



# **Chris Butler MIFA Archaeological Services**



## **An Archaeological Watching Brief of the Friston Forest Water Pipeline, Friston, East Sussex**

by  
Chris Butler

June 2008

### ***Summary***

*A water pipeline was installed across part of Friston Forest and Lullington Heath National Nature Reserve in early 2008 as part of the Friston Forest Grazing Project. The pipeline passed along the edge of the Archaeologically Sensitive Area in Lullington Heath, and across a number of prehistoric field lynchets.*

*An archaeological watching brief was undertaken during the work, with large quantities of prehistoric flintwork being recovered from along the entire route of the pipeline. Sections were also recorded through a number of the field lynchets. The dating evidence suggests that these field lynchets may have originated during the Bronze Age, although there was also evidence for earlier activity in the Neolithic period. Evidence was also recovered confirming the use of this area for training during the Second World War.*

## **Chris Butler MIFA**

# **Archaeological Services**

### **Prehistoric Flintwork Specialist**

Rosedale  
Berwick, Polegate  
East Sussex  
BN26 6TB

Tel & fax: 01323 871021

e mail: [chris@reltub.fsbusiness.co.uk](mailto:chris@reltub.fsbusiness.co.uk)

## Contents

1.0	Introduction
2.0	Historical and Archaeological Background
3.0	Archaeological Methodology
4.0	Results
5.0	Finds
6.0	Discussion
7.0	Conclusion and Recommendations
8.0	Acknowledgements

### Figures:

Fig. 1	Friston Forest showing the location of the site
Fig. 2	Friston Forest showing the location of HER sites and the Archaeologically Sensitive Area, together with the route of the pipeline
Fig. 3	Friston Forest showing field systems plotted from aerial photograph and route of the water pipeline
Fig. 4	Friston Forest showing the locations of new field lynchet banks and the recorded sections and features with the route of the water pipeline
Fig. 5	Section drawings
Fig. 6	The distribution of worked flint by Collection Unit
Fig. 7	Friston Forest: The distribution of fire-fractured flint by number and weight, by Collection Unit

### Appendices:

Appendix 1	Friston Forest watching brief: Lynchets & earthworks
------------	--

## 1. Introduction

Chris Butler Archaeological Services was commissioned by the Sussex Wildlife Trust to carry out an archaeological watching brief during the installation of a water pipeline through part of Friston Forest and Lullington Heath as part of the Friston Forest Grazing Project.

Friston Forest is an area of plantation woodland on what was originally open chalk Downland, and is currently managed by the Forestry Commission on long-term lease from the Eastbourne Water Company (now South East Water). On the north side of Friston Forest is Lullington Heath, which has been designated a National Nature Reserve and is a SSSI.

It is intended to introduce extensive grazing by British white cattle to the northern part of Friston Forest. Grazing with these tough animals will help to reduce the uniformity of the plantation and encourage the growth of more scrub. They will also maintain and hopefully expand the grassland areas<sup>1</sup>. As part of the preparation work for the introduction of the cattle, the installation of a water pipeline to feed two cattle troughs was required. The nearest water source was at Oldkilm Bottom which meant that the route of the pipeline had to pass through Lullington Heath.

The geology, according to the British Geological Survey (Sheet 334), is Upper Chalk. However, rendzina soils have developed over the chalk, especially in the valley bottoms, where they form brown earths, which are less calcareous and more moisture retentive. At Lullington Heath the surface layers of these soils are decalcified forming a rare chalk heath environment<sup>2</sup>.

The route of the proposed water pipeline runs through Lullington Heath and into the northern part of Friston Forest. Its path through the Lullington Heath National Nature Reserve runs along the edge of an Archaeologically Sensitive Area, with numerous known archaeological sites located on Fore Down, and extensive field systems that have been plotted from aerial photographs.

The East Sussex County Archaeologist recommended that a programme of archaeological works be carried out to monitor the excavation of the pipeline trench. The objective being to record any archaeological features revealed by the work, and to recover any artefacts that might assist in the dating and interpretation of the archaeological landscape.

---

<sup>1</sup> <http://www.sxbrc.org.uk/news/adastra-recording-day-friston-forest>

<sup>2</sup> Robinson, D. 1999 'Soils', in Leslie, K. et al. (Eds) *An Historical Atlas of Sussex*, Chichester, Phillimore & Co Ltd.

## 2. Historical and Archaeological Background

Friston Forest is situated at the east end of the South Downs, between the Cuckmere Valley and Eastbourne (Fig. 1). The Forest covers an area of 795ha, and is centred on TQ540000. Lullington Heath is situated on the north side of Friston Forest, between Oldkiln Bottom and Fore Down and is centred on TQ541017

The name 'Friston' first appeared about 800 years ago and is thought to derive from the old English words 'fyr's tun', which means 'land overgrown with furze of gorse'<sup>3</sup>. The area of Downland encompassing Friston Forest was purchased by the Eastbourne Water Company (now South East Water) around 1880, and in 1920 some 2,000 acres was leased to the Forestry Commission to create a forest that would help protect the water supply below<sup>4</sup>.

There are 28 HER records for the area around Friston Forest and Lullington Heath (provided by ESCC), and these are listed below and shown on Fig. 2:

MES577	TV 54 99	Wick Farm	Palaeolithic	Handaxe
MES2750	TQ54460246	Fore Down	Bronze Age	Round Barrow
MES2761	TQ537026	Deep Dean	Bronze Age	Round Barrows (4)
MES2979	TQ 53 02	Lullington	Bronze Age	Flanged axe
MES2980	TQ54090202	Fore Down	LBA/EIA	Settlement
MES2981	TQ53800186	Old Kiln Bottom	LBA/EIA	Cross Dyke
MES2982	TQ53710178	Fore Down	Bronze Age	Bowl Barrow
MES2983	TQ53750161	Fore Down	Bronze Age	Round Barrow
MES2984	TQ53760107	Friston Forest	Bronze Age	Bowl Barrow
MES2985	TQ54940126	Friston Forest	Bronze Age	Bowl Barrow
MES2987	TQ53560064	Charleston Bottom	Neolithic	Oval Barrow
MES2988	TQ548000	Snap Hill	Iron Age	Pottery sherds
MES2989	TQ54480170	Old Kiln Bottom	Undated	Pits
MES2990	TQ 54 00	Snap Hill	Undated	Rubbings stone
MES2991	TQ537024	Deep Dean	Prehistoric	Field systems
MES2992	TQ 53 02	Lullington	Palaeolithic	Flint implements
MES2993	TQ 53 02	Lullington	Undated	Pottery, glass, bronze
MES2996	TQ 53 02	Fore Down	Mesolithic	Mace head
MES2998	TQ537017	Fore Down	Prehistoric	Field systems
MES3000	TQ55040228	Holt Brow	Bronze Age	Bowl Barrow
MES3001	TQ55090205	Holt Brow	Bronze Age	Bowl Barrow
MES3006	TV54009936	Friston Forest	Undated	Mound
MES3017	TQ53550061	Charleston Bottom	Bronze Age	Bowl Barrow
MES3066	TV54519918	Friston Hill	Bronze Age	Bowl Barrow
MES3070	TV 54 99	Friston Hill area	Anglo-Saxon	Burial
MES5066	TQ 56 01	Jevington Hill	Roman	Cinerary urns
MES7028	TQ558009	Oxendean	Roman	Two coin hoards
MES7317	TQ53910191	Winchester Pond	LBA/EIA	Hut terrace

<sup>3</sup> Seven Sisters Country Park & South Downs Conservation Board, 2000, *Friston Forest*, Fairday Publishing.

<sup>4</sup> Forestry Commission, 2007, *Friston Forest*.

The earliest finds recovered from the area date from the Palaeolithic period, and form part of a group of similar finds, including handaxes, cores and flakes, recovered from or near deposits of Clay-with-flints in the area of the Cuckmere valley, although most have no accurate provenance<sup>5</sup>.

Only one find spot relates to the Mesolithic period, however there are numerous find spots for Mesolithic artefacts from other local sites on the South Downs, especially of tranchet adzes<sup>6</sup>. Evidence from elsewhere suggests that Mesolithic hunter-gatherer activity was widespread on the higher parts of the tree-covered South Downs, especially around areas of Clay-with-flints<sup>7</sup>.

Similarly there is very little evidence from the area for Neolithic activity, although the presence of a probable oval barrow near Charleston Bottom suggests that the area was being exploited. During this period the South Downs were still largely wooded, although some localised clearance may have been taking place. Finds of Neolithic flintwork and other burial monuments are located nearby<sup>8</sup>.

The majority of the sites previously recorded at Friston Forest and Lullington Heath date to the Bronze Age, and include numerous round and bowl barrows. The majority of these were originally recorded by Grinsell<sup>9</sup>, and can be found on the tops and false crests of many of the hilltops nearby. Many of them have been damaged by the activities of antiquarians, and some have now been completely destroyed by more recent agricultural activities. None have been excavated using modern archaeological techniques. Where other similar barrows have been excavated, they can frequently be shown to have a long and complex history, although most seem to date from the Early Bronze Age<sup>10</sup>.

