M6/8

ARCHAEOLOGICAL ASSESSMENT REPORT

RECTORY FARM, WEST DEEPING, LINCOLNSHIRE

WATCHING BRIEF ON PHASE 1A WORKS

(RFWD 02)
NGR: TF 11369 10597

Planning Ref: SK81/0552/90

Report prepared for
Pre-Construct Archaeology (Lincoln)
On the behalf of Lincolnshire County Council
by Mark Allen BSc (Hons) AIFA

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Cover Photo: Polished stone axe from Phase 1A watching brief at Rectory Farm, West Deeping

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Summary of Results

- *An archaeological watching brief took place at Rectory Farm, West Deeping in Lincolnshire during stripping of topsoil and subsoil by Redlands Aggregates Ltd. Pre-Construct Archaeology (Lincoln) was commissioned by Lincolnshire County Council to undertake the Phase 1A works following a Section 106 agreement between the Council and the quarry owners.*

- *This report is an assessment of the material culture and several palaeo-environmental samples from the site as the written records remain unobtainable. Allen Archaeological Associates was sub-contracted by Pre-Construct Archaeology (Lincoln) to write this report.*

- *Previous archaeological investigations at the site had revealed a landscape rich in remains dating from the late Neolithic/early Bronze Age transitional period to the late Roman period.*

- *The Phase 1A works identified a regionally important early Neolithic habitation area that was protected from modern plough damage by a medieval headland. The early Neolithic activity comprised a high density of cut features and a wealth of artefactual remains, including a minimum of 30 pottery vessels, large quantities of worked and modified flint, a broken polished stone axe and a broken quern stone.*

- *Middle and late Neolithic activity was evident in the form of both Peterborough and Grooved Ware pottery at the site. The Grooved Ware in particular seemed to reflect special deposition within cut features, including the placing of a large sherd on the forehead of a cow skull. There was also a strong correlation between auroch remains and Grooved Ware pottery. A possible timber circle was recognised during the excavations; there is often a strong correlation between these and Grooved Ware pottery.*

- *A small collection of Beaker sherds indicated some activity in the Phase 1A area during the transition between the late Neolithic and early Bronze Age periods. It has been suggested that these may represent funerary contexts, although the evidence is too slight to verify this.*

- *The early Bronze Age does appear to have a funerary theme, with one Collared Urn in the assemblage, containing the cremated remains of a child. Other vessels may also have been associated with the dead, or perhaps feasting rituals. A pennanular ditch initially recognised from cropmark evidence may have been constructed in the early Bronze Age*

- *Slight evidence of middle Bronze Age activity in the form of pot sherds from two Deverel – Rimbury vessels was recovered from the site.*

- *The late Bronze Age landscape is characterised by a system of extensive coaxial ditched boundaries thought to have acted as droveways for herding of livestock (cattle) from the valley pasture in the dry months to the higher, dryer ground in the winter. Several of these ditches were encountered during the works. A quantity of pottery (from only 3 vessels) with associated animal bone was recovered.*

- *There is no direct evidence for activity from the late Bronze Age through to the post-Roman period, excluding a single sherd of middle Iron Age (c.3rd Century BC) pottery associated with animal bone. A series of large pits were excavated at the western limits of the conveyor belt strip that were considered to be quarry pits associated with the construction of King Street Roman Road; however no artefactual material was recovered to confirm this.*

- *The medieval period is represented by a single headland running north – south that sealed (and therefore protected) the early Neolithic habitation zone. A series of linear features running broadly east – west were noted during the works and identified as medieval furrows. The majority of the post-Roman pottery suggests that the headland and ridge and furrow may have emerged in the 13th – 14th century. The headland and ridge and furrows are likely to be associated.*

Summary of Assessment Recommendations

- *The contexts containing Neolithic ceramics should be the subject of interim analysis and publication due to their importance for regional study of this period*

- *Analysis of the Neolithic pottery should include some illustration of vessel forms (to a maximum of 30, selected by the pottery specialist), full analysis of the fabrics (including thin section analysis of a selection of fabrics, to a maximum of 15), and lipid analysis of a small selection of vessel types from the various Neolithic ceramic groups*

- *The worked and modified flints have already been comprehensively analysed as part of this assessment. However it is recommended that a selection of worked tools of Neolithic date that exhibit polished edges are sent for microwear analysis (to be selected by the specialist). Furthermore, the stone axe and stone axe chips should be subjected to petrographic analysis to identify their sources and thus provide information on the Neolithic axe trade*

- *Animal bone from contexts that are securely dated to Neolithic activity should be taken to full analysis for an interim publication. This will aid interpretation of the Neolithic assemblage and provide information on animal husbandry and stock management*

- *Radiocarbon dating of each of the early Neolithic, Grooved Ware and Peterborough Ware would be beneficial to provide accurate dating for when these activities took place. Also, dating of each of the Peterborough Ware types (Ebbsfleet, Mortlake and Fengate) may provide a local chronology of use of these ceramics*

- *The post-Neolithic assemblages will not significantly increase our knowledge of prehistoric activities, therefore it is recommended that further analysis of the materials are delayed until the final publication of the results of the archaeological works at Rectory Farm.*

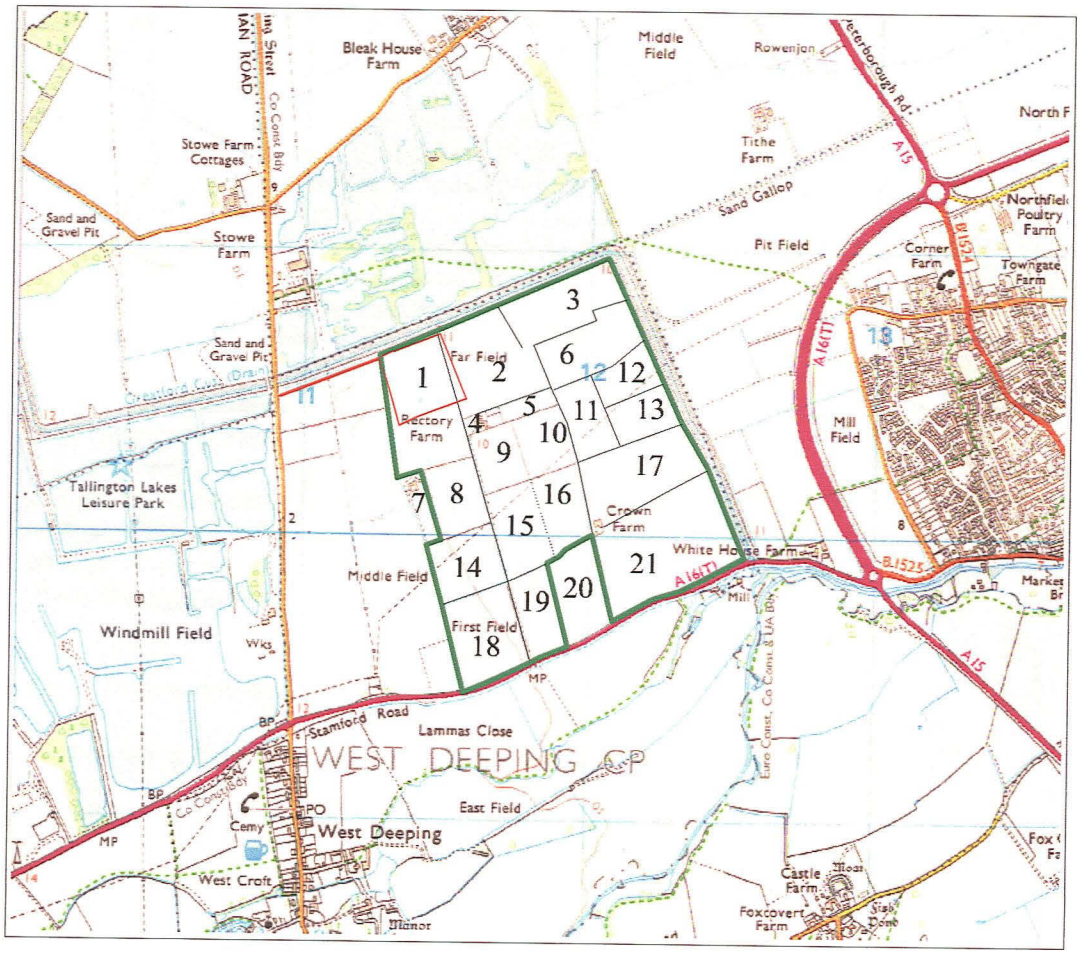

Figure 1: Site location showing Rectory Farm quarry site outlined in green, with Phase 1A outlined in red, at scale 1:25,000 (Field numbers shown relate to original field numbers referred to in Hunn and Rackham forthcoming).

1.0 Introduction

Lincolnshire County Council (hereafter LCC) commissioned Pre-Construct Archaeology (Lincoln) (hereafter PCA) to carry out an archaeological watching brief on agricultural land at Rectory Farm (Field 1), West Deeping, in Lincolnshire. The watching brief was undertaken during the removal of topsoil and overburden by Redlands Aggregates Ltd, prior to subsequent quarrying of sand and gravel.

These works were undertaken to fulfil the objectives of a formal project brief issued by the Senior Built Environment Officer for Lincolnshire County Council, in accordance with a Section 106 agreement between LCC and the landowners, Redlands Aggregates Ltd.

Allen Archaeological Associates (hereafter AAA) was sub-contracted by PCA to prepare this report, which is a discussion of the various specialist assessment reports of the material and palaeo-environmental remains recovered during the Phase 1A works (Figure 1).

Copies of this report have been deposited with the commissioning body, Lincolnshire County Council, the Lincolnshire Historical Environment Record and Lincoln Museum. AAA and PCA have retained copies of the report for their records.

The paper archive for the site remains unobtainable despite repeated attempts at recovery, so no analysis of the archaeological deposits is possible to date. The lack of available drawn or photographic records has made feature morphology comparisons and the identification of relationships between archaeological features impossible.

2.0 Site location and description

West Deeping lies within the administrative district of South Kesteven in Lincolnshire.

The site comprised agricultural land at the time of the fieldwork, and is approximately 2km west of Market Deeping and c.11km northwest of Peterborough at NGR TF 11369 10597. The site lies at approximately 9m above sea level.

The Rectory Farm quarry site is approximately 122 hectares in size, with the Phase 1A area being approximately 6.25 hectares.

Boundaries to the site include the Greatford Cut to the north and agricultural land to the west, south and east. The eastern field was subsequently stripped as part of the same Section 106 agreement in 2003 (Phase 1B) [Allen forthcoming]. A Roman Road, King Street, lies to the west of the site.

The solid geology of the area is characterised by Kellaways sand, which is overlain by drift fen and terrace gravel (British Geological Survey, 1978).

3.0 Planning background

Lincolnshire County Council granted Redlands Aggregates Ltd. planning permission in 1992 (Planning Permission Ref.: SK81/0552/90) to extract sand and gravel at Rectory Farm, West Deeping, in Lincolnshire. As part of this permission, a Section 106 agreement was drawn up between LCC and Redlands Aggregates Ltd. to formulate a design strategy to investigate and record the archaeological resource.

Redlands Aggregates Ltd notified LCC that stripping of topsoil and overburden at Phase 1A was to commence in September 2002. PCA were then commissioned by LCC to undertake a watching brief during the stripping of overburden in advance of gravel extraction.

4.0 Archaeological and historical setting

An archaeological assessment of the site has been undertaken, comprising a desktop study, fieldwalking, geophysical survey, and excavation of a total of four hectares of the 112 hectares that comprises the Rectory Farm quarry site (Hunn and Rackham in preparation).

The excavations were concentrated to the south-west of Rectory Farm, and in the south-east corner of the site (Figure 1; Field 21). Following completion of the fieldwork the chronology of the site was divided into nine main periods, dating from the Late Neolithic/Early Bronze Age through to the Late Roman period. It should be noted that the periods allocated during the previous analysis have not been adopted for this assessment as the Phase 1A works produced evidence of activity that was significantly earlier than that of the previous works. Below is a short summary of each period identified in the forthcoming Hunn and Rackham publication.

The earliest archaeological remains (Period 1: Late Neolithic/Early Bronze Age) was limited to 17 sherds of pottery from a secondary context within a ring ditch in Field 1, and over one hundred sherds from two contexts in Field 21. A number of flints were recovered during fieldwalking that also appear to belong to this period.

In the Early Bronze Age (Period 2) funerary monuments were a feature of the site. Two of these were investigated in 1994. The Later Bronze Age (Period 3) was characterised by a distinctive coaxial system of ditches that are depicted on the aerial photographic plot for the site.

Period 4, the Early to Middle Iron Age, was mainly represented by residual pottery from Field 21. A multiple ditch system also seems to have been introduced, which truncated the earlier coaxial field system.

The first evidence for direct settlement appears in the Middle Iron Age (Period 5), where a possible roundhouse and a pit were excavated near to Rectory Farm. A radiocarbon date from the pit was calibrated to 400 – 150 BC. By the Late Iron Age (Period 6) there is more extensive evidence for settlement, especially in Field 21, where the remains of a possible village were discovered. The Rectory Farm site contained more limited settlement evidence, possibly representing a single-family unit.

The early Roman period (Period 7) is represented by an enclosure with a palisade built at the Rectory Farm site, and a sub-rectangular structure appearing in Field 21. By the 2nd to early 3rd centuries AD (Period 8) ditched enclosures appeared at Rectory Farm that were subdivided and associated with substantial post-built structures. In Field 21 more structures appeared and the boundaries were re-defined. The 3rd and 4th centuries saw a marked change at both sites. At Rectory Farm the previous post structures were replaced by a stone building with associated post-built structures, including a possible aisled building. A rectangular bathhouse also appeared indicating the presence of a villa complex. In Field 21 the various structures seem to have gone out of use, although a number of burials occurred. In the Late Roman period (Period 9) the landscape is one of a planned, fairly regular rectangular field pattern that was orientated north-north-west to south-south-east, possibly associated with the villa complex. In Field 21 there is evidence for settlement and burials at this time.

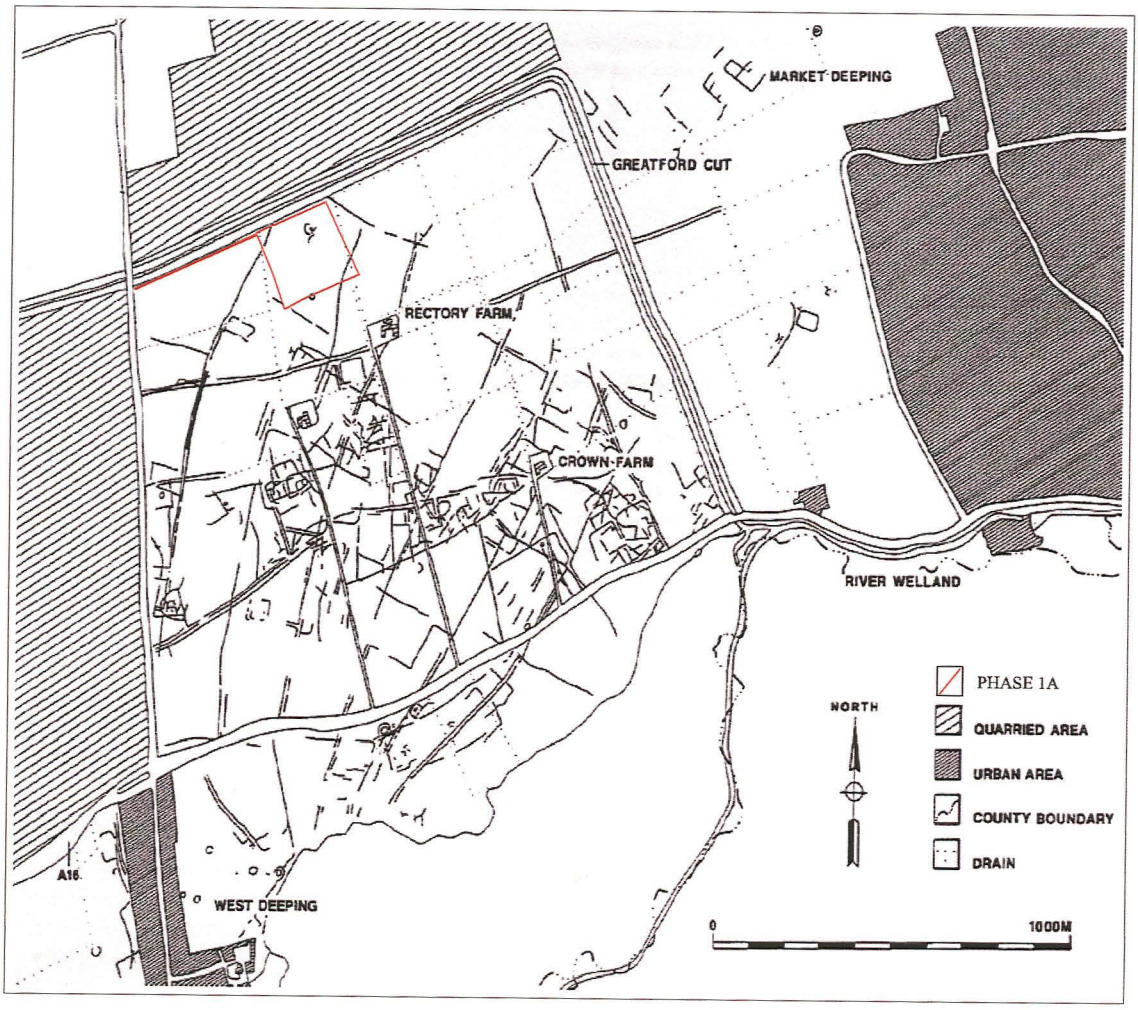

Figure 2: Cropmark evidence for Rectory Farm, West Deeping showing Phase 1A area outlined in red. At scale 1:20,000.
(Adapted from Figure 1.2, Hunn, J., and Rackham, J., Forthcoming, Provisional draft report on Excavations of a Multi-period Landscape at Rectory Farm, West Deeping, Lincolnshire. Lincolnshire County Council)

To date, there is little or no evidence beyond the Roman period to ascertain whether or not the local settlements were abandoned or continued in use.

5.0 Methodology

A project brief prepared by Lincolnshire County Council Conservation Services (dated 4/9/2002) set out a series of specific objectives for the Phase 1 works. These objectives were reiterated in a project specification prepared by Pre-Construct Archaeology (Lincoln).

Primarily this involved the identification, recording and sampling of archaeological features and deposits and palaeo-environmental evidence exposed during the stripping, to result in an ordered archive and report.

Further specific objectives were defined and these are reproduced below: -

- To identify, record and sample any remains of relating to the ring ditch identified from aerial photographs (enhanced watching brief area) and any associated remains of ritual landscape
- To identify, record and sample any evidence for the Bronze Age 'coaxial field systems' within the area
- Establish the period and role of the other cropmark features within the landscape
- Give specific priority to evidence for activity of early Bronze Age or earlier and late or immediately post-Roman, since these are periods not well represented in the evidence so far

The primary objective of identifying, sampling and recording the archaeological remains was fulfilled during the fieldwork element using a small team of experienced archaeologists. However, the production of an ordered archive and report has not been possible without the site records.

The material remains from Phase 1A retains the potential to provide information to fulfil elements of the specific objectives, although this is limited without the paper archive. This will be discussed by material in section 8 below.

This report is a MAP 2 Assessment of Potential that has been prepared to identify the potential of further analysis of the material remains recovered from Phase 1A of the Rectory Farm quarry works. It has been produced in order to evaluate the potential of the data set to further the state of current knowledge and to identify what further works are required to achieve that aim.

5.1 Enhanced watching brief

The project design prepared by LCC demonstrated that a pennanular cropmark feature would be exposed as part of the initial stripping at Rectory Farm. It was therefore decided that an enhanced watching brief would take place in this area (Figure 3).

The enhanced watching brief entailed machine-stripping by 360^0 excavator with smooth ditching bucket of topsoil and subsoil under archaeological supervision, with no tracking over the area until it had been fully investigated. A baulk of topsoil and subsoil was to be left to

allow a thorough investigation of the stratigraphy overlying the feature, to look for evidence of plough damage and to see if there was any evidence of a soil bank. Once the investigation was complete, the bulk was removed by machine to allow a full plan of the feature to be obtained.

5.2 Watching brief

The majority of the site was subjected to intermittent monitoring to allow the identification of archaeological features/deposits during machine-stripping by 360^0 excavator with smooth ditching bucket.

The archaeological fieldwork entailed a thorough inspection of the machine-stripped area, and the production of a plan of the remains using an Electronic Distance Measurer (EDM). Archaeological deposits identified by this process were subjected to limited excavation, in order to assess their nature, dimensions, and to attempt to recover datable materials. These investigations resulted in the production of written descriptions on standard watching brief context recording sheets. Colour photographs and scale drawings, in both plan and section, complimented these accounts.

The fieldwork for was supervised by Simon Bray between the 9th September and 20th December, 2002. As the works progressed, a team of four experienced archaeologists were added to provide an adequate record of the archaeological resource within the available timescale.

6.0 Results

Due to the lack of written records, it has not been possible to prepare a conventional description of the archaeology. Therefore assessment of the site is based almost exclusively on the material culture recovered during the strip, map and record exercise, focussing on the pottery dates to provide phasing of the assemblage. This has not been without its problems, as the relatively accurate distinction of dating between the various pottery styles is not reflected in the lithic assemblage, therefore erroneously suggesting that during certain periods (for example the Beaker period) there was a distinct lack of lithic artefacts. This is further exacerbated by the differing views of the specialists regarding the date ranges of certain periods, for example the earlier Neolithic lithics cover a time span that, according to the pottery typology, covers also the middle Neolithic. This is effectively displayed in Table 6 of the lithics assessment report (Appendix 2). At times therefore it is recognised that there is some dating overlap within the lithics assemblage, however for the purpose of this report the material will be discussed within the earliest phase that it appears.

6.1 Later Mesolithic/early Neolithic

Assessment of the lithic material has indicated that part of the assemblage may be of later Mesolithic/early Neolithic date. Although many small blades are present (often indicative of Mesolithic activity), it is noted by the specialist that the limited supply of raw material may have encouraged the continued working of blade cores until they were extremely small. Based on this, and other material culture from the site it is suggested that this material may date to the early Neolithic activity (Period 1 below).

6.2 Period 1: Early Neolithic (c. 3500 BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags	Environmental sample? (Y/N)	Other
294	25/10	20	Y	0	Y	-
909	93/5	7	Y	0	Y	1 stone
932	4/1	1	Y	0	Y	-
933	1/1	0	Y	0	N	-
1106	68/11	5	Y	0	Y	2 stones
1107	7/1	7	Y	0	Y	-
1108	13/2	2	Y	0	Y	-
1109	3/1	0	N	0	N	-
1141	1/1	0	N	0	Y	8 stones, some burnt

Table 1: Summary of contexts containing early Neolithic pottery

Pottery, in the form of undecorated Carinated Bowls, seems to have been adopted throughout England, Scotland and Ireland almost simultaneously around 4000 BC (Gibson 2002, 69). The early Neolithic pottery from West Deeping Phase 1A comprises decorated and undecorated bowls that begin to emerge some 500 years later; examples of this type have been found in the region at Tattershall Thorpe (Appendix 1).

The number of vessels represented within the assemblage (at least 30) is of some surprise, as due to their age and fragility, pottery of this date rarely survives. As the Early Neolithic pottery represents only a portion of the material that is likely to have been deposited within features that were only sample excavated, it is almost certain that the overall number of vessels was significantly higher.

Analysis of the types of sherds recovered shows that material was selectively deposited. Very few body sherds, and no basal pieces, are represented within the Early Neolithic assemblage. Instead the fragments are almost exclusively rim sherds, with many styles and methods of decoration represented.

Contemporary activity is reflected in the lithic assemblage, where a total of 77 worked flints were identified (with a further 94 of later Mesolithic/early Neolithic believed to be from the latter period). A further piece is, on morphological grounds identified as being of early – middle Neolithic date. The material comprised a number of scrapers (end/extended, side & end, horseshoe and disc scrapers), saw-like serrated blades, a polished stone axe and polished stone axe flakes.

Polished stone axes appear to have been manufactured from c.4500 BC, production continuing for some 2000 years, into the later Neolithic (Appendix 2). It is believed that axes may have been seen as heirlooms, handed down from generation to generation, so their recovery may not necessarily indicate a Neolithic deposition date. At West Deeping however all the axe fragments appear to be in relatively secure early Neolithic contexts, although it is noted that context 294 contains later ceramic material in small numbers. A significant majority of the pottery from this context is of early Neolithic manufacture however.

A complete saddle quern was recovered from context 294. This was manufactured using yellowish-brown Millstone Grit, where the nearest primary source is in the Peak District of Derbyshire. It is noted that the stone may have been a glacial erratic that was found close by (Appendix 2, 4).

The polished stone axe from context 1108 is likely to have been produced in the early Neolithic; indeed along with the axe were a worked flint flake of similar date and thirteen sherds (from two vessels) of early Neolithic pottery.

The majority of the identified pieces in the animal bone assemblage were from early Neolithic contexts. Of the 169 fragments, 46 were positively identified, and of these the majority (21 pieces) were pig remains. A further 17 were identified as cattle, 3 were sheep/goat (there was also a single goat horn core), 3 red deer, and 1 bone identified as cat. The cat was probably wild, rather than domesticated, and probably hunted for its fur.

6.3 Period 2: Mid - Late Neolithic (Peterborough Ware c.3400 – 2500 BC, Grooved Ware c.3100 – 2600 BC)

There are two distinct pottery types that define the mid – late phases of Neolithic activity at West Deeping; namely Peterborough Ware and Grooved Ware.

6.3.1 Contexts containing Grooved Ware

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags	Environmental sample? (Y/N)	Other
172	1/1	1	Y	0	N	-
666	8/1	4	N	0	N	2 stones
668	9/1	0	Y	0	N	-
747	1/1	0	N	0	N	1 stone chip
764	9/1	3	Y	0	N	-
831	25/1	0	Y	0	N	16 stones, some burnt
965	3/2	0	Y	0	N	-
966	1/1	0	Y	0	N	13 stones, all burnt
1074	14/1	0	Y	0	N	2 stones, burnt
1184	3/1	0	Y	0	N	-

Table 2: Summary of contexts containing Grooved Ware pottery

Dr Carol Allen has identified at least 79 sherds from the site that belong to the Grooved Ware tradition. This type of ceramic is particularly fragile and therefore not frequently recovered. Similar material has been found in the region at Halton Holegate, Leadenham and Barholm, and the decoration is reminiscent of both Clacton and Woodlands style of Grooved Ware. Decoration on both types usually comprises horizontal grooves, often with notching or fingernails on the raised ridges, and occasionally with point infill. In the case of West Deeping Phase 1A, unusually all types of decoration are represented. Clacton style Grooved Ware also features incised diagonal decoration, an example of which is also within the collection from the site.

As mentioned previously, the dating between pottery and lithics causes some difficulties in assigning parts of the assemblage to different periods of activity. There are however three contexts that contain lithic materials in association with Grooved Ware pottery (contexts 172, 666 and 764). In all three instances the overlap of the dating evidence would suggest that the pottery was early; in use c.3100 – 3000 BC.

The animal bone assemblage associated with contexts containing Grooved Ware pottery was predominantly cattle (33 of the 46 identified pieces), with four pieces identified as auroch, eight as pig, and a single red deer bone. Significantly almost all of the auroch remains

recovered (4 of a total of 5 fragments) were associated with Grooved Ware pottery, perhaps indicating that they were specifically targeted as a species during this period of activity. It was discovered during excavations at the site in 2002 that the complete cow skull from context 668 had large pieces of Grooved Ware pottery placed upon its forehead. This would appear to be a very symbolic act, not unusual in the context in which Grooved Ware pottery is recovered, and will be discussed in more detail later (see conclusions below).

6.3.2 Contexts containing Peterborough Ware

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags	Environmental sample? (Y/N)	Other
012	14/1	4	Y	0	N	-
160	2/1	0	Y	0	N	-
579	4/1	0	Y	0	N	-
627	2/1	1	Y	0	Y	-
713	2/1	3	Y	0	N	-
728	2/1	2	N	0	Y	1 burnt stone
740	8/2	1	Y	0	N	-
745	7/1	0	N	0	N	-
964	3/1	2	N	0	N	2 white pebbles
1142	6/1	1	Y	0	Y	1 stone
1147	3/3	0	Y	0	Y	-
1148	3/2	1	Y	0	Y	-
1151	24/6	2	Y	0	Y	5 stones, some burnt
1153	4/1	1	Y	0	N	-
1159	1/1	0	Y	0	N	-
1164	22/4	0	Y	0	N	1 stone
1167	5/1	4	Y	0	N	-
1176	4/1	0	N	0	N	2 stones
1195	6/3	1	Y	0	Y	6 stones, some burnt
1208	27/3	0	Y	0	N	-
1210	21/2	1	Y	0	N	-
1212	8/1	0	N	0	N	-

Table 3: Summary of contexts containing Peterborough Ware pottery

Thirty nine vessels (from one hundred eighty two sherds) were identified as being Peterborough Ware. Of these some were identified as Ebbsfleet or Mortlake types, and one Fengate type with unusual swirling decoration that has parallels in Yorkshire. The majority of the material could only be identified as being of the Peterborough Ware tradition however. Examples of this type of pottery are known from the county at places such as Risby Warren and Kirkby on Bain.

The decoration present on the vessels was very varied, with impressions including whipped cord, twisted cord and fingernail. Decorative styles included herringbone, horizontal and geometric patterns. The decoration was not restricted to the outside of the vessels but was also found on the tops of the rims and inside the upper interiors.

