Land at Otterhole Farm,
St. John's Road, Buxton,
Derbyshire:
archaeological investigations
2003

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# Land at Otterhole Farm, St. John's Road, Buxton, Derbyshire: archaeological investigations 2003

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## Land at Otterhole Farm, St. John's Road, Buxton, Derbyshire: archaeological investigations 2003

#### Summary

Archaeological investigations of land at Otterhole Farm, St. John's Road, Buxton, Derbyshire (centred on NGR SK 0470 7326), involving trial-trenching, test-pitting and sieving, open area excavation and metal detector survey were carried out during March and April 2003. Birmingham University Field Archaeology Unit (BUFAU) carried out the work on behalf of John Samuels Archaeological Consultants (JSAC).

A desk-based assessment and topographic survey of the site, was previously carried out by Gifford and Partners and submitted to the Development Control Officer, High Peak Borough Council. A planning application was then submitted to High Peak Borough Council by DPDS planning consultants on behalf of Wilson Connolly Northern (Planning reference HPK/2002/0681) for the proposed construction of 78 residential dwellings. The Development Control Officer subsequently produced a brief for the archaeological evaluation of the site. A specification for the archaeological evaluation was produced by JSAC, who were employed by DPDS as their archaeological consultants. BUFAU were then commissioned by JSAC to carry out the fieldwork, which subsequently evolved into a programme of work in mitigation of the archaeological impact of the proposed development.

The previous desk-based assessment and topographic survey identified the site as having good archaeological potential due to its close proximity to Lismore Fields Mesolithic and Neolithic site (SMR No. 2899-DR374 and 2898-DR373), and due to its similar geological and topographical position. The assessment also recorded 39 possible earthwork features comprising: hollows, depressions and mounds and although the majority of these were thought to be caused by subterranean collapse or mining, an archaeological origin for some of the earthworks could not be ruled out. The site was also thought to have potential for the existence of Roman remains, given that Buxton (Aquae Arnemetiae) was an important spa town during this period, and due to evidence that the site may be close to a convergence of Roman roads. Ridge and furrow of possible medieval date was also recorded, on one part of the site.

Evidence for human activity during the prehistoric period was recorded in the form of both unworked and humanly worked flint and chert recovered during the sieving of spoil from test pits. The amounts of flint/ chert recovered was generally low, especially near the River Wye on the underlying stoney clay and millstone grit geology. No flint or chert was recovered from the majority of test pits and three or less flint/ chert pieces were recovered from only a few test pits. Most of the worked flint/ chert recovered appeared to be consistent with Late Mesolithic date with the exception of a large scraper, of possible Neolithic date. At the southern part of the site away from the River Wye and located on the relatively drier area of underlying limestone geology, a relatively high concentration of flint/ chert was recorded in one field. The programme of test-pitting was then extended to include other areas of the site on the same limestone geology. A further concentration of flint/ chert was identified in the same field as the first concentration, elsewhere amounts of flint/ chert recovered were low. The two concentrations suggested the existence of two potential foci of activity during the Late Mesolithic period. Further test pits were

excavated at these two locations in an attempt to define the extent of the flint/chert concentrations. Subsequently two 5m x 5m areas (Areas A and B) were hand excavated and sample sieved in order to locate any underlying archaeological features associated with the flint/chert concentrations and to recover a larger assemblage of finds.

No archaeological features were identified, however a regionally important assemblage of worked flint/ chert was recovered, with the larger quantity coming from Area B. The flint/ chert tools recovered comprised of: discoidal scrapers, end scrapers, serrated flakes, bladelets, retouched pieces and microliths. The technology appeared to be geared to bladelet production with crested blades, bladelet core trimming flakes and bladelet cores much in evidence. A total of 416 flint/ chert pieces were recovered, 296 of which were humanly worked. The content of the lithic assemblage might suggest the former presence of a base or winter camp, in the traditional sense of classifying sites as either hunting or base camps, in the Late Mesolithic period. Around 6500-3500 BC people following a hunter- gatherer way of life used the site. The assemblage of humanly worked stone would appear to indicate maintenance activities being carried out at the site. The raw materials represent a wide range of varieties of flint and chert from several sources. People would probably have been processing raw materials, plant and animal products. Animal skins may have been prepared for clothing manufacture and other uses and meat butchered and consumed on the site.

No evidence of Roman archaeological features or deposits was recorded. The area of ridge and furrow with a spacing of 4.5m, which was recorded during the desk-based assessment and thought to be of medieval date was sampled excavated, during the test-pitting, and only one sherd of medieval pottery was recovered. In one of the test pits evidence of narrowly spaced possible furrows containing post-medieval pottery, was recorded. With the exception of a probable post-medieval boundary wall, an undated linear gully, and the evidence for plough furrows, all other excavated features proved to be of natural or of recent origin. Hollows, depressions and mounds within the site were probably either former paleochannels, the result of subterranean collapse, natural undulations in the landscape or the result of recent dumping. A metal detector survey only recovered finds of recent date.

#### 1.0 Introduction

This report describes the results of an archaeological evaluation, by means of test-pitting and sieving, trial-trenching, small-scale open area excavation and metal detector survey of land at Otterhole Farm, St. John's Road, Buxton, Derbyshire (centred on NGR SK 0470 7326) (Fig. 1, hereafter referred to as the site). Birmingham University Field Archaeology Unit (BUFAU) carried out the evaluation on behalf of John Samuels Archaeological Consultants (JSAC), in March and April 2003. The work was requested by the Development Control Archaeologist for the High Peak Borough Council as a response to an application for planning permission (HPK/2002/0691) for a residential development by Wilson Connolly Northern.

A previous desk-based assessment (Gifford and Partners 2001) and topographic survey identified the site as having good archaeological potential due to its close proximity to Lismore Fields, a nationally important Mesolithic and Neolithic site, and its similar geological and topographical possibility. The assessment also recorded 39 earthwork features and the majority of these were thought to be caused by subterranean collapse or mining. However, an archaeological origin for some of the earthworks could not be ruled out. The site was also thought to have potential for the survival of Roman remains given that Buxton (*Aquae Arnemetiae*) was an important spa town during this period, and due to evidence that the site may be close to a convergence of Roman roads.

The work conformed to a brief prepared by the Development Control Archaeologist for the High Peak Borough Council (Myers 2003) and was in accordance with a specification by JSAC (JSAC 2003a).

#### 2.0 Site location and description

The site is located at Otterhole Farm, St. John's Road, Buxton, Derbyshire (centred on NGR SK 0470 7326, Fig. 1). The proposed development covers an area of approximately 4 ha within the district of Burbage and is situated at a height of c. 300m AOD. The site comprises six pasture fields (Fields 1-6, Fig. 2), a farmhouse and associated outbuildings. To the south and east the site is bounded by residential properties. To the north and northcast the site is bordered by the Cavendish Golf Course and the River Wye respectively. To the northwest of the farmhouse is the Otterhole, a small cave where water resurges from the limestone and feeds a small pond, before running off into the River Wye beyond the site boundary. A former well, associated with a disused pumping station, is located at the northeast corner of the site, in Field 5. The remains of a former drystone wall bisect the most westerly field (Field 4).

The solid geology is Carboniferous strata of the Monsal Dale Limestone formation (mainly dark lithofacies) at the western part of the site. East of a line running approximately northeast-southwest across the middle of Field 1 the underlying geology is Millstone grits, overlain by head deposits of stoney clay (Joynes Pike Associates 2002).

## 3.0 Planning background

The site has been allocated for residential housing development in the High Peak Local Plan, subject to a section 106 agreement. A desk-based assessment and topographic survey was commissioned by Messrs J & P Milner and B. P Williams and was carried out by Gifford and Partners (Gifford and Partners 2001). This was submitted to Dr A. Myers, Development Control Officer, High Peak Borough Council. Following this a planning application was submitted to High Peak Borough Council by DPDS planning consultants on behalf of Wilson Connolly Northern (Planning reference HPK/2002/0681) for the proposed construction of 78 residential dwellings. Dr Myers then produced a brief for the archaeological evaluation of the site. A specification (JSAC 2003a) for the archaeological evaluation was produced by JSAC, who were employed by DPDS as their consultants. BUFAU were then commissioned by JSAC to carry out the fieldwork.

#### 4.0 Archaeological background

The desk-based assessment (Gifford and Partners 2001) carried out prior to the to the evaluation gives the detailed archaeological and historical background and only a summary is provided here.

## 4.1 The Prehistoric period

Site specific information

No evidence of prehistoric remains is known for the site itself.