Other Bronze Age finds include an Early Bronze Age flanged axe, although its exact find spot is uncertain. The field systems that can be seen extending across the whole area are often dated to the Iron Age and Romano-British period, but here their association with a Late Bronze Age/Early Iron Age settlement site and cross dyke suggests an earlier origin. The South Downs was extensively covered by small farming settlements and field systems during this period, although with a few notable exceptions<sup>11</sup>, they have not been extensively investigated.

---

<sup>5</sup> Wymer, J. 1999 *The Lower Palaeolithic Occupation of Britain, Volume 1*, Wessex Archaeology and English Heritage, pg171.

<sup>6</sup> Wymer, J. 1977 *Gazetteer of Mesolithic Sites in England and Wales*, CBA Research Report No. 22, London, CBA.

<sup>7</sup> Butler, C. 2001 A Mesolithic and later prehistoric flintworking site at East and West Hills, Pyecombe, West Sussex, *Sussex Archaeological Collections* 139, 7-25.

<sup>8</sup> Drewett, P. 1975 'The excavation of an oval burial mound of the third millennium BC at Alfriston, East Sussex 1964', *Proceedings of the Prehistoric Society* 41, 119-52.

<sup>9</sup> Grinsell, L.V. 1934 'Sussex Barrows' *Sussex Archaeological Collections* 75, 217-75

<sup>10</sup> Greatorex, C. 2001, 'Evidence of Sussex prehistoric ritual traditions', *Sussex Archaeological Collections* 139, 27-73.

<sup>11</sup> Drewett, P. 1982 'Later Bronze Age downland economy and excavations at Black Patch, East Sussex', *Proceedings of the Prehistoric Society* 48, 321-400.

This agricultural activity may have continued throughout the Iron Age and into the Romano-British period, although there is little firm evidence for this from the immediate area of the site. Iron Age pottery was found at Snap Hill and Fore Down, with the suggestion that the settlement site at the latter location continued into the Iron Age.

Evidence for activity in the Romano-British period is found only in the Jevington area to the east of the site, where two coin hoards and some funerary urns were found. More recently fieldwalking has turned up more evidence for Romano-British activity, including possible settlement, at Jevington<sup>12</sup>.

There is little evidence for Saxon and Medieval activity in the area, with surviving archaeological evidence for these periods being concentrated in the valley bottoms and villages. This suggests that this part of the South Downs was no longer used as arable land, although it may have continued to be used for sheep grazing<sup>13</sup>.

During the Post Medieval period the area appears to have been rough ground and scrub, bounded on the north side by the path from Jevington to Litlington. This situation is reflected on the Ordnance Survey maps of the late 19<sup>th</sup> and early 20<sup>th</sup> century. The following maps were inspected:

- 1879 1st Edition OS map
- 1899 2nd Edition OS map
- 1910 3<sup>rd</sup> Edition OS map
- 1938 4<sup>th</sup> Edition OS map

The name 'Old Kiln Bottom' at the north end of Lullington Heath pre-dates the 1<sup>st</sup> Edition Ordnance Survey map, and there are no structures or other features shown on any of the maps that may be related to a kiln or other industrial activity here. The kiln referred to was probably a limekiln, exploiting the chalk, and therefore may be related to the undated pits (MES2989) located at TQ54480170.

An aerial photograph dating to 1947, provided by ESCC, was inspected. It shows that much of the area of Friston Forest and Lullington Heath was open Downland and fields at this time, with only occasional patches of woodland. The prehistoric field boundaries can be clearly seen surviving in many parts, especially in the area of Fore Down and Old Kiln Bottom. There are also numerous small features of recent disturbance showing, which probably relate to the use of this area for military training during the Second World War.

---

<sup>12</sup> Chuter, G. pers com.

<sup>13</sup> Gardiner, M. 1999 'The Medieval Rural Economy and Landscape', in Leslie, K. et al. (Eds) *An Historical Atlas of Sussex*, Chichester, Phillimore & Co Ltd

### **3. Archaeological Methodology**

An initial walkover survey of the route was undertaken on the 9<sup>th</sup> February 2008. This survey commenced at the southern end of the proposed route, and comprised a visual inspection of any above ground features, together with an inspection of the ground surface and any disturbed areas for artefacts. The route was divided into a number of 20m collection units (A1 etc) for the purposes of recording artefact distributions, and all above ground features were recorded and plotted using a hand held GPS.

The excavation of the pipeline trench commenced on the 12<sup>th</sup> February 2008, and continued through to the 25<sup>th</sup> February 2008. The excavation was initially undertaken by a small tracked trenching machine, which cut a trench 200mm wide, and approximately 800mm deep. However, a tracked mini-digger was used along the majority of the route, as the trenching machine could not cope with the large quantity of flints in the soil. The trench excavated by the mini-digger was 300mm wide and approximately 800mm deep.

The excavation commenced at the north end of the route (Old Kiln Bottom) with stretches of the trench being excavated, and then left open for archaeological inspection. The water pipe was then laid in the bottom of the trench and the trench backfilled using the mini-digger.

The methodology for the archaeological watching brief was to inspect the trench, looking for archaeological features and artefacts, after it had been excavated. The spoil excavated from the trench was also inspected for archaeological artefacts. Initial observation of the actual excavation of the trench was abandoned, as this did not prove to be productive.

It was noted that the trenching machine not only cut a much narrower trench, but the resulting spoil was very fine and any artefacts were likely to have been damaged, thus making identification of features in the trench almost impossible to see, and resulting in a lower retrieval rate for artefacts in sections excavated by the trenching machine. The mini-digger produced a larger trench size, the spoil was easier to inspect, and artefact retrieval was good.

For the purposes of recording the artefacts recovered during the watching brief, the route of the pipeline was divided into 20m Collection Units, starting with Z1 at the north end. All artefacts recovered from the trench and its associated spoil were bagged and recorded by reference to these Collection Unit numbers.

A number of Second World War munitions were located during the excavation of the trench. Two of the mortar bombs were live and resulted in the attendance of the ROC bomb disposal team at the site to dispose of them. Subsequently a metal detector was used to identify and enable the removal of any further munitions along the pipeline route. All of the mortar bombs were located with the use of a GPS to determine whether there were any patterns identifiable.



Any features seen in the trench section, especially where the trench cut through the previously identified field lynchet banks, were recorded and their locations confirmed using a hand held GPS. Two representative sections through field lynchet banks were recorded by drawing and photography, together with two other features, one of which may have been a bank, noted during the project.

The sections were recorded according to accepted professional standards using context record sheets. Deposit colours were recorded by visual inspection and not by reference to a Munsell Colour chart.

A photographic record of the work was kept and will form part of the site archive. The archive is presently held by Chris Butler Archaeological Services and, after any further analysis, will be offered to an appropriate Museum. A site reference of FFW08 has been allocated.

#### **4. Results**

The initial walkover survey established that many of the field lynchet banks, previously identified from aerial photographs (Fig. 3), can still be seen as earthworks of various sizes (see Appendix 1). These earthworks cross the valley and are bisected by the path and the route of the pipeline. A brief record was made of each bank, noting its location by GPS.

A number of other earthwork features were also noted (see Appendix 1), and included a small oval mound at TQ54130143; dimensions are 10m x 5m, and 0.6m high, a possible WW2 slit trench at TQ54000164, with two circular shallow cuts 3m in diameter at TQ54030160.

There were also a number of possible quarries in the valley bottom at Old Kiln Bottom at TQ53990167 (5m x 4m and 1.2m deep), TQ54050172 (8m x 4m and 0.3m deep) and TQ54220173 (8m x 4m and 0.2m deep) (see Appendix 1). These are consistent with quarrying for flints from the colluvium along the valley bottom.

A number of archaeological artefacts were recovered during the walkover survey, having either eroded from the footpath surface, or having been exposed by animal diggings. These were recorded by reference to the relevant collection unit in which they were found. The artefacts comprised pieces of prehistoric worked flint and fire-fractured flint, and are discussed further below.

During the excavation of the pipeline trench it was seen to cut through a total of 37 possible field lynchet banks (Appendix 1). These were spaced at fairly regular intervals along the bottom of the valley, with some showing as quite substantial earthworks extending up the

valley sides, whilst others were very discrete earthworks that only showed as slight bumps in the valley bottom, and no earthwork at the side of the valley.

Many of the field lynchet banks could be clearly seen in the trench section, and generally showed as a concentration of larger flints on one or both sides of the bank, or in the bank itself. There was rarely a discernable bank showing as an earthwork feature in the trench section, and many were not visible at all in the section. The spreads of flint on one or both sides of a bank often extended for between 5-10 metres. Two representative sections were recorded through field lynchet banks (Fig. 5).

