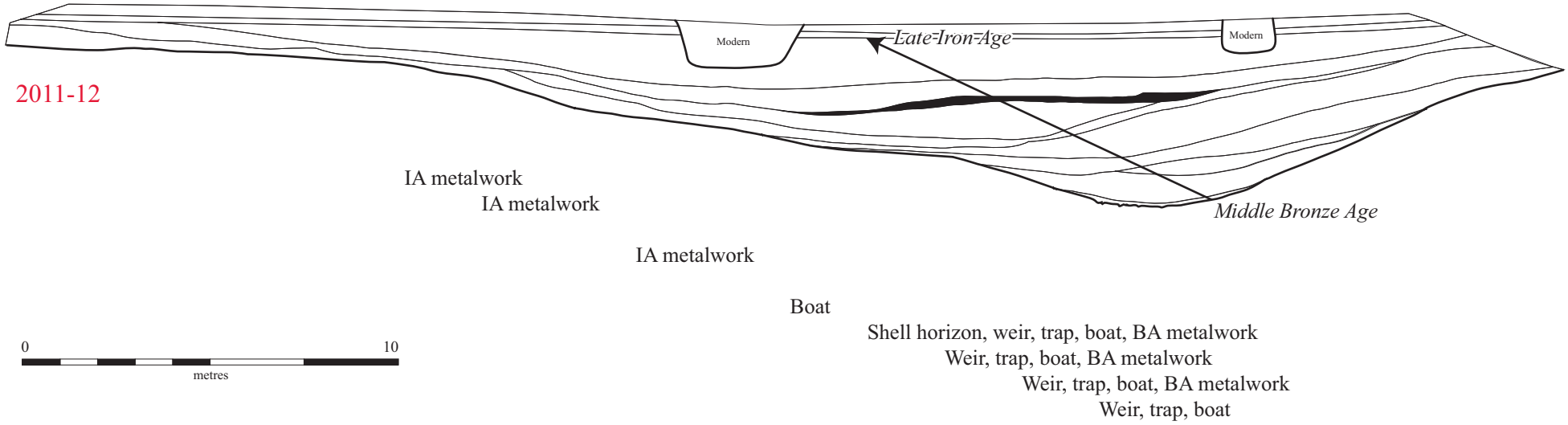


Figure 4. Meander chronology and depositional sequence

Figure 5. Metalwork. 1) EIA Swan headed pin, 2) La Tene brooch, 3) Baldrick ring with stamp, 4)MBA leaf-shaped razor, 5) Wilburton type II sword, 6) M-LBA rapier, 7) LBA dagger, 8 & 9) bent La Tene sword

Figure 6. Boats. 1) decoration, Boat 1, 2) burnt patch, Boat 4, 3) Lug, Boat 4, 4) transom board, 5) cleaning, Boat 4, 6) tool marks, Boat 5, 7) separating, Boat 6, 8) drawing, Boat 3