#### General background

The earliest and most significant evidence for prehistoric activity in the area has been recorded at Lismore Fields (NGR SK 04957320, SMR No. 2899-DR374 and 2898-DR373, Fig. 1), approximately 250m from the southeast extent of the site. The Lismore Fields site was excavated between 1984 and 1987 and comprised a Late Mesolithic and Early Neolithic settlement. Late Mesolithic activity was characterised by flint-knapping debris in association with a semi-circular gully and an associated pair of postholes interpreted as the remains of a structure. Charcoal was recovered from one of the postholes and a radiocarbon date of 5270 ± 100 BP (OxA 2433) was obtained. Evidence for early Neolithic occupation comprised the remains of timber built longhouses with internal hearths and finds of worked flint and a Grimstone style bowl. The majority of this site has now been built over, however archaeological deposits were seen to extend into the field to the north. This field to the north of Lismore Fields has been scheduled by English Heritage (SAM DR 278). The Lismore Fields site was located near to a spring and a stream at the interface between two types of geology within the Wye valley (Garton 1991), similar to the location of the Otterhole site.

In addition several prehistoric finds including two Neolithic stone axes, a hammerstone and a number of flint flakes have been found in the vicinity of the site

#### 4.2 The Romano-British period

Site specific information

No evidence of Romano-British remains is known for the site itself.

#### General background

The spa town of Buxton is mentioned in the Ravenna Cosmography as *Aquae Arnemetiae*. It is possible that this settlement grew from a Romano-Celtic cult centred on natural hot and cold springs (Hart 1981). The site of a probable Roman baths complex and associated buildings at Buxton is covered by later Georgian development in the town (Myers 2002b). It is possible that the Otterhole resurgence attracted ritual activity and votive offerings in the Romano-British period. Entries in the Derbyshire Sites and Monuments Record suggest the existence of Roman roads converging on the Macclesfield Road and St. John's Road off Green Lane and Lismore Road. There is also evidence of Romano-British occupation at Poole's Cavern.

## 4.3 The medieval period

#### Site specific information

The only evidence for possible medieval activity within the site is the remains of ridge and furrow within Field 6. The width of the furrows (c. 4.5m) and the rounded profile of the ridges may suggest an early medieval date.

## General background

The county of Derbyshire is mentioned the Anglo-Saxon chronicles c. 1049 AD and the site is located within Burbage or Burh bece, Saxon for a stream by a fortified place. The area was later part of the Viking Danelaw attested by various local place names. The Domesday Survey does not record the High Peak Hundred, which was later described by the Norman lord William Peveral. Buxton was mentioned in the foundation charter of Lenton Abbey as buchestanes c. 1108 AD and was known as Buxton by 1577 AD. The district of Burbage became part of the Royal Forest of the Peak during the later medieval period.

## 4.4 The post-medieval period

## Site specific information

There is documentary evidence, which suggests that a mill of 17<sup>th</sup> century date may lie within the site. Its most likely location is close to the river, perhaps in Field 5. There is a documetary reference to underground drainage, possibly at the site, in the early nineteenth century. The precise location of this is uncertain.

## General background

There is evidence of lime quarrying and burning close to the site from the 17<sup>th</sup> century. There are numerous references to small-scale lime kilns and coal mining at area of Burbage up until the late nineteenth century and coal was still being mined for use in kilns into the early 20<sup>th</sup> century. Small-scale lead mining was also being carried out in the valley of the Wye from the 18<sup>th</sup> century. This mining activity caused underground flooding and to alleviate this underground drainage networks were created by tunnelling natural subterranean systems.

#### 4.5 Earthwork features

A total of 39 possible carthwork features or topographic anomalies were identified during the assessment (Gifford and Partners 2001). These were mainly linear and curvi-linear hollows or depressions, mounds and gullies. In some areas especially in Fields 3 and 4, modern rubble has been used to partially backfill some of the carthwork features. A geophysical survey conducted by Joynes Pike and Associates (Joynes Pike and Associates 2002) demonstrated that only 11 of these features were possibly archaeological. The remaining features are probably the result of hydrogeological phenomena and modern disturbance. An area of ridge and furrow in Field 6, aligned northeast-southwest, with ridges spaced at 4.5m, was also identified.

## 5.0 Aims and methodology (Fig. 2)

The general aims of the archaeological evaluation were to:

- establish the likely presence or absence of any archaeological deposits or features and artefact scatters within the site.
- define the date, nature, preservation, extent and significance of surviving deposits and features.
- provide information to allow a mitigation strategy to be designed.

These aims were achieved through three phases of work involving archaeological trial-trenching, test-pitting, small-scale open area excavation and metal-detector survey.

The site specific objectives of the first phase of work, as defined by the brief and addressed in the specification, were:

- 1. to locate potential evidence of prehistoric activity, particularly finds of Neolithic and Mcsolithic date. The potential for this evidence was due to the proximity of the site to the Lismore fields site and to its location on similar geology and in a similar landscape.
- 2. to ascertain whether possible earthwork features, identified by topographic survey (Gifford and Partners 2001), were of archaeological origin, to locate evidence of a 17<sup>th</sup> century mill suggested by documentary evidence. The most likely location for this was thought to be close to the river in Field 5.
- 3. to investigate the possible presence of Romano-British activity, particularly in the form of metal votive deposits around the Otterhole resurgence.

These objectives were addressed in the JSAC specification by the following:

- 1. A programme of test-pitting and sieving on a 10m grid was designed to recover artefactual evidence of prehistoric activity, but in effect provided an opportunity to sample potential archaeology of all periods. The majority of these test pits were located near the river as it was thought that this location had the highest potential for the recovery of artefacts due to the known ritual and practical significance of such a location. It was acknowledged that geophysical survey was probably not the best method to identify discrete features and house floors of Mesolithic or Neolithic date.
- 2. Using information contained in a hydro-geological report (Joynes Pike and Associates 2002), commissioned by Wilson Connolly, which included geophysical survey work, it was possible to demonstrate that a number of the possible earthworks, identified by the previous assessment, were not archaeological. These features were of hydro-geological origin and several other features were of recent date. This was agreed with the Development Control Officer. The remaining possible earthworks (Gifford and Partners 2001, features 1a-g, 10, 15, 26, 29, 30 and 32) were to be evaluated by means of trial-trenching, to establish their date, character and function. One of the earthwork features (29), in Field 5, was thought to be potentially associated

with the 17<sup>th</sup> century mill mentioned in documentary sources. The ridge and furrow in Field 6 was would also be assessed by the trial-trenching and test-pitting.

3. No development is proposed near to the Otterhole resurgence and consequently there would be no impact on any potential below ground archaeology here. The possible presence of votive deposits, particularly precious metals, around the Otterhole resurgence was investigated by means of metal detector survey.

The specification was approved by the Development Control Officer and BUFAU were commissioned by JSAC to carry out the work. Fieldwork commenced on Monday 3<sup>rd</sup> March, 2003.

## 5.1 Phase 1

## Test pits- method

A site grid was established and surveyed in by EDM and 71 test pits were excavated. The test pits measured 1m x 1m and were excavated in the southeast corner of 10m x 10m grid squares, aligned on the site grid. The excavation was carried out using a mini-digger or JCB fitted with a toothless bucket, monitored by a qualified archaeologist at all times. Topsoil/ modern overburden was removed in 0.10m spits, to enable some spatial control, down to the top of the natural subsoil or the top of the uppermost archaeological deposit. Each spit of spoil was stored separately adjacent to each test pit in a pre-arranged order (Plate 2), with spit 1 being the first 0.10m spit. The spoil from the test pits was manually sieved through a 0.01m mesh (Plate 3) and all finds were retained, bagged and numbered by test pit and spit. The soil description, stratigraphy and height AOD of all of the test-pits were recorded on pro-forma record cards.

Any recovered finds were cleaned, marked and remedial conservation work will be undertaken where necessary. Treatment of all finds conformed to guidance contained within A strategy for the care and investigation of finds published by English Heritage and the document Guidelines for the preparation of excavation archives for long term storage published by UKIC. The test pits dug in Phase 1 of the test pitting were numbered 1-71 and the greatest number of pits were located in Fields 5 and 6, as it was thought that areas closer to the river might be conducive to prehistoric activity.

Areas of Field 6 were found to have high proportions of clay in the spoil and there proved extremely difficult to sieve effectively. Following consultation with the Development Control Officer on 6<sup>th</sup> March site the amount of spoil sieved was reduced to 50%. This reduced sieving percentage was only applied to Test Pits 24-71.

At a site meeting with the Development Control Officer, JSAC and BUFAU on 13<sup>th</sup> March, 2003 all the significant artefacts recovered from the sieving were laid out. All the lithics appeared to be of Late Mesolithic date and there was a clear concentration in Field 2.