The following contexts were recorded in the pipeline trench during the watching brief. The topsoil at the north and south ends of the pipeline trench was a mid brown silty loam (Context 1) containing irregular flint nodules to 150mm (5%), and small flint pieces (5%). In the central part of the route, and in some places at the south end, the topsoil became a mid grey-brown silty loam (Context 2) with irregular flint pieces of varying sizes; mostly small (*c.*25mm) but some up to 120mm (<5%), and roots (2%).

Below Context 2, and becoming more obvious at many of the field lynchet banks, was a mid-brown silty loam (Context 3) with frequent irregular flint nodules to 100mm (50%) and roots (1%). On many occasions the flints become more concentrated and larger on one side or other of the field lynchet banks, for example at the field lynchet bank at TQ54300174 (Fig. 5, Section A). Here there was also a layer below Context 3, which appeared to form the foundation of the bank. This was a darker brown moist silty loam (Context 4) with much fewer irregular flint pieces and nodules to 80mm (<10%).

Immediately to the west of the field lynchet bank recorded above, a patchy calcareous colluvium occurs below Context 2 at a depth of between 400mm and 800mm. Initially it occurs in patches, and then for a continuous 30m stretch (within Collection Unit Z24), it then reappears at intervals along the western part of Old Kiln Bottom. It comprises an off-white chalky silty loam with frequent small chalk pieces and rare flint pieces (Context 5), and sits above the chalk natural. It was noted that the white patinated worked flint was associated with this context.

An orange-brown silty clay loam layer (Context 6), with rare flint pieces, occurs at a depth of 600mm on the west side of a field lynchet bank at TQ54190174. This layer is below Context 2, and above Context 5.

At TQ54090172 Context 5 stops, and there is an increase in the quantity of flint, possibly indicating the presence of a discrete bank. From this point a new layer, Context 7 occurs below Context 2 at a depth of 150-200mm. It comprises a mid orange-brown silty loam with frequent chalk pieces to 20mm (30%) and rare flint pieces to 30mm (2%). Context 2 at this point has a clear worm sorted horizon at its base. Below this is a mid orange-brown silty clay loam (Context 8) with rare irregular flint pieces to 80mm (3%).

On the south side of TQ54030171 the stratigraphical sequence is as follows:

0 - 200mm	Context 2
200 - 300mm	Context 7
300 - 500mm	Context 8
500 - 650mm	Context 5
650mm +	Natural weathered chalk

At TQ54020168 a shallow cut (Cut **10**) was noted cutting into the chalk natural (Fig. 5, Section C). It comprised gradually sloping sides into a dished base, and was 1.5m wide and 300mm deep. It shows in both sections of the pipeline trench, although it is shallower in the east section, and it is not clear whether it is a ditch or pit. The fill of the cut is a dark brown silty clay loam (Fill **11**) containing frequent irregular flint pieces to 100mm (40%). Three flint flakes and a chip were found in this cut. The section at this point shows Context **2** to have a thin worm-sorted horizon at its base, and below that, and above the pit, is Context **9**. This is a dark grey-brown silty loam with rare irregular flint pieces to 75mm (2%) and roots (<1%).

A large bank at the boundary between Friston Forest and Lullington Heath is crossed by a north-south path, and is used as part of the east-west path at TQ54090147. The bank is approximately 10m wide and 0.5m high. Below a thin layer of Context **2**, the bank is formed from a mid yellow-brown silty loam (Context **12**) which contains small quantities of irregular flint pieces to 80mm (3%) and numerous small chalk pieces and flecks (10%); with the flints tending to be concentrated in the lower part of this context. Four flakes and a flint hammerstone were recovered from Context **12**, along with a bone from a small sheep.

At this point a short length of pipeline trench was excavated following the track eastwards and upslope for about 60m to the location of the first water trough. Here Context **2** was some 200m deep and, for the majority of this trench, it was immediately above the chalk subsoil. At the crest of the slope (TQ54140145) a possible discrete north-south orientated bank may exist, although this did not show clearly in the section. However a cut on its west side may be evidence for a negative lynchet (Fig. 5, Section D). The cut (Cut **13**) is 1.5m wide and 300mm deep with gently sloping sides into a dished bottom, and is filled with a dark brown silty loam (Fill **14**) with irregular flint pieces to 80mm, but most pieces are much smaller (30%) and some roots (<1%). Three flakes and a blade were found in Context **14**, together with a single fire-fractured flint.

Context **14** appears to form a soil layer below Context **2**, extending further than just the fill of Cut **13** (see Fig. 5, Section D). It also covers a second cut, which could be an earlier negative lynchet, or possibly animal or tree root disturbance (Cut **15**). This cut is 800mm wide and 280mm deep, and is filled by a light buff coloured chalky loam (Fill **16**), with frequent chalk pieces to 60mm (35%) and rare irregular flint pieces to 50mm (2%). There are a number of similar cuts that could be either animal or tree root disturbance showing in the section further to the east of this point.

A second section was recorded through a field lynchet bank at TQ54040134 (Fig. 5, Section B). This bank was one of a number recorded here as discrete earthworks at 30-50m intervals along the valley bottom, and is also shown on the aerial photograph, although there was little showing in the section of the pipeline trench.

Here the topsoil (Context 1) was above a mid orange-brown silty loam (Context 17) with frequent irregular flint pieces to 100mm (50%), which appeared to form the bank and showed that the flints were concentrated against the southern edge of the bank. Below Context 17 was a dark orange-brown silty clay loam (Context 18) with some irregular flint pieces to 40mm (3%) and rare chalk flecks (<1%).

The stratigraphy along the remainder of the route was a topsoil (Context 2) varying between 400mm and 600mm in depth, with occasional patches of the chalky colluvium (Context 5) up to 200mm deep below this. Where there were possible field lynchet banks the soil changed to an orange-brown silty loam with increased quantities of flint pieces (Context 17) below a thinner layer (c.200mm) of Context 2.

A number of 2" and 3" mortar bombs and their associated tail fins were found in the spoil from the pipeline trench, and with the use of a metal detector on the proposed route of the pipeline trench. The majority of these were found between TQ54010167 and TQ54070155, with two main concentrations centred on these two locations. The location of each piece of ordnance was recorded with GPS and the details are retained in the site archive.

The numerous pieces of prehistoric worked flint and fire-fractured flint found in the spoil are discussed further below. There was also a single sherd of prehistoric pottery, and two animal bones found, together with a number of .303 cartridge cases. Where it was possible the artefacts recovered have been assigned to the relevant context from which they originated, however for most this was not possible as they were recovered from the spoil after excavation, and thus can only be assigned to the relevant collection unit.

Apart from the field lynchet banks and other features noted above and in Appendix 1, there were no other features seen in the pipeline trench. However, given the narrow width of the trench and its depth, there is a possibility that some discrete changes in soil colour and texture may have been missed, and therefore some features may have gone unnoticed. It is assessed that the likelihood that all features and deposits were identified is in excess of 80%.

## **5. Finds**

The watching brief resulted in a limited range of archaeological artefacts being recovered. The largest category of artefacts recovered was prehistoric flintwork, which together with the fire-fractured flint and single sherd of pottery recovered provides evidence for the prehistoric activity along the pipeline route. There were no artefacts of Roman or Medieval date, and the only Post medieval artefacts recovered were those dating to the Second World War.

### ***Prehistoric Flintwork***

A total of 483 pieces of prehistoric worked flint, weighing 13.974kg, was recovered during the watching brief, of which 17 pieces were found during the initial walkover survey, and 29 pieces were recovered from recorded sections. The remaining pieces were recovered from the spoil during the trenching operation. The assemblage is summarised in Table 1.

***Table 1: Prehistoric Flintwork***

<b><i>Type</i></b>	<b><i>Number</i></b>
Hard hammer-struck flakes	304
Soft hammer-struck flakes	68
Hard hammer-struck blades	7
Soft hammer-struck blades	15
Bladelet fragments	3
Flake & blade fragments	50
Chips	21
Soft hammer-struck axe-thinning flake	1
Single platform flake cores	2
Core fragments	5
End scrapers	5
Side scraper	1
Hammerstone	1
<b><i>Total</i></b>	<b><i>483</i></b>

The flint raw material comprised a number of different types, all of which have derived from

local chalk Downland sources. The types comprise:

- a: Mottled grey flint varying from light to dark grey with a dark buff-brown cortex.
- b: White patinated flint with a buff coloured cortex. Some of these pieces have areas of black spotting on their surface. It was noted that most of these flints derived from Context 5.
- c: Blue-grey or blue-white patinated flint with a buff coloured cortex

The debitage comprises both hard and soft hammer-struck pieces, predominantly the former, and mostly flakes rather than blades. The pieces vary in size from very large flakes down to small chips. A small number of very fresh looking pieces may have been the result of damage from the trenching machine. The debitage falls into two distinct groups: Firstly flakes and blades that can be either hard or soft hammer-struck and have evidence for platform preparation, or soft hammer-struck pieces that have no evidence for platform preparation. The flakes tend to be long and narrow, almost blade-like. These make up less than 20% of the assemblage, and are likely to date to the earlier part of the Neolithic. They are almost entirely of flint types b) and c).