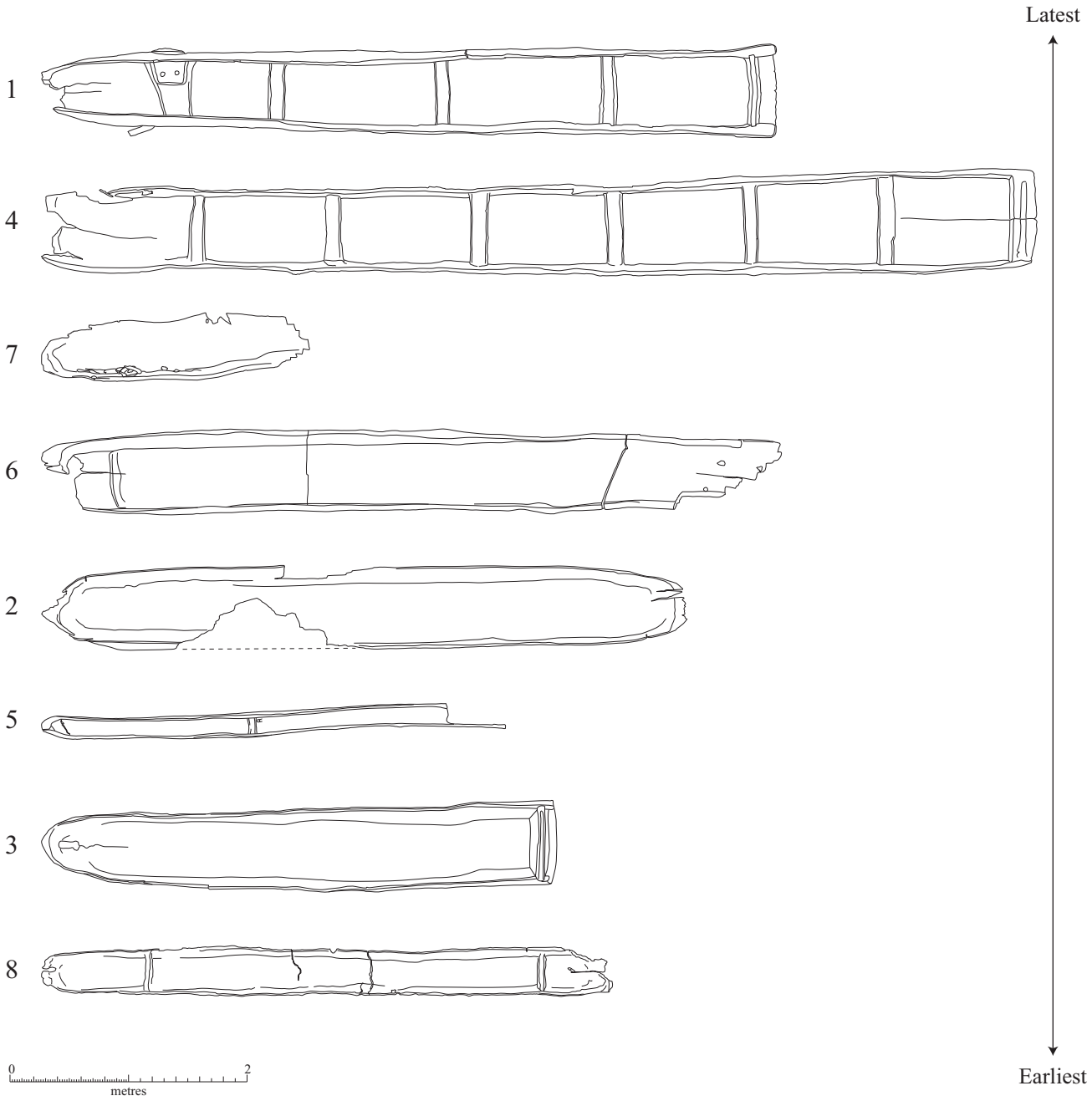


Figure 7. Boat outlines

Figure 8. Traps and Weirs: 1) Weir and trap, 2) detail of layers in Weir, 3) handle on Eel trap, 4) rodent bones in Eel trap, 5) detail of weave, Eel trap, 6) relationship between Weir and Trap