A total of thirteen contexts exclusively containing Peterborough Ware pottery were also found to contain struck or modified flints. The majority of these were of early Neolithic forms which, coupled with the pottery, suggest a date range in the mid to late 3rd millennium BC

(c.3400 – 3000 BC), however the possibility of residuality has already been discussed. The lithic material included serrated blades, side scraper, horseshoe scraper, side and end scraper, piercer/scraper, fabricator, blades and retouched flakes.

The animal bone assemblage was broadly similar to the material associated with Grooved Ware, with a predominance of cattle (20 of 33 identified fragments), then pig (8 pieces), a single auroch bone, a red deer and a roe deer bone.

6.4 Period 3: Late Neolithic/early Bronze Age transition (Beaker period c.2600 – 1800 BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags	Environmental sample? (Y/N)	Other
486	5/1	1	Y	0	Y	-
674	4/1	-	Y	0	N	15 stones, some burnt
703	1/1	-	N	0	N	-
1029	1/1	5	N	0	N	2 stones, burnt
1064	1/1	-	Y	0	Y	-

Table 4: Summary of contexts containing Beaker pottery

Although only 13 sherds of Beaker pottery were recovered in 2002, these were found to represent at least 6 vessels (1 sherd was recovered in an early Neolithic context, 294, see Period 1 above). Also, all the sherds were found to have incised, fingernail or comb decoration. Whilst it is recognised that these sherds were only recognised because of their decoration (and therefore that a proportion of the undecorated fragments that were only identified as prehistoric may be Beaker sherds), both the large number of vessels to sherd count and preponderance of decoration would indicate that the material was selectively deposited.

Of the contexts exclusively containing Beaker pottery only two contained worked or modified lithic material. In one of these, context 486, the extended end scraper is characteristically early Neolithic in style, suggesting that it is probably residual. The other context also contains early Neolithic flints that pre-date the pottery, however a side and end scraper is broadly contemporary (c. 3000 – 2200 BC). If the scraper is contemporary with the pottery then it suggests that the material was deposited at some point around c.2600 – 2200 BC).

No animal bone was found in association with the Beaker period pottery, giving further weight to the suggestion that the material was selectively discarded not casual losses associated with settlement.

6.5 Period 4: Early Bronze Age (Collared Urn c.1800 – 1700 BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags / vessels	Environmental sample? (Y/N)	Other
013	12/1	1	Y	0	Y	-
565	5/1	1	Y	0	N	-
603	1/1	0	N	0	N	2 stones, burnt
898	9/1	0	Y	0	N	-
1042	25/3	2	Y	0	Y	-
1043	5/3	3	Y	0	Y	-
1128	1/1	0	N	0	N	-
1170	1/1	1	Y	0	N	-
1186	6/1	0	Y	8/2	Y	4 stones, burnt

Table 5: Summary of contexts containing Collared Urn pottery

Collared Urns almost exclusively date to the early Bronze Age and are widely distributed across Britain and Ireland (Gibson 2002, 96), with examples known close by at Deeping St James. They are characterised by heavy collared rims sitting on top of straight or slightly convex-sided pots, tapering to a flat base. The sherds from the 13 Collared Urns from West Deeping vary in size and decoration. Where rims and collars are present there is a variety of decorative styles visible, including twisted cord in diagonal, horizontal or chevron patterns, and fingernail and incised decoration in a herringbone pattern. There is also an undecorated vessel.

Of the five contexts containing both pieces of Collared Urn and worked or modified lithic material, none seem to be associated. It seems likely that the flintwork is residual, probably associated with the abundance of activity occurring in the early Neolithic.

One small Collared Urn contained the cremation of a child (context 13); further analysis would provide more accurate information on the remains.

The animal bone assemblage was exclusively identified as being cattle (7 fragments). These may indicate domestic contexts of early Bronze Age date, or evidence of offerings or feasting associated with funerary practices. Certainly the lack of other identifiable species suggests that they are related to a single type of activity, making the latter perhaps more likely.

Eight fragments of fired clay were recovered from 1 context (context 1186); of these seven were from an unidentifiable object and the other is likely to be from a loom weight. On typological grounds it has been suggested that the loom weight may be of Bronze Age or Iron Age date, however the recovery of six unabraded sherds of pottery from a single Collared Urn from this context suggest that the loom weight is of early Bronze Age manufacture.

During the site strip, a pennanular cropmark was the subject of an enhanced watching brief. Exposed ditch fills were extensively sampled in an attempt to ascertain the function of this monument, and subsequent analysis of the sample list suggests that contexts 1042 and 1043 related to the pennanular feature (they were sufficiently larger than all other samples). Pottery from these two deposits was exclusively of Collared Urn types, suggesting that the monument may have been constructed c.1800 – 1700 BC.

6.6 Period 5: Middle Bronze Age (Deverel Rimbury c.1530 – 1260 BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags / vessels	Environmental sample? (Y/N)	Other
002	2/1	4	N	0	N	-
161	1/1	0	N	0	N	-

Table 6: Summary of contexts containing Deverel Rimbury pottery

Deverel-Rimbury style pottery emerged at the end of the second millennium BC in southern England, spreading to central and northern England later. Nearby ceramics of this tradition have been discovered at Long Bennington and at Billingborough, where they were dated to between 1530 and 1260 BC (Chowne *et al*, 2001).

Two partial vessels were recovered from the site; one with an applied cordon with fingertip decoration and the other with a thick base that is likely to be part of a bucket urn.

6.7 Period 6: Late Bronze Age (Late Bronze Age c.1200 – 800 BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags / vessels	Environmental sample? (Y/N)	Other
775	71/1	0	Y	0	Y	-
776	50/1	0	Y	0	Y	-
778	12/1	0	Y	0	Y	-

Table 7: Summary of contexts containing late Bronze Age pottery

Although over 130 sherds of late Bronze Age shell-tempered pottery were recovered from the site, these were apparently from only 3 undecorated vessels. Two of the vessels were jars and the other a carinated bowl. Similar vessels have been recovered from Washingborough and at Hibaldstow, and previous excavations at Rectory Farm, West Deeping also recovered similar material (Knight *et al* in press).

No worked or modified lithics were found in association with late Bronze Age pottery, and although initial recording suggested that animal bone was recovered from all three contexts, the specialist has recorded only a single cattle bone.

All three contexts containing late Bronze Age pottery were sampled for environmental remains. All three were found to contain pottery and animal bone, although there is no further contextual information available. Two of the samples contained flint.

6.8 Period 7 (Middle Iron Age c. 3rd century BC)

Context	Pot sherds / vessels	Lithics	Animal bone? (Y/N)	Fired clay frags / vessels	Environmental sample? (Y/N)	Other
605	1/1	7	Y	0	N	2 stones

Table 8: Summary of contexts containing Iron Age pottery

A single unabraded sherd of Iron Age pottery, with an impressed or rouletted decoration, was found in association with a cattle bone. The pot sherd is believed to be similar to later middle Iron Age pottery from Wheelsby Avenue in Grimsby (Appendix 2).

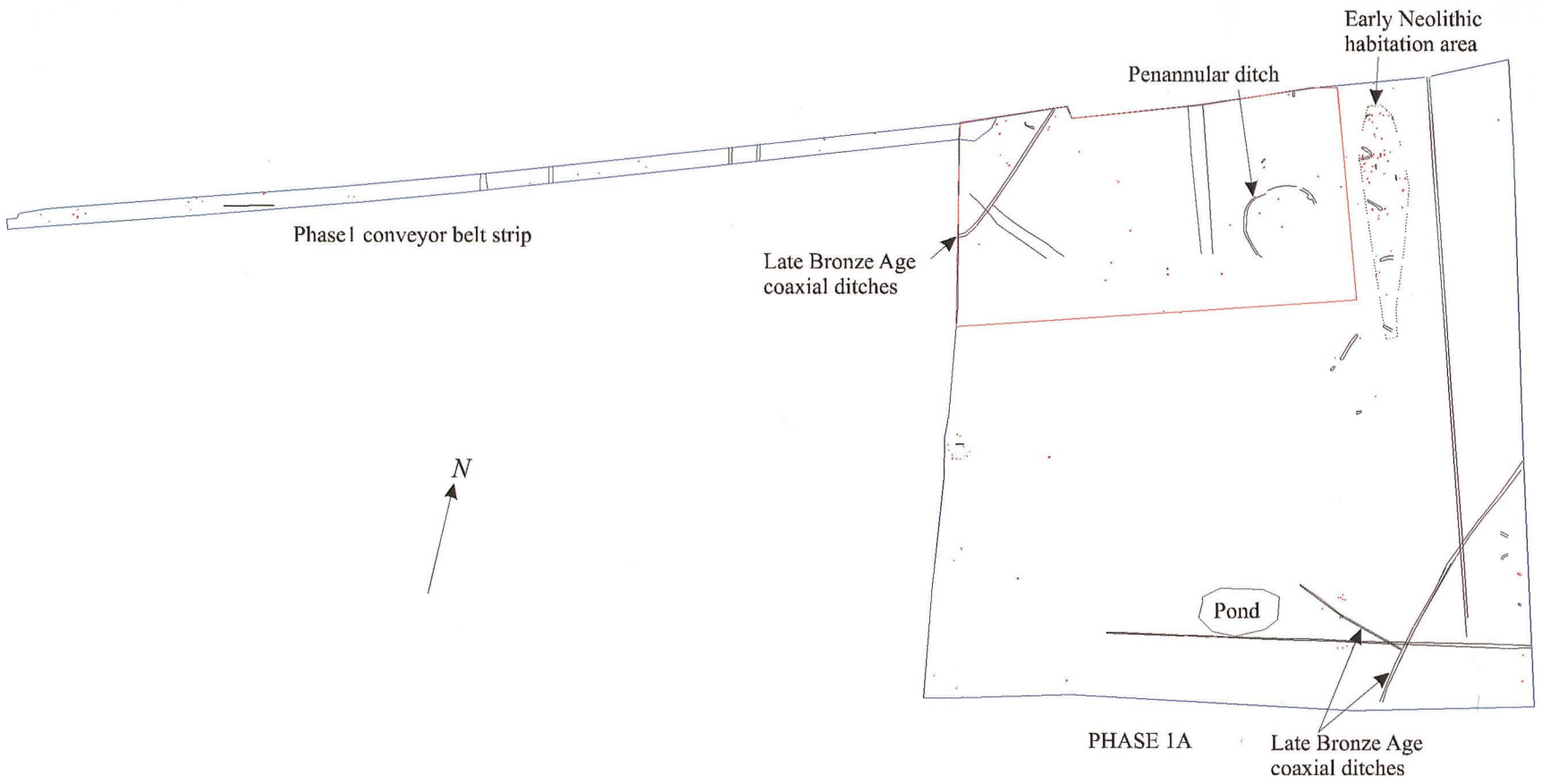

Figure 3: Phase 1A works at scale 1:2500 The area of the enhanced watching brief is shown in red.

A total of seven worked flints were found in association with the Iron Age pot sherd. Of these, only three were dateable to the late Mesolithic, Neolithic and Neolithic/Bronze Age. It seems likely therefore that the flints are residual pieces that have entered the archaeological record at an earlier period.

7.0 Assessment of potential for further analysis

Although written, drawn and photographic records are not available, an assessment of the material remains has provided an insight into human activities at West Deeping from the early Neolithic period onwards.

The general density and chronology of the archaeological deposits was of some surprise, given that cropmark evidence suggested that this part of the Rectory Farm quarry site was probably lacking in archaeological activity. Also the evidence recovered from the previous investigations suggested that early activity was restricted to Beaker pottery (late Neolithic/early Bronze Age) in a secondary context within a ring ditch.

The assessment of the worked and modified flints from Phase 1A has provided some indication that activity may have originated in the late Mesolithic. On balance however, this is unlikely, and it is more plausible that artefacts began to be deposited in the early Neolithic, during the 4th millennium BC. This would be in accordance with previous fieldwalking at the site which recovered material no earlier in date than Neolithic (Hunn and Rackham in press).

The early Neolithic (Period 1) was characterised by a large amount of artefactual material recovered from a linear spread of archaeological deposits and features found beneath a medieval headland (possibly of 13th – 14th century date on pottery evidence) in the eastern half of Phase 1A. The headland, which was orientated broadly north – south, had protected the early prehistoric remains from later plough damage. The excavated archaeology therefore represents only a small portion of the original remains and the full extent of the early Neolithic site will never be known. The archaeology beneath the headland comprised a complex of pits and postholes associated with a buried soil, likely to represent the partial remains of a habitation area.

It is now generally accepted that the Neolithic period was a period of mobility, without the need for permanent villages or substantial houses, in stark contrast to the numerous large timber longhouses of Neolithic Central and Western Europe (Whittle 1999, 63). This was probably linked to the lifestyle of the people, i.e. practicing a form of 'swidden' cultivation, involving a cycle of clearance, cultivation and rapid abandonment of plots, coupled with the need to herd livestock between grazing areas. This would necessitate populations moving around the landscape on a regular basis. In general therefore the evidence for habitation sites of the Neolithic period, especially the early Neolithic, remains very poor to date. Therefore the early Neolithic archaeology exposed at West Deeping is of exceptional regional importance and interest. Where excavation has taken place elsewhere it is acknowledged that there is a general tradition of rectangular and square structures in the early Neolithic, with a change to more rounded and oval structures in the later stages of the period (Pollard 1996, 11). At West Deeping we are currently unable to identify structures from the available evidence, however based on the quantity of artefactual material it is likely that some form of building, or buildings, did exist on the site.

The lack of evidence for substantial domestic sites or large ceramic assemblages during the Neolithic period has suggested that pottery production was probably primarily for social and ritual activities, rather than for general domestic use (Hamilton 2002, 48). This is further evidenced in the recognition that artefacts were often specially placed within archaeological deposits during prehistory rather than simply discarded. That there is some evidence of

selective deposition of artefactual material at West Deeping is beyond question; certainly in one context the recovery of several stone chips from different polished stone axes, along with a large quantity of pottery from a number of vessels, worked flints and a large quernstone is very suggestive of carefully positioned deposits. That the quernstone was set on its side was also interesting and not without parallel; at Etton for example, a similar sized quernstone was placed on edge in a small pit within the Neolithic causewayed enclosure, with other, deliberately broken examples also on edge found in segments of the enclosure ditch (Buckley and Ingle 2001, 322 - 328). Pryor (1999) argues that this was a specific act of 'ritually killing' the quernstones; and it is tempting to link this practice with the West Deeping example.

The discovery of an almost complete polished stone axe (approximately 80%) from context 1108 was interesting, particularly as several stone chips from several different axes were recovered from early Neolithic contexts. The near-complete example was made of igneous tuff either from Langdale in Cumbria or from glacial erratics from this source. The two chips were from different sources, one was also from Langdale-derived rock and the other from the axe-factories in the Penmenmawr area of North Wales. That axes from the west of the country were recovered from West Deeping is not overly surprising as the distribution of axes throughout Britain by c.3500 BC showed they were being exchanged over considerable distances (Bradley 1998, 65). The deliberate breaking of the axes (presumably the axe chips were also formed by deliberate breaks) is interesting and fits with the idea of 'killing' the object prior to deposition.

The early Neolithic animal bone assemblage is of interest in that it shows a bias towards pig; generally in earlier assemblages cattle predominate, reflecting the gradual domestication of wild herds, whilst pig only begin to dominate Neolithic assemblages in the later period (Pollard 1997, 8). The low number of wild animal bones within the early Neolithic assemblage (cat and several deer bones) is not unusual however, and it has been suggested elsewhere that, either hunting played only a very minor role, or that butchery and disposal of the remains was undertaken away from habitation sites (*ibid.*).

The emphasis on the British distribution of Grooved Ware is generally in riverine or coastal areas (Cleal 1999, 5), so its discovery in middle Neolithic contexts at West Deeping is not surprising, as the site lies on the edge of the Welland floodplain. In the majority of the country it is usually found in small pits or hollows, sometimes in groups but often as isolated finds. Often these have strong 'domestic' associations, however it is increasingly recognised that many deposits were not simply dumps of refuse but deliberately selected and carefully placed. Certainly the assemblage at West Deeping does have strong overtones of being in this category. For example, in one context (context 668) it was reported that large pieces of Grooved Ware pottery had been placed on the skull of a cow. Parallels for this action have been noted elsewhere, such as at Down Farm in Woodcutts near Salisbury, where the probably defleshed skull of a cow was placed in the base of a pit, along with pottery of Grooved Ware tradition (*ibid.*).

It has also been noted that there is often a strong correlation between timber circles and Grooved Ware pottery (Gibson 1999, 78 – 82), and it is interesting that during the excavations at West Deeping it was suggested that a group of five pits may have represented a small timber circle (F. Pryor *pers. comm.*). Generally it is suggested that small simple circles were early, emerging around 3000 BC and gradually developing into larger, more complex sites by c.2000 BC. Certainly if the pit grouping at West Deeping was a timber circle it would fit into the earliest, simplest form, and it is possible that a portion of the Grooved Ware pottery assemblage was associated.

Although Grooved Ware pottery is, on occasion, found associated with other Neolithic pottery (ie Peterborough Ware and Beaker style), it is interesting to note the lack of association at West Deeping. Even though there is a substantial quantity of Peterborough style

pottery from the site, there was never an example where the two styles were found in the same context. This suggests two possibilities; either the two types were used for mutually exclusive activities and therefore had differing depositional traits, or that the Peterborough Ware, which is known to have been in existence before the tradition of Grooved Ware pottery was introduced, represents a slightly earlier phase of activity. At present it is not possible to differentiate between these two hypotheses, however the author favours the former argument, with perhaps Peterborough Ware more closely associated with 'domestic' activities and Grooved Ware linked to more special, or 'ritual', behaviour. Analysis of the environmental samples associated with the Peterborough Ware pottery may give more of an insight into the context of deposition of this material; however it is unfortunate that no soil samples were taken from contexts containing Grooved Ware pottery to provide comparisons.

All the dated auroch remains were from Period 3 contexts, with four examples associated with Grooved Ware and a single example with Peterborough Ware pottery. Aurochs were much larger than domesticated cattle varieties and appear to have been revered throughout early prehistoric Britain until their extinction from these isles around 1300 BC in the early Bronze Age. They survived until the 17th century AD on the Continent and have traditionally been seen as a prized trophy, hunted in the wild (Parker Pearson 1996, 81). Historical records show that Charlemagne hunted one in France in 802 AD. The association between Grooved Ware pottery and auroch remains at West Deeping is interesting and may be evidence of their importance as hunting trophies, perhaps as a test of manhood.

The Beaker pottery is an interesting assemblage in that although only 13 sherds were found on the site, these represented at least 6 vessels. It was also noted that every piece was decorated. The nature of the pottery suggests it was selectively deposited, and it has been suggested by the pottery specialist that the Beakers were most likely, along with the Collared Urn and Deverel Rimbury pottery, to be from burial contexts (Appendix 2). Analysis of the two samples associated with Beaker pottery may provide evidence to support or refute this hypothesis.

Collared Urns are frequently associated with funerary contexts, often for the storage of cremated human remains (Gibson 2002, 96). This frequency is partially a bias based on the targeted excavation of burial monuments over the previous two centuries. Certainly in places such as the East Anglian fen edge Collared Urns are beginning to appear in more domestic contexts. Also, in some funerary contexts the presence of residues within the funerary vessel has suggested that the pot was removed from a domestic setting to be re-used for deposition of the cremated dead. Whilst certainly at least one of the Collared Urns from the site was a funerary vessel (context 013), the association of a loom weight in association with a Collared Urn fragment from a different context (context 1186) is more suggestive of a domestic rather than funerary context. The recovery of a probable loom weight fragment in such an early context is significant in that it potentially provides some of the earliest evidence of cloth manufacture in Britain. The association of loom weights and Collared Urn pottery is unusual, although not without precedent; both pottery and a loom weight were found within a pit during evaluation at Flag Fen in 1998 (Evans and Pryor 2001, 31). The loom weight at Flag Fen was a 'bun-shaped' example and the Collared Urn fragment had cord-impressions. The association of a number of postholes and pits on that site is more suggestive of habitation areas than funerary. Therefore although it has been suggested in the pottery assessment that the Collared Urns are exclusively associated with burials, further analysis may show this not to be the case. Analysis of the environmental samples from selected deposits containing Collared Urn pottery may shed some light on this problem of interpretation.

By the middle Bronze Age (Period 4) Deverel Rimbury pottery began to emerge across Britain. Few examples of this ceramic type were found at West Deeping and although it is normally associated with burial, it is found in both funerary and settlement contexts (Gibson 2001, 104). The lack of examples from the site indicates limited activity and it is not possible

to say with any degree of certainty whether these were associated with domestic or funerary practices. The lack of associated material (ie animal bone or flintwork) perhaps implies they were not settlement debris, and therefore more likely associated with funerary or ritual practices.

The previous fieldwork at Rectory Farm (Hunn and Rackham in press) has shown that a system of coaxial field ditches was in place across the landscape by the late Bronze Age. Elements of this system were exposed at both the northwest and southeast ends of the site; however it is not possible to assign any of the late Bronze Age pottery to these features at this time. Environmental evidence has shown that there was probably little woodland at this stage, with a little indication of localised cereal production; the majority of the land appears to have comprised a pastoral or grassland landscape (*ibid.*).

Beyond the later Bronze Age there is little evidence of activity until the formulation of ridge and furrow across the site in the medieval/post-medieval period. A single sherd of possibly middle Iron Age pottery from the site was found in association with a number of non-contemporary flints and animal bone, including one identifiable as cattle. The limited material of this period does not suggest activity on the site during the middle Iron Age, however based on this, and the results of the previous investigations at the Rectory Farm quarry site (Op. cit), it is deemed likely that remains of this date do exist elsewhere in the local landscape.

The finds corpus from the site has shown that the landscape has been subjected to human activity throughout early prehistory. It does not indicate continuous occupation from the early Neolithic to the Bronze Age however; more it suggests continual activity, with people returning to the area occasionally over this extensive period of some 3000 years. Traditionally the area may have been viewed as a special place or 'ritual centre' that people returned to for several thousand years, and would help to explain the selective deposition of artefacts so plainly occurring in different periods of activity in Phase 1A, the construction of the pennanular ditch, the possible timber circle, and the burial evidence from various periods.

8.0 Assessment of potential statement

It is anticipated that on conclusion of all archaeological works at Rectory Farm, the results will be the subject of a publication or series of publications. As such a publication is some way off; this statement will consider the importance the artefactual assemblage to assess the relative merit of interim publication of some of the preliminary results from the Phase 1A works.

Without the paper archive it is not possible to review the evidence to identify material that would be crucial in interpreting the archaeological deposits directly. Instead, it is anticipated that an assessment of some artefactual material recovered from the site would be beneficial not only for its intrinsic archaeological value, but also to provide a general overview and understanding of the early prehistoric activities that occurred there.

The initial project design highlighted the need to prioritise any remains of early Bronze Age or earlier in date. The findings of the assessment of the material recovered from Phase 1A has demonstrated that the site contained a significant prehistoric assemblage that was especially rich in Neolithic remains. This report was based on the results of the pottery assessment and it is recommended that any further analysis and publication of the archaeological finds should also be based on the pottery results.

The prehistoric pottery provided evidence of activity from the early Neolithic to the Iron Age, centred mainly on the early and mid-late Neolithic (c.3500 – 2500 BC). The assemblage of Neolithic pottery is of regional importance in that no assemblage of similar size and variation

has been discovered to date within the county. The Bronze and Iron Age periods also produced some ceramic material. However, it is deemed not appropriate to include in any analysis at this stage of the project as the addition to our current knowledge of these periods would be minimal. Therefore, it is recommended that initially only the Neolithic material is subjected to further analysis to result in an interim publication.

A total of 82 vessels represent the Neolithic period and the pottery specialist has recommended that 81 of these are drawn for publication. For the purpose of an interim study, it is suggested that a representative selection of the recommended illustrations are undertaken, to a maximum of 30. The pottery specialist would need to make this selection based on potential to aid future research.

Any interim study of the Neolithic pottery will require analysis of the fabrics to provide a database of results that can be compared and contrasted with other contemporary ceramics in the region. It is recommended that a number of thin sections are undertaken (15 is suggested) to aid the detailed description of the fabrics and increase the understanding of the technological processes and potting traditions during the Neolithic period. Limited fabric analysis has been initiated for this assessment; but should be completed to determine whether different fabrics relate to different styles of pots; to establish whether the vessels fit within a regional pattern; or if they are a-typical and a unique tradition.

The Neolithic pottery may contain lipids or fatty acids that can be analysed to provide information on what they were used for. This has the potential to aid the understanding of what activities occurred on the site in the Neolithic: be they domestic or associated with ritual behaviour. Analysis of such results may also show correlations between vessel types and certain foodstuffs, such as that shown by lipid analysis of Grooved Ware vessels at a site in Balfarg in Fife where some vessels were found to contain traces of poisons and hallucinogens likely to be associated with ritual or perhaps more sinister activities (Pollard 1997; 19). It is thus recommended that any interim investigation of the Neolithic pottery should include selective lipid analysis as part of the study.

The Neolithic assemblage has been shown to cover approximately 1,000 years. Scientific dating of materials associated with the pottery would allow some refining of this dating to accurately indicate when the activities did indeed take place. It is suggested that at least one radiocarbon date is taken from archaeological material (eg animal bone) from each of the ceramic traditions (ie early Neolithic, Grooved Ware and Peterborough Ware). It is acknowledged that all three types of Peterborough Ware are represented in the find corpus (ie Ebbsfleet, Mortlake and Fengate) and it may be beneficial to date contexts containing each of these types to attempt a chronology of the Peterborough Wares at Rectory Farm.

To understand the context of the deposition of the Neolithic ceramic assemblage without the paper records, other materials (ie the animal bone and modified or worked lithics) associated with the pottery should also be analysed. In other words, materials that are directly associated with Neolithic pottery will require further investigation as part of any follow-up interim reporting.

The recovered lithics from the site correlate with the ceramic findings in that they show a concentration of activity in the Neolithic (especially the early Neolithic). Assessment of this material has already been relatively comprehensive so it is anticipated that only limited further analysis be undertaken at this stage of the worked and modified flints. It is suggested that this is concentrated on microwear analysis of a selection of worked flint tools (and utilised pieces) that exhibit a polish on their edges. This may be used to aid the identification of the nature and range of activities that occurred on the site during the Neolithic period.

The non-flint lithic artefacts (ie axe, polished stone flakes and saddle quern) are associated with Neolithic pottery. Petrographic analysis of these would provide information on their probable sources, giving valuable information on early Neolithic trade relationships and routes. To fully understand the assemblage groups containing Neolithic ceramic material it would be advisable to undertake this work as part of an interim report.

The animal bone assemblage has at present only been scanned for the purpose of assessment. This has given some indication of patterns (for example all auroch remains appear to be associated with mid – late Neolithic contexts) and it would be beneficial to undertake further analysis to confirm patterns that have emerged. In line with earlier recommendations, the material in direct association with Neolithic ceramics should be taken to full analysis as part of any interim study, with later dated material analysed as part of the final reporting for the site. Further study may provide information on stock management and animal husbandry through the Neolithic period, and also aid the identification of the context of deposition as to whether these are simply domestic deposits associated with habitation areas or associated with more 'special' activities, such as feasting.

The human remains from Phase 1A include a Bronze Age cremation and an undated crouched inhumation. As the recommended approach is to analyse the known Neolithic deposits it is suggested that no further analysis of the remains is carried out at this stage, and that they are retained for analysis during the final reporting stage of the quarry works. The inhumation is at present undated; it would be beneficial to obtain a radiocarbon date as evidence of prehistoric burials is limited within the county and any further information regarding the period in which it was buried would add significantly to our knowledge.

Several palaeo-environmental samples have been processed and assessed. These all come from late Bronze Age contexts and it is recommended that any further analysis is deferred to the final assessment.

Any subsequent analysis of selected materials should include an analysis of contemporary assemblages from the region to compare, contrast and aid interpretation of activities on the site.

An interim study should also review current evidence of Neolithic activity in the region, particularly within the river valleys, such as the Witham, Slea and Nene. Habitation sites have been found at places such as Tattershall Thorpe, Tallington, South Rauceby and Deeping St James. Data regarding these sites that is held at the Lincolnshire Historical Environment Record and Heritage Trust of Lincolnshire should be assessed to aid any interpretation of the material evidence from Rectory Farm. Also any published sources regarding these sites such as journal articles and monographs should be included, along with more general texts regarding social and economic interaction during the Neolithic period.

The lower Welland Valley itself provides a wealth of evidence on early prehistoric activity, with excavations at places like Maxey of the causewayed camp and cursus monuments. The relationship between the Maxey landscape and Rectory Farm site should be included in any analysis as they are only separated from each other by the River Welland. This would aid our understanding of the Welland Valley Neolithic landscape and give important information regarding the role of the river itself in this landscape, as to whether it was unifying or separating factor.

It is recommended that the specialists that undertook the initial assessments are retained for any future stage of analysis due to their familiarity with the material. Each specialist should also be given copies of all other specialist assessment reports to aid the process, and regular

meetings or correspondences between the project manager and the project team are essential to maximise the results of analysis of the material remains.

The updating of the project design will require input from all specialists involved, and it is anticipated that some outside guidance will be required to identify and formulate new research objectives.

Several pits from the later Phase 1B works were dated to the Neolithic period. It would be desirable to incorporate these features into any analysis of the Neolithic artefacts from Phase 1A as they will provide spatial information that may be useful to interpret the evidence.