The second group comprises the remainder of the hard hammer-struck pieces, which have no evidence for platform preparation, and includes some soft hammer-struck pieces (some of which are likely to have been struck with a soft stone hammer rather than an antler hammer). These pieces are of all three flint types, and the flakes tend to be large, and vary in shape, but with a tendency to be short and squat. This flintwork is likely to date to the later Neolithic or Bronze Age.

There were two single platform flake cores. The first (from Z8) was reasonably well worked-out but had no evidence for platform preparation, so is probably Neolithic. The second (from Z34) was a large, typically later prehistoric core. There were also five undiagnostic core fragments found.

The only implements, apart from one retouched flake, were five end scrapers and a single side scraper. One of the end scrapers is manufactured on a hard hammer-struck flake, which has some evidence for platform preparation, although its distal end is utilised it has not been retouched. Two end scrapers are manufactured on soft hammer-struck flakes, and similarly have little retouch but have utilised distal ends. Most of the scrapers are likely to be later prehistoric in date.

The distribution of the flintwork along the route of the pipeline (Fig. 6) shows that there was a greater density of pieces between Z19 and Z22 than elsewhere along the route, but as with other sections of the route there does not seem to be more than around 20% of the pieces that can be definitely dated to the earlier Neolithic. A further concentration of pieces was recovered from Z54, which coincided with the recovery of a middle-late Bronze Age pottery sherd. Again although some of the pieces were probably earlier, the majority would fit a later prehistoric date.

### ***Fire-fractured flint***

A total of 49 pieces of fire-fractured flint weighing 2.324kg was found during the watching brief. One piece was found during the initial walkover survey, and three pieces were recovered from recorded sections, with a further four pieces (6g) were recovered from a soil sample. The remaining pieces were recovered from the spoil during the trenching operation.

The fire-fractured flint distribution is shown in Fig. 7, by number and weight. The pieces were recovered from along the entire route, and there was no real concentration, except for the two adjacent Collection Units Z32 and Z33. However, this did not coincide with any concentration of worked flint.

### ***Pottery***

A single sherd of pottery was recovered from the trench spoil in Collection Unit Z54. It was a calcined flint-tempered fabric with an oxidised external surface and reduced interior, having frequent small to medium sized calcined flint inclusions. It was identified by Louise Rayner as being part of the base from a Middle Bronze Age to Later Bronze Age vessel.

A second possible pottery sherd was collected as a surface find at TQ53980104. This sherd was too degraded to be positively identified, although it appeared to be sand-tempered, and may date to the later Iron Age.

### ***Animal Bone***

- 5.4.1** Two pieces of animal bone were recovered during the watching brief. The first came from the trench spoil in Collection Unit Z62, and was the very degraded tibia from a small horse/pony. The second piece was recovered from Context 12, and was a tibia from a small or young sheep. The animal bones were identified by Pat Stevens.

### ***Metal objects***

The majority of the metal objects found during the watching brief can be identified as relating to the use of the area for training during the Second World War. Full details of the find spots for these metal objects are held in the archive.

Only one object may be earlier in date, and this appeared to be part of the blade and tang of an iron knife (16g), which was found with the use of a metal detector in the topsoil at the west end of Old Kiln Bottom.

The most common finds relating to Second World War use were fragments of 2” and 3” mortar bombs. These were recovered during the trenching operation, and with the use of a metal detector on the proposed route of the pipeline trench. Most fragments were the tailfins from the bombs, but fragments of the bomb casing and two complete unexploded mortar bombs were also found; the latter being destroyed in-situ by a ROC bomb disposal team. A total of ten 3” and five 2” mortar bombs were found.

Eleven .303 bullet cases were also recovered. Each case has a ‘Headstamp’, which includes the type of round, where it was made, and the year of manufacture<sup>14</sup>. It was possible to read the ‘Headstamps’ on three of the cases, which demonstrate the global nature of the war, and perhaps indicate the nationality of some of the soldiers training there.

- |             |   |
|-------------|---|
| 1) DAC 1943 | Dominion Arsenal, Quebec, Canada.                             |
| 2) MH 1942  | Small Arms Ammunition Factory No. 3, Hendon, Australia.       |
| 3) U ♦ 1943 | South Africa Mint, Pretoria, Kimberley Factory, South Africa. |

---

<sup>14</sup> Cushman, D.A. 2008 *Headstamps of the .303 British Calibre Service Ammunition Round*, [www.dave-cushman.net/shot/303headstamps](http://www.dave-cushman.net/shot/303headstamps).

A number of pieces of shrapnel were recovered with the aid of a metal detector, together with a short strand of barbed wire. Some of the shrapnel appears to have come from a larger shell casing than the 2" and 3" mortar bombs found during the watching brief, and perhaps comes from artillery shells instead.

### *Environmental samples*

Due to the narrow trench, limited access and the high proportion of flints in each context, it was not possible to take large environmental samples. However three small samples, each weighing between 750g and 1kg, were taken from Contexts **9**, **11** and **16**.

The samples were processed using bucket floatation, with the residue being washed through a 1mm mesh sieve. Once the residues were dry they were sorted by eye to extract material of archaeological and environmental interest. The results are shown in Table 2.

**Table 2: Environmental Samples**

Context	Modern roots	Charcoal	Seeds	Molluscs	Residue
9	*	-	-	-	4 FF flints (6g)
11	*	-	-	-	-
16	-	-	-	-	-

Frequency Key: None - ; Very low \* ; Low \*\* ; Moderate \*\*\* ; High \*\*\*\*

All of the residues contain quantities of small fragments of flint, whilst a few pieces of chalk were noted in Context **16**. There was no evidence for charcoal, seeds, bone or shell in any of the samples. The residues have been retained in the archive.

## **6. Discussion**

The watching brief on the water pipeline at Friston Forest has been extremely helpful in determining the extent and dating of the field lynchets, as these were previously known only from aerial photographs.

The survey has shown that the number of field lynchet banks surviving is actually greater than the number suggested from the aerial photographs. This is due to the fact that many of the banks are very discrete, being visible on the ground as very low earthworks, sometimes less than 100mm high, or only visible in the sections of the pipeline trench due to the increase in the number of flints showing in the section.



The prehistoric field systems of the South Downs, often referred to as ‘Celtic Fields’ were originally thought to have dated to the Iron Age. However, more recent work has suggested that many of these field systems have their origins in the Later Bronze Age<sup>15</sup>. The excavation of a prehistoric field system at Eastwick Barn, near Brighton demonstrated that although there was earlier activity represented by Neolithic flintwork, and the lynchets appeared to have continued in use through the Iron Age and into the Romano-British period, the lynchets had started formation by the earlier Iron Age<sup>16</sup>.

Although there was no definite stratified dating evidence from the field lynchet banks, the circumstantial evidence from this watching brief at Friston Forest suggests that these field systems are also likely to date from the latter part of the Bronze Age. This evidence comprises the sherd of Middle to Late Bronze Age pottery, and the assemblage of later prehistoric flintwork.

There was no evidence found for Mesolithic activity during the watching brief. A handful of the pieces of worked flint may be Mesolithic (for example the bladelet fragments), but these are certainly residual. The evidence from elsewhere on the South Downs suggests that Mesolithic activity is confined to the higher parts, especially those with a capping of Clay-with-flints<sup>17</sup>, and therefore it would be unlikely that any evidence would be found in the valley bottom.

The prehistoric flintwork found during the watching brief included a group of Neolithic material. Although the majority of this assemblage was debitage, the diagnostic traits of this material suggested a Neolithic date. The presence of a possible oval barrow at Charleston Bottom (MES2987) suggests that there was Neolithic activity in the area. This flintwork tended to be associated, where it was identified as coming from a particular context, with Context 5. The stratigraphical relationship of this context suggests it predates the formation of the field lynchet banks.

There was no definite evidence found during the watching brief for any activity during the Romano-British and later periods. However, given the nature of the excavation and the subsequent small sample of the landscape seen, this would not be unexpected. The evidence for the use of this area during these periods, such as it is, would suggest that it was used for grazing, and later developed into scrub vegetation. The activities associated with this type of landscape would leave little to find in the archaeological record.

The name Old Kiln Bottom probably derives from the Post Medieval site of a limekiln, although no evidence for this was found. The shallow quarries found along the valley bottom are more likely to be associated with the quarrying of flints for building and other purposes.

---

<sup>15</sup> Russell, M. 2002 *Prehistoric Sussex*, Tempus Publishing Ltd, p125.

<sup>16</sup> Barber, L. et al. 2002, Excavations at Eastwick Barn, in Rudling, D. (Ed) *Downland Settlement and Land-use*, UCL Field Archaeology Unit Monograph No. 1, UCL, London p107-140.