#### Trial-trenching- method

Eight trial-trenches (Trenches 1-8) were excavated (a total of 249m<sup>2</sup> of trenching) across the possible earthworks identified by the previous desk-based assessment and thought to be of possible

archaeological origin. In consultation with the Development Control Archaeologist for High Peak Borough Council, it was decided that one of the possible earthworks was of modern origin (Gifford and Partners 2001, Feature 26) and this was not trenched. This left 10 possible earthworks, which could be of archaeological origin and all these were examined by means of trial-trenching. Excavation was carried out using a JCB excavator fitted with a toothless bucket. This was monitored by a qualified archaeologist at all times. Machining ceased at the top of the uppermost archaeological deposit or at the top of the natural subsoil if no archaeological deposits were present. Any subsequent cleaning and excavation was by hand. Where appropriate, surfaces and sections were hand cleaned to aid interpretation and recording. A detailed context record on individual proforma record cards was maintained and all deposits were photographed using both colour and monochrome film, supplemented by digital images. Sections and plans were drawn at a scale of 1:50 or 1:20 as appropriate. Even where no archaeological deposits were identified, a record of the stratigraphy was made. Any recovered finds were cleaned, marked and remedial conservation work will be undertaken where necessary. Treatment of all finds conformed to guidance contained within A strategy for the care and investigation of finds published by English Heritage and the document Guidelines for the preparation of excavation archives for long term storage published by UKIC.

## Metal detector survey- method

An experienced local metal detectorist, Mr Peter Dunkley, was contracted to carry out a metal detector survey on behalf of BUFAU. The metal detector survey was carried out in Field 3, in and around the Otterhole resurgence and the associated pond to determine whether votive deposits of metalwork were present. Further survey was carried out in Fields 5 and 6.

#### 5.2 Phase 2

The provisional results of the fieldwork were communicated to the client, DPDS planning consultants and Wilson Connolly Northern by Simon Mortimer, JSAC. The results of the Phase 1 test-pitting suggested the original hypothesis; that any potential prehistoric activity at the site may be concentrated close to the river was incorrect. The concentration of worked flint was situated on the higher ground, in Field 2, away from the river.

The trial-trenching and metal detector survey, which did not record any features, deposits or finds of archaeological significance, fulfilled the requirements of the original evaluation specification (JSAC 1047/03/01 2003a). This specification allowed for further phases of investigation and it was agreed with the Development Control Officer that there should be a continuous programme of evaluation and mitigation. This work was carried out in addition to the work originally required by the brief. The nature of the work changed from evaluation to mitigation, with the proviso that that no further work would be carried out at areas of the site with low potential or that had been fully investigated.

The next phase of work was proposed by Simon Mortimer on behalf of client. Following the recovery of a concentration of worked flint in Field 2, and in consultation with the Development Control Archaeologist for High Peak Borough Council, it was decided to carry out a further phase of test-pitting and sieving (Phase 2). This concentrated on the remainder of Field 2 and the fields to the west. The Phase 2 work was carried out in order to identify further possible artefact scatters

within the site, in areas not originally investigated in the Phase 1 work. These areas were not originally investigated because they were thought to be less conducive to Mesolithic and Neolithic activity, being further from the river. In addition to the extension of the test-pitting, further test pits were to be excavated at lesser intervals around the concentration of flint in Field 2 and any other possible artefact scatters, in order to attempt to delimit their precise locations. It was agreed with the Development Control officer that open area excavation (Phase 3) would then be carried out in the areas of flint concentrations.

The Phase 2 work followed on from Phase 1 and adhered to the methodology set out previously in the original brief and specification and also in Project Design Update Note 1, prepared by JSAC (JSAC 2003b) and approved by the Development Control Officer. A further 60 test pits were excavated, located at the north part of Field 2 (TP 76-87), in Field 3 (TP 88-94) and in Field 4 (TP 95-135). The location of these test pits was designed to avoid most of the depressions and hollows of probable hydro-geological origin in Fields 3 and 4. The methodology employed by the previous phase of work was working satisfactorily and a further flint concentration was identified.

#### 5.3 Phase 3

The aim of the final phase of work (Phase 3) was to mitigate the affect of the proposed development by the excavation and recording of any possible archaeological features associated with artefact scatters and to recover a larger sample of artefacts. A third phase of test-pitting involved the excavation and sieving by hand of eight further test pits (TP72-75 and TP 136-139). The methodology for this test-pitting was the same as that employed previously in Phases 1 and 2, except that excavation was carried out by hand. These were excavated, in Field 2, to define the extent of flint scatters around TP 9/10/77, identified in Phase 1, and TP 86/87, identified following the extension of test-pitting into the north part of Field 2, during Phase 2. The strategy for this was set out in a second updated project design note (JSAC 2003c).

This aided the selection of the locations of 5 x 5m areas for open excavation in consultation with the Development Control Officer and JSAC. Four pits were excavated around each of the two scatters. This was achieved by small-scale hand excavation targeted on the locations of the densest concentrations of artefacts and a programme of sieving, designed to recover a larger sample of artefacts. At a site meeting on 24th March, 2003 with the Development Control Officer, JSAC and BUFAU the first of these open areas was inspected and the location of the second area was selected. The BUFAU Environmental Officer, Marina Ciaraldi also attended this meeting and advised that the banks of the River Wye at the northeast boundary of the site have little environmental potential due to tree disturbance. The BUFAU Environmental Officer also took an environmental sample from a feature in Trench 8. At the final site meeting on 2nd April, 2003 the second area was inspected. Following the receipt of an interim statement and on the basis that a full report would be produced the Development Control Officer advised High Peak Borough Council that the site had been satisfactorily evaluated and the impact of the proposed development mitigated.

#### Open area excavation- method

Two 5 x 5m areas were excavated to determine whether any archaeological features were associated with flint scatters and to recover a larger lithic assemblage. Following selection of the location of the two 5x 5m areas for open area excavation (Areas A and B) these areas were hand excavated down to the natural subsoil and hand cleaned. Both areas were excavated in 0.10m spits and 25% of spoil from each 1m grid square was sieved manually through a 0.01m mesh. Area A grid squares were numbered 140-164 and Area B grid squares were numbered 166-190. All finds were retained, bagged and numbered by 1m grid square and spit number. Any archaeological features or deposits revealed were to be hand excavated. Sections and plans were drawn at a scale of 1:50 or 1:20 as appropriate. Even where no archaeological deposits were identified, a record of the stratigraphy was made. A detailed context record on individual pro-forma record cards was maintained and all deposits were photographed using both colour and monochrome film, supplemented by digital images. Sections and plans were drawn at a scale of 1:50 or 1:20 as appropriate. Even where no archaeological deposits were identified, a record of the stratigraphy was made.

#### 6.0 Summary of results

## 6.1 Phase 1

6.1.1 Test pits (Figs 2, 3, 4, 5 and 6)

The first phase of fieldwork involved machine excavation of 71 one metre square test pits located on a 10 metre interval grid. These test pits (TP's) were located in Field 1 (TP 14-20), Field 2 (TP 1-13), Field 5 (TP 67-70) and Field 6 (TP 21-66 and 71) and were designed to locate evidence of prehistoric activity, but in effect provided an opportunity to sample potential archaeology of all periods. The greatest number of pits were located in Fields 5 and 6, as it was thought that areas closer to the river might be conducive to prehistoric activity.

The natural subsoil was generally a yellow brown sandy clay, with outcrops of limestone in Field 3. Evidence of a possible pond or perhaps a paleochannel was recorded in TP 35 and TP 36, Field 6. The base of this feature was not reached, but it was at least 1.70m deep, and was filled with layers of grey silty clay and black silty clay. The amounts of flint and chert recovered was generally low with the topsoil in the majority of test pits containing no flint and only one or two pits containing 3 or fewer flints. However, in Field 2, several test pits contained three or more flints and two adjacent pits (TP 9 and TP10) contained 16 and 6 pieces of flint, most of it worked, of probable Late Mesolithic date. This concentration of flint suggested a focus of activity during the Late Mesolithic period. The other finds recovered were mainly of post-medieval date with the exception of one sherd of medieval pottery from the topsoil, TP 47 (Field 6). Three archaeological features were recorded in two test pits in Field 6: a probable post-medieval drystone wall within a linear cut (F2 and F5, TP 30; Plate 4) and two possible plough furrows (F3 and F4, TP25; Plate 17), possibly related to the ridge and furrow in this field. The height difference between top of ridge and base of furrow was 0.20-0.30m. It was aligned northeast-southwest, with ridges spaced at 4.5m and a greyish brown silty clay subsoil layer containing post-medieval pottery was recorded, filling the furrows in Field 6.