To summarise, the above recommendations are presented as bulleted points below (see also the Summary above): -

- The contexts containing Neolithic ceramics should be the subject of interim analysis and publication due to their importance for regional study of this period

- Analysis of the Neolithic pottery should include some illustration of vessel forms (to a maximum of 30, selected by the pottery specialist), full analysis of the fabrics (including thin section analysis of a selection of fabrics, to a maximum of 15), and lipid analysis of a small selection of vessel types from the various Neolithic ceramic groups

- The worked and modified flints have already been comprehensively analysed as part of this assessment. However it is recommended that a selection of worked tools of Neolithic date that exhibit polished edges are sent for microwear analysis (to be selected by the specialist). Furthermore, the stone axe and stone axe chips should be subjected to petrographic analysis to identify their sources and thus provide information on the Neolithic axe trade

- Animal bone from contexts that are securely dated to Neolithic activity should be taken to full analysis for an interim publication. This will aid interpretation of the Neolithic assemblage and provide information on animal husbandry and stock management

- Radiocarbon dating of each of the early Neolithic, Grooved Ware and Peterborough Ware would be beneficial to provide accurate dating for when these activities took place. Also, dating of each of the Peterborough Ware types (Ebbsfleet, Mortlake and Fengate) may provide a local chronology of use of these ceramics

- The post-Neolithic assemblages will not significantly increase our knowledge of prehistoric activities, therefore it is recommended that further analysis of the materials are delayed until the final publication of the results of the archaeological works at Rectory Farm.

9.0 Acknowledgements

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APPENDIX 1: Assessment report on the Prehistoric Pottery

RECTORY FARM, WEST DEEPING
PHASE 1a - RFWD02, NGR TF 1139 1056

By Carol Allen

1 Introduction

1.1 An archaeological watching brief was carried out during topsoil stripping of Phase 1a at this site in 2002. This report presents an assessment of the prehistoric pottery found.

1.2 Wherever possible, it provides identification of the pottery types, with the likely dates for the vessels, and also gives a summary of the fabrics. The potential of the assemblage is assessed, and recommendations for further work are provided together with costs.

2 Methodology

2.1 The pottery has been recorded and described according to the guidelines of the PCRG (1997). In addition, this report conforms to the standards and guidance of the IFA (2001). All the sherds have been counted, weighed and recorded and are detailed on Table 6 attached. The pot type is indicated where this is known and the abrasion level of the sherds is recorded.

2.2 A sherd from each pot has been examined by use of a x2 binocular microscope in order to allow the fabric types to be summarised. The part of the pot remaining, rim, body or base is also recorded, together with the number of vessels estimated to be present and those requiring illustration for a report.

3 Quantifications

3.1 A total of 823 sherds and 43 fragments (<10mm) of pottery weighing 8280g has been recorded on the site. These sherds represent at least 109 separate vessels of different types as shown on Table 1.

Table 1: Numbers of pots, sherds and weight for each vessel type in the assemblage

Type of vessel	Vessels no	Sherds no	Weight g	% of total weight
Early Neolithic	30	225	2075	*24.9*
Grooved Ware	13	79	673	*8.1*
Peterborough Ware	39	182	1852	*22.3*
Beaker	6	13	137	*1.6*
Collared Urn	12	65	609	*7.3*
Deverel Rimbury	2	4	131	*1.5*
Late Bronze Age	3	133	1852	*22.3*
Iron Age	1	1	11	*0.2*
Prehistoric	3	121	940	*11.8*
Totals	***109***	***823***	***8280***	***100.0***

3.2 Two pieces of fired clay were also found on the site (Table 6). These are of irregular shape and may be part of weights but further study would be required to be certain of their function.

4 Fabric Types

4.1 The tempering materials have been summarised for this assessment, but would require a more detailed study for a full report. The types of inclusions have been recorded on Table 6 but no attempt has been made to quantify the inclusions or to qualify the size or angularity of the tempering. If the fabrics were studied further and recorded in more detail it might be possible to link tempering type and quantity to vessel type and form (see Table 2).

Table 2: Number and percentage of each type of vessel with summary fabric type

Type of vessel	No of vessels	%age of vessels	Fabric types
Early Neolithic	30	*28*	Shell, flint
Grooved Ware	13	*12*	Shell, flint
Peterborough Ware	39	*36*	Shell, flint
Beaker	6	*5.5*	Shell, flint, grog, quartz
Collared Urn	12	*11*	Shell, grog, quartz
Deverel Rimbury	2	*1.5*	Shell, rock (unidentified)
Late Bronze Age	3	*2.5*	Shell
Iron Age	1	*1*	Shell
Prehistoric	3	*2.5*	Shell, flint, grog, rock (unidentified)
Totals	***109***	***100***	

4.2 Table 3 indicates that 80% of the vessels on the site have shell tempering. Other tempering materials employed in these vessels include angular flint (6% of the pots), quartz and grog (crushed fired clay or pottery). An unidentified angular rock is apparent in one of the Deverel Rimbury pots and within some of the general prehistoric sherds and thin section analysis would be required to identify this inclusion and its possible origin.

Table 3: Number of pots with each fabric type

Type of inclusion	No of pots	% of pots
Shell	88	*80*
Shell & flint	2	*2*
Shell, limestone & rock	1	*1*
Shell & limestone	1	*1*
Flint	7	*6*
Grog	6	*5*
Grog & shell	1	*2*
Grog & quartz	1	*1*
Quartz	1	*1*
Rock (unidentified)	1	*1*
Totals	***109***	***100***

4.3 The site lies on the Kellaway Beds which when exposed yield numerous fossil shell types (Swinnerton and Kent 1976, 52), and this is a possible source of the shell and limestone seen in these pots. However, this would need to be confirmed by thin section analysis, as it has been shown in southern England at Amesbury, Wilts, that shell in Grooved Ware pots was of marine origin, obtained at least 50km away (Cleal *et al* 1994, 447).

5 Pottery Forms and Dates

5.1 General

5.1.1 The pottery assemblage is quite varied and comprises material of early Neolithic through to Iron Age date, although 76% of the pots (82 of 109: Table 2) are of Neolithic date (early Neolithic, Grooved Ware and Peterborough Ware). A total of 23 pots (21%) are most likely to be of Bronze Age date (Beaker, Collared Urn, Deverel Rimbury and late Bronze Age), and there is a single vessel identified as Iron Age.

5.1.2 Three vessels in the assemblage (2.5%) have been identified as being prehistoric but their exact type is unclear. In addition, there are numerous sherds on Table 6 which are also shown as prehistoric and these may be part of pots which have already been identified, or could be completely different vessels, but their form does not allow identification at this stage. When fabric types are established more closely it may be possible to allocate these sherds to individual vessels.

5.2 Early Neolithic

5.2.1 A minimum of 30 early Neolithic pots were found on this site, and mainly these have been identified by different rim types, although a few body sherds are apparent. The rims include flat and rounded types of varying thicknesses, some with incised vertical or diagonal decoration. There are a few everted rims and some are pinched out internally and/or externally. There are some sherds with incised decoration on the shoulder, and some with incised vertical decoration on the upper part of the interior.

5.2.2 Similar rim types and decoration are known in Lincolnshire, for example at Tattershall Thorpe (Healy 1993, fig. 64). In this assemblage there is a single vessel with very thin walls (4mm) of which the profile is virtually complete, indicating that it has a round base and beaded rim. Similar vessels to this thin walled pot were seen at Windmill Hill in the early phase (Smith 1965, fig. 17).

5.2.3 All these vessels, both undecorated and with simple decoration can be dated to around 3500 BC (Gibson 2002, fig. 36). Due to its age and extreme fragility early Neolithic pottery is rare in Lincolnshire and elsewhere.

5.3 Grooved Ware

5.3.1 At least 13 Grooved Ware vessels of middle Neolithic date are apparent on this site. This is a type of pot not frequently seen as it is quite friable and was not thought to have often been in everyday use but was placed as a ritual deposit in pits, as seen in Lincolnshire at Halton Holgate (Allen 2001a). The decoration seen on this site is typical of both the Clacton and Woodlands style of pottery (Manby 1999, table 6.2). These styles are characterised by horizontal grooves often with notching or fingernail on the raised ridges, and occasionally with point infill, all apparent on this

site. Incised diagonal decoration, another feature of Clacton style is also seen on one of these pots.

5.3.2 These styles are occasionally seen in the Midlands and some Grooved Ware sites are known in Lincolnshire, for example at Leadenham (Allen 2000) and the nearby settlement of Barholm (Simpson 1993). Grooved Ware vessels of all types are considered to be dated between about 3100 and 2600 BC (Garwood 1999, 152).

5.4 Peterborough Ware

5.4.1 A total of 39 Neolithic Peterborough Ware vessels were uncovered. Some of the vessels can be identified as Ebbsfleet or Mortlake type and remains of a single Fengate type of pot was seen. The Fengate sherd has unusual circular swirling decoration paralleled in Yorkshire (Manby 1975, fig. 13). There are many body sherds which can be identified as Peterborough Ware but their exact type is uncertain.

5.4.2 A number of rim types are apparent, mainly everted and pinched out both internally and externally, some with a shoulder and deep neck. Many sherds are decorated with whipped cord, twisted cord and other impressions in a variety of decorative schemes including herringbone, horizontal and geometric patterns. Some fingernail decoration is also apparent and a variety of decorations are seen on the rims and upper interior of the pots.

5.4.3 Peterborough Wares are well known from a number of sites in Lincolnshire such as Risby Warren (Riley 1957) and Kirkby on Bain (Allen 2001b). Dating of material associated with middle Neolithic impressed wares of Peterborough types confirms that these vessels were in use between about 3400 and 2500 BC (Gibson and Kinnes 1997).

5.5 Beaker

5.5.1 At least six early Bronze Age Beaker pots are present in this assemblage, and are represented by only 13 body sherds with incised, fingernail or comb decoration, but there is little evidence for the form of the vessels.

5.5.2 Beaker pottery has been found throughout Lincolnshire (for example, May 1976, fig. 33: Allen 2001b) and is usually dated to a period between 2600 and 1800 BC (Kinnes *et al* 1991).

5.6 Collared Urns

5.6.1 Sherds from 12 Bronze Age Collared Urns have been identified on this site. The vessels vary in size and decoration. Where rims and collars are apparent a variety of decoration is seen, including twisted cord in diagonal, horizontal or chevron patterns, and fingernail and incised decoration in herringbone pattern. One undecorated vessel is included in the assemblage.

5.6.2 A number of Collared Urns are known from elsewhere in Lincolnshire, for example nearby at Deeping St James (Longworth 1984, pl 21c) and are usually dated to around 1800 to 1700 BC (Needham 1996).

5.7 Deverel Rimbury

5.7.1 There were two partial vessels identified as being very probably middle Bronze Age Deverel Rimbury bucket urns. One sherd has an applied cordon with fingertip decoration and another has a thick base likely to be part of a bucket urn.

5.7.2 A number of bucket urns are known in Lincolnshire, for example at Long Bennington (Allen *at al* 1987). These pots have been dated at Billingborough to between 1530 and 1260 BC (Chowne *et al* 2001, 5).

5.8 Late Bronze Age

5.8.1 Over 130 sherds of mostly undecorated late Bronze Age shell tempered pottery were apparent on this site representing three different vessels. Of these pots two are jars, and one is a carinated bowl. All are undecorated.

5.8.2 Similar vessels are known in Lincolnshire, for example at Washingborough (Allen 2004) and Hibaldstow (Allen and Knight 2001). Earlier excavations at West Deeping have also revealed pottery of late Bronze Age and Iron Age date (Knight *et al* in press). These pots are usually dated to 1200 and 800 BC (Brossler *et al* 2004: Allen 2004).

5.9 Iron Age

5.9.1 A single sherd of shell tempered Iron Age pottery with an impressed or rouletted decoration was found on the site. This pot is handmade and may be of later middle Iron Age date similar to some seen at Weelsby Avenue, Grimsby (Elsdon 1996). This may be dated to around the 3rd century BC.

6 Context

6.1 This is a significant collection of prehistoric pottery and contexts in which the material was found should be determined as far as possible, although much of the information available is not clear at present.

6.2 Study of the early Neolithic pottery, for example, and the nine context numbers in which the material originated suggests that it is very likely that a number of discrete features, possibly pits, are represented. Context 294, for example, contained nine vessels, seven of early Neolithic date, together with animal bone. Context 1106 contained eleven early Neolithic pots, 1107 had one early Neolithic pot, 1108 had two and 1109 one early Neolithic pot. These may be strata from a single feature, and all also contained animal bone, including 1106 which had 'a large quantity'.

6.3 The context of the Grooved Ware vessels is also of great interest as at least two, 668 and 764, also contained remains of aurochs. In 668 the Grooved Ware pot, which requires reconstruction, was laid over the skull of an auroch. Grooved Ware, particularly of Clacton style, was often placed in special contexts (Thomas 1999, 119).

6.4 In a similar manner the contexts of all the pot types could be investigated alongside the other finds on the site in order to make better sense of the pottery found, particularly as the Neolithic pottery appears to represent special or ritual deposits. These are of great interest in this region where few such deposits are known.

6.5 The rest of the vessels may originate from occupation areas or, in the case of the Beaker, Collared Urn and Deverel Rimbury pots, most likely from disturbed burials. The associated finds and the pottery require further investigation to better establish the nature of the contexts.

6.6 The large number of early Bronze Age Collared Urns (12) strongly suggests the location of a burial site, possibly a ploughed out barrow, with middle Bronze Age Deverel Rimbury burials in pits around.

6.7 The late Bronze Age and Iron Age pottery found may be comparable with the pottery found in earlier excavations in the area (Knight *et al* in press) and this requires further investigation.

7 Condition and Storage

7.1 Condition

7.1.1 The abrasion levels of each vessel within the three phases have been recorded on Table 6, and are summarised below on Table 4.

Table 4: Abrasion levels of pottery sherds

Abrasion Level	% of original surface lost	No of pots	%age of total no of pots
U unabraded	<5%	18	*16.5*
S slightly abraded	5 – 25%	54	*49.5*
M moderately abraded	25 – 50%	21	*19.25*
A abraded	50 – 75%	15	*13.75*
V very abraded	>75%	1	*1*
Totals		**109**	***100***

7.1.2 Of the total 109 vessels recognised in this assemblage 72 or 66%, are unabraded or only slightly abraded, indicating that the whole assemblage is in fairly good condition for prehistoric pottery of these periods. Only one sherd is in poor condition. This suggests that the vessels may not have been moved very far from their original locations, although the average sherd weight at 10.07g is quite small indicating that the assemblage is fragmented.

7.2 Storage

7.2.1 No special storage is required for these vessels. They should be well packed in suitable material to prevent further abrasion.

7.2.2 As this is a very unusual assemblage with a combination of prehistoric pottery types all the sherds should be retained for further study and research.

8 Potential and Recommendations for Further Work

8.1 This is a distinctive assemblage with 109 prehistoric vessels, and generally the vessels are in reasonable condition.

8.2 An unusually large number of Neolithic pots are apparent in the assemblage, a total of 82, of which 30 are early Neolithic, 13 are Grooved Ware and 39 are

Peterborough Ware. This is a rare collection of such vessels both regionally and nationally, and adds significantly to the number of Neolithic vessels in this region. Even if the contexts remain less clear than is usual, the publication of the vessels themselves and their associated finds will assist considerably in providing more knowledge of this pottery in the region.

8.3 The remaining 24 vessels, Beaker, Collared Urns, Deverel Rimbury, late Bronze Age and Iron Age will provide information on the continual occupation on this site. Study of the associated finds and features will provide additional information on the contexts of the vessels.

8.4 Comparative material should be sought in the locality and in the region, in order to further understand the assemblage and place it within its local and regional perspective. The Neolithic pottery, particularly the early Neolithic and Grooved Ware, is rarely found and together with study of associated finds is likely to provide interesting information on special deposits of this very early period. The pottery from the earlier excavations at West Deeping should also be considered (Knight *et al* in press).

8.5 Dating for comparative pottery should be sought in order to better understand the assemblage from this site. New dates are becoming available for prehistoric pottery, particularly for Bronze Age material, from both excavations and research projects (for example Sheridan 2003), and these could provide new information for this site.

8.6 The fabrics of the pottery should be investigated by thin section analysis and it is recommended that 15 thin sections would be required. This will clarify the type of shell used for tempering, and will assist understanding of the technology and potting traditions on this site, and may indicate trading connections.

8.7 The fabrics should be quantified and qualified, as this would add considerably to knowledge of pottery fabrics of all these periods in this area. This study has begun and can substantially aid the identification of prehistoric pottery once the basic data is established (Allen and Hopkins 2000, fig. 8). It should be possible to determine whether different fabrics relate to different styles of pots and whether the pottery fits within a regional pattern, or has an uncharacteristic tradition.

8.8 A number of sherds should be selected for lipid analysis, in particular from the early Neolithic pots, as this would help to determine their use in Neolithic society. It is suggested that 15 samples would be sufficient to provide results.

8.9 Some vessels require some reconstruction before illustration, and this can be completed by the pottery specialist during the study of the vessels and the fabric types.

8.10 A number of vessels should be illustrated from this assemblage, and the individual pots which should be drawn are indicated on Table 6. The minimum number required in order to represent the types of rims and profiles from this site, without duplication, has been selected for illustration, and the totals for each type of

pot are shown in Table 5 below. In total remains of 92 vessels require illustration, and many are partial and are represented by a few sherds.

Table 5: Number of vessels of each type requiring illustration for publication

Type of vessel	No of sherds	No of vessels	No of vessels requiring illustration
Early Neolithic	225	30	**29**
Grooved Ware	79	13	**13**
Peterborough Ware	182	39	**30**
Beaker	13	6	**6**
Collared Urn	65	12	**11**
Deverel Rimbury	4	2	**1**
Late Bronze Age	133	3	**1**
Iron Age	1	1	**1**
Prehistoric	121	3	**0**
Totals	***823***	***109***	***92***

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Appendix 2: Lithic Materials: Assessment

Phase 1A - Rectory Farm, West Deeping, Lincolnshire
RFWD 02

Report by Jim Rylatt – November, 2005

1.0 Introduction

This report concerns an assemblage of lithic material recovered during an enhanced watching brief of the Phase 1A works at Rectory Farm, West Deeping, this fieldwork having been undertaken during 2002. A total of 294 pieces of struck or modified flint were retrieved and, in addition, there were three pieces of fine-grained stone that had been utilised for ground & polished tools and a sandstone saddle quern. The items with diagnostic traits were indicative of activity extending from the Mesolithic to the early or middle Bronze Age. The different elements of this collection comprised one polished stone axe, one petit tranchet arrowhead, two barbed & tanged arrowheads, two knives, one 'nosed-piece', two fabricators, two piercers, a combined piercer/scraper, two scrapers on broken flakes, two core scrapers, two disc scrapers, five end scrapers, two extended end scrapers, two horseshoe scrapers, four side & end scrapers, one side scraper, three thumbnail scrapers, one serrated blade and possible end scraper, seven serrated blades, three serrated blade-like flakes, thirteen retouched flakes, three retouched blade-like flakes, one retouched piece, three utilised secondary flakes, one utilised secondary blade, four primary flakes, 52 secondary flakes, 67 tertiary flakes, one primary blade, seventeen secondary blades, 27 tertiary blades, thirteen secondary blade-like flakes, thirteen tertiary blade-like flakes, five cores, two core fragments, two core rejuvenation flakes and 28 chunks and chips.

2.0 Method of study

All of the artefacts that were submitted were physically examined in order to create an archive catalogue. The attributes of each piece were noted to determine its position in the reduction sequence, any observable characteristics of the reduction technology and an assessment of its functional potential. The catalogue also records the presence of patination, cortex, and whether any piece has been burnt. Additionally, metrical data was recorded for complete flakes, and each piece was weighed. Some artefacts were also examined with a x3 hand-lens to determine whether there was any evidence of localised modification that could be indicative of use.

3.0 ASSEMBLAGE DESCRIPTION

3.1 Raw materials

3.1.1 Flint

3.1.1.1 Colour

There is a degree of variability in the colour of the raw materials that were exploited. Mid to dark greyish-brown or brownish-grey flint was most commonly utilised and this material was generally translucent or semi-translucent. The degree of transparency depended upon the density of dark opaque or pale 'bubbly' inclusions, and consequently there was often a range of different shades within a single piece. This translucent and semi-translucent flint is of a relatively good quality, having relatively few flaws or fossils.

Only 24 of the pieces were truly opaque, and some of this material was relatively coarse-grained and chert-like. Creamy to greyish caramel-brown was the most common colour, but there were also a few reddish-brown flakes. The most unusual piece was a knife (656 (a); SF3), which utilised a piece of flint consisting of alternating dark and light bands, each of which was less than 1mm thick. The remarkable characteristics of this particular piece of flint suggest that it was selected as much for its aesthetic qualities as for its functional attributes, and as such it would probably have increased the intrinsic value of the knife. It is notable that the assemblage contained only one piece of pale grey Wolds-type flint (749 (e)).

3.1.1.2 Cortex

There is a relatively high incidence of cortex on the items from the site, as there were 130 pieces with some surviving cortex (44.2%). The high incidence of cortex suggests that small nodules of flint were being utilised for tool production (i.e. a large surface area relative to volume). The cortex on an item rarely covered more than 40% of its surface area - there were only 24 pieces with between 40 and 100% surface area coverage (fig. 1). This low incidence of primary flakes and other pieces with large areas of cortex could indicate that the initial stages of core reduction were either undertaken off-site or away from the area that was investigated during the Phase 1A fieldwork.

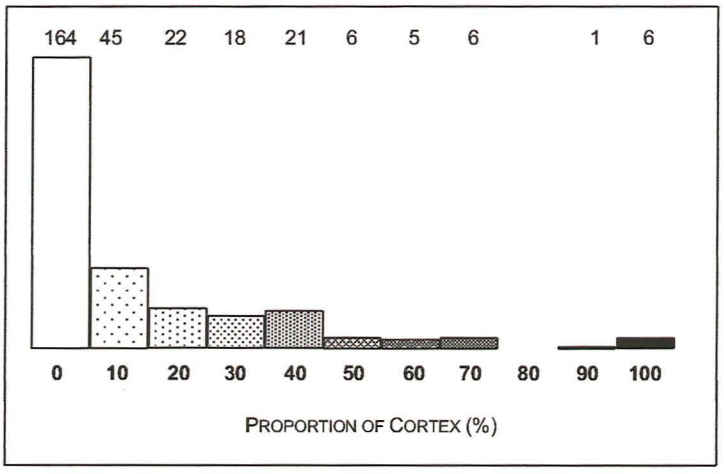

Figure 1: The relative proportions of cortex on the worked and modified flint from Phase 1A, Rectory Farm, West Deeping.

Where cortex is present it is generally creamy or brown in colour, is relatively thin in section and has a solid matrix. Additionally, relatively large areas of cortical surface frequently exhibited a rounded profile. There were no examples of the soft chalky cortex that is indicative of flint obtained from primary contexts (i.e. mines or out-cropping beds).

3.1.1.3 Sources

The thin, rounded and abraded cortex evident on the cores, primary flakes, secondary flakes and pieces of irregular waste indicate that they were manufactured from water-transported pebbles and cobbles derived from river terrace gravels or glacio-fluvial sheet deposits. Such pebbles will have been rolled and battered by fluvial forces and may also have been subject to the extreme temperatures prevailing in a glacial or peri-glacial environment. Both of these formation processes will have caused a proportion of the nodules to fracture, which probably accounts for the sub-angular, recorticated surfaces evident on a number of the artefacts (e.g. 002 (d), 294 (l). Furthermore, these processes will have restricted the size of the constituent nodules, an observation supported by the metrical data obtained from the assemblage (two flakes share the maximum flake length of 79mm – 382(a) & 656(a)-SF3). Similarly, the variation in the colour and quality of the different components of the assemblage is determined by the fact that these secondary deposits are composed of materials derived from a wide variety of primary sources.

The collection of flint from secondary deposits is likely to have been a relatively expedient process, which may simply have involved the inspection of tree throws or erosion scars along the banks of rivers and streams (Edmonds 1995). Alternatively, the creation of slight delves in the upper surface of out-cropping gravel deposits may have proved to be a more reliable means of acquisition. It is likely that most of the flint raw materials could have been obtained locally or in the surrounding district, possibly from gravel terrace deposits laid down by the River Welland or River Glen (Booth 1983).

3.1.2 Non-flint lithic materials

The assemblage contained three pieces manufactured from a fine-grained stone, each of which had formed part of a ground & polished tool. The largest and most distinctive piece represents approximately 80% of an early Neolithic polished stone axe (1108 (a) – SF9). The lateral edges have flat facets, which is a morphological trait characteristic of Group VI axes (Edmonds 1995; 2004). Additionally, examination with a hand-lens and comparative material suggested that this axe was made from a fine-grained, banded greyish-green, epidotised tuff of the Borrowdale Volcanic Series (i.e. a Group VI source - either directly from Langdale in Cumbria or from glacial erratics derived from these geological deposits). A small flake of pale greenish-grey polished stone also appears to be a product of the Group VI axe factories (294 (a)). The third piece is a fragment of a flake preserving part of the surface of a polished stone tool, probably another axe (964 (b)). Examination with a hand lens indicates the stone is very fine-grained and appears to be a very uniform pale to mid grey colour (areas of the surface are partially obscured by a white concretion). It is provisionally identified as a microdiorite/micrograndiorite (previously classified as an augite granophyre) from the Group VII series of axe-factories situated in the Penmenmawr area of North Wales (outcropping at Graig Lwyd, Dinas and Garreg Fawr).

It is likely that a petrographic (microscopic thin-section) or geochemical (X-ray florescence) analysis could clearly establish the origin of each of these three pieces of stone. This would allow some insight into the breadth of contacts and nature of trade conducted by the Neolithic people who occupied the site.

A complete saddle quern was also recovered during the Phase 1A fieldwork (from context **(294)**). Examination with a hand-lens indicates that it was manufactured from a piece of yellowish-brown Millstone Grit. The rock exhibits evidence of graded-bedding, as a dense, 3cm wide band of quartz grit forms one long edge of the quern. Elsewhere the grit is relatively sparse and more poorly sorted, but there is a small, localised concentration close to the other lateral edge. The grit is sub-angular to sub-rounded, with maximum dimensions generally between 1 and 3mm, although there are occasional pieces up to 6mm across. The nearest primary source lies in the Peak District of Derbyshire. However, it is also possible that this piece could have been an erratic that was found relatively locally. Comparable erratic boulders are found within the glacial boulder clays that cover much of the East Anglian region (Buckley & Ingle 2001; Middleton & Bowman 2001).

3.2 Condition

3.2.1 Patination

A large proportion of the flint recovered had patinated flake surfaces (74.5%). The degree of patination varies significantly and ranges from a highly localised milky discolouration to a dense white or cream coating, the latter being most commonly associated with flint recovered from calcareous soils; 127 pieces had a partial patina and 92 pieces were totally patinated. Patches of concreted sediment were adhered to the surface of a small number of artefacts, this concretion appearing to have an iron based cement.

A comparison of datable traits and the degree of patination indicates that there is no clearly definable correlation between these two attributes of the assemblage, as some of the later Mesolithic to early Neolithic items are unpatinated, while some of the later Neolithic artefacts have a partial or total patina. Consequently, it is possible that this post-depositional modification reflects localised variations in the soil chemistry rather than providing a crude index of differences in the age of different elements of the assemblage.

3.2.2 Burning

A proportion of the assemblage exhibited various degrees of thermal damage that had been caused by burning (27 pieces – 9.1%, with a further 6 pieces that were probably/possibly burnt – 2.1%). This had resulted in a change in the structure of the flint and in most cases small pot-lid flakes had become detached, but occasionally severe thermal damage had caused the piece to shatter. The fact that flint was being burnt indicates that a number of fires or hearths must have been created in the immediate vicinity of this part of the site.

There does appear to be some correlation between burnt pieces and context, as the 33 burnt or possibly burnt examples were recovered from only 21 contexts (001, 4 pieces; 110; 294, 6 pieces; 315; 325; 565; 605; 644, 2 pieces; 666, 2 pieces; 679; 688; 713; 763; 764; 781; 818, 2 pieces; 909; 964; 966; 1042, 2 pieces; 1195). The relatively high incidence of burnt flint in **(001)** is not significant, as it is evident that this was the ploughsoil and consequently all of the finds were residual. With the exception of **(818)** where there were only three flints in total, each of the contexts containing burnt flint had at least 50% more unburnt flint. Nevertheless, although there were no discrete deposits containing only burnt material, it is possible for flint to remain unaltered in small fires. In a number of examples it was possible to determine that the flint had been burnt after it had been knapped, but it is unclear whether this was an economic process associated with the utilisation of lithic waste for some other purpose[1] or

[1] A small proportion of the early Neolithic, late Neolithic and Beaker pottery recovered from the site had flint tempering – minimum of nine vessels (Allen 2005).

represented some form of cleansing associated with the cessation of discrete episodes of activity. A large proportion of the burnt material consisted of waste flakes and debitage, but six of these pieces were tools (001 (j) fabricator; 110 (a) knife; 315 (a) retouched flake; 325 (a) barbed & tanged arrowhead; 713 (a) horseshoe scraper; 763 (a) end scraper).

3.2.3 Post-depositional damage

A large proportion of the assemblage is in an excellent state of preservation, having fresh and undamaged flake margins that are unchanged since the moment of deposition (170 undamaged – 57.2%; 64 pieces indeterminate – 21.5%). Evidence of post-depositional damage was exhibited by only 63 pieces (21.2%), but 43 of these (14.5% of the assemblage) were recovered from ploughsoil **(001)**. The outstanding condition of the bulk of the artefacts suggests that much of the assemblage was recovered from stratified deposits.

3.3 Composition of the assemblage

The archive catalogue indicates that there is some lithic material from every stage of reduction, including some primary flakes, waste from the manufacture of tools and, other pieces that indicate the use and discard of definable types of tools. The tools themselves are the most chronologically distinctive elements of the collection and they provide evidence that there was human activity from the Mesolithic until the first half of the Bronze Age.