<sup>17</sup> Butler, C. 2003 A Mesolithic and later prehistoric flintworking site at East and West Hills, Pyecombe, West Sussex, *Sussex Archaeological Collections* **139**, 7-25.

The most recent use of this landscape has been as a training area during the Second World War. During the early part of the war Friston and East Dean villages became a Nodal Point or defended locality, whilst Friston Airfield was used as an emergency landing ground and satellite airfield<sup>18</sup>. The South Downs were used extensively for training during the preparations for the D-Day landings, and evidence for this was found at the west end of Old Kiln Bottom.

There were two concentrations of mortar bombs at the west end of the valley, and it was here that the majority of the .303 cartridge cases were also found. The presence of a possible slit trench and other features at this location, suggests that this was the focus of the training, perhaps being the butts of a firing range.

## **7. Conclusion & Recommendations**

The watching brief has recorded important evidence for the presence of a later prehistoric field system, and has suggested that it originated in the Later Bronze Age. There is also evidence for Neolithic activity and the use of the area for training in the Second World War.

The results of this work are of significant local and regional importance, and it is recommended that the results are developed into a format suitable for publication in Sussex Archaeological Collections.

This could include further map and documentary research to establish more about the Post Medieval and recent history of the area, including its use for training in the Second World War.

## **8. Acknowledgements**

The initial arrangements for the survey were made by Steve Tillman, the Reserve Officer for Lullington Heath National Nature Reserve. I would like to thank the contractors from Beeney & Co Ltd for their co-operation during the excavation of the pipeline route. Greg Chuter, Archaeological Officer for east Sussex County Council, provided the HER records, maps and aerial photographs.

I would to thank Pat Stevens and Louise Rayner for helping to identify the animal bone and pottery respectively, and Jane Russell who drew the sections for the report.

---

<sup>18</sup> Butler, C. 2007 *East Sussex under Attack*, Tempus Publishing Ltd, p58.



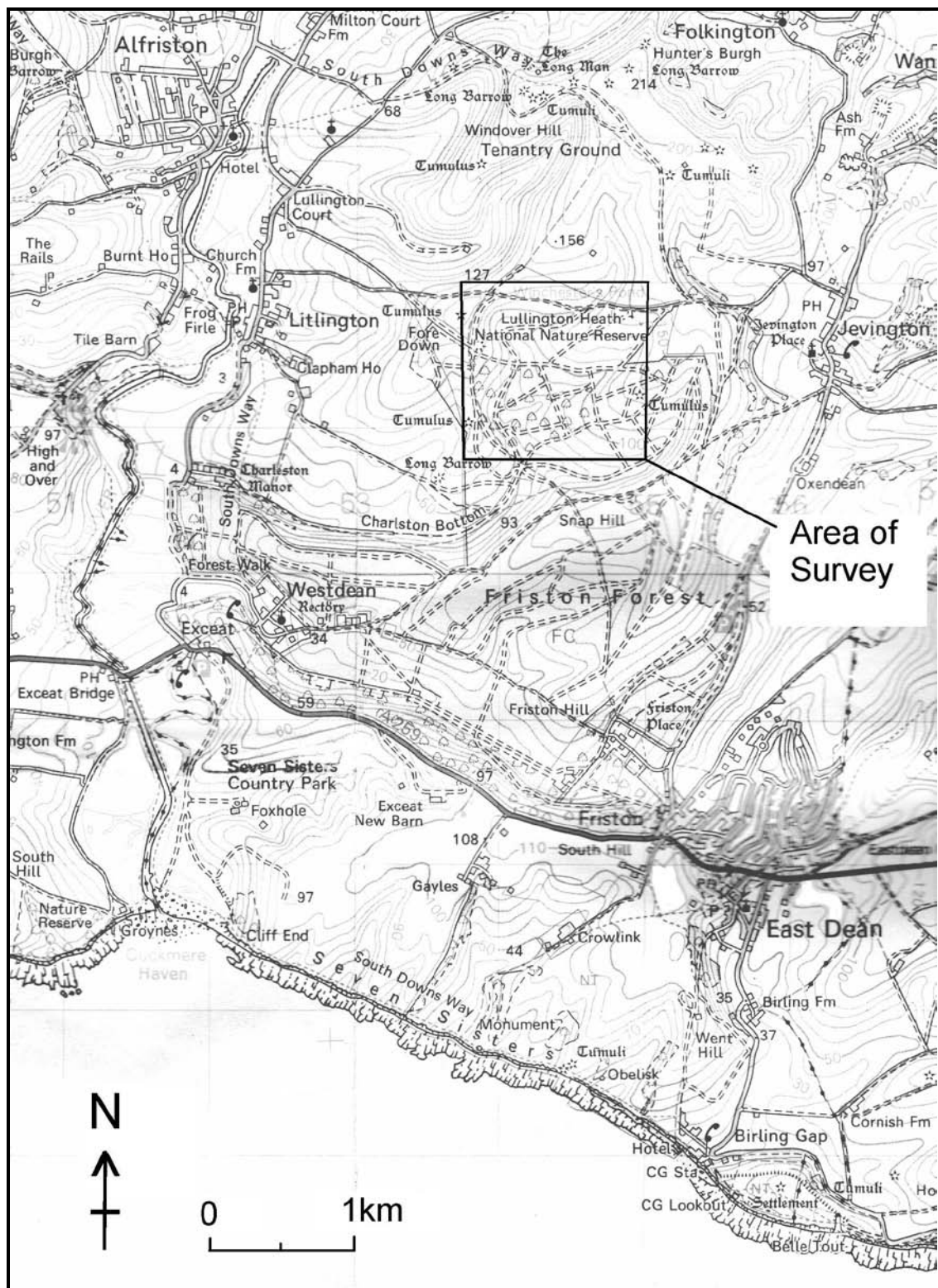


Fig. 1: Friston Forest showing the location of the site.

Ordnance Survey © Crown copyright 1985 All rights reserved.  
Licence number 100037471

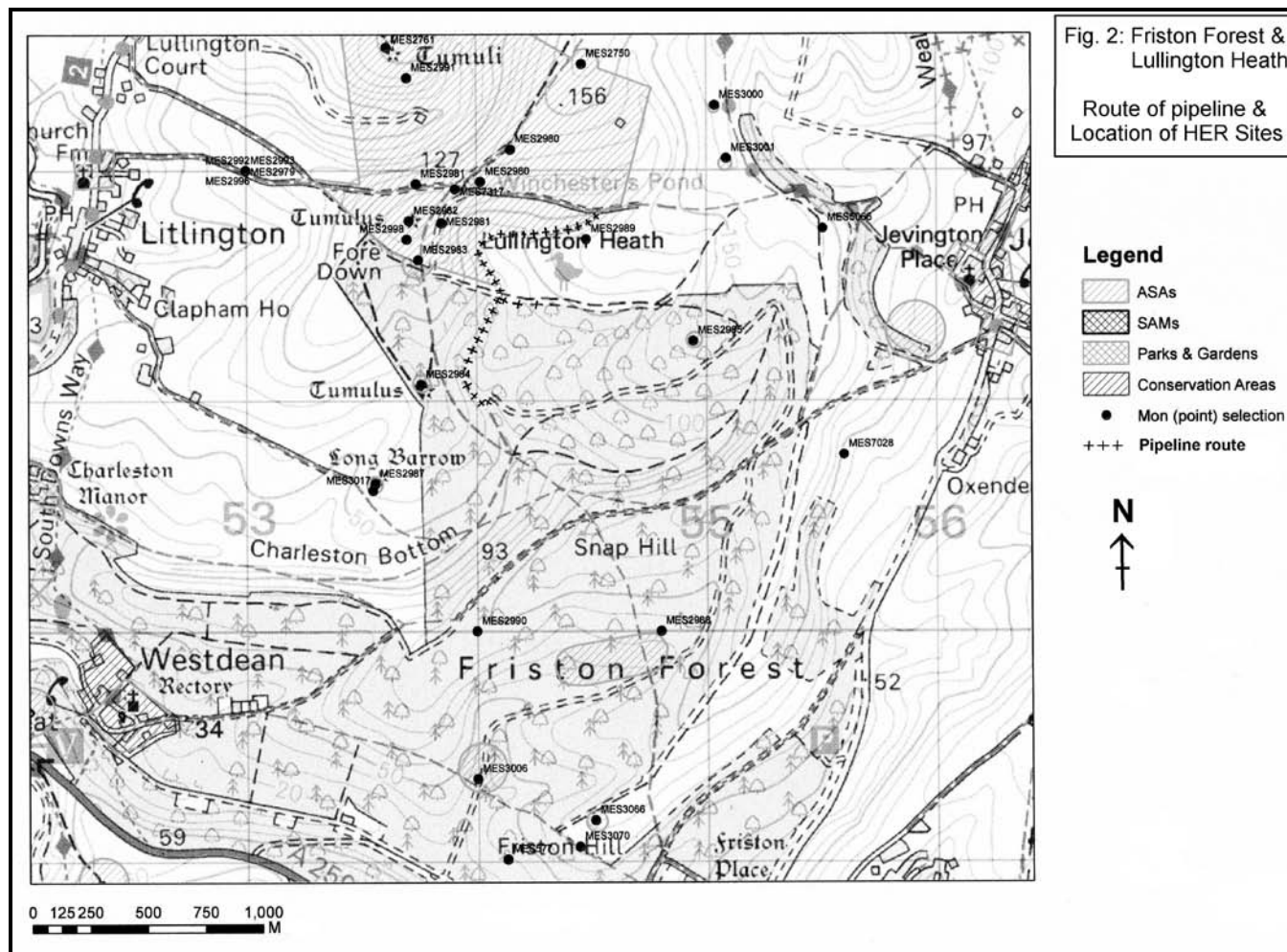


Fig. 2: Friston Forest showing the location of HER sites and the Archaeologically Sensitive Area, together with the route of the pipeline.