## 6.1.2 Trial-trenching (Fig. 2)

Eight trial-trenches were excavated across possible carthworks, which could be of archaeological origin, identified by the previous desk- based assessment. Most of the earthworks were found to be either, natural undulations, the result of probable subterranean collapses or modern dumping and a probable modern drainage feature. Two of the trenches (Trenches 6 and 8) investigated depressions, which are probably paleochannels of unknown date. The probable paleochannel in Trench 8 contained, what appeared to be an organic peat-like deposit, which was sampled and was subsequently, found to contain no macro-plant remains. No other significant archaeological features or deposits were recorded.

Trench 1 (Fig 15, Plate 8)

Aim: to investigate a curvi-linear hollow

Dimensions: 20m long x 1.7m wide (aligned northeast- southwest)

Level (top of natural): 317.00m (NE)to 316.12m (SW) A.O.D.

Table 3: Context and feature summary, Trench 1

Context/	Context/ feature description	Dimensions of	Context/ feature	
feature		context/ feature	type	
number	<u> </u>			
1000	Dark brown sandy loam (topsoil)	0.3m deep	Layer	
1001	Brown silty clay	0.9m + deep	Fill of F100	
1002	Brown silty clay	0.1m deep	Fill of F101	
1003	Black peat	0.15m deep	Fill of F100	
<b>F</b> 100	Steep sided hollow with irregular profile	6.4 wide x at least	Natural hollow	
		0.90m deep	]	
F101	Shallow scoop	0.60m x 0.1m	Root disturbance	
1004	Yellow sandy clay	317.00m to	Natural	
		316.12m A.O.D.	<u> </u>	

#### Interpretation

Feature F100 corresponded with the curvi-linear hollow visible on the ground. No finds were recovered from this feature and this together with its irregular profile suggested it was more likely to be a natural feature formed by subterranean collapse than an archaeological feature. Shallow irregular feature F101 was probably caused by root disturbance. No archaeological features were recorded.

Trench 2 (Fig 15, Plate 9)

Aim: to investigate a sub-circular depression

Dimensions: 18.5m long x 1.7m wide (aligned northeast-southwest)

Level (top of natural): 310.07m (NE) to 311.32m (SW) A.O.D.

Table 4: Context and feature summary, Trench 2

Context/ feature number	Context/ feature description	Dimensions of context/ feature	Context/ feature type
2000	Dark brown sandy loam (topsoil)	0.3-0.4m dcep	Layer
2001	Grey/brown silty clay	0.1m deep	Fill F200
F200	Irregular profile	1m wide x 0.25m deep	Tree bole
2002	Yellow/ brown sandy clay	310.07m to 311.32m A.O.D.	Natural

## Interpretation

Feature (F200) was a tree bole of natural origin. The sub-circular depression appeared to be a natural undulation and not of archaeological origin. No archaeological features were recorded.

Trench 3 (Fig 16, Plate 10)

Aim: to investigate three sub-circular mounds and apparently associated depressions

Dimensions: 48m long x 1.7m wide (aligned east-west)

Level (top of natural): 310.68m (W) to 310.63m (E)A.O.D.

Table 5: Context and feature summary, Trench 3

Context/ feature number	Context/ feature description	Dimensions of context/ feature	Context/ feature type
3000	Dark brown sandy loam (topsoil)	Up to 0.5m deep	Layer
3001	Light grey silty clay	Up to 0.5m deep	Layer
3002	Compact silty brown clay	Up to 0.3m deep	Layer
3003	Light grey silty clay containing a sherd of post-medieval pottery	Up to 0.45m deep	Layer
3004	Compact silty brown clay	Up to 0.3m deep	Layer
3006	Brown silty clay	0.1m deep	Fill F300
F300	linear gully, steep sides flat base	0.28m x 0.1m deep	Linear cut
3007	Whiteish grey clay	0.1m deep	Natural
F301	Variation in underlying natural	0.1m	Natural
3005	Yellow sandy clay with bands of Whiteish grey clay	310.68m to 310.63m A,O.D.	Natural ground surface

#### Interpretation

A shallow north-south aligned linear gully (F300) cut the natural subsoil (3005). No dating evidence was recovered from this feature. It is possible that F300 may be the remains of a former field drain. Upon excavation, F301 proved to be a variation in the natural subsoil. The layers (3001, 3002, 3003 and 3004), one of which contained a sherd of post-medieval pottery, corresponded with two of the sub-circular mounds. These two mounds appeared to be the result of dumping during the post-medieval period, possibly associated with the quarrying suggested by a deep depression to the north of the trench, in Field 1. A third possible mound at the northeast end of the trench was composed of topsoil and no dating evidence was recovered.

Trench 4 (Fig 17, Plate 11)

Aim: to investigate a slight curvi-linear depression

Dimensions: 10m long x 1.7m wide (aligned northwest-southeast)

Level (top of natural): 310.50m (SE) to 311.0m (NW) A.O.D.

Table 6: Context and feature summary, Trench 4

Context/ feature number	Context/ feature description	Dimensions of context/ feature	Context/ feature type
4000	Dark brown sandy loam (topsoil)	Up to 0.4m deep	Layer
4002	Peaty black silty clay	0.4m deep	Fill F400
F400	Curvi-linear with irregular profile	lm wide x 0.4m deep	Tree bole
4001	Yellow sandy clay and light grey clay	311.0m to310.50m A.O.D.	Natural

## Interpretation

Irregular curvi-linear feature (F400) was probably a tree bole. The curvi-linear depression appeared to be a natural undulation and not of archaeological origin. No archaeological features were recorded.

Trench 5 (Fig. 17, Plate 12)

Aim: to investigate a curvi-linear depression

Dimensions: 10m long by 1.7m wide (aligned north-south)

Level (top of natural): 309.85m(N) to310.30m (S) A.O.D.

Table 7: Context and feature summary, Trench 5

Context/ feature	Context/ feature description	Dimensions of context/ feature	Context/ feature type
number	<del>                                     </del>		<u> </u>
5000	Dark brown sandy loam (topsoil)	0.3m deep	Layer
5001	Yellow/brown silty clay containing a sherd of post-medieval pottery	0.3m deep	Fill F500
5002	Yellow sandy clay	309.85m to 310.30mA.O.D.	Natural
F500	Shallow hollow	7.40m x 0.30m deep	Natural depression

#### Interpretation

A shallow hollow (F500) corresponded with the curvi-linear depression visible on the ground. A single sherd of post-medieval pottery was recovered from the fill of F500. This shallow feature may be interpreted as a natural hollow or undulation.

Trench 6 (Fig. 17, Plate 13)

Aim: to investigate a linear depression, orientated northeast-southwest

Dimensions: 20m long x 1.7m wide (aligned northwest-southeast)

Level (top of natural): 307.25 (SE) to 308m (NW) A.O.D.

Table 8: Context and feature summary, Trench 6

Context/ feature number	Context/ feature description	Dimensions of context/ feature	Context/ feature type
6000	Dark brown sandy loam (topsoil)	Up to 0.5m deep	Layer
6001	Grey silty clay	6.5m wide	Fill F600
6002	Yellow sandy clay with gritstone	307.25 to 308m	Natural
6003	Black silty clay containing modern pottery and glass	1.1m wide	Fill F600
F600	Not excavated	6.5m wide	?Paleochannel

#### Interpretation

Negative feature F600 corresponded with the linear hollow visible on the ground. F600 was not fully excavated, but this feature contained a grey silty clay (6001), containing no finds, which was similar to the grey silty clay, contained within a probable paleochannel, excavated and recorded in TP 35 and TP 36; Field 6, during the test-pitting. The base of the paleochannel feature in TP36 was not reached, but it was at least 1.70m deep (see 6.1 above). Two test pits in Field 2 (TP 82 and 83, see 6.1 above) were also dug, at the base of a linear surface depression in Field 2, aligned northeast-southwest. The black silty clay deposit containing modern pottery and glass (6003) is

probably the fill of a modern drainage ditch cutting 6001 and utilising the surface depression for drainage.

Trench 7 (Fig 17, Plate 14)

Aim: to investigate a linear gully, orientated northwest-southeast

Dimensions: 10m x 1.7m wide (aligned northeast-southwest)

Level (top of natural): 306.10m A.O.D.

Table 9: Context and feature summary, Trench 7

Context/	Context/ feature description	Dimensions of	Context/ feature
feature		context/ feature	type
number	ļ		
7000	Dark brown sandy loam (topsoil)	0.1m	Layer
7001	Gritstone	306.10m A.O.D.	Natural
7002	Grey silty clay	0.2m	Fill F700
7003	Yellow sandy clay	306.10m A.O.D.	Natural
F700	Linear ditch with steep sides and narrow	1m wide x 0.20m	Linear cut
1	rounded base aligned northwest-	deep	i !
l	southeast		<u> </u>

#### Interpretation

Ditch F700 corresponded with the linear ditch visible on the ground No dating evidence was recovered from F700, but it was seen to be currently functioning drainage ditch with water draining along F700 into the river to the north. It seems possible that this ditch is of fairly recent origin and is not associated with the ridge and furrow, which appears to terminate further to the west. If the ditch were of an earlier date it would probably have silted up rapidly, without continuous recutting.