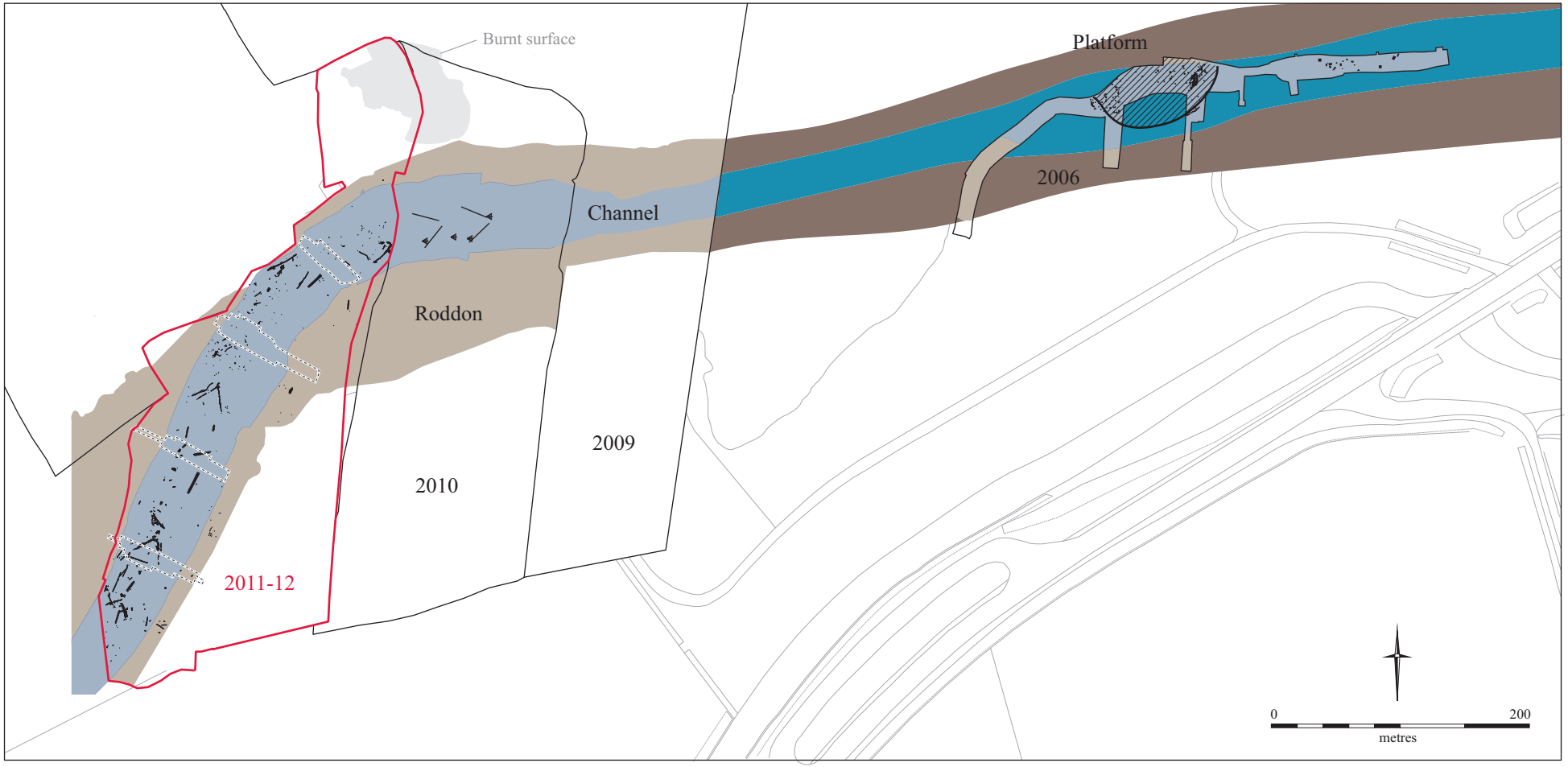


Figure 9. Focus on the Palaeochannel excavations so far

OASIS DATA COLLECTION FORM: England

OASIS ID: cambridg3-139491

Project details

Project name	Must Farm, Whittlesey 2011-2012 Palaeochannel Investigations
Short description of the project	On behalf of Hanson UK, a further programme of excavation and recording was undertaken within the palaeochannel at Must Farm quarry prior to mineral extraction. Some 200m (approximately 1.0 Hectare) of the fresh water channel was investigated in detail between June 2011 and October 2012 together with the roddon and the underlying sequence of earlier channels and old former surfaces through which it carved. The palaeochannel was stripped under strictly controlled conditions in order to best facilitate the identification of potential archaeological materials within. In addition, baulks were strategically left in place to allow for the comparison of deposition sequence along the length of the channel, these were later removed as the final stage of the process. The excavation exposed not only a significant quantity of later prehistoric wooden structures including fish traps, weirs, and post alignments, but also eight well preserved later Bronze Age/ Early Iron Age logboats, each unique in form. The significance of these logboats lies not only in their collection as a group of artefacts, but in the quality of the contextual detail in which they were discovered. In addition, a number of artefacts of both organic and non-organic material were uncovered demonstrating the extent of exploitation within and more importantly throughout the channel's existence. This is reflected in the collection of metalwork which also spans approximately 1200 years and includes bronze swords, daggers, rings, rapiers, a razor, a pin, a brooch and iron swords still riveted to their wooden handles.
Project dates	Start: 27-06-2011 End: 10-10-2012
Previous/future work	Yes / Yes
Any associated project reference codes	MUS11 - Sitecode
Any associated project reference codes	MUS12 - Sitecode
Type of project	Recording project