Adapted from original map supplied by ESCC, and reproduced under Ordnance Survey © Crown copyright 1985 All rights reserved. Licence number 100037471



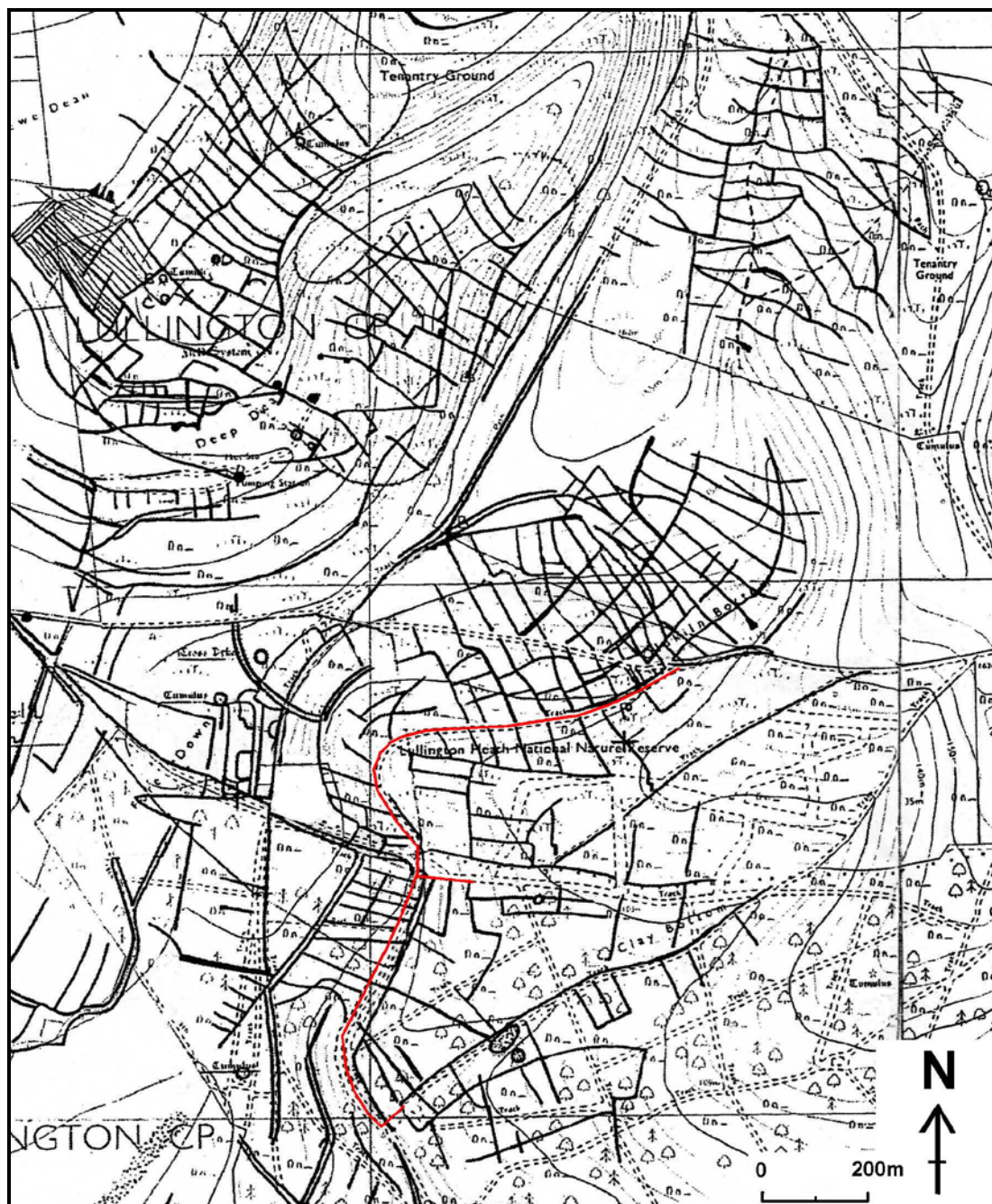


Fig. 3: Friston Forest showing field systems plotted from aerial photograph and route of the water pipeline.

Adapted from original HER map supplied by ESCC, and reproduced under Ordnance Survey ©  
Crown copyright 1985 All rights reserved. Licence number 100037471



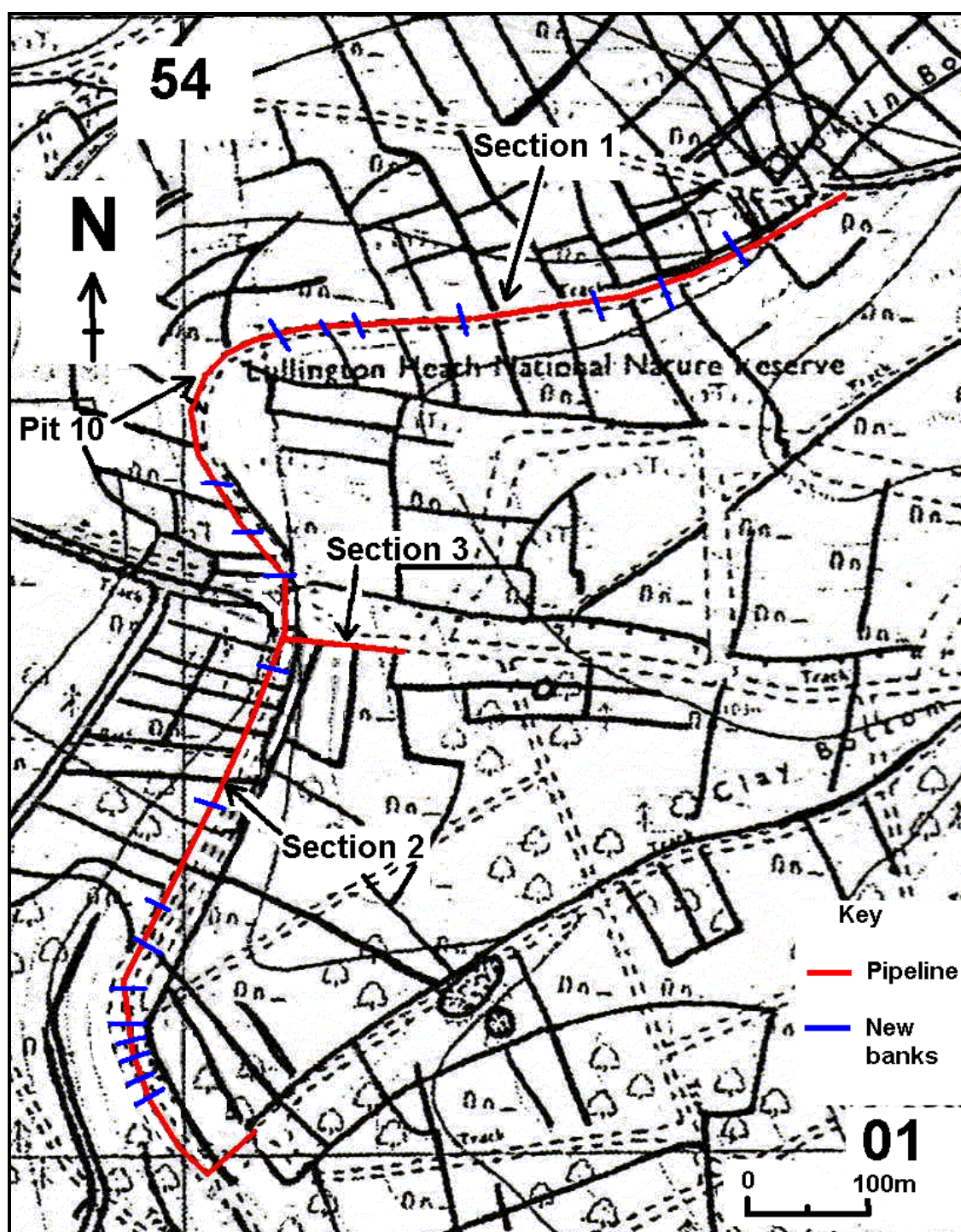


Fig. 4: Friston Forest showing the locations of new field lynchet banks and the recorded sections and features with the route of the water pipeline.