Trench 8 (Fig 18, Plates 15 and 16)

Aim: to investigate a curvi-linear depression or gully

Dimensions: 10m long by 1.7m wide (northwest-southeast)

Level (at ground surface): 305.30 (NW) to 306.20m (SE) A.O.D.

Table 10: Context and feature summary, Trench 8

Context/ feature	Context/ feature description	Dimensions of context/ feature	Context/ feature type
number			⊅r-
8000	Dark brown sandy loam (topsoil)	Up to 0.4m deep	Layer
8001	Mid brown sandy silty clay with occasional charcoal flecks	Up to 0.5m deep	Fill F800
8002	Orange/brown sandy clay with silt lenses and occasional stones	Up to 0.4m deep	Fill F800
8003	Mid grey/brown clayey sandy silt with occasional stones	0.1m deep	Fill F800
8004	Mid yellow/brown sandy clay with stones	Up to 0.4m deep	Fill F800
8005	Light grey/brown sandy clay	Up to 0.3m deep	Fill F800
8006	Dark grey/brown clay with yellow/brown clay lenses	0.4m deep	Fill F800
8007	Dark grey clay with lenses of yellow/brown clay	0.6m deep	Fill F800
8008	dark grey/black silty clay	0.30m deep	Fill F800
8009	Yellow brown sandy clay	305.30 to 306.20m A.O.D.	Natural
F800	Linear negative cut aligned northeast- southwest with steep sides	4.2m wide x 1.25m deep	Paleochannel

## Interpretation

Negative feature F800 corresponded with the curvi-linear hollow visible on the ground, adjacent to the present Otterhole stream. No finds were recovered from F800, and it was interpreted as a paleochannel. Environmental samples were taken from the fills of F800, following a site visit from the BUFAU Environmental Officer, Marina Ciaraldi, on 24<sup>th</sup> March, 2003. The earliest fill of F800 was a black, apparently peaty clay which appeared to have potential for the preservation of organic remains and which could be used to obtain a radiocarbon date. However, the sample from this context was subsequently found not to contain any organic remains (see 7.3, below).

#### 6.1.3 Metal detector survey

Initially, the metal detector survey was carried out in and around the area of the Otterhole resurgence and within the associated pond. The pond appears to be a fairly recent feature, as it does not appear on early OS maps depicted in the hydro-geological assessment report (Joynes Pike Associates 2002). The only finds recovered were of a modern date. The rapid completion of the metal detector survey around the Otterhole resurgence allowed further metal detecting to be carried out in Fields 5 and 6. Here also, the only finds recovered were of a modern date and were not retained. A metal detectorist, Mr Wilkinson, who had previously investigated the site and who had spoken to the Development Control Archaeologist, was contacted. The results of his work were the recovery of a 16<sup>th</sup> century beehive thimble, lead musket balls and scals and no finds of medieval or earlier date (pers. comm Simon Mortimer) were recovered.

#### 6.2 Phase 2

## 6.2.1 Test pits (Figs 2, 3, 4, 5 and 6)

Following the recovery of a concentration of worked flint in Field 2, in consultation with the Development Control Archaeologist, it was decided to extend the programme of test-pitting and sieving into the north part of Field 2 (TP 76-87), Field 3 (TP 88-94) and Field 4 (TP 95-135). The location of these test pits was designed to avoid most of the depressions and hollows of probable hydro-geological origin in Fields 3 and 4.

In Fields 3 and 4 the quantity of flint recovered was low and the test pits contained less than 3 flints per pit. Further evidence of a concentration around TP 9/ 10 was found with the adjacent TP 77 yielding 7 flints. In the north part of Field 2 two adjacent pits (TP 86 and TP 87) contained 5 and 12 flints, the majority of it worked, of probable Late Mesolithic date. This concentration of flint suggested a second focus of activity during the Late Mesolithic period. Two test pits (TP 82 and 83) were dug, at the base of a linear surface depression in Field 2, aligned northeast-southwest. The nature of the subsoil exposed here suggested this feature may be a former paleochannel, possibly a continuation with the paleochannel investigated during the trial-trenching (see 6.3.6 Trench 6, below).

## 6.3 Phase 3 (Figs. 7-14)

#### 6.3.1 Test pits

Eight further test pits were excavated and sieved by hand in Field 2 to define the extent of the flint scatters around TP 9/10/77 and TP 86/87 and to help inform the location of small 5 x 5m areas for open excavation. These 5 x 5m areas were excavated to determine whether any archaeological features were associated with the two foci of Mesolithic activity and to recover a larger lithic assemblage. Four pits were excavated around each of the two scatters.

Three pits (TP 72-74) were excavated and sieved 5m to the south, east and north of TP 9. The presence of a field boundary and an associated mature tree meant a fourth pit could not be dug to the west, so a further pit (TP 75) was excavated to the north of the east pit (TP 73). The quantities and distribution of flint recovered suggested the optimum area for excavation would be to the northeast of TP 9. Three pits (TP 137-139) were excavated and sieved 5m to the west, north and east of TP 87. A fourth pit (TP 136) was excavated 5m to the north of the west pit (TP 137). The quantities and distribution of flint recovered suggested the optimum area for excavation would be to the northwest of TP 87.

#### 6.3.2 Open area excavation (Figs. 7-14)

Following selection of the location of two 5x 5m areas (Areas A and B) for open area excavation these areas were hand excavated down to the natural subsoil and hand cleaned. Both areas were excavated in 0.10m spits and 25% of spoil was sieved (Plate 5).

## Area A (Figs 7-10)

The natural subsoil was a yellow sandy clay (9001). Two features (F900 and F901) were recorded. A grey silty deposit (9002) overlying 9001, within an irregular shallow scoop (F900), 3m x 1.75m

and 0.1m deep, was revealed and sample excavated (all spoil was sieved and no finds were recovered). This was found to be of natural origin, probably due to root action (Plate 6). A greyish brown silty sandy clay (9003), within an irregular sub-circular feature (F901) approximately 0.5m in diameter and 0.2m deep, was also revealed and proved to be of natural origin. Scaling natural 9001was a layer of topsoil (9000), 0.37m in depth.

Table 1: Context and feature summary, Area A

Context/	Context/ feature description Dimensions of Context		Context /feature	
feature		context/ feature	type	
number		_		
9000	Dark grey/brown sandy loam (topsoil)	0.37m deep	Layer	
9002	Grey silt 0.1m		Fill F900	
F900	Shallow scoop/ root disturbance	3.0 x 1.75 x 0.1m	Natural feature	
		deep		
9003	Grey/ brown silty sandy clay	0.2m deep	Fill F901	
F901	Shallow scoop/ root disturbance	0.50 diam, x 0.2m	Natural feature	
		deep		
9001	Yellow sandy clay	312.40m AOD	Natural	

An assemblage of 51 flints was recovered from Area A (Fig 7), excluding those recovered in the vicinity during Phase 1-3 of the test-pitting programme. 36 of these flints were humanly worked (Fig. 9). 14 tools were identified from Area A, these comprised 4 scrapers, 4 cores and 6 blades including a possible serrated bladelet (Fig. 8). 13 pieces of black chert were also recovered (Fig. 10). No archaeological features were recorded.

Area B (Figs 11-14)

The natural yellowish brown sandy clay (10002) was overlain by 0.35m of topsoil (10000).

Table 2: Context summary, Area B

Context	Context Description	Depth of context	Context type
Number			
10000	Dark brown sandy loam (topsoil)	0.35m	Layer
10002	Yellowish brown sandy clay	310.74m AOD	Natural

An assemblage of 188 flints was recovered from Area B (Fig. 11), excluding those recovered during Phase 2-3 of the test-pitting programme. 137 of these flints had been humanly worked (Fig. 12). 61 tools were identified from Area B, comprising: 4 scrapers, 1 possible scraper, 9 cores, 3 serrated flakes, and 43 blades including 1 retouched bladelet and 4 serrated bladelets, (Fig. 13). 11 pieces of black chert were also recovered (Fig. 14). No archaeological features were recorded.

#### 7.0 The finds

## 7.1 Flint and chert by Dr Lawrence Barfield

The total lithic assemblage comprises approximately 296 worked items of flint and chert collected during test-pitting and a further 120 unworked items (Appendix II and Figs. 3, 4, 7, 8, 11 and 12). The assemblage appears to be homogeneous and can be attributed to the later Mesolithic period. Only one piece, a scraper, may be of a later date.