3.3.1 Cores and core fragments

Five cores, a core scraper, two core fragments and two core rejuvenation flakes were recovered during the Phase 1A fieldwork (table 1). Even when grouped together this material only constitutes 3.4% of the total assemblage. Four of the cores and the core scraper had produced either blades, or blades and small flakes. Two examples had a single platform (001 (e) and scraper 001 (a) - type A2) and one had opposed platforms (781 (a) – type B1) (classification after Clark 1960). The other two cores had multiple platforms (001 (d) and 1163 (a) - type C). However, the more informal system of working exhibited by the latter appeared to merely reflect the final stages of reduction when the cores had become so small that it was difficult to maintain a fixed orientation. The two core fragments had also been detached from blade and flake cores (001 (k) & 002 (d)).

The only other core recovered from the site had at least five platforms, which had no clear inter-relationships, and it had produced relatively broad flakes (131 (a) - type Cb). Its size and morphology indicated that it was by-product of a significantly different lithic technology to the other cores that were examined.

	ID	Date	Type	Weight (g)	Dimensions (mm)
Cores	001 (d)	L.Mes/E.Neo	C blade & flake	17.3	34x31x16
	001 (e)	L.Mes	A2 blade & flake	13.9	15x36x28
	131 (a)	Neo/BA	Cb flake	41.3	30x39x34
	781 (a)	L.Mes/E.Neo	B1 blade	22.1	40x32
	1163 (a)	-	C blade & flake	10.5	45x24
Core scraper	001 (a)	L.Mes	A2 blade	13.1	26x21x22
			Total	118.2	
Core fragments	001 (k)	E.Neo	C blade & flake	27.0	-
	002 (d)	L.Mes/E.Neo	C blade & flake	18.3	-

Table 1: The attributes of the cores recovered during Phase 1A, Rectory Farm, West Deeping.

The cores that were used to produce blades had been worked until they were small, the maximum dimension of any of these pieces being 45mm, with a mean weight of 15.4g[2]. Most, if not all, of these cores seem to have been rejected because they were no longer able to produce flakes or blades of a useable size. Together with evidence for rejuvenation (flakes 001 (l) & 1043 (b)), the reduction of cores to the point of exhaustion indicates that the curation of raw materials was a significant concern and suggests that flint was not abundant in the immediate vicinity of the site. This desire to maximise the productivity of individual cores may have been fairly commonplace in this part of the Welland basin, as similar practices have been noted elsewhere in the area (e.g. Deeping St Nicholas – Richards 1994). Another effect of the prolonged reduction of blade cores at these sites means that the microlithic proportions of many of the blades does not provide a direct correlation with later Mesolithic activity.

The continued use of small cores that would normally have been perceived to be exhausted could also account for the under-representation of blade cores in this collection. Alternatively, it is possible that a large proportion of the cores were taken off-site and reduction continued elsewhere. It is also interesting to note that, despite being worked to exhaustion, most cores had not been worked around the full circumference, and part of the cortical surface of the pebble survived. This characteristic may be partly determined by the size and shape of the pebbles selected for knapping, but could also be a bi-product of the method employed to stabilise the core during working.

3.3.2 Irregular waste

A proportion of the assemblage consisted of chunks and chips (9.4% of the total), this being the irregular waste that is the unintentional by-product of core reduction (table 2). Only one chunk weighed more than 10g (001 (m) at 30.6g), the relatively small size of the remainder suggesting that the initial stages of core reduction were undertaken elsewhere. However, evidence that there were concerns to maximise the use of the raw materials could mean that larger chunks were generally picked up and reused as cores (see 3.3.1). The chips are more likely to have been discarded in the immediate vicinity of the knapping floors, but the relatively low incidence of this material also seems to support the proposal that certain stages of core reduction was carried out away from the site.

With the exception of twelve residual fragments recovered from the ploughsoil, (001), no archaeological context contained more than two pieces of irregular waste. Consequently, this material does not provide any indication of the presence of *in-situ* knapping floors.

Weight (g)	**Number**	
0.1 – 1.0	6	**Total weight**
1.0 – 2.0	6	
2.0 – 3.0	2	123.9g
3.0 – 4.0	4	
4.0 – 5.0	2	
5.0 – 8.0	4	**Median weight**
8.0 – 10.0	3	
10.0 – 35.0	1	2.85g
Total	28	

Table 2: Irregular waste graded by weight.

[2] The latter figure is calculated only for blade, or blade and flake cores and thus discounts the significantly larger flake core 131 (a).

3.3.3 Flakes and blades

Unmodified flakes and blades form 66.7% of the total assemblage. The proportion of complete cores to unmodified flakes and blades is 1: 33, and the ratio of blades to flakes is 1: 3.3 (table 3). Pieces have been classified as blades on the basis of them exhibiting traits that are indicative of deliberate blade manufacture and also having a length to breadth ratio in the order of 2: 1 (table 4). Traits of blade manufacture include the creation of parallel-sided pieces, guiding ridges on the dorsal surface running parallel to the lateral margins, structured removal from curated cores and careful platform edge preparation. 'Blade-like flakes' is a less rigidly defined category that incorporates irregular elongated pieces manufactured using the same technologies that made blades.

A significant proportion of the unmodified flakes and blades were the product of blade technologies – a total of 45.1% of this material; comprising blades (23.2%), blade-like flakes (13.1%), or flakes that are the by-product of 'narrow flake' reduction technologies (8.8%). In addition, some of the smaller flakes are likely to been produced during the preparation and maintenance of the platform edge. Complete, unmodified blades range from 21mm to 55mm in length, and are relatively gracile, with most examples being less than 3mm thick. There are pieces representing all stages of core reduction, but very few examples result from the initial stage, which suggests that that this was generally undertaken away from the site (see 3.1.1.2).

	Primary	*Secondary*	*Tertiary*	**Total**	**%**
Blades	1	18	27	46	23.2
Blade-like flakes	-	13	13	26	13.1
Flakes	4	55	67	126	63.7
Total	5	86	107		
%	2.5	43.4	54.1		

Table 3: composition of the unmodified element of the assemblage (totals include 'utilised pieces').

The remaining complete flakes range in size from 79 x 49mm to examples as small as 12 x 12mm. A number of these flakes appear to be by-products of tool manufacture, including five pieces removed during the creation of bifacial tools (e.g. axes (382 (a), 605(b), 644 (a), 749 (a) & 1106 (h)), which indicates that this was an activity conducted at the site. Despite their proportions and lack of other diagnostic traits, it is still possible that some of the broader unmodified flakes were also generated by technologies that were primarily focussed upon the production of blades. However, it is likely that a significant quantity of this material represents the residue of later Neolithic and Bronze Age activity, when lithic technologies focussed upon the production of broader flakes.

Many of the flakes and blades, and some of the tools, still preserve the striking platform and associated bulb of percussion (184 pieces), both of which provide information about the methods and practices used in core reduction (figure 2A). The majority of the blades and narrow flakes have small or very small platforms, as do a proportion of the broader flakes. This indicates that percussion was carefully controlled and was directed toward the platform edge. The bulbs of percussion on these flakes are generally either diffuse (44 pieces, 23.9% of surviving bulbs) or very small and pronounced (31 pieces, 16.8%). The diffuse bulbs are indicative of direct

percussion with a soft hammer, such as a cylindrical piece of antler or dense wood. In contrast, the *very small, pronounced bulbs* are a product of indirect percussion, where the striking force of the hammer is directed through a punch probably made from an antler tine. This technique was particularly suited to blade production, as the pointed end of the punch served as an extremely accurate means of placing and directing force (Lord 1993). Many of the pieces with *small, pronounced bulbs* will also have been detached from the core by indirect percussion (70 pieces, 38.0%), but this category will have a degree of overlap with the flakes produced by hard hammer.

	squat flakes				'square' flakes			flakes						
Length: breadth ratio	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	
Number	4	4	10	10	9	21	10	9	13	5	11	10	4	
	blades							elongated blades						
Length: breadth ratio	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1
Number	9	7	3	8	1	5	1	3	2	3	-	4	2	2

Table 4: Unmodified flakes and blades graded by length: breadth ratios.

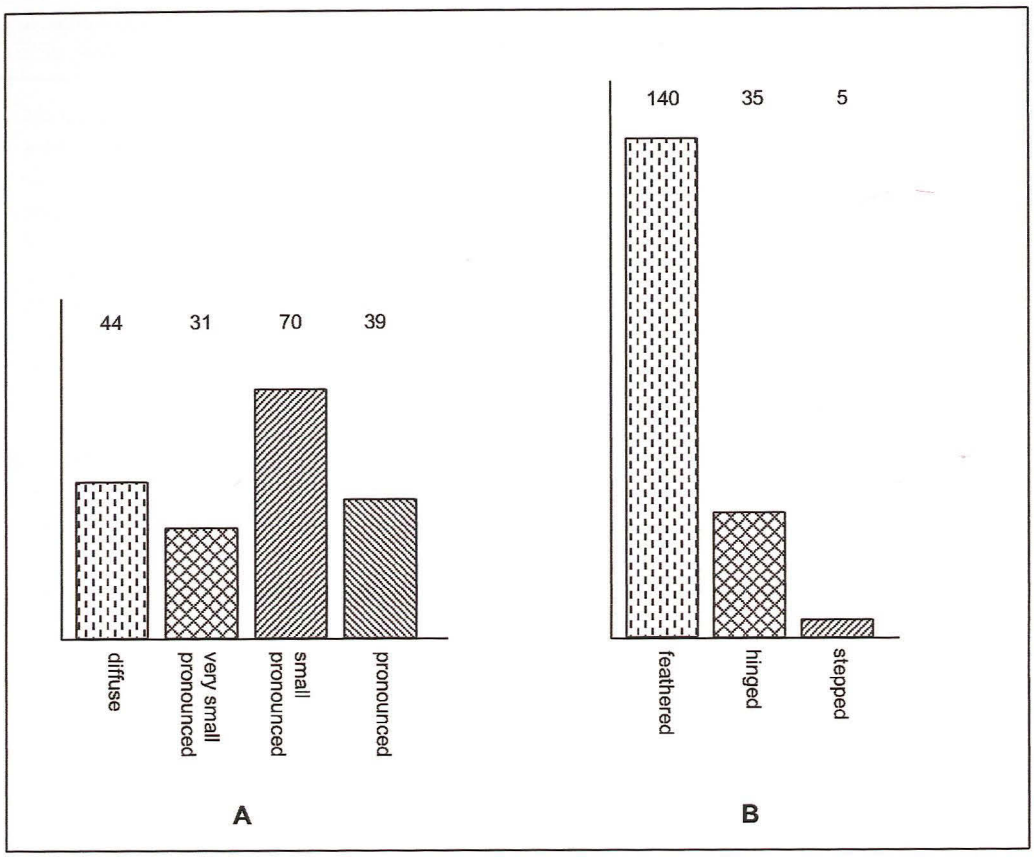

Figure 2: Attributes of flakes and blades (where known) – **A**: form of bulb of percussion; **B**: form of termination.

The hard hammer flakes tend to be thicker than those produced by other methods (39 pieces, 21.2%). They also have prominent bulbs of percussion and relatively large platforms, because it is more difficult to control and direct the percussive force of a hammerstone.

Many of the flakes and blades still have the distal end attached (180 pieces). This part of the artefact also provides information about aspects of core reduction, and complements the data obtained from the platforms and bulbs (figure 2B). The high incidence of feathered terminations in this assemblage again reflects a high level of control over the application and directing of force (140 pieces, 77.8% of surviving distal ends). Hinge and step fractures occur in much smaller numbers (35, 19.4%; 5, 2.8% - respectively) and they appear to form two relatively distinct groups. Many are associated with blade production and generally appear to represent failed attempts to detach blades or are small flakes that were created during the maintenance of the platform edge. The other group of flakes has pronounced bulbs and larger platforms, which suggest that they directly reflect the inherent difficulty of directing force with a hard hammer.

One of the unmodified blades and three of the unmodified flakes had areas of diffuse polish along the lateral flake margins (2.0% of the unmodified flakes and blades). This polish results from each of these pieces having been utilised, probably to cut or scrape organic materials. Other than the areas of use-wear, these pieces had not been modified and they are therefore likely to represent expedient usage (table 5).

3.3.4 Tools and retouched pieces

The collection contains 62 pieces that have either been transformed into tools with a distinct morphological classification (45 pieces, 15.2% of the assemblage) or have been slightly modified by minimal retouch (17 pieces, 5.7%) (table 5). When combined with the four pieces showing evidence of use-wear (see 3.3.3), 22.2% of the assemblage has been utilised. This represents a relatively high proportion of the collection; most commonly between 5% and 15% of each assemblage has been modified or used as tools. The presence of these items suggests that tool manufacture and use was a significant activity in the area investigated by the Phase 1A fieldwork. However, the situation may not be so straightforward, as the substantial quantities of this material could indicate that the composition of the assemblage is biased as a result of deliberate structured depositional practices.

Tool Type	**Quantity**	**Contexts**
Arrowheads	3	(325), (964), (1029)
Fabricator	2	(001), (713)
Knives	2	(110) (656)
Nosed piece	1	(749)
Piercer	2	(294), (909)
Polished stone axe	1 (+ flakes from 3 other axes)	(1108)
Scrapers	23	(001)x4, (012)x2, (443), (486), (666), (713), (740), (749), (763), (764), (823), (902), (920), (963), (1025), (1061), (1106)x2, (1181)
Serrated blades/b-l flakes	11	(012), (647), (666), (713), (749), (762), (766), (862), (909), (1107), (1148)
Miscellaneous retouch	17	(001)x2, (012), (315), (584), (666), (721), (728)x2, (762), (764), (861), (909), (931), (966), (1043), (1151)
Utilised blades	1	(1106)
Utilised flakes	3	(139), (749), (1106)
Total	**66**	

Table 5: Quantity and distribution of retouched and utilised pieces.

3.3.4.1 Scrapers

Scrapers form the principal tool type with 23 examples. All but one of these tools were manufactured upon flake blanks, the exception being a core scraper that utilised an exhausted type A2 blade core (001 (a)). The majority of the flakes modified into scrapers were relatively large, thick and robust (14 pieces), which in general are characteristics of early Neolithic scraper technology. These pieces take a variety of forms, the simplest having abrupt retouch along the distal end (001 (g), 486 (a), 763 (a), 823 (a), 1061 (a), 1106 (a) & 1106 (b)). The side and end scrapers are more extensively retouched, with secondary flaking extending along the distal end and down one lateral edge (740 (a), 920 (a) & 1181 (a)). The most elaborate of the scrapers manufactured on thick flakes are two horseshoe scrapers (666 (b) &713 (a)) and two disc scrapers (902 (a) & 963 (a)), each of which was retouched around three-quarters of its circumference. A few of the scrapers utilised fairly gracile flakes. Among these are another side & end scraper (1025 (a)) and three small thumbnail scrapers (001 (aa), 001 (az) & 443 (a)).

An examination of the scrapers indicates that they have been well utilised and suggests that their use formed an important element of the activities undertaken on this part of the site. Four of the scrapers were on broken flakes. The relationship between the truncation scars and the retouch suggests that at least two of these pieces either broke during use or were deliberately smashed prior to being discarded (749 (b) & 764 (a)). With the other two examples it is not clear whether they were manufactured on broken flakes or if they also broke during use (012 (b) & 1181 (a)). There were also four scrapers that had developed a diffuse polish along the ventral margin of the retouched edge, and this was sometimes associated with chipping or wear to the facets of the retouch scars (486 (a), 1025 (a), 1106 (a) & 1106 (b)). The latter modifications to the tools provide clear evidence that they have been used prior to discard.

3.3.4.2 Serrated blades and flakes

The collection also includes a number of serrated blades and serrated blade-like flakes (eleven pieces, 3.7% of the assemblage). Each of these pieces has a section of lateral margin that has been retouched to create a series of saw-like microdenticulations, but the extent of this retouch varies. Four of these tools have tiny notches extending almost the full length of one lateral edge, while the other lateral edge is either cortical or has some abrupt retouch possibly to create a backed edge (012 (a), 666 (a), 749 (a) & 762 (a)). There are another two pieces where the microdenticulations are restricted to one lateral edge, but each also has notable differences to the other single-sided pieces. The first is a trapezoidal blade-like flake, which only has a short section of denticulated edge that is situated at the (broader) distal end of one lateral edge (1107 (a)). The other piece has a semi-circular outline, having been extensively retouched along one lateral edge to produced a thick, distinctly convex, backed edge, while the other slightly concave lateral edge is serrated (1148 (a)).

The remaining five serrated blades have denticulations along sections of both lateral edges. Four pieces have one lateral edge where the spalls have been removed at very regular intervals, but the opposite edge has been modified by the removal of larger and more unevenly-spaced chips (647 (a), 766 (a), 862 (a), 909 (a). The other serrated blade has very regular notches along both lateral edges (713 (b)).

It is possible that the variations in form have a direct relationship to how these serrated blades were utilised. The examples that had backed or cortical lateral edges could have been hafted, either singly or as part of a contiguous row, to form a composite saw-like tool (Butler 2005, 130). Similarly, the largest and most finely worked piece, the crescentic 1148 (a), has some similarities to a single-piece flint sickle and may have been hafted in the same way (i.e. with the concave outer edge glued into the oblique angle between the stem and one branch of a forked-stick). It seems more likely that the pieces with modification to both lateral edges

would have been held between the thumb and forefinger. This method of use is particularly likely for the example that had abrupt, scraper-like retouch to the distal end (766 (a)), as the retouch would have created a backed surface that could be handled safely. Another piece had irregular removals from the distal end that would also have enabled the shorter edges to be gripped (749 (a)).

Two-thirds of the serrated blades had been modified by use, which suggests that they formed part of another activity that was commonly performed on this part of the site. Four pieces had worn and slightly rounded retouch scars along the microdenticulate edge (666 (a), 713 (b), (1107 (a) & 1148 (a)), three of these items also having small areas of polish along the lateral margin. A further three pieces had a similar polish that resulted from abrasion during use (012 (a), 766 (a) & (909 (a)).

3.3.4.3 Arrowheads

There are three arrowheads in the collection. One example represents the medial fragment of a deliberately truncated flake (1029 (a)), which has abrupt retouch along the truncation scars, thereby creating a 'type b' petit tranchet projectile point (Green 1980, 101).

The other two arrowheads are both barbed & tanged. The first has been heavily burnt and has lost its tip, one barb and the tang (325 (a)), but the surviving portion suggests that it was a 'Green Low type'. The other example has lost a barb, but is otherwise complete and appears to be a 'Sutton type b(g)' (964 (a) - SF 6).

3.3.4.4 Polished stone tools

The assemblage contains a large fragment of a ground and polished stone axe (Group VI - 1108 (a), SF9). The complete axe would have been teardrop-shaped, with the cutting edge at the broader end, and flat facets along both lateral edges. Although the surface has been ground, the butt end still retains several shallow flake scars that were never polished out of the preform. Shallow scratches from the polissoir extend right across the surface, but these striations are more pronounced and have a slightly different orientation toward the cutting edge. This variation raises the possibility that the axe may have been damaged during use and was then reground to create a new cutting edge. Subsequently, a small flake was detached from one end of the cutting edge, again probably during use. The opposite half of the cutting edge and the lower part of the lateral edge has also been detached. Weathering to the resultant scar suggests that this damage occurred in antiquity and it either represents serious accidental damage that resulted in the axe being discarded or alternatively, it could be deliberate ritual destruction of the object prior to some form of structured deposition.

In addition to the large fragment of a stone axe, there are also three flakes that have been detached from other ground and polished stone tools. Two of these pieces were found in context **(294)**. One is a flake of fine-grained greenstone, which has probably been detached from another Group VI axe (294 (a), see also 3.1.2). The other is a flake of creamy-brown opaque flint, which has a glossy polish on its dorsal surface (294 (b)). The third flake, a fragment of very fine-grained pale to mid grey stone, was recovered from **(964)**.

3.3.4.5 Other tools and retouched pieces

Minor components of the assemblage include two fabricators manufactured on rod-like flakes. One of these artefacts has retouch along both lateral edges, with careful working around the distal end to create an asymmetric rounded tip (713 (c)). It also has thinning of the proximal end, which appears to have created a small tang for hafting. The lateral margins exhibited evidence of use-wear, but abrasion was less distinct around the distal end. The other fabricator is a relatively short implement that has been burnt to such an extent that it is no

longer possible to determine whether it was utilised (001 (j)). Two piercers were also recovered. One of these items is manufactured on a blade-like flake that has been abruptly retouched around the distal end to create a rounded projection 8mm wide at the base and 6mm long (294 (m)). The other piece utilises the medial and distal fragment of a blade with a pointed distal end (909 (b)). The latter has been modified by abrupt retouch to create a projection with a triangular cross-section. Both piercers exhibit evidence of use-wear.

One of the most skilfully worked pieces from the entire collection is a knife manufactured on a large, broad blade (656 (a), SF3). This piece has acute retouch along both lateral edges, with semi-abrupt retouch around the distal end. Although neither edge has been ground, this piece has similar proportions and morphology to the polished edge knives of middle to late Neolithic date. Another unusual item is the 'nosed-piece' recovered from **(749)**. It consists of a fragment of a relatively gracile flake that has been very carefully retouched along the distal end and the adjacent portions of both lateral edges, in order to create three straight edges with distinct angles where they intersect. One of these junctions forms the 'nosed' projection, which shows signs of use-wear.

Retouch has been used in a more ad hoc manner to modify 16 flakes and a piece of irregular waste. In general, the retouch is limited to one lateral edge of each flake and in most cases is either acute or semi-abrupt, suggesting that these pieces were used as crude flake knives. Three of these items show evidence of use related abrasion along one edge (909 (c), 931 (c) & 764 (b)), while a fourth piece has use-wear and an associated diffuse polish along both lateral margins (1151 (a)).

3.3.4.6 Saddle quern

A complete saddle quern (lower stone) was recovered from **(294)** (SF 8) - its dimensions are 332mm maximum length, 182mm maximum width, 147mm maximum thickness, and it was manufactured from a piece of Millstone Grit (see 3.1.2). The grinding surface is distinctly concave and at its centre lies 22mm below a plane connecting the two ends. This surface is worn and abraded, and is marked with numerous striations. The majority of these scratches run longitudinally and were presumably created when fragments of coarse grit became detached and were dragged across the surface during use.

Although the underside is more roughly finished, four of the five surfaces lack angular facets. This could indicate that they represent the virtual unmodified outer surface of an erratic boulder. Alternatively, this smoothing could be the result of post-depositional weathering, with the quern having been deposited upon, and thus protecting, the more irregular lateral edge. The lateral edges and one end of the quern are almost vertical, but the other end rises at c. 30° to the horizontal. An angular scar indicates that one corner of the grinding surface was damaged in antiquity. A smaller flake, detached from the centre of one lateral edge of the grinding surface, represents recent damage that may have occurred during excavation.

4.0 Dating

4.1 Mesolithic

There is little explicit evidence of Mesolithic activity within the area investigated during the Phase 1A fieldwork. The assemblage does not contain any burins or microliths, but there are a significant number of blades that have microlithic proportions. However, the discovery of so many small blades does not provide unequivocal evidence of a later Mesolithic presence. It has been noted that the raw material consisted of pebbles from secondary deposits, which were probably imported onto the site (see 3.3.1). The form of these raw materials would have restricted the size of cores and flakes, which combined with the limited supply, would have

encouraged the reduction of the blade cores until they were extremely small. As a result, the size of the blades is partly conditioned by the form and availability of flint rather than reflecting chronological variation in lithic technology. Consequently, a significant proportion of the material that was manufactured using blade technologies has been categorised as later Mesolithic/early Neolithic (89 pieces) or Mesolithic/early Neolithic (5 pieces), because it would be inappropriate to use size as a means of differentiating between the products of these successive periods.

4.2 Early Neolithic

The evidence for an early Neolithic presence on the site is plentiful, with both the lithic and the ceramic assemblages containing significant quantities of material from this period (table 6). The collection includes 77 pieces that have been identified as early Neolithic, another 94 pieces that are of Mesolithic to early Neolithic date (see 4.1) and one piece that was probably manufactured in the early to middle Neolithic period. In part, the evidence for an early Neolithic presence is determined by the fact that there are no clear indications of later Mesolithic activity, despite the fact that 30.1% of the whole assemblage is a product of blade core reduction (see 3.3.3). In contrast, many of the tools have morphological characteristics that indicate they were produced during the early Neolithic, which in turn suggests that most, if not all of the blades were also manufactured at this time.

Accurately dating scrapers is difficult, because they were a component of lithic toolkits throughout prehistory and morphological variation is likely to reflect functional differences as much as chronological change. However, scrapers recovered from early Neolithic sites do have a number of common traits. They tend to be larger than scrapers produced in either the Mesolithic or the early Bronze Age and generally utilise thicker flakes or blades than the pieces selected during the later Neolithic. The flakes used could have been struck with both soft or hard hammer direct percussion, and frequently exhibit evidence of a prepared platform or even dorsal scars indicating that they were removed from a blade core. Additionally, it is common for the dorsal surface of these flakes to either have a sizable area of cortex or to have a large, dished, negative flake scar so that they can be securely gripped (Butler 2005); there are no clear indications that early Neolithic scrapers were hafted. Some or all of these attributes were exhibited by 14 of the 23 scrapers (60.1%) that were recovered during the Phase 1A fieldwork; these comprised seven end/extended end scrapers (001 (g), 486 (a), 763 (a), 823 (a), 1061 (a), 1106 (a) & 1106 (b)), three side & end scrapers (749 (b), 920 (a) & 1181 (a)), two horseshoe scrapers (666 (b) & 713 (a)), and two disc scrapers (902 (a) & 963 (a)). This combination of both end and, side and end scrapers is a common feature of Neolithic assemblages. Two other scrapers utilised all or part of a type A core that had produced very small blades (core scraper 001 (a) & side & end scraper 740 (a)). Given the extent to which core reduction continued (see 3.3.1), it is not possible to determine whether these pieces are of later Mesolithic or early Neolithic date.

Saw-like serrated blades are found in Mesolithic and early Neolithic toolkits. The pieces recovered from West Deeping have microdenticulate edges, which are a feature of either early Mesolithic or early Neolithic assemblages; the later Mesolithic serrated blades generally have larger denticulations created by semi-abrupt retouch. Notches on the early Mesolithic microdenticulates are almost always created from the dorsal side of the blade (Butler 2005). In contrast, all eleven examples in the Phase 1A collection clearly showed that percussion was from the ventral side, which is an indicator of an early Neolithic technology. This factor, combined with the absence of any artefacts that can be clearly attributed to the early Mesolithic, again suggests an early Neolithic date for this component of the assemblage.

Context No.	Pottery type	No. vessels	Ceramic date range	Lithic technology	No. pieces	Lithic date range
012	Peterborough	1	3400-2500BC	L.Mes/E.Neo	1	6500-3000BC
				E.Neo	1	4000-3000BC
				L.Neo/EBA	2	3000-1600BC
013	Collared Urn	1	1800-1700BC	L.Mes/E.Neo	1	6500-3000BC
172	Grooved Ware	1	3100-2600BC	L.Mes/E.Neo	1	6500-3000BC
294	E. Neo	7	c. 3500BC	L.Mes/E.Neo	18	6500-3000BC
	Peterborough	2	3400-2500BC	E.Neo	2	4000-3000BC
	Beaker	1	2600-1800BC			
486	Beaker	1	2600-1800BC	E.Neo	1	4000-3000BC
565	Collared Urn	1	1800-1700BC	E.Neo	1	4000-3000BC
627	Peterborough	1	3400-2500BC	E.Neo	1	4000-3000BC
666	Grooved Ware	1	3100-2600BC	L.Mes/E.Neo	1	6500-3000BC
				E.Neo	3	4000-3000BC
713	Peterborough	1	3400-2500BC	E.Neo	2	4000-3000BC
				Neo	1	4000-2200BC
728	Peterborough	1	3400-2500BC	E.Neo	1	4000-3000BC
				Neo	1	4000-2200BC
740	Peterborough	2	3400-2500BC	Mes/E.Neo	1	8000-3000BC
764	Grooved Ware	1	3100-2600BC	L.Mes/E.Neo	2	6500-3000BC
				E.Neo	1	4000-3000BC
909	E. Neo	5	c. 3500BC	L.Mes/E.Neo	2	6500-3000BC
				E.Neo	5	4000-3000BC
932	E. Neo	1	c. 3500BC	L.Mes/E.Neo	1	6500-3000BC
964	Peterborough	1	3400-2500BC	E.Neo	1	4000-3000BC
				EBA	1	2200-1600BC
1029	Beaker	1	2600-1800BC	L.Mes/E.Neo	2	6500-3000BC
				E.Neo	2	4000-3000BC
				L.Neo	1	3000-2200BC
1042	Collared Urn	3	1800-1700BC	L.Mes/E.Neo	1	6500-3000BC
				E.Neo	1	4000-3000BC
1043	Collared Urn	3	1800-1700BC	L.Mes/E.Neo	3	6500-3000BC
1106	E. Neo	11	c. 3500BC	L.Mes/E.Neo	2	6500-3000BC
				E.Neo	3	4000-3000BC
1107	E. Neo	1	c. 3500BC	L.Mes/E.Neo	3	6500-3000BC
				E.Neo	4	4000-3000BC
1108	E. Neo	2	c. 3500BC	E.Neo	2	4000-3000BC
1142	Peterborough	1	3400-2500BC	E.Neo	1	4000-3000BC
1148	Peterborough	2	3400-2500BC	E.Neo	1	4000-3000BC
1151	Peterborough	6	3400-2500BC	Mes/E.Neo	1	8000-3000BC
				E.Neo	1	4000-3000BC
1153	Peterborough	1	3400-2500BC	L.Mes/E.Neo	1	6500-3000BC
1167	Peterborough	1	3400-2500BC	L.Mes/E.Neo	4	6500-3000BC
1170	Collared Urn	1	1800-1700BC	E.Neo	1	4000-3000BC
1195	Peterborough	3	3400-2500BC	E.Neo	1	4000-3000BC
1210	Peterborough	2	3400-2500BC	L.Mes/E.Neo	1	6500-3000BC

Table 6: Comparison of the date given to archaeological contexts that contained lithic and ceramic artefacts that both had datable traits.