Current Land use	Industry and Commerce 5 - Mineral extraction
Monument type	PALEOCHANNEL Middle Bronze Age
Significant Finds	LOGBOATS Middle Bronze Age
Significant Finds	LOGBOATS Late Bronze Age
Significant Finds	LOGBOATS Early Iron Age
Significant Finds	WEIRS Middle Bronze Age
Significant Finds	WEIRS Late Bronze Age
Significant Finds	WEIRS Early Iron Age
Significant Finds	FISH TRAPS Middle Bronze Age
Significant Finds	FISH TRAPS Late Bronze Age
Significant Finds	FISH TRAPS Early Iron Age
Significant Finds	METAL WORK Middle Bronze Age
Significant Finds	METAL WORK Late Bronze Age
Significant Finds	METAL WORK Iron Age
Significant Finds	WOODEN STRUCTURES (OTHER Middle Bronze Age
Significant Finds	WOODEN STRUCTURES (OTHER) Late Bronze Age
Significant Finds	WOODEN STRUCTURES (OTHER) Early Iron Age
Investigation type	"Full excavation","Systematic Metal Detector Survey"
Prompt	Direction from Local Planning Authority - PPS

Project location

Country	England
Site location	CAMBRIDGESHIRE FENLAND WHITTLESEY Must Farm
Postcode	PE7 2PB
Study area	1.30 Hectares
Site coordinates	TL 23342 96718 52 0 52 33 14 N 000 10 49 W Point
Height OD / Depth	Min: -4.35m Max: 1.07m

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	David Gibson
Project director/ manager	David Gibson
Project supervisor	Kerry Murrell
Type of sponsor/ funding body	Developer

Name of sponsor/ funding body	Hanson UK

Project archives

Physical Archive recipient	Cambridge Archaeological Unit
Physical Archive ID	MUS 11 and MUS12
Physical Contents	"Animal Bones","Ceramics","Environmental","Human Bones","Metal","Wood","Worked bone","Worked stone/lithics"
Digital Archive recipient	Cambridge Archaeological Unit
Digital Archive ID	MUS11 and MUS12
Digital Contents	"Animal Bones","Ceramics","Environmental","Human Bones","Metal","Stratigraphic","Survey","Wood","Worked bone","Worked stone/ lithics"
Digital Media available	"Database","Images raster / digital photography","Moving image","Spreadsheets","Survey","Text","Virtual reality"
Digital Archive notes	virtual reality=laser scans
Paper Archive recipient	Cambridge Archaeological Unit
Paper Archive ID	MUS11 and MUS12
Paper Contents	"Animal Bones","Ceramics","Environmental","Human Bones","Metal","Stratigraphic","Survey","Wood","Worked bone","Worked stone/ lithics"
Paper Media available	"Aerial Photograph","Context sheet","Drawing","Map","Matrices","Miscellaneous Material","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Section","Survey ","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Must Farm, Whittlesey 2011-2012, Palaeochannel Investigations, Interim Statement
Author(s)/Editor(s)	Murrell, K.
Other bibliographic details	CAU Report Number 1136
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Issuer or publisher	Cambridge Archaeological Unit
Place of issue or publication	Cambridge Archaeological Unit
Description	A4 comb bound with plastic laminate front, 23 pages including 10 in colour.

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