## Raw materials and technology

The raw materials represent a wide range of flint and chert which are difficult to classify precisely without more detailed study. However it is possible, provisionally, to recognise several varieties. Flint from secondary geological sources predominates. This is mainly grey-brown in colour; other varieties include a good quality orange-brown as well as white and mottled grey. A hard 'quartzy' white flint with irregular inclusions is distinctive and comparable with a variety noted on Mesolithic sites in the west midlands. The most recognisable chert is black (or sometimes grey in the cortex area) comprising 49 pieces (12% of the total assemblage), 37 of which were worked (12.5% of the worked assemblage), in this assemblage (Figs. 6, 10 and 14). Other chert is white or off-white. Two scrapers have been made of a very coarse quartz? material. There are some fragments of unworked angular rock in the assemblage which had edges sharp enough to be utilised, even though there was no evidence for this.

Technology is geared to bladelet production with crested blades, bladelet core trimming flakes and bladelet cores are much in evidence (Figs. 5, 9 and 13). There are 18 cores or broken cores, seven of these are single platform cores (mostly conical), five are opposed platform cores and four are rotated globular cores. The final products are dominated by bladelets. Two pieces have been worked using the anvil (bipolar) technique (6/1, Field 2 and 9/3, Area A; Field 2). Two pieces are on thermal flakes, one of these is a core; the other (168/2, Area B), a scraper, may be Neolithic.

#### Artefacts

The microliths comprise a fragmentary bladelet with a small amount of retouch (172/3, Arca B) and an atypical obliquely backed point (138/1, Area B). The scrapers are mostly small and discoidal, two can be classified as thumbnail scrapers. Two discoidal scrapers are on a very coarse quartzy material. One on a thermal flake may not be Mesolithic. One end-scraper may be a truncated blade rather than a scraper. The serrated pieces are on both bladelets and flakes; some have exceptionally fine, mostly regular, serration. Most of the different raw materials are used in blade production. There are seven burnt pieces. A further study of the relationship between raw material and tool/blade typology might be rewarding.

#### Discussion

The flint/chert assemblage points to intense use of the area in Mesolithic times and the site could be a continuation of the distribution of Mesolithic material excavated previously at the adjacent site of Lismore Fields (Garton 1991). The absence of convincing microliths and the relatively higher number of scrapers, as well as manufacturing debris might suggest we are dealing with a base or

winter camp in the traditional sense of classifying sites as either hunting and base camps. A more valid statistical sample would be needed to confirm this.

The dating of the assemblage is to the later Mesolithic period when a greater use of varied local cherts and other rocks were in use (Myers 2002a). The absence of microliths, and the absence of a full publication of the adjacent sites, makes further comparisons difficult (Garton 1991). The assemblage, however, both from the point of view of technology (core types) and typology, does appear to be substantially different from Mesolithic sites in the west midlands to the south. The only piece which may be of a later date, is a large discoidal scraper on a thermal flake. This requires further confirmation. A more in depth evaluation of the flint and chert can only be made when both the Neolithic and Mesolithic flint from nearby Lismore Fields has been published.

## 7.2 Other finds by Annette Hancocks

One box of finds was recovered from the test pits and open area excavations. The assemblage largely comprised of tile, pottery, glass and iron items. All the finds were post-medieval in date, with the exception of a single sherd of medieval pottery from TP 47, and probably mainly represent manuring scatters and dumping of rubbish within natural depressions. A full finds quantification appears in Appendix I and III. No further work is recommended for this material.

## 7.3 Plant remains by Dr Marina Ciaraldi

A single soil sample was collected from the lower fill (8008), of an undated probable paleochannel feature F800. Context 8008 appeared to be a possible waterlogged context with the potential for the preservation of organic remains. The sample was assessed in order to establish whether biological remains were preserved and, if so, whether they were suitable for radiocarbon dating.

The soil sample consisted of a black, silty clay. A sub-sample of 100 ml. was sieved through a 0.3 mm mesh sieve and the material recovered was scanned under a standard stereomicroscope. The material recovered on the sieve was scarce and consisted exclusively of manganese concretions and very small fragments of coal.

The results of the scanning indicated that organic macro-remains were not preserved in the sample. The only way to obtain a radiocarbon date would have been to submit the sediment itself, however this option would be unfeasible due to the presence of coal in the sample. However, given the lack of organic macro-remains and on the basis of the results described above, no further analysis is recommended.

#### 8.0 Discussion

The earliest evidence for activity on the site was in the form of the flint and chert assemblage recovered during test-pitting and open area excavation. With the exception of one scraper all of the flint and chert was probably humanly worked in the Late Mesolithic period (6500- 3500 BC). The

assemblage is of regional importance, contributing to an increasing amount of data which is expanding our knowledge about the density and nature of human activity in the region, at this time.

The worked flint/chert appears to be mainly concentrated at the western part of the site, which is situated on the drier underlying limestone geology (Fields 1, 2 and 4), away from the wetter, lowerlying and poorly drained part of the site, near the river (Fields 5 and 6). The amounts of flint/ chert recovered was generally low across most of the site with no flint/ chert being recovered from the majority of test pits and three or less flint/ chert pieces being recovered from just a few test pits. The only part of the site with relatively high quantities of flint and chert is Field 2.

The evidence for Late Mesolithic activity appeared to be focused on two discrete areas (Area A and Area B) in Field 2. This was indicated by the much higher quantities of flint and chert recovered from these two areas and suggests these areas were relatively intensively used in the Mesolithic period. The two concentrations of flint at Area A and Area B, Field 2 are separated by a linear depression, which is possibly a palcochannel. This may be part of the undated paleochannel recorded in Trench 6; Field 6, (Fig. 2). The present farmhouse may possibly be built on the filled in course of this paleochannel. It is possible that the two apparent concentrations of flint are part of the same scatter and the possible paleochannel could have been in existence during a later period, however since the possible paleochannel is undated this is speculative.

The content of the lithic assemblage could suggest the former presence of a base or winter camp in the vicinity, in the traditional sense of classifying sites as either hunting and base camps. This interpretation is based on the scarcity of convincing microliths and the relatively higher number of scrapers, as well as manufacturing debris. This would place the site in the 'scraper dominated' category as defined by Mellars (1976). The presence of relatively large quantities of scrapers within an assemblage is often seen as indicative of domestic activities carried out at base camps, as opposed to microlith (interpreted as barbs for projectiles) dominated assemblages, often found on sites over 350m AOD and frequently interpreted as evidence of hunting camps. However, reliance on a simple microlith: scraper ratio, as a means of classifying sites is often problematic (Spikins 1999, 69) and the quantities of both these tool types are fairly low.

The evidence from the site at Otterhole suggests that around 6500-3500 BC the site was used by a group of Late Mesolithic hunter-gatherers. The assemblage of humanly worked stone would appear to indicate maintenance activities being carried out at the site. The raw materials represent a wide range of varieties of flint and chert from several sources. People would probably be processing raw materials, plant and animal products. Animal skins would be prepared for clothing manufacture and other uses and meat butchered and eaten here.

Other activities that may have been commonly carried out near the site could be antler, bone and woodworking, clothing repair, stone tool manufacture and repair. Specialised task groups would making trips to hunt game and fish. Recent scientific analysis of human skeletal material may suggest that the majority of dictary protein could be derived from animal sources (Myers 2002a, 19-20). People would be ranging across the landscape to forage for fruits, nuts and vegetables. Whilst others would be collecting raw materials including flint and chert to be worked into tools.

No evidence of structures or any archaeological features associated with the concentrations of flint were recorded. This may suggest any such structures were beyond the site or perhaps they may have left little or no trace on the ground. At Area A, the flint tended to be concentrated on the western part of the area, whereas at Area B there appeared to be no clear variations in the concentration of worked flint. In both Area A and B flint/ chert tended to be concentrated in the lower part of the topsoil.

Factors which often influence the location of Mesolithic settlement may include the proximity of a water source, as at Otterhole and Lismore Fields or a prominent location within the landscape, as at Unstone. Work at Unstone, situated above the River Drone, revealed a concentration of four thousand flints, which mainly came from an area of 120m², together with possible Mesolithic features. Here the assemblage appears to correspond with Mellars 'balanced 'classification (Myers 2002a). An important lithic assemblage, mainly of Late Mesolithic date, was recently excavated at Lordsmill Street, Chesterfield (Foundations Archaeology 1999) on a low headland situated on the Derbyshire coal measures. This assemblage came from several features, which were possibly tree throws and contained a high proportion of chert. Amongst the assemblage were five scrapers, a microlith, an awl, cores, core rejuvenation material, blades and flakes. The geology at Otterhole appears to have been an influence on the location of the site. However, it is becoming increasingly apparent that Mesolithic activity can be found on all types geology in Derbyshire (Hart 1981, Myers 2002a).