The polished stone axe recovered from (1108) is also likely to have been manufactured during the early Neolithic, as the majority of Group VI axes were produced during this period. However, radiocarbon dates obtained for deposits associated with these axe blades indicate that production may have started as early as 4500 BC (e.g. Chamberlain 2001) and probably continued for around 2000 years (i.e. into the late Neolithic – Edmonds 2004). The continued circulation of polished stone axes beyond the later Neolithic is also possible, as they may have been viewed as intrinsically valuable heirlooms. Consequently, the three flakes from polished stone axes do not necessarily indicate a date in the early Neolithic. Indeed, the two flakes recovered from (294) were found in association not only with early Neolithic pottery,

but also with Peterborough Ware and Beaker ceramics that would have been manufactured during the later Neolithic and possibly even into the early Bronze Age (table 6).

4.3 Later Neolithic and early Bronze Age

Only a small proportion of the assemblage exhibits clear affinities with late Neolithic and early Bronze Age lithic technologies. A total of 16 pieces have been assigned to this period of activity; one to the late Neolithic, two to the early Bronze Age and the other thirteen remain as undifferentiated products of later Neolithic/early Bronze Age industries; with the exception of a few specific tool types, the nature of lithic technology does not change during this time.

There were only three projectile points in the collection and all of these pieces belong to this later phase of activity. The petit tranchet (chisel) arrowhead recovered from (1029) is of a relatively simplistic transverse form that seems to occur initially in the Mesolithic (7th millennium), but only in small numbers. There is little direct evidence for continuity into the Neolithic, and it seems most likely that the Neolithic examples were developed independently as a variation of the chisel-ended form. Some these arrowheads have been found in association with early Neolithic pottery (Grimston Ware), but the majority have been recovered from later Neolithic contexts. They are predominantly found in association with Grooved Ware and early Beakers and it seems likely that their manufacture ceased prior to the end of the second millennium B.C. (Green, 1980, p. 113-114). The two barbed and tanged arrowheads are possibly slightly later in date (325 (a) & 964 (a)). The earliest examples appear c. 2500 BC and the type is principally associated with Beaker cultural material, being the only form of arrowhead to be found in Beaker funerary deposits. However, this type of projectile point continues to be manufactured in quantity throughout the early Bronze Age.

The thumbnail scrapers are characteristic of another tool type that initially appears in the late Neolithic, coincident with the introduction of Beakers, although they are more commonly found among early Bronze Age assemblages (Edmonds, 1995, p. 141). None of the three examples that were found are particularly finely worked, but the most regular piece (443 (a)) has invasive scale flaking along its distal end, which suggest that it was created during the early Bronze Age. Two other scrapers also exhibit morphological traits indicative of late Neolithic or early Bronze Age industries. One is a side and end scraper (1025 (a)), the other a side scraper (012 (b)), both of which were manufactured on relatively gracile flake blanks.

5.0 Context of deposition

The absence of adequate contextual data for the Phase 1A fieldwork at West Deeping limits the breadth and complexity of any discussion of the nature of human activity on this part of the site. These problems are particularly acute given the inability to identify any spatial inter-relationships or chronological succession. Consequently, this discussion will be limited to a consideration of interesting traits that can observed either in the lithic assemblage alone, or in a combination of different materials recovered from a single context.

5.1 Earlier Neolithic ritual practices and activity zones

A number of archaeological contexts contained interesting groups of lithic artefacts, which in some instances were accompanied by ceramics or animal remains. While this material could represent the residues of everyday activity, the possibility that it represents the remains of deliberately constituted structured deposits should also be considered[3]. One of the pits, **(766)**,

[3] The Phase 1A fieldwork identified a number of features that could have been associated with ritual activity. They include an arc of five large sub-circular pits that could represent the remains of a wooden

that contained a large aurochs horn core also held four pieces of worked flint. Among the latter was a finely made serrated blade, with use-wear polish along the microdenticulate edge, but little evidence of post-depositional damage This suggests that the pit is probably an earlier Neolithic feature (4th millennium BC).

With the exception of the ploughsoil, **(001)**, the largest collection of lithic artefacts was recovered from **(294)**. This material consists of the saddle quern and 22 pieces of knapped stone (7.4% of the assemblage). The latter included two flakes detached from polished stone axes, a piercer and 14 blades or blade-like flakes (four of which exhibited evidence of use-wear). It is highly significant that the two polished flakes were detached from different axes and thus seem to be token deposits rather than the results of a considered attempt to rework a damaged axe-head. Similarly, evidence from a number of other sites indicates that saddle querns were frequently utilised as ritual deposits throughout the Neolithic and Bronze Age (Buckley & Ingle 2001). This context also contained animal bone, three fragments of fired clay and 57 sherds of pottery representing twelve different vessels; seven early Neolithic, two Peterborough Ware, a single piece of Beaker and two classified as 'prehistoric' (Allen 2005). All of the diagnostic attributes of the lithic material suggested a later Mesolithic or early Neolithic date, with the latter part of this date range being indicated by the two polished flakes. In combination with the pottery, it would appear that the material in **(294)** probably represents a deposit made in the second half of the 4th millennium BC[4]. The varied composition of the deposit could indicate that it represents the residues of ritual activities that involved feasting – there were six pieces of thermally altered flint suggesting the presence of other burnt material from hearths.

Eight pieces of struck flint were recovered from context **(1106)**. This material included two end scrapers, a utilised flake and blade (all of which had a diffuse polish as a result of use) and there was also a thinning flake possibly created during the manufacture of a bifacial tool. All of these lithic items were broadly indicative of an early Neolithic date. This proposal is supported by the ceramic material from the context, which consists of fragments from eleven different early Neolithic vessels (Allen 2005). Sherds from similar early Neolithic vessels were also recovered from **(1107)**, **(1108)** and **(1109)**, which has led the pottery specialist to query whether these could represent different strata within the same feature. This is an interesting proposal given the nature of the associated lithic material in these other contexts. Only seven pieces of knapped flint were discovered in **(1107)** and a mere two pieces of worked stone came from **(1108)**. However, the latter included the large fragment of Group VI polished stone axe, while among the former were a serrated blade and another blade both exhibiting signs of use-wear; all these items also date to the early Neolithic.

There are some indications that another group of consecutively numbered contexts might be similarly related, either as successive fills of the same feature or distinct features forming part of the same structure. Although each deposit contained only a few pieces of flint, a proportion of this material consisted of tools or utilised flakes. There was a serrated blade and a retouched flake in **(762)**, a broken scraper and another retouched flake in **(764)**, a serrated blade in **(766)** and, one of only two pieces in **(763)** was an early Neolithic end scraper. All of these contexts also contained skeletal material from aurochs, as well as small quantities of pottery; nine sherds of Grooved Ware in **(764)** and undifferentiated prehistoric fragments in the others.

Several other contexts also contained relatively high proportions of tools or utilised pieces, but the overall quantities and variety of artefacts is less marked than in the examples considered above. Eight pieces of worked flint were found in **(666)**, including a serrated flake,

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hengiform monument, a group of pits that each contained a single bovine horn core and another example, **(668)**, held an aurochs skull partially covered by a large piece of grooved ware pottery.

[4] This dating assumes that the single sherd of Beaker pottery is intrusive.

a horseshoe scraper and a retouched flake. Additionally, there were two chunks of flint, both of which had been burnt. The diagnostic attributes of this lithic material suggest an early Neolithic date, but it was associated with eight sherds from a single Grooved Ware vessel. Consequently, a date at the very end of the 4th millennium BC or early in the 3rd Millennium BC seems likely.

There were ten pieces of flint in (909) including a serrated flake, a piercer and a retouched flake. Associated ceramic material came from five different early Neolithic vessels and the context also contained animal bone. Context (713) only contained four pieces of worked flint, but three of these were tools - a fabricator, a serrated flake and a horseshoe scraper. This deposit also contained two sherds of Peterborough Ware and animal bone. Seven pieces of struck flint were found in (749), including the unusual 'nosed-piece', a broken scraper, a serrated flake and two pieces exhibiting evidence of use-wear. There was some associated animal bone, but no ceramic material.

Overall, the collection of early Neolithic tools was dominated by two distinct types, namely scrapers and serrated blades. The scrapers suggest that some type or types of domestic processing were carried out at the site; possibly wood and bone working or the preparation of hides. Similarly, the microwear analysis of serrated blades found at other sites suggests that they were used to saw through relatively soft organic materials, like the stalks of bracken-type plants and green wood (Butler 2005, 110). However, the relatively low total number of these tools means that the overall significance and frequency of these activities remains unclear

5.2 Late Neolithic and early Bronze Age activity

Only 16 pieces were identified as products of later Neolithic and early Bronze Age lithic technologies, but among this small collection were three thumbnail scrapers and three arrowheads. While none of these tools is indicative of a single specific activity, it is interesting to note that both the scrapers and the arrowheads represent tool types that are frequently found in funerary deposits dating to the second half of the 3rd millennium BC and earlier 2nd millennium BC. It is therefore interesting that the pottery assemblage included fragments of at least six Beakers and the remains of twelve Collared Urns, all of which are most likely to have been derived from disturbed burials, which were possibly sited in a ploughed out round barrow (Allen 2005).

While it is accepted that the arrowheads could have been lost during hunting, it is notable that there are no projectile points predating this putative funerary activity. Barbed and tanged arrowheads, of which there are two, are particularly associated with Beaker funerary deposits (e.g. the grave of the 'Amesbury Archer' on Salisbury Plain contained 15 of these arrowheads – Fitzpatrick 2003). Consequently, it is of interest that 325 (a) had been very heavily burnt, as this suggests that the piece was not a lost projectile. Rather, it seems more likely that the arrow/arrowhead could have formed part of a funerary assemblage that was burnt on a pyre and was potentially buried with a cremation. The other barbed and tanged arrowhead, 964 (a), did not have an impact fracture at its tip, which possibly indicates that it was never fired from a bow.

Overall, the relative absence of lithic material from this period raises the possibility that human activity at this site was not continuous from the early Neolithic to the Bronze Age. It seems more likely that the Neolithic domestic and/or ritual area was abandoned quite early in the 3rd millennium BC, with funerary activity commencing several centuries later in the third or fourth quarter of the millennium.

6.0 Recommendations

It is recommended that lithic analysis is also conducted upon any further struck or modified lithic materials that have been extracted from processed environmental samples. The analysis of the assemblage from the Phase 1A suggests a relatively high level of activity in the area of Rectory Farm during the early Neolithic; probably during the second half of the 4th millennium BC and extending into the early 3rd millennium BC. Any additional lithic material may help to refine this hypothesis, refine theories regarding the nature of core reduction strategies at this time and could also provide dating for more archaeological contexts.

There should be petrographic analysis of the non-flint lithic materials (the axe, polished stone flakes and saddle quern) in order to establish probable sources for these pieces. This would help to determine some of the trading relationships mobilised by the early Neolithic people who visited or dwelt upon this site.

Microwear analysis of the tools and utilised pieces that have developed a polish along their flake margins could provide an indication of the nature and range of activities undertaken at this site during the early Neolithic period.

A number of the pieces from this assemblage should be illustrated. These items would be selected after consultation with the project manager. It is anticipated that these drawings would need to be checked and an accompanying descriptive catalogue produced.

It is anticipated that the full analysis of other artefacts and materials recovered from the site will provide additional information that will have a bearing upon the lithics analysis. As such it is recommended that this data should be integrated into any final report.

An examination and consideration of comparable material from this area could provide a better understanding of this assemblage and help to situate it within a regional context.

Given the importance of the earlier prehistoric pottery from the site (Allen 2005), it is recommended that a report on this collection of lithic material is also published in order to provide complementary data.

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Catalogue of worked and modified lithic materials - Key to abbreviations:

Type	(P)	Primary
	(S)	Secondary
	(T)	Tertiary
Date	Mes	Mesolithic
	L.Mes	Late Mesolithic
	E.Neo	Early Neolithic
	Neo	Neolithic
	L.Neo	Late Neolithic
	BA	Bronze Age
	EBA	Early Bronze Age
Size	comp	complete – (if so, dimensions given*)
	incomp.	Incomplete
Recort	(recorticated)	Yes
		Partly
Burnt		Yes
	poss	Possible
Retouch		yes
	u/w	use-wear
	poss	possible
	prob	probable
Platf	(platform)	
	abrad	abraded
	comp	complex
	cort	cortical
Bulb	diff	diffuse
	pron	pronounced
	sm.pr	small pronounced
	v.sm.pr	very small pronounced
Term	(termination)	
	feath	feathered
	hinge	hinged
	step	stepped
P-dep damage	(post-depositional damage)	
		Yes
		No
Comments	dist	distal
	frag	fragment
	irreg	irregular
	lat	lateral
	poss	possible/possibly
	prob	probable/probably
	prox	proximal
	v	very

*Measurements are given only for complete flakes. The first figure relates to the maximum length, measured perpendicular to the striking platform; the second to maximum breadth, measured at a right angle to the length, and the third to maximum thickness. Figures for the percentage of cortex relate to the total area of the dorsal surface and platform.

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
001 (a)	core scraper (S)	L.Mes/E.Neo	13.1	26x21x 22			yes				no	v small type A2 microlithic blade core (9+ blades); abrupt retouch around c. 60% of platf edge; thin, rounded & abraded cortex (40%); dark brownish-grey semi-trans flint
001 (b)	flake (S)	L.Mes/E.Neo	6.4	44x24					diffuse	feath	yes	flake from type A blade core; small area thin abraded cortex (<5%); signif damage to margins; dark brownish-grey semi trans flint, with bubbly opaque incls
001 (c)	flake (S)	E.Neo	8.2	42x26			prob	flat	diffuse	hinge	yes	flake from type B blade core; small area thin abraded cortex (<5%); some damage to margins, but serial removal of v small spalls from prox half 1 lat edge suggests deliberate retouch; greyish caramel-brown semi trans flint, with bubbly opaque incls
001 (d)	core (S)	L.Mes/E.Neo	17.3	34x31x 16								small type C pebble core producing small blades and flakes (12+); thin, rounded & abraded cortex (25%); brownish-grey trans flint
001 (e)	core (S)	L.Mes/E.Neo	13.9	15x36x 28								v small type A2 core producing microlithic blades and flakes (9+) - appears to utilise thick flake removing end of rounded pebble; thin, rounded & abraded cortex (45%); dark brownish-grey semi-trans flint, with caramel opaque incls
001 (f)	flake (S)	L.Mes/E.Neo	9.3	36x25	partly			flat	diffuse	feath	yes	flake from type A blade core; area of thin cortex (recortication) (25%); signif damage to margins; mid greyish-brown opaque flint
001 (g)	end scraper (T)	E.Neo	16.6	46x29	partly		yes				yes	thick, rounded b-l flake with abrupt retouch at dist end; platf detached in antiquity; signif post-dep damage; greyish-caramel opaque flint
001 (h)	retouched flake (T)	L.Neo/EBA	16.1	33x40			yes	flat	pron			prox frag of large flake; semi-abrupt retouch on dorsal side of 1 lat edge, with acute invasive retouch on ventral side of other lat edge; although flake is broken/truncated, the extent of retouch suggests it is a complete tool - possibly a backed knife; dark brownish-grey trans flint
001 (i)	flake (P)	L.Mes/E.Neo	17.4	49x31				flat	diffuse	step	yes	large b-l flake with thin, rounded & abraded cortex (>95%); damage to margins; dark brownish grey trans flint
001 (j)	fabricator (T)	Neo	14.9	51x19		yes	yes	flat	diffuse		yes	relatively short bar-like implement, with triangular cross-section, with semi-abrupt - abrupt retouch along 1 lat edge and abrupt retouch to dist end; burnt with granular structure and some damage to flake margins; flint
001 (k)	core frag (S)	E.Neo	27	no	partly							frag from type C blade & flake core (4 platfs); thin, rounded & abraded cortex (40%); brownish grey trans flint
001 (l)	core rejuvenation flake (T)	L.Mes/E.Neo	6.8	35x16						feath		flake with triangular cross-section - poss from type A blade core; struck at 90 degrees to previous removals to take off bulbous projection just below platf edge; brownish-grey trans flint
001 (m)	chunk (S)		30.6	no	partly							frag from pebble - thin, rounded & abraded cortex (65%); some flake surfaces survive; brownish-grey semi-trans

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												flint
001 (n)	b-l flake (T)	L.Mes/E.Neo	2.7	31x16					diffuse	feath	yes	b-l flake with prepared platf edge, prob removed from type A core producing small/microlithic blades; poss retouch to lat margins, but more likely to be post-dep damage - platf detached; greyish-brown trans flint
001 (o)	b-l flake (S)	E.Neo	6.2	no				flat	sm.pr	feath	yes	crested b-l flake from core producing large blades; small area thin abraded cortex(<5%); signif damage to flake margins; greyish-brown trans flint
001 (p)	blade (T)	L.Mes/E.Neo	1.7	no							yes	small blade, with signif damage to margins and platf & dist end detached; prob from type B1 blade core; mid brown trans flint
001 (q)	blade (S)	L.Mes/E.Neo	1.1	no						feath		med & dist frag of small blade, prob from type A core; small area thin abraded cortex (<5%); brownish-grey trans flint
001 (r)	b-l flake (T)	L.Mes/E.Neo	1.7	30x14				comp	diffuse	feath	yes	irreg b-l flake from type B core; slight damage to margins; dark grey trans flint
001 (s)	blade (S)	E.Neo	1.6	no								med frag of large blade from type A core; small area thin abraded cortex (<5%); greyish-brown trans flint
001 (t)	flake (P)		3.1	26x17				flat	sm.pr	feath		small flake from pebble core, with thin, rounded & abraded cortex (>90%); brownish grey trans flint
001 (u)	b-l flake (S)	L.Mes/E.Neo	8	40x21				comp	sm.pr	hinge		rod-like b-l flake from type B2 core; thin abraded cortex (55%); greyish-brown trans flint
001 (v)	b-l flake (S)	L.Mes/E.Neo	3.4	no		yes		cort	v.sm.pr		yes	prox frag of b-l flake - poss from type A core; thin abraded cortex ; granular structure; greyish-brown trans flint
001 (w)	b-l flake (S)	L.Mes/E.Neo	1.4	no						feath		dist frag small b-l flake; thin abraded cortex; brown trans flint
001 (x)	flake (S)	Neo	2.4	no	partly			comp	pron			prox frag of hard hammer flake; small area thin abraded cortex (<5%); mottled grey & brown opaque 'bubbly' flint
001 (y)	b-l flake (T)	Neo	3.4	no	partly			comp	pron		yes	prox & med frag of hard hammer b-l flake from type B2 core; mottled grey & brown 'bubbly' flint
001 (z)	flake (S)	E.Neo	4.2	39x21				cort	v.sm.pr	feath		irreg flake from type C pebble core - detached by indirect percussion; thin, rounded & abraded cortex (40%); brownish-grey trans flint
001 (aa)	thumbnail scraper (T)	L.Neo/EBA	3.9	20x23			yes	flat	sm.pr		no	small sub-circular flake with serial invasive retouch along dist end and extending part way up 1 lat edge; dark brownish-grey trans flint
001 (ab)	flake (T)		3	26x27	partly			flat	pron	feath	no	irreg flake from type B3 core - removing scar of hinge flake taken from other platf; pale brownish-grey opaque flint
001 (ac)	flake (T)	Neo	4.4	24x40	partly			comp	pron	hinge		irreg hard hammer flake - prob from discoidal core; dark greyish-brown trans flint
001 (ad)	flake (T)	Neo	3.7	no				comp	sm.pr		yes	prox & med frag of hard hammer flake - prob from discoidal core; greyish-brown trans flint
001 (ae)	flake (S)	E.Neo	2.8	no	partly			flat	sm.pr		yes	prox & med frag of irreg flake prob from blade core; thin rounded & abraded cortex (30%); greyish-brown trans flint
001 (af)	flake (T)	E.Neo	2	18x26				flat	v.sm.pr	feath		squat irreg flake from type B2 core - previous removals

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												were blades; reddish-brown semi-trans flint
001 (ag)	flake (S)		1.4	no				flat	pron	hinge	yes	prox end of irreg hard hammer flake; thin abraded cortex; brownish-grey trans flint
001 (ah)	flake (S)		1.5	20x19				cort	v.sm.pr	feath	yes	small irreg flake from type B2 core - detached by indirect percussion; thin abraded cortex (35%); damage to margins; greyish brown trans flint
001 (ai)	flake (S)	L.Neo/EBA	1	17x19				flat	sm.pr	hinge		small flake, poss with abraded platf - v small invasive flakes detached from dorsal surface; thin abraded cortex (60%); dark grey trans flint
001 (aj)	flake (S)		3.1	no				cort	sm.pr		yes	prox & med frag of irreg flake - poss from type B2 core; thin abraded cortex (<5%); brownish-grey trans flint
001 (ak)	flake (P)	L.Mes/E.Neo	2.2	26x20	yes			flat	diffuse	feath		small cortical flake with some platf edge prep; thin abraded cortex; flint
001 (al)	flake (T)		2.8	no				comp	sm.pr		yes	prox frag of flake, poss deliberate truncation ; brownish-grey semi trans flint
001 (am)	flake (T)		5.6	30x23	partly			flat	sm.pr	feath	yes	irreg flake from type C core; slight damage to flake margins; greyish-brown semi-trans flint
001 (an)	flake (T)		1.6	25x20				comp	diffuse	feath	yes	small irreg thinning flake, prob from latter stages of tool manufacture; greyish-brown trans flint
001 (ao)	flake (T)		1.6	no				flat	sm.pr		yes	prox frag of small flake with damage to surviving margins; brownish-grey trans flint
001 (ap)	b-l flake (T)	E.Neo	4	31x21				abraded	diffuse	step	yes	irreg b-l flake, poss from type A core; damage to margins; greyish-brown trans flint
001 (aq)	flake (T)		1.8	11x21				flat	diffuse	feath	yes	small, squat flake, with some evidence of platf edge prep - poss type B2 core; dark brownish-grey trans flint
001 (ar)	flake (T)	E.Neo	5.3	28x22	partly			abraded	diffuse	hinge	yes	irreg flake detached from blade core (poss type A), with evidence of platf edge prep; caramel brown semi trans flint
001 (as)	flake (S)		1.3	14x19				cort	diffuse	feath	yes	small irreg flake, with scars of small hard hammer removals on dorsal surface; brownish-grey trans flint
001 (at)	flake (T)		1.5	13x18				flat	v.sm.pr	hinge	yes	small irreg flake from type C core; greyish-brown trans flint
001 (au)	flake (T)		4.1	17x26				flat	sm.pr	feath	yes	irreg flake, poss from type B core; dark grey semi-trans flint
001 (av)	flake (T)	L.Mes/E.Neo	1	18x15	partly			flat	diffuse	feath	yes	small flake from blade core (type A or B), with platf edge prep; brownish-grey trans flint
001 (aw)	blade (T)	L.Mes/E.Neo	0.5	no	partly						yes	medial frag small blade, platf poss deliberately truncated; greyish-brown semi trans flint
001 (ax)	blade (T)	L.Mes/E.Neo	0.8	no							yes	medial frag small blade; brownish-grey trans flint
001 (ay)	flake (T)		0.7	no							yes	medial frag of flake or large blade, with signif damage to flake margins; greyish-brown trans flint
001 (az)	thumbnail scraper (S)	L.Neo/EBA	3.3	23x24	yes		yes	cort	pron	feath		irreg rounded flake with semi-abrupt retouch along dist end and extending part way down 1 lat edge; greyish-brown trans flint
001 (ba)	b-l flake (T)	L.Mes/E.Neo	6.3	41x18			poss	flat	sm.pr		yes	crested b-l flake from type C core; signif damage to margins, but particularly concentrated along 1 lat edge, poss suggesting abrupt retouch and use as a bar-like fabricator?; dark grey trans flint

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
001 (bb)	chunk (T)		9.3	no							yes	from multi-platf core, with surviving flake surfaces; dark grey semi-trans flint
001 (bc)	retouched piece (S)	E.Neo	5.9	no			yes					b-l piece of irreg waste detached from type B1 blade core (broad blades) - 1 'lat edge' cortical - thin abraded cortex (30%) - semi-abrupt retouch to other 'lat edge' creating denticulate cutting surface
001 (bd)	chunk (T)	L.Mes/E.Neo	3.7	no							yes	irreg waste detached from blade core; brownish-grey semi trans flint
001 (be)	flake (S)		5.3	23x24				flat	diffuse	hinge	yes	flake detached from type C core; thin, rounded & abraded cortex (20%); dark grey semi-trans flint
001 (bf)	chunk (T)	L.Mes/E.Neo	6.5	no	partly						yes	flake-like frag chipped and damaged around margins - looks like bifacial working; detached from blade core; brownish-grey semi-trans flint
001 (bg)	b-l flake (S)	L.Mes/E.Neo	4.1	no		yes				plunge	yes	medial & dist frag of b-l flake from type A blade core; thin, rounded & abraded cortex at dist end (20%); burnt with granular structure & greasy lustre; greyish brown flint
001 (bh)	chunk (T)		4.5	no	partly						yes	poss a truncated flake frag, with surviving flake surfaces; dark grey trans flint
001 (bi)	flake (T)		1.9	no	partly						yes	dist end of truncated flake, with some post-dep damage; flake surfaces survive suggesting type B or C core or even thinning flake from tool manufacture; brownish-grey semi-trans flint
001 (bj)	chip (S)		3.2	no							yes	frag with flake surfaces, small area thin abraded cortex (<5%); dark grey semi-trans flint
001 (bk)	chip (T)		1.6	no	yes						yes	frag with flake surfaces; mottled grey opaque flint
001 (bl)	chip (S)		0.8	no								frag with flake surfaces & scars poss suggesting production of blades, small area thin abraded cortex (<10%); greyish-brown trans flint
001 (bm)	chip (S)		0.9	no							yes	frag with flake surfaces, small area thin abraded cortex (<5%); dark grey semi-trans flint
001 (bn)	chip (T)		0.5	no								frag with flake surfaces; grey trans flint
001 (bo)	chip (T)		0.8	no								frag with flake surfaces & scars poss suggesting production of blades; grey trans flint
001 (bp)	chip (T)		2.4	no	partly	yes						frag with ventral flake surface, other side irreg, granular and fire shattered; brownish-grey trans flint
001 (bq)	b-l flake (T)	E.Neo	4.4	no	partly						yes	medial frag of blade or b-l flake, with signif damage to margins (looks like retouch, but unlikely); brownish-grey semi-trans flint
002 (a)	flake (S)	L.Mes/E.Neo	8.7	27x25	partly			flat	sm.pr	feath		flake detached from type B1 blade core; thin abraded cortex (10%); brownish-grey semi-trans flint
002 (b)	flake (S)	E.Neo	2.9	no				abraded	diffuse			prox & medial frag of prob thinning flake - dorsal scars indicate removal of small thin flakes from rotating platf edge, with some platf edge prep; thin abraded cortex (15%); greyish-brown trans flint
002 (c)	flake (S)	Neo/BA	6.2	19x37	partly			comp	pron	feath		fairly squat hard hammer flake from type C core; brownish-grey trans flint
002 (d)	core frag (S)	L.Mes/E.Neo	18.3	no	partly							frag from type C blade & flake core, with 1 platf edge

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												surviving; area of thin recorticated surface (15%); grey bubbly flint
012 (a)	serrated blade (T)	E.Neo	11.6	67x26	yes		yes	flat	diffuse	feath	no	large blade with tiny notches extending almost full length of 1 lat edge; prox half of other lat edge has had three relatively large abrupt flakes removed, poss to create backed edge for hafting - all small scars from serration and backing are patinated and there are small areas of diffuse polish; prob hard hammer blade, but bulb detached by eraillure flake; greyish-brown trans flint
012 (b)	side scraper (S)	L.Neo/EBA	17.7	no	yes		yes				no	elongated flake, which has abrupt to semi-abrupt serial retouch along both lat edges; the platf has been removed and dist end has broken off - poss while in use - therefore poss end & side scraper, although not unlike edge retouched knife; all scars patinated; thin abraded cortex (45%); flint
012 (c)	piercer/ scraper (T)	L.Neo/EBA	24.2	46x51	yes		yes	flat	pron		no	thick irreg hard hammer flake, with irreg semi-abrupt retouch to both lat edges; abrupt flakes detached from dist end to create denticulate edge ending in nosed projection - latter has spalls detached from ventral side and slight wear; all scars patinated; dark grey flint
012 (d)	blade (T)	L.Mes/E.Neo	1.5	no	yes			flat	v.sm.pr		no	prox & med frag of small blade, poss from type A core; greyish-brown trans flint
012 (e)	retouched flake (T)		1.8	no	yes		yes				no	triangular frag of deliberately truncated flake, which has been abruptly retouched along longest edge; all scars patinated; flint
012 (f)	flake (T)		1.2	17x22	partly			crushed	sm.pr	hinge	no	small squat flake, poss from platf edge trimming/prep - removing part of scars from 2 earlier hinge flakes; brownish-grey trans flint
013 (a)	blade (T)	L.Mes/E.Neo	1.3	no	partly		poss u/w				no	medial frag of blade, with dorsal scars from 5 other blade removals; prob that both ends deliberately truncated; poss diffuse gloss along one edge; greyish-caramel brown opaque flint
106 (a)	flake (T)	E.Neo	10.8	52x39	yes			flat	sm.pr	hinge	no	irreg flake poss from flake and blade core; coarse grained cream & pinkish flint
110 (a)	knife (S)	L.Neo/BA	5.9	no	yes	yes	yes			hinge		medial & dist frag of b-l flake; 1 lat edge is straight and has semi-abrupt retouch; other lat edge has acute invasive retouch forming slight projection at centre with slightly concave edges to either side; piece has been burnt with prox end having been detached by a series of pot-lids; small area of thin abraded cortex (15%); flint
131 (a)	core (S)	Neo/BA	41.3	30x39x 34	partly						no	type Cb core (5+ platfs) producing flakes; thin rounded & abraded cortex (20%); brownish-grey semi trans flint
131 (b)	flake (P)		1.6	no				comp	sm.pr			prox frag of small cortical flake; brownish-grey trans flint
139 (a)	utilised flake (S)	E.Neo	13.4	39x30	partly		u/w	flat	pron	feath		thick irreg flake detached from type B3 blade core; 1 lat edge naturally abrupt/cortical - thin rounded & abraded cortex (20%); other lat edge has v small spalls detached & small areas of diffuse polish; brownish-grey trans flint
172 (a)	blade (S)	L.Mes/E.Neo	2.7	30x18	partly			flat	sm.pr	feath	no	small blade from pebble core; thin rounded & abraded