Adapted from original HER map supplied by ESCC, and reproduced under Ordnance Survey ©  
Crown copyright 1985 All rights reserved. Licence number 100037471

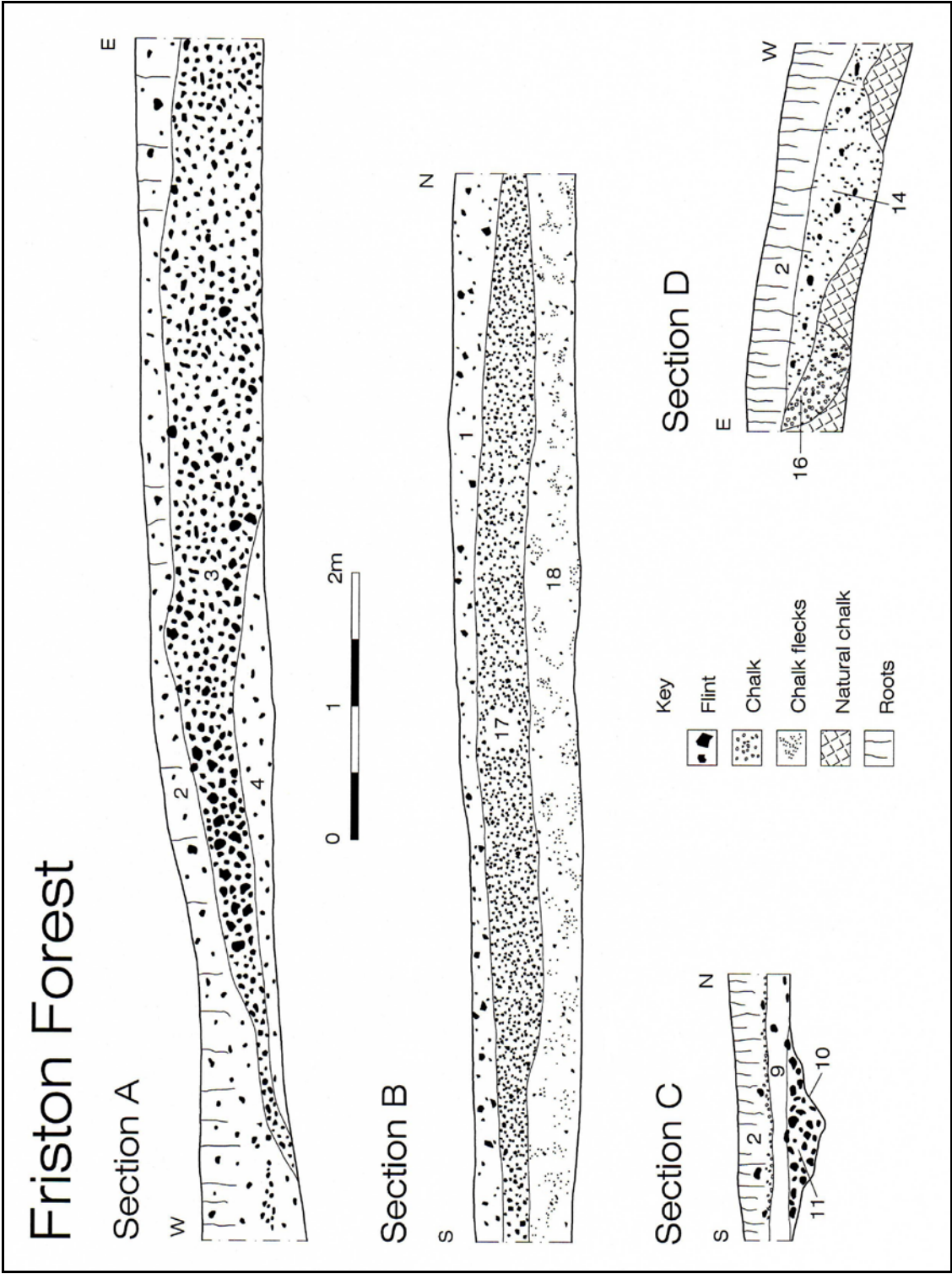


Fig. 5: Friston Forest Sections (see text for details)