The quantities of flint/ chert per square metre, which were recovered from the site, appear to be substantially less than at Lismore Fields. Here the area around the Mesolithic structure appears to have yielded between 11-49 worked flints per metre square with one square yielding 50+ flints (based on an unpublished provisional distribution plot supplied by D. Garton). However, it is not yet clear how much of this flint is Late Mesolithic. There are only three squares in Area B which produced 11-16 worked flints and in Area A the initial Phase 1 TP 9 produced 13 worked flints with all other squares producing much less flint than in Area B, with only one square producing within the region of 6-10 flints. Even taking into account possible bias in recovery methods between Lismore Fields and this site there appears to be smaller quantities of flint at Otterhole. Further study of the important assemblage from Otterhole is needed, when studies of both the Mesolithic and Neolithic flint from nearby Lismore Fields have been published.

Apart from the ridge and furrow in Field 6 all other fields showed no evidence of ploughing. With the exception of the probable post-medieval wall (F2, TP30), the linear gully (F300, Trench 3), and the evidence for plough-furrows (TP 25, Field 6), all other excavated features proved to be of probable natural or recent origin. The hollows depressions and mounds within the site were probably either former paleochannels, the result of subterranean collapse, natural undulations in the landscape or the result of recent dumping. The metal detector survey found no evidence of the area around the Otterhole resurgence being used for deposition of votive metalwork and only recovered finds of recent date.

#### 9.0 Acknowledgements

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## Appendix I

Table 11: quantification of finds

Field	Test Pit or grid square/ Spit number	Worked Flint	Unworked flint	Other finds
	Phase 1 Test Pits			
2	1/1	-	2	1x slag; 1x post-medieval pottery; 1x iron item
	2/1	1	1	1x iron item, 1x post-medieval pottery; 1x quartz
	2/2	-	1	Ix iron item; 1x post-medieval pottery
	4/1	-	-	2x post-medieval pottery
	4/2	1	-\	1x post-medieval pottery
	5/1	2	1	5x burnt material; 1x animal bone; 1x post- medieval pottery
	5/2	1	2	1x brick; 3x burnt material; 2x glass; 2x post- medieval pottery; 1x iron rod
	6/1	2	-	5x burnt material
	7/1	-	-	4x burnt material; 2x stone; 1x coal; 2x post- medieval pottery; 1x glass
 	7/2	1	- ·	3x burnt stone; 2x post-medieval pottery; 1x glass
	7/3	1	-	<u> </u> -
<u> </u> 	9/1	2	-	1x iron nail; 1x tile; 2 glass; 12x burnt material; 1x stone; 1x iron hinge
! [	9/2	4	3	1x tile; 7x post-medieval pottery; 2x clay pipe; 5x burnt material
	9/3	7	-	3x post-medieval pottery, 1x clay pipe
	10/1	1	-	2x glass; 1x tile; 1x post-medieval pottery
•	10/3	5	•	1x stones; 1x glass; 2x post-medieval pottery
	11/1	1		3x post-medieval pottery; 1x iron nail
	11/2	1	-	2x post-medieval pottery; 1x burnt material
	11/3	1	-	-
	12/1	1	T-	2x post-medieval pottery; 1x stone; 1x burnt stone
!	12/2	1	T-	-
<u></u>	13/1			2x post-medieval pottery, 2x stone; 1x glass
1	14/1	-	-	Ix post-medieval pottery
	15/1	-	1	-
i	15/2	•	-	2x post-medieval pottery; 1x animal bone
<b>!</b>	15/3	Ţ <u>-</u>	1	-
ĺ	16/1	<u> </u>	-	1x post-medieval pottery
	18/2	1	•	•
}	19/1	2	1	•
l	19/2	1 -	2	5x post-medieval pottery; 5x glass; 1x brick
	20/1	<u> </u>	<u> </u>	1x slag; 2x post-medicval pottery; 1x glass
	20/2	-	-	4x post-medieval pottery; 2x glass; 1x tile; 2x burnt material; 2x stone
	20/3	1	•	13x post-medieval pottery; 1x glass

21/1	-	-	1x post-medieval pottery; 1x glass
21/2	-	-	1x post-medieval pottery
21/3	-	1	3x post-medieval pottery; 1x glass
22/1	u	-	1x post-medieval pottery
25/F3	-	-	1x post-medieval pottery
25/1	-	-	1x animal bone; 2x burnt material; 1x glass
26/1	-	-	1x animal bone; 1x burnt material
27/1	-	1	
27/2	-		1x clay pipe
28/1	-	-	1x animal bone
28/2	-	1	1x post-medieval pottery
29/1	-	-	5x post-medieval pottery
29/2	-	-	5x post-medieval pottery
30/1	-	-	2x post-medieval pottery
30/2	-	-	1x glass
30/3	2	-	1x tile; 1x post-medieval pottery
30/4	-	-	2x post-medieval pottery
31/2	1	-	2x post-medieval pottery; 1x glass
31/3			1x stone
32/3	-	-	2x post-medieval pottery
33/1	_	-	5x glass; 1x clay pipe; 1x post-medieval pottery
33/2	-		2x burnt material; 3x post-medieval pottery
34/2	-	-	Ix anima bone; 1x burnt material; 1x clay pipe
35/1	-	-	1x animal bone; 1x burnt material; 1x slag; 1x glass; 1x post-medieval pottery
35/2	-	-	8x slag; 1x post-medieval pottery
36/1	-	-	1x slag; 1x burnt material; 3x post-medieval pottery
36/2	-	-	1x post-medieval pottery
37/1	-	_	2x slag; 1x iron item
38/1	-	-	2x post-medieval pottery
38/2	_	_	11x post-medieval pottery; 4x tile; 1x stone
39/2			1x post-medieval pottery; 1x glass
39/3	-	-	2x post-medieval pottery
40/1	-	-	1x post-medieval pottery
40/2	_		1x slag; 1x post-medieval pottery
41/1	-	_	1x post-medieval pottery
42/1	-	-	2x post-medieval pottery; 1x glass
42/2	-		2x post-medieval pottery; 1x clay pipe
43/1		-	10x post-medieval pottery; 1x button
43/2		_	5x glass; 8x post-medieval pottery
43/3	_	-	1x post-medieval pottery
44/1	1	_	
46/1		-	1x tile
46/2	-		7x animal bone
47/1		_	10x post-medieval pottery; 1x medieval pottery

	47/2	<u> </u>	-	7x post-medieval pottery; 1x glass
	48/1	-	-	2x post-medieval pottery; 1x iron nail
	48/2		-	2x animal bone; 2x iron items; 1x shell
	48/3			2 x iron nails; 2x post-medieval pottery; 1x burnt
				material
	49/1	-	-	1x post-medieval pottery; 3x tile; 3x stone
	50/1	-	-	3x post-medieval pottery
	50/2	-	-	1x post-medieval pottery; 2x stone
	52/1	-		1x post-medieval pottery
	54/1	-	-	3x post-medieval pottery 1x tile
	55/1	-	-	1x post-medieval pottery
	55/2		-	1x post-medieval pottery
	56/1			4x post-medieval pottery
	56/2	_   _	1	
	58/1	-·   ·		4x post-medieval pottery
	59/1			1x post-medieval pottery; 1x glass
	59/3		···	1x post-medieval pottery; 1x clay pipe
	60/F1/1004			1x clay pipe
	60/1			1x post-medieval pottery
	60/2			6x post-medieval pottery; 3x burnt material; 1x
	00.72	-		iron rod; 1x animal bone; 1x glass; 1x clay pipe
	60/3			1x post-medieval pottery
	62/1			1x glass; 2x post-medieval pottery; 1x clay pipe
	62/2	-	-	2x glass; 3x post-medieval pottery; 1x animal
	63/1			bone 13x animal bone; 5x post-medieval pottery; 1x
	05/1	-	-	glass; 1x slag
	63/2	-	-	2x burnt material; 1x stone; 2x post-medieval
				pottery; 1x glass; 1x animal bone
	63/3	3	-	2x animal bone; 2x stone; 4x burnt material; 2x
	Z 5 / 2			post-medieval pottery; 1x slag; 1x iron material
	65/2	1		4x post-medieval pottery; 3x slag; 3x burnt material
	65/3	-		4x burnt material
	68/l			2x post-medieval pottery; 2x glass
	69/1			2x animal bone
•	71/1		4	-
	71/2		1	1x clay pipe
	71/3	-	1	1x post-medieval pottery
	SUB-TOTAL	45	25	
	Phase 3 Test Pits			
	Field 2			
!	72/1	1		3x burnt material; 2x post-medieval pottery; 1x glass
	72/2	_ 1		1x post-medieval pottery
	73/1	-	-	2x post-medieval pottery; 1x iron knife
	73/2	3	1	2x post-medieval pottery; 1x burnt material
	74/1	<u> </u>		