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												cortex (50%); brownish-grey trans flint
245 (a)	flake (T)	L.Mes/E.Neo	0.5	23x14	partly			comp	sm.pr	feath	no	small bending flake - poss thinning flake from tool production created by indirect percussion; brownish-grey trans flint
294 (a)	flake (T)	E.Neo	2.8	24x29			polished	flat	sm.pr	feath	no	flake detached from polished stone axe - half of dorsal face retains polished surface, while 1 or 2 small flake scars have removed other half; piece has flat platf indicating flake had already been detached from other face of axe; fine grained greenstone, prob Group VI - Langdale
294 (b)	flake (T)	E.Neo	7.9	33x34	yes		polished	flat	pron	feath	no	hard hammer flake detached from polished stone axe - most of dorsal face retains polished surface, but 4 small flake scars along platf edge - poss platf prep; piece has (slightly concave) flat platf indicating flake had already been detached from other face of axe; creamy-brown opaque flint
294 (c)	blade (T)	L.Mes/E.Neo	1.7	35x13	yes		poss u/w	flat	sm.pr	feath	yes	small blade prob from type A core, signif platf edge prep; poss u/w as small spalls detached from ventral face of 1 lat edge - scars fully patinated and poss slightly worn; recent damage to tip of dist end; brownish-grey trans flint
294 (d)	blade (S)	L.Mes/E.Neo	2.7	44x15	yes		yes	abraded	sm.pr	feath	yes	blade prob from type A core, with some platf edge prep; minimal retouch to dist end, with facets worn, also u/w to both lat edges, with small spalls detached and facets worn; thin abraded cortex (15%); recent damage to tip of dist end; brownish-grey trans flint
294 (e)	blade (T)	L.Mes/E.Neo	1.4	no	partly		u/w	flat	sm.pr			prox 7 medial frag of small crested blade prob from type A core; 1 lat edge has some irreg chipping; other lat edge has v reg chipping creating a serrated edge, with accompanying diffuse to glossy polish on ventral side; brownish-grey semi-trans flint
294 (f)	blade (T)	L.Mes/E.Neo	0.6	28x12	partly			flat	v.sm.pr	feath	no	small blade prob from type A core, with platf edge prep; brownish-grey trans flint
294 (g)	blade (T)	L.Mes/E.Neo	1.2	29x16	yes			abraded	v.sm.pr	feath	no	small blade prob from type A core, with abrasion/crushing along platf edge prior to knapping; irreg chipping to lat margins, but prob occurred during knapping and fully patinated; greyish-brown trans flint
294 (h)	blade (T)	L.Mes/E.Neo	0.6	23x11	yes			abraded	sm.pr	feath	yes	v small blade prob from type A core, with abrasion/crushing along platf edge prior to knapping; now in 2 pieces as tip has broken off (recent damage); brownish-grey trans flint
294 (i)	b-l flake (S)	L.Mes/E.Neo	1.2	27x15	yes					feath	yes	small b-l flake prob from type A core, with platf edge prep; platf/bulb detached in antiquity; irreg chipping to lat margins, some of which is recent; small area thin abraded cortex (<5%); greyish-brown trans flint
294 (j)	b-l flake (S)	L.Mes/E.Neo	0.9	no	yes	prob				feath	yes	prox & medial frag of small b-l flake prob from type A core; platf/bulb detached in antiquity; prob burnt and calcined; flint
294 (k)	blade (T)	L.Mes/E.Neo	0.8	no	yes	yes		abraded	v.sm.pr		no	prox frag of small blade prob from type A core, with

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												abrasion/crushing along platf edge prior to knapping; burnt, with calcined granular structure; flint
294 (l)	b-l flake (S)	L.Mes/E.Neo	4.6	42x23	yes		prob	flat	sm.pr	feath	no	irreg b-l flake from type A blade core, with platf edge prep; small area of retouch (backing) at prox end straighter lat edge; other lat edge has spur at centre - 1 side spur is cortical (thin abraded cortex) & other side is a recorticated thermal flake surface (total 30%) - tip of spur is slightly worn & prox end (not cortical) is slightly chipped & worn (use-wear); greyish-brown trans flint
294 (m)	piercer (S)	L.Mes/E.Neo	2.7	33x21	yes		yes	cort	diffuse		no	small irreg b-l flake prob from type A core; v small spalls removed to abruptly retouch to 1 lat edge, similar small spalls removed from both sides of distal end to create rounded projection 8mm wide at base & 6mm long - all retouched facets are worn; irreg chipping to lat margins, some of which is recent; small areas of thin abraded cortex at prox & dist ends (<5%); flint
294 (n)	blade (T)	L.Mes/E.Neo	1	no	partly					feath		dist end of blade, prob deliberately truncated; poss core was worked on anvil; mid grey opaque flint
294 (o)	b-l flake (S)	L.Mes/E.Neo	1.9	23x13	partly			flat		feath	no	small b-l flake removed from type B blade core, with some platf edge prep; thin abraded cortex (15%)
294 (p)	blade (T)	L.Mes/E.Neo	0.4	no	yes	yes					no	medial frag small blade, poss from type A blade core; burnt with granular structure & shattered in antiquity; flint
294 (q)	blade (T)	L.Mes/E.Neo	0.5	no	yes			crushed	diffuse		no	prox frag of blade (from blade core); flint
294 (r)	flake (S)	L.Mes/E.Neo	8.1	39x35	yes			cort	diffuse	feath	no	irreg flake from type A pebble core; thin rounded & abraded cortex (60%); greyish-brown trans flint
294 (s)	flake (T)	L.Mes/E.Neo	3.1	28x30	yes			flat	v.sm.pr	feath	no	irreg flake detached by indirect percussion; v irreg dorsal surface; greyish-brown trans flint
294 (t)	flake (S)	L.Mes/E.Neo	2.6	25x17	yes	poss		comp	diffuse	feath	yes	small flake from type A core, some platf edge prep; thin, rounded & abraded cortex (35%); flint
294 (u)	chip (T)		1.9	no	yes	yes					no	poss a frag from a blade or b-l flake - heavily burnt - calcined & granular with worn facets and pot-lid detached; flint
294 (v)	chip (S)		1.8	no	yes	yes				hinge	no	prob dist frag of a flake - heavily burnt - calcined & granular; thin abraded cortex (55%); flint
315 (a)	retouched flake (T)	E.Neo	2.1	no	yes	yes	yes			feath	no	dist end flake or b-l flake, with semi-abrupt to abrupt retouch along 1lat edge & extending around part of dist end; burnt with calcined granular structure; flint
316 (a)	blade (T)	L.Mes/E.Neo	1.2	34x17	partly		poss u/w	flat	v.sm.pr	feath	no	blade, prob from type B2 core; small spalls detached from 1 lat edge - part of length from dorsal & part from ventral surface - all scars patinated; greyish-brown trans flint
325 (a)	barbed & tanged arrowhead (T)	EBA	4.1	no	partly	yes	yes					frag of B&T arrowhead, possibly Green Low type (invasively flaked over entire surface of surviving portion) - although 1 complete barb appears to be rounded (D), tip of the other barb & the tang are both detached, as is upper half of tip of arrowhead; burnt with granular structure & pot-lids detached (poss resulting in loss of ends of piece); flint

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
325 (b)	flake (S)	L.Neo/EBA	2.4	16x30				cort	pron	feath	no	squat hard hammer flake, with dorsal scars indicating similar removals; dark brownish-grey semi trans flint
382 (a)	flake (S)	E.Neo	23.2	79x49	yes			comp		feath	no	large irreg flake detached during manufacture of bifacial rough-out or preform for core-tool, poss axe; small b-l (cortical) flakes detached prior to removal of this flake, but small portion of the bulbar scar of a flake removed from opposite surface still survives; area of moderately thick abraded cortex & a recorticated thermal flake scar (35%); flint
443 (a)	thumbnail scraper (T)	EBA	1.9	18x18	partly		yes	flat	sm.pr		no	small, circular hard hammer flake, with invasive scale flaking along dist end; dark grey semi trans flint
459 (a)	flake (T)	Neo	2	no				flat	sm.pr		no	prox end of flake from type B or C core, with some irreg platf edge prep
486 (a)	extended end scraper (T)	E.Neo	4.3	27x23	partly		yes	flat	pron		no	crested hard hammer flake with semi-abrupt retouch around dist end - facets are worn, with a diffuse polish along edge of ventral side; brownish-grey opaque flint
486 (b)	flake (S)		4.2	23x34	yes			cort	pron	hinge	no	irreg hard hammer flake from type A core; platf is recorticated thermal flake scar; greyish-brown trans flint
506 (a)	flake (S)		6	18x36	yes			flat	diffuse	hinge	no	irreg flake removing thin projection from edge of core (includes section of an earlier platf edge that produced hard hammer flake; thin, rounded & abraded cortex (35%); flint
565 (a)	b-l flake (T)	E.Neo	2.2	no	partly	poss				feath		dist frag of large blade or b-l flake, truncated in antiquity; 1 dorsal scar very irreg suggesting heat affected - frost or fire; brownish-grey trans flint
584 (a)	retouched flake (T)	L.Neo/EBA	3.3	31x30	partly		yes	flat	v.sm.pr		no	prox frag of large flake that has been (deliberately?) truncated; semi-abrupt retouch on dorsal side of 1 lat edge, with acute invasive retouch on part of ventral side of other lat edge; although flake is broken/truncated, the extent of retouch suggests it is a complete tool - possibly a backed knife - comparable to 001 (h), but smaller; dark brownish-grey trans flint
605 (a)	blade (T)	L.Mes/E.Neo	<0.1	21x7				abraded	v.sm.pr	feath	no	v small blade prob from type A core, with abrasion along platf edge and platf edge prep prior to knapping; greyish-brown trans flint
605 (b)	flake (S)	Neo/BA	3.1	35x26	partly			comp	sm.pr	feath	no	bending flake, poss thinning flake, as scars to either side suggest bifacial working; small area thin abraded cortex (<5%); greyish-brown trans flint
605 (c)	flake (T)	Neo	1.5	18x27					diffuse	hinge	no	squat flake from core with signif platf edge prep; brownish-grey trans flint
605 (d)	flake (T)		1	18x17	partly			flat	diffuse	feath	no	small irreg flake, poss from type C core - or platf edge trimming; brownish-grey trans flint
605 (e)	flake (S)		1.8	no	partly						no	dist frag of truncated flake or b-l flake; thin cortex along 1 lat edge (30%); greyish-brown semi-trans flint
605 (f)	flake (T)		2.7	no	partly	yes		flat	v.sm.pr		yes	prox frag of relatively large flake or b-l flake, poss from type A core; broken & burnt in antiquity, with several pot-lids detached; greyish-brown trans flint
605 (g)	flake (T)		20	no					pron		yes	prox frag of large thick flake; prox end of dorsal surface

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												has scar of similar large hard hammer flake, suggesting that this is product of deliberate knapping - but entire flake margin is extensively crushed and chipped (extending across both surfaces) - if latter is deliberate, it has no formal qualities; mid - dark brown semi-trans flint
614 (a)	blade (T)	E.Neo	2.3	no	partly		u/w			hinge	no	medial & dist frag of blade, platf deliberately detached; concave portion of 1 lat edge has slight diffuse polish & small spalls have been detached from both surfaces of other lat edge; greyish-brown semi-trans flint
627 (a)	flake (T)	E.Neo	1.4	27x24	partly			flat	v.sm.pr	feath		flake prob detached from type A core producing large blades; some platf edge prep; dark brown semi-trans flint
643 (a)	blade (T)	L.Mes/E.Neo	1.1	30x14	partly			abraded	v.sm.pr	feath	no	small blade from type B core; greyish-brown trans flint
644 (a)	flake (T)	E.Neo	7.9	35x53	partly			comp	diffuse	feath	no	relatively large irreg flake from multi-platf core - flake bends & has facetted butt suggesting it is thinning flake prob from preform stage of bifacial core tool production (poss axe?); brownish grey trans flint
644 (b)	flake (T)		4.6	29x27	partly			flat	sm.pr	feath	no	thick irreg flake, prob from multi platf core; brownish-grey trans flint
644 (c)	flake (T)		1.4	13x16	partly			flat	v.sm.pr	feath	no	small irreg flake, from type B or C core; brownish-grey trans flint
644 (d)	flake (T)	L.Mes/E.Neo	<0.1	16x10	yes			abraded	v.sm.pr	feath	no	v small flake, prob from type A core - poss detached during platf edge prep; greyish-brown trans flint
644 (e)	flake (T)		<0.1	12x13	partly					feath	no	v small flake; brownish-grey trans flint
644 (f)	flake (S)		0.7	no	yes	yes				feath		medial & dist frag of b-l flake or blade - burnt with granular structure & pot-lids detached; thin abraded cortex (40%); flint
644 (g)	chunk (T)		1.9	no	yes	yes					no	heavily burnt frag - calcined with granular structure & pot-lids detached, some surviving flake surfaces; flint
645 (a)	flake (T)	E.Neo	3.9	30x29	partly			flat	pron	feath	no	hard hammer flake from type B core; brownish-grey trans flint
645 (b)	flake (T)	Neo?	10.7	no	yes		poss u/w			feath	no	frag of large flake - truncated twice, removing 1 lat edge & prox end; dorsal scars indicate careful removal of large flakes prob from single platf; some chipping of flake margins (all scars patinated), but not obviously evident of use-wear/retouch; dark grey trans flint
647 (a)	serrated blade (S)	Mes/E.Neo	3.8	47x15	yes		yes	flat	diffuse	feath	no	long blade, with curving profile, which has micro-denticulations along both lat edges; retouch less extensive along 1 lat edge that is cortical - cortex thin, rounded & abraded (65%); percussion for notches from ventral side (most commonly assoc with E.Neo serrated blades); greyish-brown trans flint
647 (b)	b-l flake (T)	E.Neo	6.3	28x24	yes			flat		feath	no	large irreg blade/b-l flake from blade core - poss type A; creamy-brown coarse opaque flint
656 (a) SF3	knife (T)	E.Neo/M.Neo	14.3	79x31	yes		yes	flat	sm.pr	feath	no	finely manufactured knife using large blade with acute retouch along both lat edges & semi-abrupt retouch around dist end - comparable in form to polished edge knives, but without either edge having been ground; some of facets of retouch scars are worn & have small

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												areas of diffuse polish; v narrow near platf (12mm) & much wider at dist end (31mm); prob not coincidental that such a nice tool was manufactured on unusual piece of banded flint = v narrow (<1mm) alternating bands of dark and light flint
666 (a)	serrated blade (S)	E.Neo	9.8	54x24	yes		yes			feath	no	large crested blade with platf/bulb deliberately detached - poss from type A core worked on an anvil; micro-denticulations along non-cortical lat edge - percussion for notches from ventral side; some of facets of retouch are worn, with small areas of diffuse polish; other lat edge is cortical - cortex thin, rounded & abraded (50%); dark-grey trans flint
666 (b)	horseshoe scraper (T)	E.Neo	16.8	43x34	yes		yes			feath	no	thick crested flake, poss from type A core, with platf/bulb deliberately detached; semi-abrupt retouch along 1 lat edge, semi-abrupt to abrupt retouch along other lat edge and abrupt retouch at dist end; creamy-brown opaque flint
666 (c)	retouched flake (T)		32.4	no	partly		yes			hinge	no	dist frag of thick flake with pron hinge termination; prox end has been deliberately truncated leaving distinct lip; small hard hammer flakes have been crudely detached from both faces of both lat edges, leaving a scalloped cutting edge dark grey trans flint
666 (d)	b-l flake (T)	E.Neo	1.9	31x21	yes			flat	pron	feath	no	short, but broad b-l flake detached from type a blade core; flint
666 (e)	b-l flake (T)	L.Mes/E.Neo	1.5	31x12	yes			flat	diffuse	feath	no	slightly irreg small b-l flake detached from blade core; flint
666 (f)	flake (T)		6.9	36x29	yes			comp	diffuse	feath	no	irreg flake removing ridged projection; struck from B2 flake & blade core; flint
666 (g)	chunk (S)		6.7	no	yes	yes					no	prob flake frag, heavily burnt - calcined & granular structure, with surviving flake surfaces; thin abraded cortex (30%); flint
666 (h)	chunk (S)		5.2	no	yes	yes					no	heavily burnt - calcined & granular structure; thin abraded cortex (45%); flint
675 (a)	flake (S)		57.8	75x53	partly		poss	flat	pron	feath	no	large irreg hard hammer flake, early stages of core reduction - 3 other flakes detached from different platfs leaving irreg protrusion, which was removed by this flake; has 3 small platf prep flakes detached; thin, rounded & abraded cortex (40%); poss irreg acute retouch on ventral side of prox end of 1 lat edge; dark brownish-grey semi-trans flint
675 (b)	chunk (S)		8.2	no	partly						no	irreg waste with surviving flake surfaces; thin abraded cortex (10%); poss from same core as 675 (a); dark brownish-grey semi-trans flint
675 (c)	chunk (T)		5.5	no	yes						no	flake-like piece of irreg waste, preserves negative bulb of earlier hard hammer flake; surviving flake surfaces; greyish-brown trans flint
679 (a)	blade (T)	E.Neo	1.2	no	yes			abraded	diffuse		no	prox frag of large blade, deliberately truncated; platf edge prep; flint

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
679 (b)	chunk (S)		9.4	no	partly	yes						frag of heavily burnt flint with granular structure, surviving flake surfaces suggest multi-platf core; thin, rounded & abraded cortex (15%)
682 (a)	blade (S)	L.Mes/E.Neo	2.1	37x15				flat	v.sm.pr	feath	no	small blade from type A (small) blade core; platf edge prep; dist end cortical cortex thin & abraded (30%); greyish-brown trans flint
688 (a)	flake (S)	L.Mes/E.Neo	1.8	20x17	partly	yes		flat	sm.pr	feath	no	small flake detached from small blade core, with 1 lat edge preserving part of second perpendicular platf - type B3; burnt with granular structure; thin abraded cortex (25%); grey flint
713 (a)	horseshoe scraper (T)	E.Neo	22.9	46x33	partly	yes	yes				no	thick flake abruptly retouched along 1 lat edge & dist end, and with semi-abrupt/invasive retouch along other lat edge; platf detached by flakes removed from ventral face; piece burnt & has granular structure with pot-lids detached; grey trans flint
713 (b)	serrated blade (T)	E.Neo	4.8	no	yes		yes	flat	diffuse		no	prox frag of large crested blade, poss from type A core with platf edge prep; both lat edges have micro-denticulations, with percussion for notches from ventral side; many of facets of retouch are worn, and ventral side of 1 lat edge has glossy polish; blade truncated in antiquity, but unclear whether this was deliberate part of tool manufacture or breakage during use; dark brownish-grey trans flint
713 (c)	fabricator (T)	Neo	20.2	58x19	yes		yes				no	rod-like flake with triangular cross-section; both lat edges have been abruptly retouched, & further abrupt flakes have been more carefully detached from dist end to create asymmetric rounded end; flakes also removed from prox half of ventral surface so that piece appears to have small tang (of triangular section); scars along lat edges are worn, but this wear less distinct at dist end; brownish-grey flint
713 (d)	flake (T)		4.3	no	yes					feath	yes	dist end of flake or b-l flake, poss from type A core; dark grey trans flint
721 (a)	retouched flake (S)		19.5	no	yes		yes				no	frag of deliberately truncated flake, 1 edge of which has been retouched by bifacial removal of small, semi-abrupt hard hammer flakes to create scalloped cutting edge; thin abraded cortex (40%); brownish-grey flint
721 (b)	flake (T)		0.6	17x23	partly			flat	sm.pr	feath	no	small irreg flake; greyish-brown flint
728 (a)	flake (T)	E.Neo	48.2	67x50	yes			flat	pron	feath	no	large thick hard hammer flake detached from type A core, with some platf prep - relatively early stages of core reduction; thin rounded & abraded cortex (15%); greyish-brown opaque flint
728 (b)	retouched flake (T)	Neo?	1.2	no	yes		yes			hinge	no	dist frag of deliberately truncated flake; dist end forms longest surviving edge & is acutely retouched by removal of small flakes, junction with lat edge broken off - poss. latter was barb/tang, and piece was relatively crude oblique arrowhead - in which case L.Neo; flint
728 (c)	retouched		3.6	no	yes		yes			feath	no	dist frag of truncated flake; dist end forms longest

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
	flake (T)											surviving edge & is abruptly retouched by removal of small spalls; flint
737 (a)	b-l flake (S)	L.Mes/E.Neo	2.1	31x25	partly			cort	diffuse	feath	no	small rod-like b-l flake, prob from type A core producing small blades; thin abraded cortex (<10%); brownish-grey trans flint
737 (b)	flake (S)		0.7	no	partly					feath	no	medial & dist frag small flake, truncated in antiquity; thin abraded cortex (20%); brownish-grey trans flint
740 (a)	side & end scraper (S)	Mes/E.Neo	2.8	20x21	partly		yes	cort	sm.pr		no	small flake, poss from v small type A blade core; dist end & 1 lat edge abruptly retouched by removal of v small spalls - has created a rounded projection at junction of the two edges, also middle of dist end is slightly concave poss allowing use as hollow scraper; thin abraded cortex (20%); brownish-grey trans flint
749 (a)	serrated b-l flake (T)	E.Neo	20.6	57x33	partly		yes	flat	pron		no	large & relatively thick b-l flake, with some platf edge prep; flake scar along 1 lat edge creates thick, naturally backed edge, other lat edge has micro-denticulations, with percussion for these notches from ventral side; dist end is v irreg, which may be partly due to working on anvil, but also likely to reflect some form of expedient retouch; dark grey trans flint
749 (b)	broken scraper (T)	E.Neo	7.3	no	yes		yes				no	dist frag of flake, poss from type A core; dist end has careful semi-abrupt retouch created by initial removal of small flakes then further removal of small spalls along margin; some acute retouch at surviving prox end of 1 lat edge; location of retouch scars relative to flake truncation scar suggests tool broke during use (or was smashed prior to discard); brownish-grey trans flint
749 (c)	nosed piece (S)	Mes/E.Neo	9.1	40x33	partly		yes	flat	sm.pr	feath		irreg flake with scar of 1 previous flake detached from dorsal surface; thin, rounded & abraded cortex (65%); dist end & dist ends of both lat edges have been v carefully retouched (serial removal of small abrupt/semi-abrupt spalls) creating three straight edges with marked angles at each junction - most pronounced is 'nosed' projection, which is slightly worn; brownish-grey trans flint
749 (d)	utilised flake (S)	E.Neo	5.5	49x27	yes		u/w			feath		large b-l flake from type A blade core, with platf & bulb deliberately detached; 1 lat edge is cortical cortex thin & rounded (40%), cortex is also v smooth & has v fine striations - indicates either flake or nodule it was detached from was used as rubber - poss former, as both lat margins & dist end are irreg, but rounded & worn - unlikely to be formal retouch, but all facets are patinated; dark grey trans flint
749 (e)	flake (T)	E.Neo	1.7	28x36	yes			comp	sm.pr	feath	no	thin, irreg flake detached from multi-platf core - prob thinning flake from creation of preform of bifacial tool (e.g. axe); pale grey opaque flint with chalky incls (poss Wolds)
749 (f)	flake (T)		2.8	no	partly		poss					flake frag truncated on all sides; poss may have been

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												used as a burin, but no distinct evidence; brownish-grey trans flint
749 (g)	chip (S)		2.5	no	yes						yes	small rod-like frag with surviving flake surfaces; thin, abraded cortex (65%); grey flint
762 (a)	serrated blade (T)	L.Mes/E.Neo	0.9	no	yes		yes				yes	medial frag small crested blade; 1 lat edge has micro-denticulations, with percussion for these notches from ventral side; dist end detached in antiquity, prox end removed by recent damage; dark grey trans flint
762 (b)	retouched b-l flake (S)	E.Neo	9.4	43x23	partly		yes	flat	sm.pr	feath	no	thick b-l flake detached from type A blade core, prob worked on anvil; 1 lat edge cortical, thin abraded cortex (40%); other lat edge has irreg semi-abrupt retouch; brownish-grey trans flint
762 (c)	flake (T)		2.7	29x32	partly			flat	diffuse	hinge	no	irreg flake, poss from disc core with platf edge prep?; brownish-grey trans flint
762 (d)	flake (T)		0.4	16x12	partly			comp	v.sm.pr	feath	no	v small flake, poss platf edge trimming; brownish-grey trans flint
763 (a)	end scraper (T)	E.Neo	17.3	38x39	yes	yes	yes	comp	pron		no	thick rounded hard hammer flake; platf facetted; dist end abruptly retouched; heavily burnt with granular structure & some pot-lids detached; detail obscured by concretion; flint
763 (b)	chip (S)		0.9	no							no	small frag with surviving flake surfaces; small area thin abraded cortex; flint
764 (a)	broken scraper (T)		4.7	no	partly		yes			feath	no	dist frag of flake; dist end abruptly/semi-abruptly retouched; location of retouch scars relative to flake truncation scar suggests tool broke during use (or was smashed prior to discard); dark grey trans flint
764 (b)	retouched flake (T)	E.Neo	23.4	no	yes		yes				no	medial frag of v large crested flake prob from large type A core; surviving portion of 1 lat edge has acute retouch, with v small spalls detached - facets along this edge worn
764 (c)	blade (T)	L.Mes/E.Neo	1.7	33x17	partly			flat	sm.pr	step		small blade from type A core with platf prep; brownish-grey trans flint
764 (d)	flake (S)		1.9	21x22	yes			flat	pron	hinge	no	squat irreg flake; thin rounded & abraded cortex (20%); greyish-brown trans flint
764 (e)	blade (S)	L.Mes/E.Neo	0.5	no				cort	v.sm.pr		no	prox frag of blade, prob deliberately truncated; thin & abraded cortex; brownish-grey flint
764 (f)	chip (T)		0.4	no		yes						flake frag, with surviving surface; burnt with granular structure
766 (a)	serrated blade/end scraper (T)	E.Neo	5.7	56x19			yes	comp	v.sm.pr	feath		long blade from finely worked type A blade core; 1 lat edge has relatively irreg chipping, while other lat edge has regular micro-denticulations and areas of glossy polish along margin - percussion for these notches from ventral side; abrupt retouch to dist end - poss for use as end scraper, but more likely as 'backing' to enable blade to gripped & used as saw (denticulate); dark brownish-grey trans flint
766 (b)	b-l flake (T)	Mes/E.Neo	2.6	42x22	yes			comp	diffuse	hinge	no	irreg b-l flake; greyish-brown trans flint
766 (c)	flake (S)		4.1	37x22	partly				diffuse	feath	no	flake prob from type A (poss blade) core; thin rounded &

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												abraded cortex (70%); greyish-brown trans flint
766 (d)	flake (S)		1.3	22x28				flat	pron	feath	no	thin hard hammer flake; thin rounded & abraded cortex (15%); brownish-grey trans flint
781 (a)	core (S)	L.Mes/E.Neo	22.1	40x32	partly						no	exhausted type B1 blade core, producing small blades (10+), signif platf edge prep; 1 side is recorticated thermally shattered pebble from gravel beds; greyish-brown semi-trans flint
781 (b)	flake (S)		6.8	no	yes	yes		flat	pron		no	prox end of hard hammer flake; small area thin abraded cortex; heavily burnt - calcined with granular structure & pot-lids detached; flint
788 (a)	flake (T)		6.2	38x28	partly			flat		hinge	no	v irreg flake poss from type A core; greyish-brown trans flint
807 (a)	flake (T)	E.Neo	2.4	33x21				flat	sm.pr	feath		irreg flake, prob from type B core; brownish-grey trans flint
807 (b)	flake (S)	L.Mes/E.Neo	1	18x17				flat	sm.pr	feath	no	small flake from type A core, poss blade core; small area thin abraded cortex; brownish-grey trans flint
818 (a)	blade (S)	L.Mes/E.Neo	1.1	no	partly					feath	no	small blade from type A blade core, with platf/bulb deliberately detached; small area thin abraded cortex at dist end; brownish-grey trans flint
818 (b)	flake (S)	L.Mes/E.Neo	7.7	30x30	partly	poss		flat	pron	step	no	irreg flake prob from core producing small blades; thin, rounded & abraded cortex (40%); dist half of flake 'bubbly' - onset of granular structure assoc with thermal change (frost or fire); greyish-brown trans flint
818 (c)	flake (T)		1.3	no		yes				hinge		medial & dist frag of squat flake; burnt & partially calcined; flint
823 (a)	end scraper (T)	E.Neo	30.1	42x39	yes		yes	flat	pron		no	thick hard hammer flake; dist end has been semi-abruptly/abruptly retouched by initial removal of small flakes then further removal of small spalls along margin, also some irreg retouch along parts of both lat edges; flint
861 (a)	retouched flake (T)		2.1	no			yes					medial & dist frag of deliberately truncated thin flake, poss from flake & blade core; platf/bulb has been detached & resulting scar has been retouched by removal of abrupt spalls, 1 lat edge has irreg semi-abrupt & acute retouch; part of dist end & other lat edge is detached, but not clear if this is deliberate or accidental; style of working comparable to microlith production, but not of classified form; brownish-grey semi-trans flint
862 (a)	serrated blade (T)	L.Mes/E.Neo	2.1	41x15	partly		yes	flat	v.sm.pr	feath	no	blade from type A blade core; both lat edges have micro-denticulations, 1 side small but regularly spaced, other being larger but irreg - percussion for these notches from ventral side; dark brownish-grey trans flint
875 (a)	blade (S)	E.Neo	4.6	no						feath	no	medial & dist frag of long blade from type A blade core, deliberately truncated; relatively flat profile toward prox end, but triangular & pointed at dist end; thin, rounded & abraded cortex (35%); mottled greyish to caramel-brown flint