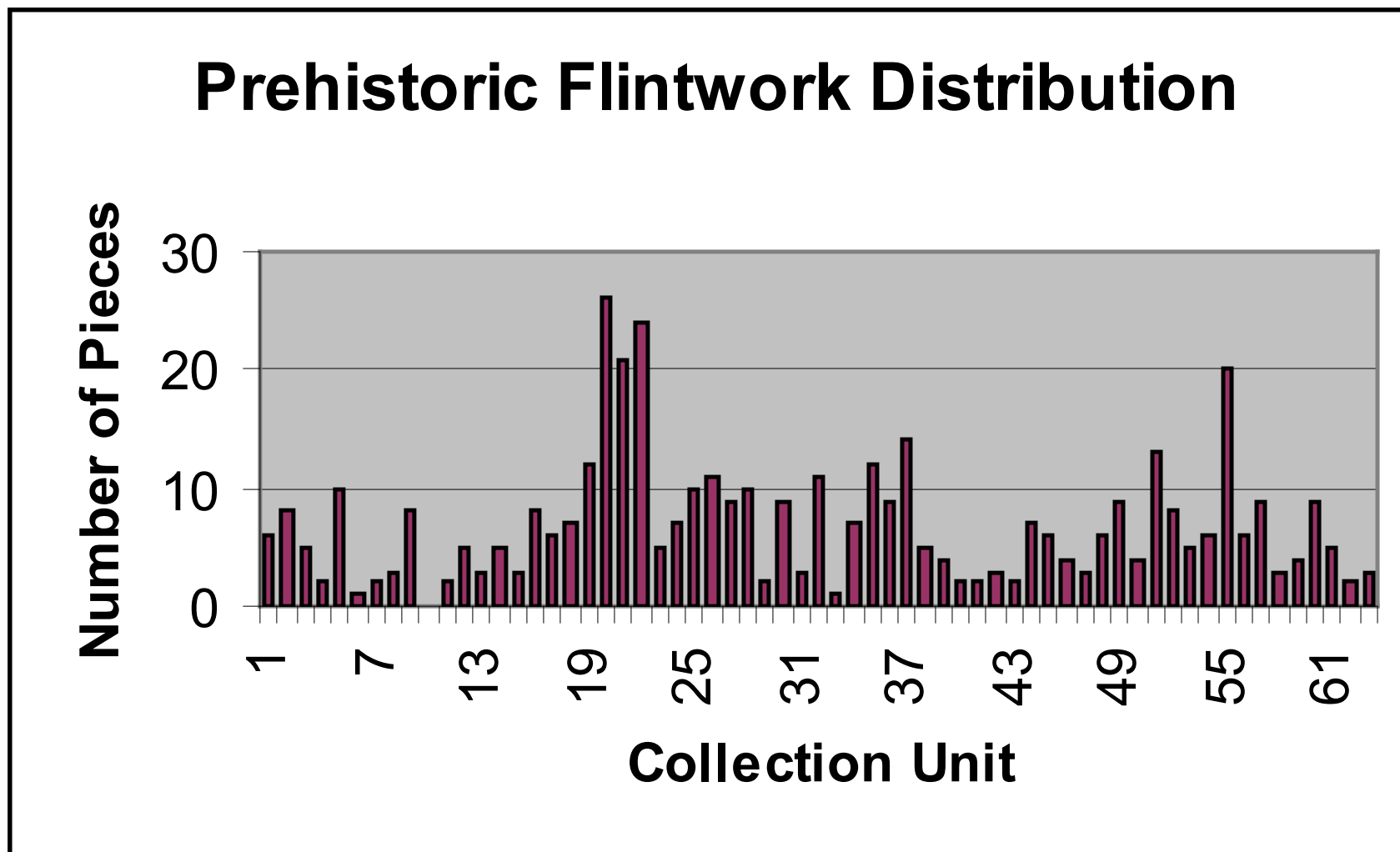


Fig. 6: Friston Forest: The distribution of worked flint by Collection Unit

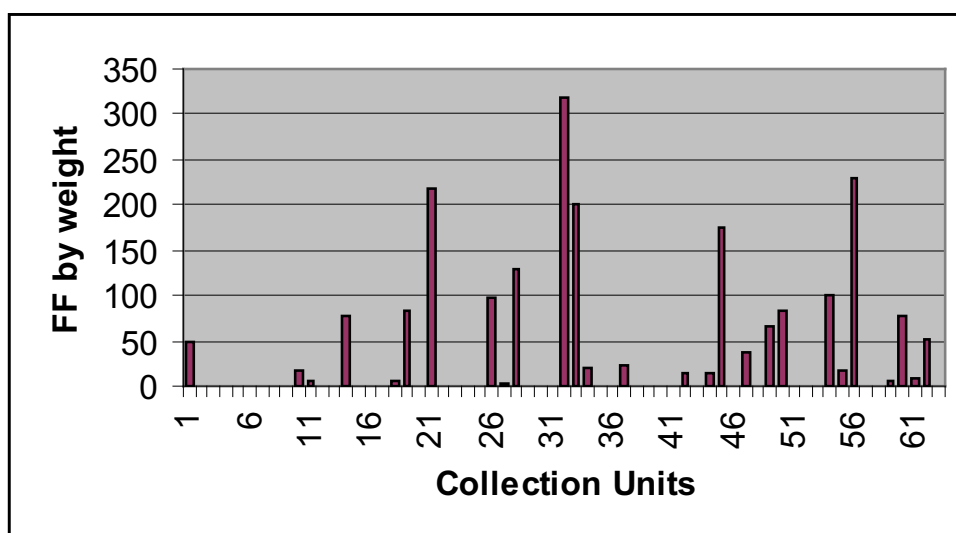
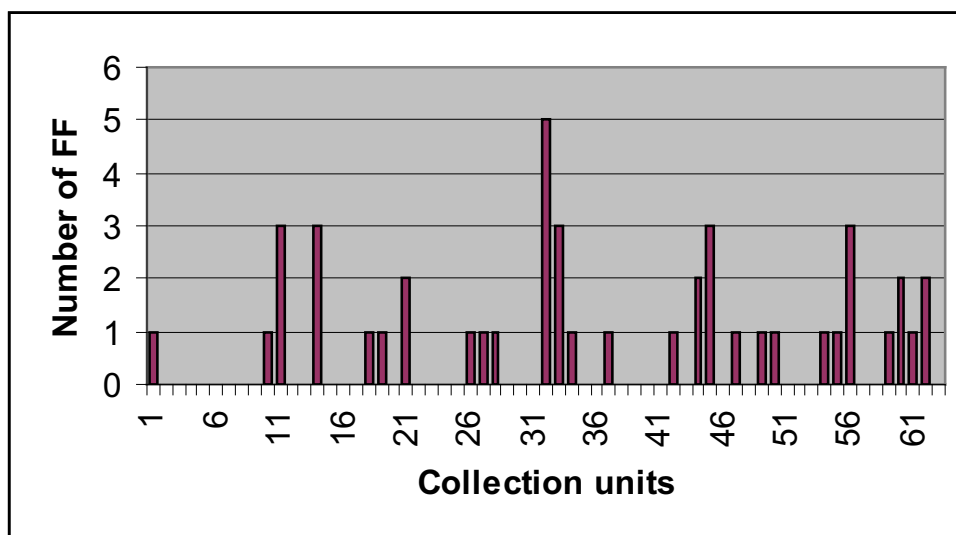


Fig. 7: Friston Forest: The distribution of fire-fractured flint by number and weight, by Collection Unit.

### Appendix 1: Friston Forest watching brief: Lynchets & earthworks

<u>Type of earthwork</u>	<u>Location</u>	<u>Description</u>
<b>Group A: Noted in pipeline trench section</b>		
Lynchet bank	TQ54560184	Slight trace of bank aligned NW/SE with quantities of flint nodules in section
Lynchet bank	TQ54520181	Large accumulation of flint nodules spread over 10m in section
Lynchet bank	TQ54500180	6m spread of flints in section
Lynchet bank	TQ54480179	7m spread of flints in section
Lynchet bank	TQ54450177	Earthwork 6m wide & 0.3m high, with spread of flints only on its west side in section, and not in bank itself
Lynchet bank	TQ54430177	Earthwork with spread of flints only on its west side in section, and not in bank itself
Lynchet bank	TQ54410176	Earthwork with spread of flints only on its west side in section, and not in bank itself
Lynchet bank	TQ54380176	Possible bank, but nothing seen in section
Lynchet bank	TQ54360175	Earthwork with spread of flints only on its west side in section, and few in bank itself
Lynchet bank	TQ54300174	Flints throughout bank, with larger flints on west side (see section drawing)
Lynchet bank	TQ54250173	Earthwork visible on north side of track , but 10m stretch of flints in section
Lynchet bank	TQ54210174	Not many flints, and mostly confined to bank itself
Lynchet bank	TQ54190174	Flints concentrated on west side of bank. Note numerous worked flints (Z20)
Lynchet bank	TQ54160173	Very slight earthwork, flints present throughout bank
Lynchet bank	TQ54120173	Possible bank
Lynchet bank	TQ54090172	Discrete bank on side of track & increase in flints in section
Lynchet bank	TQ54030171	Earthwork hardly visible, but corresponds with bank further up slope. Lots of flint in section
Cut	TQ54020168	Shallow cut, no sign of bank here (see section drawing)
Lynchet bank	TQ54010164	Large bank, numerous flints in section, especially on south side of bank
Lynchet bank	TQ54030160	Possible bank, very slight earthwork & numerous flints in section
Lynchet bank	TQ54040158	Flints more frequent on either side of bank
Lynchet bank	TQ54050157	Probable bank shows as slight earthwork & small increase in flints in section
Lynchet bank	TQ54060155	Large quantity of flints in section, but no discernable earthwork
Lynchet bank	TQ54080154	Numerous flints in section & obvious slight earthwork
Lynchet bank	TQ54090151	Increase in flints on north side of bank, soil change on its south side.
Lynchet bank	TQ54090147	Large earthwork 10m wide & 0.5m high. No flints

<u>Type of earthwork</u>	<u>Location</u>	<u>Description</u>
Lynchet bank	TQ54080145	Slight earthwork with numerous flints in bank and on its south side
Lynchet bank	TQ54080143	Possible bank, very slight earthwork & increase in flints in section
Lynchet bank	TQ54070138	Bank shows as earthwork, increase in flints throughout bank & on both sides
Lynchet bank	TQ54040134	Clear earthwork (see section drawing)
Lynchet bank	TQ54040131	Clear earthwork with increase in flint in section on either side
Lynchet bank	TQ54030125	Slight earthwork and concentration of flint within bank & on both sides
Lynchet bank	TQ53990123	Slight earthwork and concentration of flint within bank & on both sides
Lynchet bank	TQ53940109	Very discrete earthwork & no flints in section
Lynchet bank	TQ53940110	Distinctive earthwork, but no flint in section
Lynchet bank	TQ53940112	Discrete earthwork, with slight increase in flint on its south side
Lynchet bank	TQ53940115	Slight lynchet, with a little more flint in section on south side of bank
Lynchet bank	TQ53950119	Increase in flint within lynchet and on both sides of slight bank 0.25m high & 3-4m wide
<b>Group B: Additional sites from walkover survey</b>		
Lynchet bank	TQ53980105	Slight bank 0.25m high, 3-4m wide
Lynchet bank	TQ53960107	Slight bank 0.25m high, 3-4m wide
Mound	TQ54130143	10m x 5m and 0.6m high. Numerous natural flints on surface
Circular cuts	TQ54030160	Two cuts 10m apart, each 3m diameter & 0.3m deep
Slit trench	TQ54000164	On west of track at corner. 3m x 1m & 0.6m deep
Quarry	TQ53990167	Oval 5m x 4m & 1.2m deep with entrance on east side
Quarry	TQ54050172	Oval 8m x 4m & 0.3m deep on north side of track
Quarry	TQ54220173	Oval 8m x 4m & 0.2m deep on north side of track

## **Chris Butler Archaeological Services**

Chris Butler has been an archaeologist since 1985, and formed the Mid Sussex Field Archaeological Team in 1987, since when it has carried out numerous fieldwork projects, and was runner up in the Pitt-Rivers Award at the British Archaeological Awards in 1996. Having previously worked as a Pensions Technical Manager and Administration Director in the financial services industry, Chris formed **Chris Butler Archaeological Services** at the beginning of 2002.

Chris is a Member of the Institute of Field Archaeologists, a committee member of the Lithic Studies Society, and is a part time lecturer in Archaeology at the University of Sussex. He continues to run the Mid Sussex Field Archaeological Team in his spare time.

Chris specialises in prehistoric flintwork analysis, but has directed excavations, landscape surveys and watching briefs, including the excavation of a Beaker Bowl Barrow, a Saxon cemetery and settlement, Roman pottery kilns, and a Mesolithic hunting camp, and recent surveys of Ashdown Forest and Broadwater Warren.

**Chris Butler Archaeological Services** is available for Flintwork Analysis, Project Management, Military Archaeology, Desktop Assessments, Field Evaluations, Excavation work, Watching Briefs, Field Surveys & Fieldwalking, Post Excavation Services and Report Writing.

# **Chris Butler MIFA Archaeological Services**

## **Prehistoric Flintwork Specialist**

Rosedale  
Berwick, Polegate  
East Sussex  
BN26 6TB

Tel & fax: 01323 871021

e mail: [chris@reltub.fsbusiness.co.uk](mailto:chris@reltub.fsbusiness.co.uk)