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
887 (a)	flake (S)	E.Neo	8	no	partly					feath	yes	medial & dist frag of flake; thin abraded cortex (10%); brownish-grey trans flint
902 (a)	disc scraper (S)	E.Neo	11.8	31x28	partly		yes	flat	sm.pr		no	thick flake with thin, rounded & abraded cortex (40%); abrupt retouch along dist end & 1 lat edge, and semi-abrupt retouch along other lat edge; brownish-grey trans flint
904 (a)	blade (S)	L.Mes/E.Neo	0.6	28x14	partly			cort	diffuse	feath	no	small crested blade from type A blade core, with platf edge prep; brownish-grey trans flint
909 (a)	serrated blade (T)	E.Neo	3.3	44x19	yes		yes	abraded	sm.pr	feath	no	irreg blade from type A blade core; 1 lat edge is scalloped & has relatively irreg chipping, with small area of diffuse polish along margin; other lat edge has regular micro-denticulations assoc with extensive glossy polish along margin - percussion for these notches from ventral side; flint
909 (b)	piercer (T)	E.Neo	1.5	no	partly		yes			feath	no	medial & dist frag of blade from type A blade core; prob deliberately truncated to leave pointed dist end with triangular cross-section - lat edge forming 1 side of point has been abruptly retouched - scars are worn and slightly rounded; brownish-grey flint
909 (c)	retouched b-l flake (P)	E.Neo	10.3	no	yes		yes			feath	no	medial & dist frag of large cortical b-l flake, prob that platf deliberately detached; thin, rounded & abraded cortex (85%); 1 lat edge retouched by removal of small spalls - retouch scars slightly worn; grey flint
909 (d)	b-l flake (T)	L.Mes/E.Neo	0.5	20x12	yes			comp	sm.pr	step	no	small b-l flake from type A blade core with platf edge prep; grey flint
909 (e)	flake (T)	E.Neo	5.1	35x36	yes			flat	pron	feath	no	hard hammer flake prob from broad blade core; flint
909 (f)	flake (S)	E.Neo	1.7	26x22	partly			abraded	sm.pr	feath		irreg flake with small area thin abraded cortex; greyish-brown trans flint
909 (g)	flake (S)		0.9	15x21	partly	yes		flat	sm.pr	hinge	no	squat flake, with thin rounded & abraded cortex along 1 lat edge (20%); burnt with pot-lid detached from ventral surface; grey flint
909 (h)	flake (S)		4.5	24x29	yes				diffuse	hinge	no	irreg flake detached during early stages of core reduction, removing chalky inclusion; thin abraded cortex (70%); grey flint
909 (i)	flake (S)		20.2	27x46	partly			flat	pron	feath	no	thick irreg wedge-shaped flake; thin rounded & abraded cortex (45%); dark grey flint
909 (j)	chip (T)	L.Mes/E.Neo	3.1	no	yes						no	frag detached from blade core, with scars of 3 parallel narrow blades on one surface; grey flint
920 (a)	side & end scraper (S)	E.Neo	30.8	44x46	partly		yes	cort	pron		no	large, thick hard hammer flake; dist end & 1 lat edge abruptly retouched by initial removal of small flakes then further removal of small spalls along margin; semi-abrupt retouch extends part way along other lat edge; platf is thin recorticated surface (<10%), prob from thermal fracture; dark greyish-brown trans flint
920 (b)	flake (S)		2.8	21x24				cort	sm.pr	hinge	no	v irreg flake, poss hard hammer; thin rounded & abraded cortex (30%); greyish-brown trans flint
931 (a)	retouched b-l flake (T)	E.Neo	6.1	no	partly		yes			feath	no	dist frag of large blade or b-l flake, truncated in antiquity - dorsal scars suggest removed from type B blade core

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Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												prob worked on anvil; 1 lat edge has abrupt retouch up to truncation scar = small spalls removed , with facets slightly worn; mid grey opaque flint
931 (b)	flake (T)	L.Mes/E.Neo	0.5	18x15	partly			flat	sm.pr	feath	no	small flake, prob detached from type A core producing small blades; some platf edge prep; greyish-brown trans flint
931 (c)	flake (T)		1.7	no	partly			flat	sm.pr		no	prox frag irreg flake; brownish-grey trans flint
932 (a)	blade (S)	L.Mes/E.Neo	1.6	32x21	partly			flat	sm.pr	feath	no	blade from type A blade core, with platf edge prep; small area of thin abraded cortex at dist end; dark brownish-grey trans flint
963 (a)	disc scraper (T)	E.Neo	25.7	45x44	partly		yes					thick flake with platf & bulb detached, which has been abruptly retouched around remaining circumference, initially by removal of small flakes followed by small spalls from margins; subsequently a series of small hard hammer flakes have been detached from the majority of periphery of ventral surface, creating a scalloped edge, possibly for reuse as a small chopping tool?; detail partially obscured by concretion; dark grey trans flint
964 (a) SF 6	barbed & tanged arrowhead (T)	EBA	1.5	30x21	yes		yes					b & t arrowhead with 1 barb detached (in antiquity), but no impact fracture at tip; acute bifacial retouch around entire margin, but not at centre of either surface; slightly serrated cutting edge; not an exact match for any of established types - tang square [F] or slightly rounded [G], barb tapering but rounded tip [C] or [D] - prob best fit is Sutton b(g) (*Green 1980*); greyish-brown translucent flint
964 (b)	flake (T)	E.Neo	1.8	no			polished					medial frag of flake detached from polished stone tool, poss an axe - surviving outer surface has curving profile & clear striations from abrasive material – latter possibly associated with polishing axe, but some indications that partially post-depositional; stone is v fine grained - poss volcanic tuff - pale to mid grey, prob <u>not</u> Group VI
964 (c)	chunk (T)		4.8	no	yes	yes					no	frag of heavily burnt flint, calcined with granular structure & pot-lids detached; surviving flake surfaces
966 (a)	retouched flake (T)		3	no	partly		yes			feath		dist frag of flake; dorsal & ventral surfaces had begun to develop patina when flake was reutilised - dist end & 1 lat edge were retouched by removal of small semi-abrupt flakes - truncation scar of similar 'late' age, poss truncated during use, but irreg acute retouch removing lip of truncation scar suggests that flake was snapped deliberately; dark brownish-grey trans flint
966 (b)	blade (S)	L.Mes/E.Neo	2.6	35x14	yes			cort	sm.pr	feath	no	blade prob from type A core; platf consists of relatively thick abraded cortex; coarse greyish-caramel brown opaque flint
966 (c)	flake (T)		0.5	13x18	yes			flat	sm.pr	hinge	no	small squat flake; flint
966 (d)	flake (T)		0.6	15x16	partly	poss		flat	diffuse	hinge	no	small flake, poss from type a core with platf edge prep; poss burnt, as has strange 'bubbly' structure; brownish-grey opaque flint

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
968 (a)	blade (S)	E.Neo	6.8	55x26						feath		large blade from slightly irreg worked type A core; platf/bulb detached during knapping, but platf edge prep evident; thin irreg chalky cortex (20%); slight chipping to margins, but not clear if use-wear or post-dep damage; greyish-brown trans flint
1025 (a)	side & end scraper (P)	L.Neo/EBA	12.4	40x38			yes	flat	pron	feath		relatively thin flake, prob primary prior to retouch - thin rounded & abraded cortex; dist end abruptly/semi-abruptly retouched by initial removal of small flakes then further removal of small spalls along margin - areas of diffuse polish on ventral face of dist margin; short sections of both lat edges also retouched, 1 abruptly, other acutely; dark brownish-grey trans flint
1029 (a)	Petit-tr'chet arrowhead (T)	L.Neo	3.2	20x26	partly		yes				no	medial frag of flake with sections of both lat edges surviving; prox and dist ends have both been deliberately truncated and truncation scars have been abruptly retouched to create quadrilateral with narrow base and broader cutting edge; pale greyish-brown trans flint
1029 (b)	blade (T)	L.Mes/E.Neo	2.9	44x15	partly			crushed	v.sm.pr	hinge		long blade with platf edge prep; some chipping to both lat edges - irreg & prob post-dep rather than use-wear; reddish-brown opaque flint
1029 (c)	flake (T)	L.Mes/E.Neo	2.1	30x19	partly				sm.pr	feath		flake from type A blade core with platf edge prep; pale brownish-grey semi-trans flint
1029 (d)	flake (S)	E.Neo	5.7	30x29				flat	pron	feath	no	flake from type B flake & blade core with platf edge prep; thin irreg cortex along 1 lat edge (15%); dark brownish-grey semi-trans flint
1029 (e)	flake (S)	E.Neo	5.8	39x30	partly					feath		irreg flake prob detached from type broad blade core; thin, rounded & abraded cortex (30%); greyish-brown trans flint
1031 (a)	flake (T)	Neo	7.3	35x29	partly			comp	pron	hinge		hard hammer flake prob detached from type A core with some platf edge prep; brownish-orange opaque flint
1042 (a)	flake (S)	E.Neo	7.6	43x41	partly			flat	sm.pr	hinge	no	irreg flake detached from broad blade core - type A or B2; thin abraded cortex (15%); greyish-brown trans flint
1042 (b)	flake (S)		3.5	no	partly						no	medial frag of flake or b-l flake; platf/bulb deliberately truncated; dist end also detached in antiquity, but irreg break; thin abraded cortex (25%); pale greyish-brown trans flint
1042 (c)	flake (S)		0.6	11x20	partly			flat	diffuse	feath	no	small squat flake; small area thin abraded cortex; dark brownish-grey trans flint
1042 (d)	flake (T)		<0.1	12x12	partly			crushed	v.sm.pr	feath	no	v small flake; pale greyish-brown trans flint
1042 (e)	flake (T)	L.Mes/E.Neo	1.7	no	partly	prob					yes	frag of flake from small narrow blade core; 1 lat edge detached prob by recent damage; ventral side3 v irreg with flake surface detached - thermally altered, prob burnt; greyish-brown flint
1042 (f)	chunk (T)		1.7	no	yes	yes						flake frag with surviving flake surfaces; heavily burnt, calcined & granular structure, with pot-lids detached; flint
1043 (a)	retouched flake (T)		4.5	no	partly		yes			feath	yes	medial & dist frag of flake, prox end prob recently detached; acute bifacial retouch along both lat margins; dark brownish-grey flint

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
1043 (b)	core rejuvenation flake (T)	L.Mes/E.Neo	2.4	no	yes					feath	no	medial & dist frag of b-l core rejuvenation flake, with platf truncated/detached in antiquity; l lat edge preserves section of concave platf with signif platf edge prep, but despite this angle between platf & flake surface remained >90 degrees; flint
1043 (c)	flake (T)	L.Mes/E.Neo	2.9	34x22	partly			abraded	sm.pr	feath	no	flake detached from type C core producing flakes & narrow blades; brownish-grey trans flint
1043 (d)	flake (S)	L.Mes/E.Neo	0.7	20x13	partly			cort	v.sm.pr	feath	no	small flake prob detached from type A blade core, with platf edge prep; thin abraded cortex; greyish-brown trans flint
1043 (e)	flake (S)		2.2	22x21	partly			flat	sm.pr	hinge	no	irreg flake; thin abraded cortex (30%); dark brownish-grey trans flint
1044 (a)	flake (S)		8.7	no	partly						yes	medial frag of flake - both platf & dist end have been detached by post-dep damage; thin, rounded & abraded cortex (40%); greyish-brown trans flint
1044 (b)	flake (T)		3.5	22x26	yes			flat	sm.pr	feath	yes	irreg flake; flint
1061 (a)	extended end scraper (T)	E.Neo	13.9	45x29	yes		yes	flat	sm.pr		no	thick crested flake, prob from type A core producing broad blades & flakes; most of 1 lat edge and dist end abruptly retouched by initial removal of small flakes then further removal of small spalls along margin; pale to mid-grey opaque flint
1064 (a)	flake (T)		2.2	23x28	partly			comp	sm.pr	hinge	no	irreg flake, with scars of similar removals on dorsal surface; brownish-grey trans flint
1077 (a)	blade (T)	L.Mes/E.Neo	0.4	no					v.sm.pr		no	prox frag of narrow blade, deliberately truncated, poss from type A core with some platf edge prep; greyish-brown trans flint
1077 (b)	blade (T)	L.Mes/E.Neo	1.7	no				crushed	diffuse		no	prox frag of small crested blade, prob deliberately truncated, poss from type A core with some platf edge prep; greyish-brown trans flint
1077 (c)	chip (T)		1.3	no	partly						no	small frag with surviving flake surfaces; brownish-grey semi-trans flint
1090 (a)	b-l flake (S)	E.Neo	8.1	52x25	partly			cort	diffuse	feath	no	relatively large b-l flake; thin, rounded & abraded cortex (55%); mottled grey & caramel-brown opaque flint
1106 (a)	end scraper (S)	E.Neo	9.1	48x23	partly		yes	cort	sm.pr	feath	no	broad blade with 1 cortical edge - cortex rounded & abraded; dist end abruptly retouched, with diffuse polish along assoc margin of ventral surface; some chipping of other lat edge; brownish-grey trans flint
1106 (b)	end scraper (S)	E.Neo	7.1	31x21	yes		yes	cort	sm.pr	feath	no	broad b-l flake with 1 cortical edge - cortex rounded & abraded; dist end abruptly retouched, with diffuse polish along assoc margin of ventral surface; brownish-grey trans flint
1106 (c)	utilised blade (S)	L.Mes/E.Neo	1.9	37x16	partly		u/w			feath	no	blade from type A blade core with platf/bulb detached in antiquity; dist end of 1 lat edge has slight concavity, which has diffuse polish along part of the margin of ventral surface; small area of thin abraded cortex; brownish-grey trans flint
1106 (d)	utilised flake (S)		5.4	no	yes		u/w	flat	pron		no	prox frag of hard hammer flake, dist end deliberately truncated & series of small overlapping truncation scars

RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												along 1 lat edge - latter is slightly chipped, but v small areas of diffuse polish survive on facets of scars; thin abraded cortex (10%); flint
1106 (e)	blade (T)	L.Mes/E.Neo	1.3	no	yes			flat	sm.pr		no	prox frag of narrow blade, deliberately truncated; flint
1106 (f)	flake (T)		6.1	29x28	partly			flat	pron	feath	no	irreg hard hammer flake from type C core; v irreg dorsal surface with pron ridge; brownish-grey trans flint
1106 (g)	flake (S)		0.7	15x18	partly			flat	sm.pr	feath	no	small squat flake with some platf edge prep; thin abraded cortex (25%); pale greyish-brown trans flint
1106 (h)	flake (T)	E.Neo	4.3	40x36	yes			comp	sm.pr	feath	no	thin bending flake, with dorsal scars suggesting from multi-platf core - prob thinning flake from bifacial tool manufacture; pale greyish-brown trans flint
1107 (a)	serrated b-l flake (S)	E.Neo	6.1	49x28	partly		yes	flat	v.sm.pr	feath	no	broad b-l flake from type A blade core; dist end is cortical with round & abraded cortex (25%); dist end of 1 lat edge has regular micro-denticulations with slightly worn facets - percussion for these notches from ventral side; flake is broad at dist end but v narrow at platf - may poss have been hafted?; brownish-grey trans flint
1107 (b)	blade (S)	L.Mes/E.Neo	3.3	43x15	yes		poss u/w	flat	v.sm.pr	feath	no	blade, poss from type B3 core; thin rounded & abraded cortex (40%); greyish-brown trans flint
1107 (c)	blade (T)	L.Mes/E.Neo	0.5	no	yes					feath	no	dist frag of narrow blade truncated in antiquity; flint
1107 (d)	blade (S)	L.Mes/E.Neo	0.6	no				flat	v.sm.pr			prox & medial frag of narrow blade prob from type A core; 1 lat edge cortical - cortex thin and abraded; now in 2 pieces; greyish-brown trans flint
1107 (e)	flake (T)	E.Neo	4.8	35x24	partly			flat	pron	hinge	no	flake prob detached from type A core producing broad blades; some platf edge prep; dark brownish-grey trans flint
1107 (f)	flake (T)	E.Neo	3.8	38x26	partly			comp	diffuse	hinge	no	irreg flake, prob detached by indirect percussion from type B1 flake & blade; brownish-grey trans flint
1107 (g)	flake (T)	E.Neo	10.4	38x42	yes			comp	pron	feath	no	irreg hard hammer flake detached from type B or C flake & blade core, some platf edge prep - 1 lat edge preserves scars from dist ends of a series of blades; dark greyish-brown trans flint
1108 (a) SF9	polished stone axe	E.Neo	221.8	no			polished				yes	surface has been ground and polished, but upper half (toward butt) still has several shallow flake scars that were never polished out of original preform; surface also retains shallow scratches from polissoir - latter much more marked and concentrated along bottom third (nearer cutting edge), suggesting axe has been reworked and repolished following damage to the blade; a small flake detached from bottom of 1 lat edge (near cutting edge) & the tip of cutting edge itself detached by narrow lateral flake - this damage occurring during use after repolishing of axe; lower part of other lat edge and half of bottom (cutting) edge totally detached - much of angular scar from this damage is weathered/patinated suggesting that this occurred in antiquity - if so, the damage would have been too severe to rectify and would have necessitated the abandonment of the axe; a

RFWD 02: worked and modified lithic materials

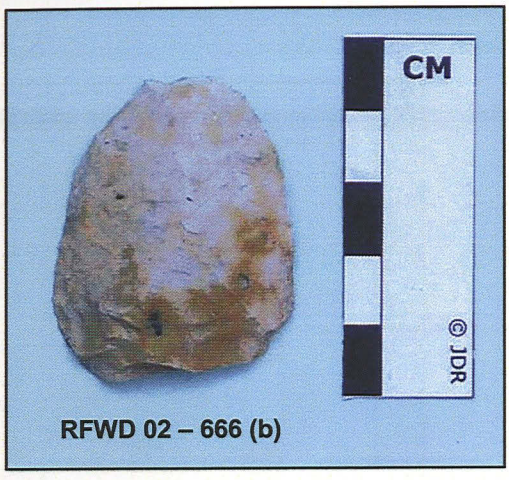
Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												much smaller angular flake detached from the butt represents recent damage; the lat edges have flattened facets, which together with non-microscopic examination suggests the axe is made from a banded epidotised intermediate tuff of the Borrowdale Volcanic Series - i.e. a Group VI source either from Great Langdale, Cumbria or assoc glacial erratics. Est. max length 120mm, est. max width 58mm, max thickness 31mm.
1108 (b)	b-l flake (S)	E.Neo	5.3	40x22	partly			flat	sm.pr	feath	no	b-l flake from type A blade core; thin rounded & abraded cortex (40%); dark brownish-grey trans flint
1115 (a)	blade (S)	L.Mes/E.Neo	0.4	no						feath		dist frag narrow blade; small area thin abraded cortex; brownish grey trans flint
1115 (b)	flake (S)	L.Mes/E.Neo	2.1	20x21	partly			cort	sm.pr	feath	no	relatively squat flake prob from type B blade core; dark grey trans flint
1142 (a)	flake (S)		2.2	29x19	partly			comp		hinge		flake with v thin rounded & abraded cortex (40%); greyish-brown trans flint
1142 (b)	flake (T)	E.Neo	2	no	yes			comp	diffuse		no	prox frag of flake, prob deliberate truncation; brown trans flint
1142 (c)	b-l flake (T)		3.4	35x17	yes			flat	sm.pr	feath	yes	irreg b-l flake from multi platf core; brownish-grey trans flint
1148 (a)	serrated b-l flake (T)	E.Neo	24.4	58x29	partly		yes			feath	no	thick, broad b-l flake, poss from type A core producing large blades; platf & bulb deliberately detached; 1 lat edge has been retouched by removal of abrupt flakes and spalls to create a convex backed edge; dist end of other lat edge has been detached to create a much thinner end (poss for hafting, although seems unlikely given extent and thickness of backing) - remainder of this lat edge is slightly concave & has regular micro-denticulations with worn facets & very localised glossy polish - percussion for these notches from ventral side; piece similar in shape to single-piece sickle, but not bifacially worked; creamy to caramel-brown opaque flint
1151 (a)	retouched flake (S)	E.Neo	5.5	40x28	partly		yes	comp	sm.pr	feath	no	flake prob from type A blade core, with limited platform edge preparation. Most of distal end is flat & cortical but small spur has been snapped off/truncated to blunt it so that the distal end and proximal end can be held safely between thumb and forefinger to allow use; very small chips have been detached along the majority of both lateral edges, but facets are worn and slightly rounded with small areas of diffuse polish; both lateral edges are acute, which suggest that piece was probably used as a double-edged knife; brownish-grey semi-translucent flint
1151 (b)	blade (T)	Mes/E.Neo	1	no	yes			flat	v.sm.pr		no	prox & medial frag of blade, prob from type B blade core; brownish-grey translucent flint
1153 (a)	blade (T)	L.Mes/E.Neo	0.8	no	partly			crushed	diffuse		yes	prox & medial frag of blade, poss from type A blade core; truncated in antiquity; chipping to lat margins; greyish-brown translucent flint
1163 (a)	core (S)		10.5	45x24	partly						no	exhausted type C flake core, producing v small blades &

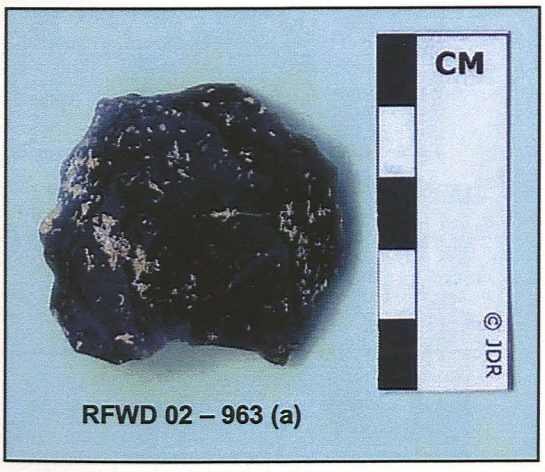
RFWD 02: worked and modified lithic materials

Context /ID	Type	Date	Weight (g)	Size (mm)	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage	Comments
												flakes; prob a core frag or flake that continued to be reduced - preserves negative scar from large flake with hinge termination (i.e. from much larger core); small flakes detached around half of perimeter creating serrated margin, raising poss that used as cutting flake, but no evidence of use-wear; v. thin, rounded & abraded cortex (35%); greyish to caramel-brown semi-trans flint
1167 (a)	blade (S)	L.Mes/E.Neo	2.4	45x15	partly		u/w	flat	sm.pr	feath	no	finely manufactured elongated blade prob from type A blade core; platf edge prep; slight chipping along straighter lat edge assoc with small areas of diffuse polish; thin abraded cortex at dist end (<10%); brownish-grey translucent flint
1167 (b)	blade (S)	L.Mes/E.Neo	1.9	36x17				flat	sm.pr	feath		blade from type B1 blade core; thin, rounded & abraded cortex along 1 lat edge (15%); chipping along other lat edge; greyish-brown translucent flint
1167 (c)	b-l flake (S)	L.Mes/E.Neo	4.8	38x21	partly			flat	pron	feath	yes	b-l flake prob from type A blade core; thin irreg cortex (10%); greyish-brown trans flint
1167 (d)	flake (T)	L.Mes/E.Neo	1	17x16	partly			flat	pron	hinge	no	small flake from blade core (prob type A), with platf edge prep - prob failed attempt to detach blade; brownish-grey translucent flint
1170 (a)	flake (T)	E.Neo	0.8	no	yes			flat	sm.pr		no	prox & medial frag of flake or b-l flake, poss truncated along 1 lat edge; flint
1181 (a)	side & end scraper (S)	E.Neo	13.8	41x31	partly		yes			feath	no	thick flake, poss from type A core; flake broken in antiquity (platf/bulb detached), but not clear if scraper manufactured on broken flake or if scraper broke during use; small flakes & spalls removed to create semi-abrupt to abrupt retouch along dist end, with semi-abrupt to acute retouch extending along 1 lat edge; other lat edge cortical, cortex thin and abraded (40%); reddish-brown semi-translucent flint
1181 (b)	flake (T)		<0.1	10x17	yes			flat	sm.pr	feath	no	small squat flake; greyish-brown translucent flint
1195 (a)	blade (P)	E.Neo	4.4	48x20	yes			cort	pron	feath	no	cortical blade (no prior removals); cortex v. thin, rounded & abraded; greyish flint
1195 (b)	chunk (T)		3.8	no	partly	yes						heavily burnt frag, with granular structure; some surviving flake surfaces; flint
1210 (a)	flake (S)	L.Mes/E.Neo	13.3	no	partly			comp	diffuse	feath	no	thick flake representing approx half of apex of type A blade core, which produced small blades; other half of apex detached after flake removed from core, & flake also removed from ventral surface; small area of thin abraded cortex (<5%); dark brownish-grey translucent flint
1212 (a)	flake (S)		3.4	no	partly					hinge	no	medial & dist frag of flake, but poss unintentional removal as platf & bulb removed by a complex step fracture; thin abraded cortex (15%); brownish-grey translucent flint

RFWD 02: worked and modified lithic materials

No. of finds	Type	Date	Weight (g)	Comp	Recort.	Burnt	Retouch	Platf	Bulb	Term	P-dep damage
297	polished stone axe **1** petit tranchet arrowhead **1** barbed & tanged arrowhead **2** knife **2** nosed piece **1** fabricator **2** piercer **2** piercer/scraper **1** broken scraper **2** core scraper **1** disc scraper **2** end scraper **5** extended end scraper **2** horseshoe scraper **2** side & end scraper **4** side scraper **1** thumbnail scraper **3** serrated blade/poss end scraper **1** serrated blade **7** serrated b-l flake **3** retouched flake **13** retouched b-l flake **3** retouched piece **1** utilised flake (S) **3** utilised blade (S) **1** flake (P) **4** flake (S) **52** flake (T) **67** blade (P) **1** blade (S) **17** blade (T) **27** blade-like flake (S) **13** blade-like flake (T) **13** core **5** core frag **2** core rejuve flake **2** chunk/chip **28**	Mes/E.Neo **5** L.Mes/E.Neo **89** E.Neo **77** E.Neo/M.Neo **1** Neo/Neo? **11** L.Neo **1** Neo/BA **3** L.Neo/BA **1** L.Neo/EBA **9** EBA **2**	**1911.5**g	yes **178** no **119**	yes **92** partly **127**	yes **27** prob **2** poss **4**	yes **62** prob **2** poss **3** polished **4** u/w **7** poss u/w **5**	flat **107** comp **31** cort **23** abraded **14** crushed **6**	diff **44** v.sm.pr **31** sm.pr **70** pron **39**	feath **140** hinge **35** step **5**	yes **63** no **170**





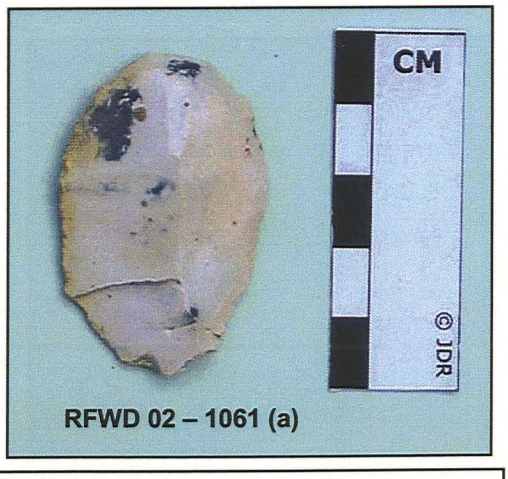


Plate 1: RFWD 02 – early Neolithic scrapers – 001 (a) core scraper; 486 (a) & 1061 (a) extended end scraper; 666 (b) & 713 (a) horseshoe scraper; 749 (b) broken scraper; 823 (a) end scraper; 963 (a) disc scraper.

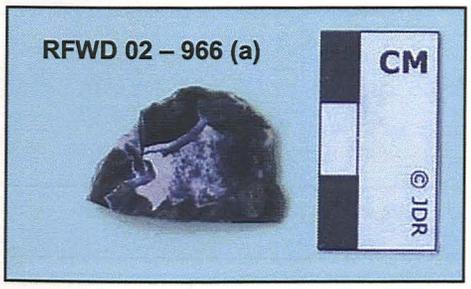


Plate 2: RFWD 02 – early Neolithic tools – 1106 (a) & (b) end scraper; 1181 (a) side & end scraper; 001 (j) & 713 (c) fabricator; 294 (m) & 909 (b) piercer; 966 (a) retouched flake; 749 (c) nosed piece.

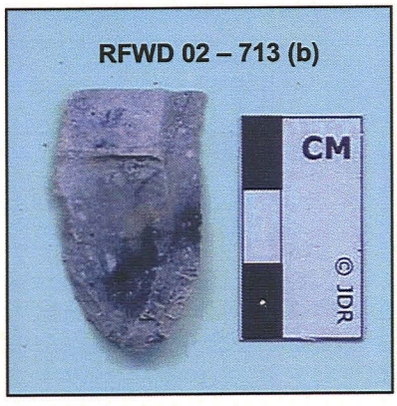
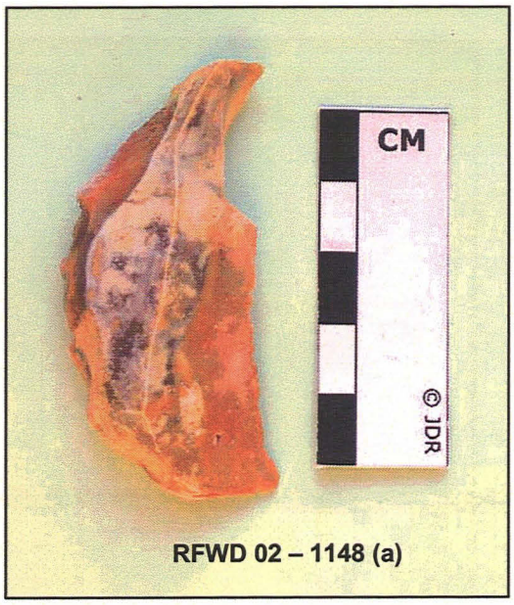
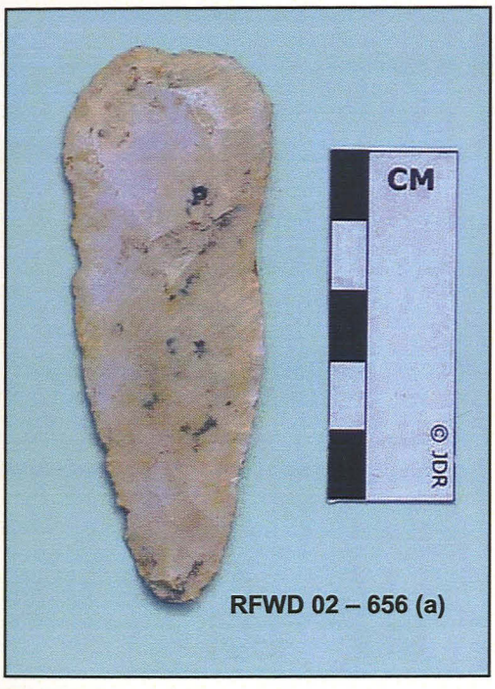


Plate 3: RFWD 02 – early Neolithic serrated blades and blade-like flakes.





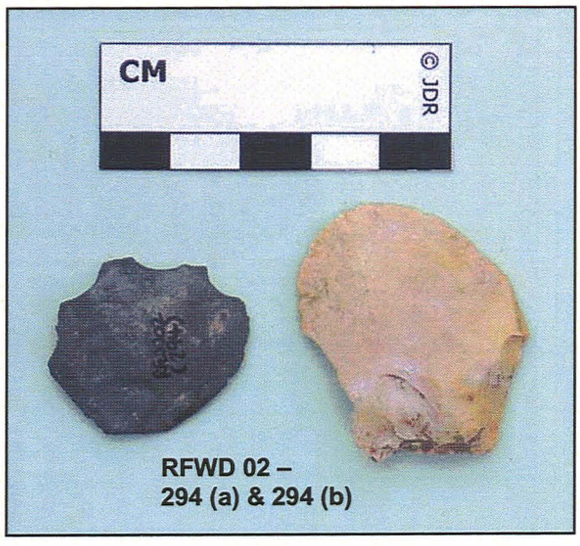


Plate 4: RFWD 02 – early Neolithic tools – 909 (a) serrated blade; 1148 (a) serrated blade-like flake; 656 (a) knife; 294 (a) & 294 (b) polished stone flakes.

Plate 5: RFWD 02 – early Neolithic tools – 1108 (a) polished stone axe.

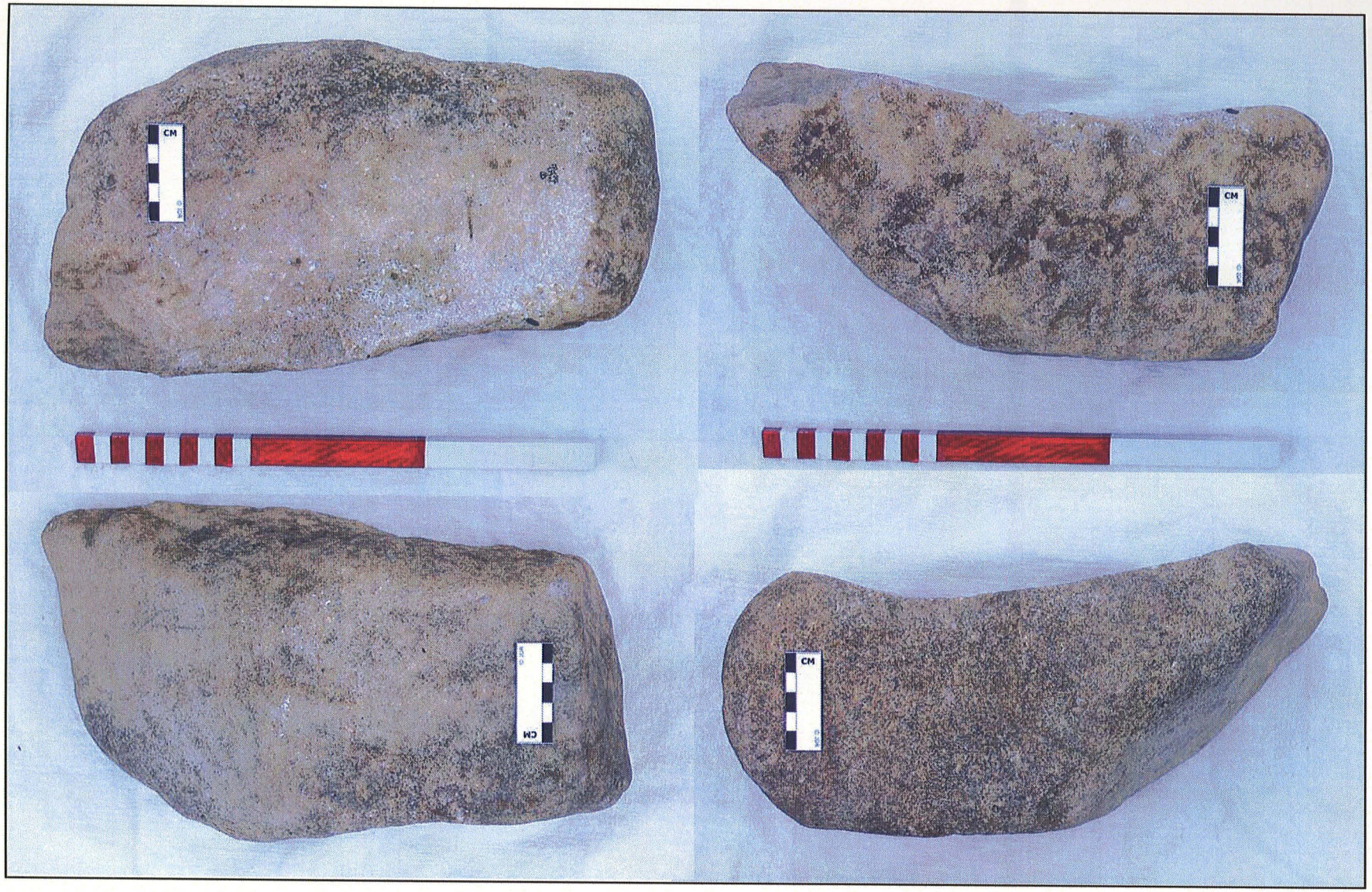


Plate 6: RFWD 02 – 294 saddle quern.

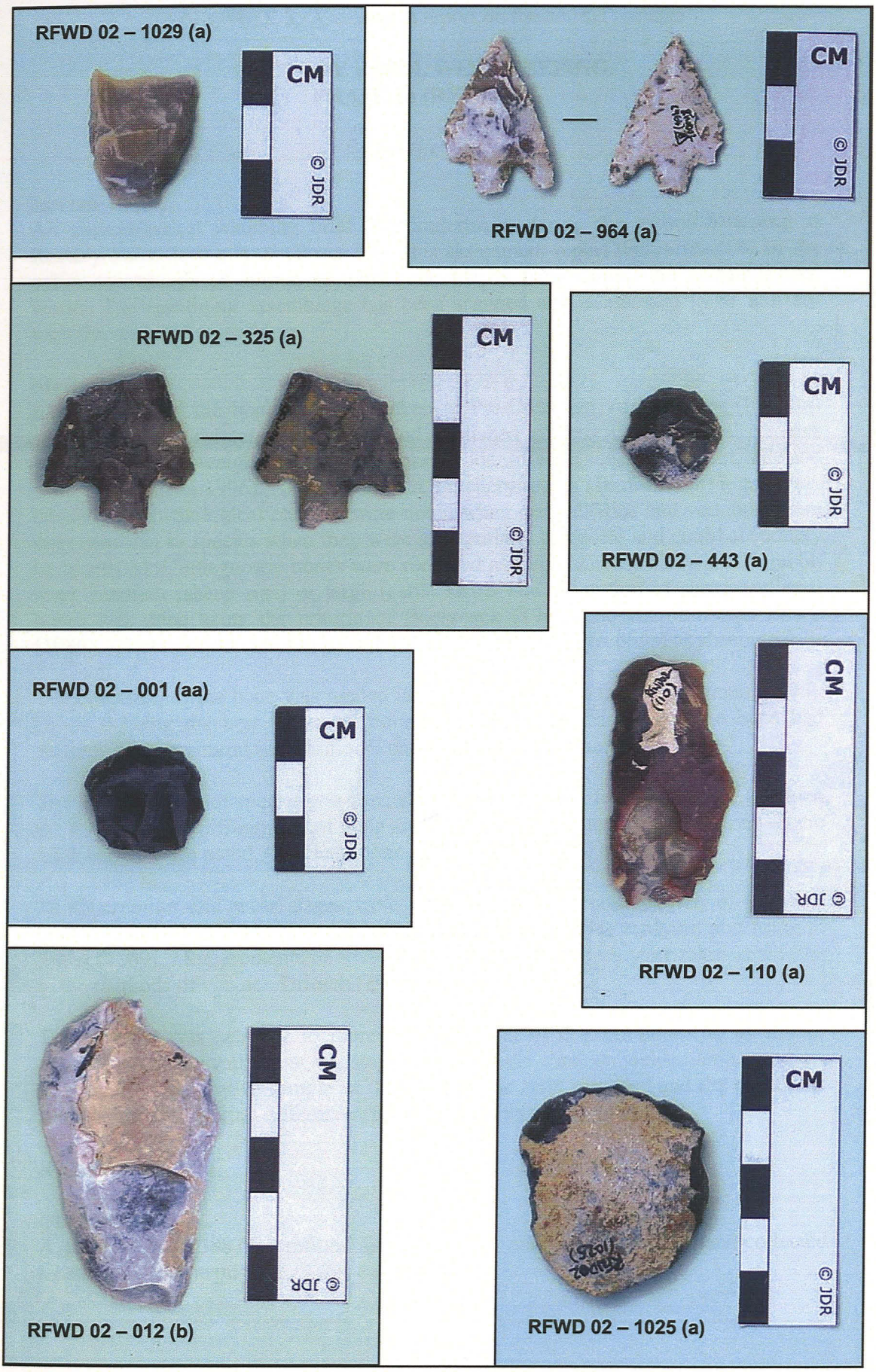


Plate 7: RFWD 02 – late Neolithic and early Bronze Age tools – 1029 (a) transverse arrowhead; 325 (a) & 964 (a) barbed & tanged arrowhead; 001 (aa) & 443 (a) thumbnail scraper; 110 (a) knife; 012 (b) side scraper; 1025 (a) side & end scraper .

APPENDIX 3: Assessment report on the animal remains

RECTORY FARM, WEST DEEPING.
PHASE 1a (RFWD 02)

By Jennifer Kitch

Introduction

An archaeological watching brief was undertaken during the topsoil stripping at Rectory Farm during 2002 (Phase 1a). This assessment report represents 60% of the entire assemblage of animal remains collected by hand during the archaeological works. The remaining assemblage has been scanned and is assessed to be uniform with the recorded assemblage.

Methodology

Identification of the bone was undertaken at Pre-Construct Archaeology (Lincoln) with access to a reference collection and published guides. All the animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also fusion data, butchery marks (Binford 1981), gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (mouse size), small (rabbit size), medium (sheep size) or large (cattle size). The separation of sheep and goat bones was done using the criteria of Boessneck (1969) and Prummel and Frisch (1986). Where distinctions could not be made, the bone was recorded as sheep/goat.

The condition of the bone was graded using the criteria stipulated by Lyman (1996). Grade 0 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated for each taxon. Where fresh breaks were noted, fragments were refitted and counted as one.

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is, fully fused bones were taken according to the methods of von den Driesch (1976).

The material was selected to represent all ranges of context numbers, as further context data is unavailable at this stage. Where single contexts yielded large numbers of bone a representative sample of the context was fully recorded and the remainder scanned for any striking differences from the assemblage make-up.

Results

Quantification

A total of 868 (38876g) refitted fragments was analysed from the hand-collected assemblage for the purpose of this assessment.

Condition

The condition of the material is quite varied. As can be seen from table 2, the majority of the assemblage falls within grade 3, as according to Lyman (1996), giving an overall condition of moderate. A total of 63 fragments (7% of assemblage) are encrusted with a mineral concretion, reducing the number of measurements and recordable characteristics observable.

Table 1. Condition

Condition	Percentage of Assemblage
1	0.5%
2	11%
3	67%
4	21%
5	0.5%

The general condition of the bone has allowed some recording of butchery and gnawing evidence. Table 2 summarises the number of fragments that have been recorded with butchery, gnawing and burning evidence, the table also summarises the number of fragments that were complete enough to take measurements.

Table 2, Summary of butchered, gnawed, burnt and measurable fragments.

	Butchered or Worked	Gnawed Fragments	Burnt Fragments	Measurable Bones*
Number of Fragments	28	4	18	60
Percentage of Entire Assemblage	3%	0.5%	2%	7%

* Ribs and vertebra excluded

The gnawing evidence appears to be generally consistent with carnivore/omnivore tooth marks.

The butchery evidence indicates disarticulation, meat and marrow removal, suggesting that the butchered animals were generally used for consumption. A dog humerus and articulating radius from context (1165) displayed cut marks consistant with disarticulation and/or skinning. A sheep/goat tibia with a hole possibly drilled through the distal shaft was recovered from context (1177). Three fragments of antler, two from red deer, one only identifiable as deer; display evidence of working. A relatively complete shed red deer beam, with the tines either broken or removed, displayed evidence of polishing on the remains of the brow tine through intentional polishing or use wear (from context 1184). A single broken deer antler tine recovered from context (1170) has a slight notch cut into the tip of the tine, the poor condition of the fragment obscures the evidence to suggest if the notch had been cut or worn through use. A fragment of red deer beam displays chop marks or notches cut into the beam, recovered from context (1106), possibly a discarded fragment from working.

Approximately 18 fragments from the assemblage have been burnt. This is possibly as part of the cooking and disposal processes. The assemblage is relatively fragmented, leaving only 7% complete enough for measurement. However, 81% of the assemblage is complete enough to identify to species or size category.

Species Representation

Table 3. Summary of Represented Species as Percentage of Assemblage

Taxon	Total
Cattle	180
Sheep/Goat	8
Goat	1
Pig	67
Dog	5
Auroch	11
Horse	1
Cat	1
Red Deer	10
Roe Deer	1
Deer	1
Large Mammal	329
Medium Mammal	90
Unidentified	163
Total	**868**

Cattle are the most abundance species identified within the assemblage. Pig is the second most abundant species, although only amount to third of the number of cattle remains identified. Auroch and red deer are the next most frequently identified species. Followed by Sheep/Goat and Dog, with single fragments representing horse and cat.

The cattle remains are represented by most skeletal elements, suggesting entire carcasses were present onsite. Again, for pig, most skeletal elements were represented. Several of the bones were noted to be relatively large in size, which may suggest the presence of wild boar within the assemblage.

Auroch are represented within the assemblage in small numbers. The presence of the wild cattle suggests hunting supplemented the diet or was of particular ritual/social significance.

Deer, red and roe, were also represented within the assemblage, predominantly though antler fragments. Two red deer teeth recovered from context (1107) and a roe deer tibia from context (1153) suggests the animals were occasionally hunted as well as shed antlers being collected for use.

The sheep/goat remains, a single horncore positively identified as goat, represent a minority of the assemblage, indicating a token presence on site rather than a full role in the economy/activities taking place.

The dog remains identified within the assemblage were recovered from context (1165) and appear to represent a single individual, evidence of cut marks were recorded, as previously discussed.

The single fragments of horse and cat recovered from the assemblage, provides little information save the presence of the species on site. The cat remains are probably from a wild cat hunted for fur.

Contexts of Interest

A single context (1031) produced a total of 200 fragments (50% of the context analysed). The remains consist entirely of cattle, Auroch, Pig, possible wild boar and red deer antler. The assemblage may represent a single large feasting event. Analysis of the accompanying finds corpus may provide further insight into the nature of the assemblage. The remaining fragments need to be analysed so the full ritual/domestic nature of the deposit can be further investigated.

A complete, although fragmentary, cattle skull was recovered from context (668). The skull was accompanied by the partial remains of a pig skull; cattle radius, patella and a small number of medium and large mammal size ribs and vertebra. These remains may represent a "special" or "placed" deposit. Further analysis of the associated finds may provide information on the nature of the deposit.

Discussion and Recommendations

Potential

The assessment has demonstrated that the condition and the bulk of the assemblage with allow for detailed study. It is apparent that cattle represent the main bulk of the assemblage, followed by pig. Analysis of the assemblage by phase and by Minimum Number of Individuals (MNI) may indicate any subtle changes in stock management through the occupation of the site. The assemblage has the potential for the analysis of husbandry practices through age-at-death profiles, produced through the use of tooth wear and epiphyseal fusion data. Measurements from the bones will increase our understanding of changes in stature of the animals possibly due to the variation of breeds.

Comparative data will be sought from other contemporary sites to assess the similarities between demography, species varieties and treatment. Sites will include the earlier phase of excavations (Hunn & Rackham, *in press*), similar sites within the locality and other well-published sites of the period, such as Durrington Walls.

The assemblage has the potential to provide information of both a local and regional significance, and it is recommended that further work be done on the collection.

Recommendations

- Cattle skull from context (668) requires further excavation and cleaning to allow measurements and traits to be recorded. (To be completed by technician).
- The remaining hand-collected assemblage should be recorded and analysed to complete the corpus of data.
- Analysis of the remaining assemblage when sorted from the environmental sample residues.
- The ageing and sexing of the animals will provide information regarding the management of the stock and the analysis of the metrical data will allow comparisons with other animals of the period.

- MNI (Minimum Number of Individuals) calculations should be made to further understand the site demography and husbandry practices and to remove bias often produced by partial or complete skeletons.
- The assemblage should be analysed for spatial arrangements to try to identify activity zones and placed deposits, in conjunction with other finds. (This is dependant on available data).
- The assemblage should be considered in conjunction with the earlier excavation and with the later assemblage recovered from phase 1b and phase 2 works, to provide an overall clearer understanding of the activities taking place during the entire occupation of the site.
- Worked bone or antler may require further specialist analysis to establish form and function.

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APPENDIX 4: Assessment report on the human remains

RECTORY FARM, WEST DEEPING. PHASE 1a (RFWD 02)

By Jennifer Kitch

Introduction

An archaeological watching brief was undertaken during soil stripping at Rectory Farm, West Deeping in 2002 (Phase 1a). This assessment report represents the entire assemblage of human remains collected by hand during the archaeological works.

Methodology

The analysis took place at PreConstruct Archaeology (Lincoln). Each skeleton was rapidly assessed on a written and pictorial inventory, with all available scores for sex, age, pathology noted where present. Each individual was visually assessed for percentage of completeness and preservation, recorded as good, fair, moderate and poor.

The determination of biological sex is based upon the morphological traits of the cranium and pelvis (Bass 1971, Buikstra & Ubelaker 1994; Schwartz 1995 and Workshop of European Anthropologists 1980). Sex was categorised as F (Female), F? (Possible female), U (Undeterminable), M? (Possible male), M (Male). No estimation of sex is made for sub-adult remains, as the sexually diagnostic characteristics are often quite ambiguous before puberty.

The determination of the age at death was assessed employing several ageing techniques on the elements available, to provide the most accurate results possible. Dental wear (Brothwell 1981:72, fig 3.9), Dental development (Gustafson & Koch 1974), Pubic symphysis phase (Brooks & Suchey 1990), auricular surface phase (Meindl & Lovejoy 1989), Ectocranial suture closure (Meindl & Lovejoy 1985) and the sternal end of rib (İşcan and Loth 1986) were utilised where the relative skeletal elements were present.

Results

Burials

Context	Sex	Age	Age Category	Condition	Completeness
Grave 1	Male	17-34 years	Young Adult	Fair	95%

Cremations

Context	Sample	Sex	Age Category	Condition
13	1	Unknown	Child	Moderate-Good

Grave 1

The burial context from which grave 1 was excavated is at this time unknown. The remains are from a young adult male, aged between 17 –34 years of age. They are in fair condition with good potential for the recording of metrical and non-metrical data. The skull is heavily fragmented, severely limiting the number of cranial measurements that can be taken. The dentition of the individual is fully present.

The long bones were relatively complete with good potential for measurements to calculate stature. Slight lipping was noted on the lower lumbar vertebrae; the frequency and severity has not been scored at this time.

Cremation Burial

The only cremation burial, (013) is highly calcified and heavily fragmented. A brief assessment of the material suggests that there is sufficient preservation for further analysis; the remains may be preserved well enough to provide a more accurate age.

Discussion and Recommendations

Potential

The remains are of moderate to good potential for further study. Due to the low numbers of human remains recovered from prehistoric Lincolnshire, every skeleton of this period is important to our understanding of past populations.

Comparative data will be sought from other contemporary sites to assess the similarities between demography and burial practice. Sites will include the earlier phase of excavations (Hunn & Rackham, *in press*), similar sites within the locality and other well-published sites of the period.

The assemblage has a potential to provide information that is of both local and regional significance.

Recommendations

- Full analysis of the burial should be undertaken, including the recording of metrics and non-metrics to increase the corpus of information to date on human remains from Lincolnshire.
- If possible, radiocarbon dates should be obtained from the individual to assess whether the burial was part of a contemporary ritual landscape.
- The assemblage should be considered in conjunction with the earlier excavation and with the later assemblage recovered from phase 1b and phase 2 works, to provide an overall clearer understanding of the activities taking place during the entire occupation of the site.

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APPENDIX 5: Assessment of Finds from Rectory Farm, West Deeping, Lincolnshire (RFWD02)

Alan Vince and Kate Steane

A small collection of fired clay and a fragment of bone from archaeological investigations at West Deeping carried out by Pre-Construct Archaeology Lincoln Ltd were submitted to the authors for identification and assessment.

The bone, at x20 magnification, showed no signs of working and the fired clay was in the main too fragmentary for identification. However, by comparison with material from the neighbouring site, RFWD 03, it was identified as probably being from loom weights.

Description

Animal Bone

A single fragment of bone, a sliver from the outer surface of a long bone (species unknown) from context 963, was identified on site as being worked. However, at x20 magnification grooves present on the outer surface were seen to be post-burial abrasions rather than knife-cuts. The sliver was very dense and one chip shows that it has a dark brown core, probably as a result of partial mineralisation.

Fired Clay

Twenty-one fragments of fired clay, from 6 contexts and weighing 345 gm, were recovered. All have a similar fabric.

The fabric contains moderate rounded fragments of clay/iron compounds, possible flint, and oolitic limestone all up to 3.0mm across and abundant rounded quartzose sand grains, up to 1.0mm across. Some of these are polished and of Lower Cretaceous origin and some are spherical with a matt surface. The groundmass contains abundant quartz silt with sparse muscovite.

Most have no surviving surfaces but one fragment from context 1186 probably comes from the basal angle of a cylindrical loom weight.

Fired clay fragments from RFWD03 include definite pieces of loom weight and the similarity in fabric and shape suggests that this is also the origin of these pieces.

There are several known types of prehistoric loom weight, ranging in date from the middle Bronze Age to the late Iron Age/Early Roman period, and it is not possible to assign the 1186 fragment to a precise type. There are three possible types from which this piece could have come:

a) Cylindrical, with a flat base and top and a central vertical cylindrical hole.

b) Truncated conical, with a flat base and rounded top and horizontal cylindrical hole

c) Truncated conical with a flat base and rounded top, and a central vertical hole.

Iron Age loom weights are usually of pyramidal form with a horizontal cylindrical hole.

Type (a) is recorded in the Bronze Age and Iron Age. Type (b) has not been recorded from dated contexts and is the type found at RFWD03 and Type (c) is recorded in the Iron Age.

The RFWD02 weight, which is typologically later than types (a) and (c), because of the horizontal hole, is therefore likely to belong to the Bronze Age or earlier part of the Iron Age.

Assessment

Future work

No further work is recommended at this stage although it would be possible to obtained thermoluminescent dates from the fragments which, even without a measure of background radiation, might be possible to determine whether they were indeed of MBA/EIA date and whether all are approximately of the same date.

Retention

All the fragments should be retained for possible future analysis.

Appendix 1

Context	Class	cname	Description	Form	Nosh	NoV	Weight
486	FCLAY	FCLAY			9	1	162
644	FCLAY	FCLAY			1	1	10
689	FCLAY	FCLAY			1	1	5
781	FCLAY	FCLAY			1	1	3
963	BONE		UNWORKED BONE		1	1	1
1072	FCLAY	FCLAY			1	1	16
1186	FCLAY	FCLAY	TWO SURFACES	LOOMWEIGHT?	1	1	54
1186	FCLAY	FCLAY			7	1	95

APPENDIX 6: Burnt and other stones recovered from RFWD 02

By Mark Allen (Allen Archaeological Associates)

Context	Number	Weight	Comments
499	1	11g	Stone chip
505	7	347g	Burnt
506	6	170g	Some burnt
507	2	256g	1x burnt
584	1	35g	-
603	2	111g	Burnt
605	2	96g	-
666	2	140g	-
671	12	485g	Some burnt
674	15	628g	Some burnt
688	1	56g	-
690	1	37g	Burnt
728	1	872g	Burnt
747	1	8g	Stone chip
831	16	960g	Some burnt
832	13	815g	Some burnt
909	1	354g	-
962	1	80g	-
963	3	138g	-
964	2	150g	2x white pebbles
966	13	1027g	Burnt
1015	1	93g	-
1029	2	91g	Burnt
1061	2	135g	?Burnt
1074	2	90g	Burnt
1077	2	230g	1x burnt
1106	2	382g	-
1141	8	1230g	Some burnt
1142	1	230g	-
1143	2	106g	?Burnt
1151	5	155g	Some burnt
1154	8	4252g	Some burnt. 1 large stone weighs 2772g
1164	1	34g	-
1165	1	103g	-
1176	2	261g	-
1186	4	216g	Burnt. 3 fragments from 1 pebble
1195	6	1299g	Some burnt
1196	3	118g	burnt

APPENDIX 7: The Post-Roman Ceramic Material from Rectory Farm, West Deeping (RFWD02, RFWD03, and RFWD04)

Jane Young

A small group of post-Roman pottery (thirty-four sherds representing twenty-five vessels) and three fragments of ceramic building material was recovered from investigations at Rectory Farm, West Deeping. The majority of the pottery came from Phases 1a (RFWD02) and 2 (RFWD04) with only a single sherd being recovered from Phase 1b (RFWD03). The material although mainly comprised of medieval vessels, ranges in date from the medieval to the early modern periods (Table 1). The ceramic building material comprises one fragment of 18th to 20th century brick, one unidentifiable brick/tile fragment and a piece of fired clay.

Table 1. Post-Roman Pottery Types by Site.

Codename	Period	RFWD02	RFWD03	RFWD04	Total Vessels
BL	Early post-medieval	1		1	2
BOU	Early post-medieval			3	3
BOUA	Medieval	7	1	6	14
ELY	Medieval	1			1
MP	Early post-medieval	1			1
STANLY	Medieval	2			2
STSL	Post-medieval	1			1
WHITE	Early modern	1			1
Total Vessels		14	1	10	25

The medieval pottery (seventeen vessels) is in very poor condition with all sherds being very abraded, making positive identification difficult. The majority of vessels appear to be 13th to 14th century jugs or jars from the fairly local medieval industry at Bourne (BOUA), although regional imports from Cambridgeshire (ELY) and Northamptonshire (STANLY) are also present. A small number of vessels (six vessels) probably belong to the 16th century and these include two Blackware (BL) vessels in what appears to be a Bourne-type fabric as well as three more usual post-medieval Bourne vessels (BOU). One of the Blackware vessels is a large cup and fragments were recovered from two contexts RFWD04 contexts 2042 and 2062), the other are jugs or jars. A single Midlands Purple (MP) jug or jar is likely to have originated from kilns in Nottinghamshire or Derbyshire. All of this early post-medieval material is in a fresher condition than the medieval pottery, although most sherds are still abraded. The two latest vessels are an eighteenth century Staffordshire Slip-ware bowl and a nineteenth century Whiteware dish.

The condition of the assemblage suggests that the post-Roman pottery probably represents material spread on the fields during manuring. The assemblage should be kept for future use in any research on post-Roman ceramics in the area, the Bourne-type Blackware sherds being of particular note.