	75/1	1		1x post-medieval pottery; 2x glass
	75/2	3	-	-
	76/1		-	5x post-medieval pottery; 2x clay pipe; 1x stone
	76/2	-	-	2x post-medieval pottery; 1x clay pipe
	SUB-TOTAL	10	1	
	Phase 2 test pits			
2	77/1	5	-	5x post-medieval pottery; 1x clay pipe; 1x stone; 1x glass
	77/2	2	_	-
	78/1	-	-	8x post-medieval pottery; 1x glass
	78/2	1	-	7x post-medieval pottery
	79/1	-	-	3x post-medieval pottery; 1 x glass
	80/1		-	5x post-medieval pottery; 1x glass; 1x iron nail
	80/2	-	-	1x glass
	81/1			6x post-medieval pottery; 2x glass; 1x slag
	81/2			2x post-medieval pottery; 1x clay pipe
	82/1	-	1	-
	82/2	-	-	1x post-medieval pottery
	82/3	1		1x stone; 1x marble
	82/4	1	i	
	83/1	<u>-</u>	-	4x glass; 2x post-medieval pottery; 1x tile
	83/2	-		5x post-medieval pottery
	84/1		-	2x post-medieval pottery; 1x glass
	84/2		-	1x post-medieval pottery
	85/1	2		1x clay pipe; 1x glass
	86/1		1	1x glass; 1x post-medieval pottery; 1x tile
	86/2	4		
	87/1		3	6x glass; 2x post-medieval pottery; 1x tile
	87/2	9		1x glass
3	88/1	-	•	22x post-medieval pottery; 2x iron items; 6x animal bone; 1x slag; 1x glass
	89/1		-	1x clay pipe
	91/1	· - <del></del>		5x plaster
	91/2		······································	6x plaster; 4x post-medieval pottery
	92/1	-	-	2x plaster; 1x glass; 1x tile
	93/1	-	-	14x post-medieval pottery; 2x glass; 1x iron nail
	93/2	3	-	4x post-medieval pottery; 2x glass
5	95/1		· · · · · · · · · · · · · · · · · · ·	7x post-medieval pottery
	95/2	1		1x post-medieval pottery
	96/1			23x glass; 5x post-medieval pottery
	96/2		· · · · · ·	9x glass; 4x post-medieval pottery; 1x tile
	96/3		-	5x post-medieval pottery; 4x glass; 1x animal bone; 2x tile
	97/2	<del></del>		4x post-medieval pottery
	98/1			4x animal bone; 2x glass
	98/2			2x glass; 1 post-medieval pottery; 1x animal bon

98/3	<del></del>		5x glass; 1x animal bone; 1x post-medieval
1 96/3	-	1-	pottery; 1x tile
99/1	1	-	19x animal bone; 4x post-medieval pottery; 7x glass; 2x iron nails
99/2	-	_	7x post-medieval pottery; 1x animal bone; 4x glass; 1x clay pipe; 1x stone
99/3			3x glass; 1x post-medieval pottery
100/1			1x post-medieval pottery
101/1		-	2x post-medieval pottery
102/1		-	1x post-medieval pottery; 1x glass
102/2	-	2	-
102/3		3	1x post-medieval pottery
103/1	=	3	8x post-medieval pottery
103/2		-	4x post-medieval pottery
104/1	-	-	4x post-medieval pottery; 1x glass
104/2	1		-
105/1	·   <del></del>	<del>-</del>	4x post-medieval pottery
107/1	-	-	4xpost-medieval pottery; 2x clay pipe; 1x glass bead
107/2			
108/1	1		3x post-medieval pottery; 2x glass; 2x iron items
108/2			1x glass; 2x post-medieval pottery; 2x clay pipe
109/1	-	<del></del>	9x post-medieval pottery; 6x glass
110/2	1	-	2x glass; 1x post-medieval pottery
111/1	-	-	2x tile; 4x post-medieval pottery; 2x glass; 1x
ļ			stone
111/2	1	·	1x post-medieval pottery
112/1	j -	-	3x post-medieval pottery; 3x glass; 1x clay pipe;
113/1	<u></u>	· · · · · · · · · · · · · · · · · · ·	1x burnt material; 1x copper alloy chain 8x post-medieval pottery; 2x glass; 2x clay pipe
113/2		·	2x glass; 1 post-medieval pottery
114/1	··		2x post-medieval pottery; 1x glass
114/2			2x post-medieval pottery
115/1		- 1	3x glass; 3x post-medieval pottery
115/2			2x post-medieval pottery; 1x glass; 1x clay pipe
116/1			2x post-medieval pottery
116/2			1x post-medieval pottery
117/2	<del></del>		TA post model at potenty
118/1			4x glass; 1x tile; 1x post-medieval pottery
118/2	<u></u>		2x post-medieval pottery
119/1		·····	1x post-medieval pottery
119/2		·	1x glass; 1x post-medieval pottery
120/1	<u></u>		A Supply In Proce Andrews Policy
$\frac{120/1}{120/2}$		···	2x post-medieval pottery
121/2		-, <u> </u>	2x post-medieval pottery
122/1			2x post-medieval pottery; 1x clay pipe; 1x glass
122/2			3x post-medieval pottery, 1x clay pipe, 1x glass
12212	1 1		Jax pose-modicyal pottery, 1x clay pipe

	1.0073			1- most media-ol mottour
	123/1			1x post-medieval pottery
	123/2		-	4x post-medieval pottery
	124/1	_   -		Ix post-medieval pottery
	125/1	-	_	2x post-medieval pottery
	125/2	1	-	-
	126/1	ī	-	1x clay pipe; 1x post-medieval pottery
	128/1			lx post-medieval pottery; 1x clay pipe
	128/2	<del></del>		1x post-medieval pottery
	128/3	1		The post moderna pouchy
	129/1	<del></del>	<del></del>	2 - 4 - 1 - 4 1 - 4 1 2
	<u> </u>			8x post-medieval pottery; 1x glass
	129/2	1		
	130/1		1	1x post-medieval pottery
	131/2	_	-	1x glass
	132/1		1	2x post-medieval pottery; 1x glass
	132/2			2x clay pipe; 1x iron nail
	133/1			(1x glass
	134/1	· <del>- · ·   · . · · · · · · · · · · · · · · ·</del>	<del></del>	5x post-medieval pottery
	135/1			1x animal bone; 1x glass
	135/2	1	<del>- +</del>	1x post-medieval pottery
,				1x post-memeval pottery
	SUB-TOTAL	45	18	
	Phase 3 Test Pits		İ	
	136/1	2	·····	3x post-medieval pottery
	136/2	1	-	2x post-medieval pottery; 1x glass
	126/2			
	136/3	, -		1x charcoal; 1x slag
	137/2	2		4x post-medieval pottery; 2x glass; 1x clay pipe
	137/2 138/1	2	5	
	137/2 138/1 138/2	2 11	5 5	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery -
	137/2 138/1 138/2 138/3	2 11 3		4x post-medieval pottery; 2x glass; 1x clay pipe   3x clay pipe; 1x post-medieval pottery 
	137/2 138/1 138/2	2 11		4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-
	137/2 138/1 138/2 138/3 139/1	2 11 3 1	5	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1	2 11 3 1	5	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL	2 11 3 1	5	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A	2 11 3 1	- 10	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil	2 11 3 1	5	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery - 1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery 1x clay pipe; 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil 141/1	2 11 3 1 1 23	- 10	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery  -
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil	2 11 3 1	5 - - 10	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery  -
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2	2 11 3 1 1 23	10 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery  -
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/1	2 11 3 1 1 23	10 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2	2 11 3 1 1 23	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1 139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/2 145/1 145/2 146/1	2 11 3 1 23 - 1 2 1 2 1 2 1 2 5	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery -   1x post-medieval pottery   8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery   1x clay pipe; 1x post-medieval pottery   -   1x clay pipe; 1x post-medieval pottery   1x glass stopper   2x glass   1x post-medieval pottery   -   2x post-medieval pottery   1x glass; 1x post-medieval pottery   1x glass; 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1  139/2  SUB-TOTAL AREA A  Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2 146/1 146/2	2 11 3 1 23 	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery -   1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery   1x clay pipe; 1x post-medieval pottery -   1x clay pipe; 1x post-medieval pottery   1x glass stopper   2x glass   1x post-medieval pottery -   2x post-medieval pottery   1x glass; 1x post-medieval pottery   3x post-medieval pottery; 1x slag
	137/2 138/1 138/2 138/3 139/1  139/2  SUB-TOTAL AREA A  Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2 146/1 146/2 147/1	2 11 3 1 23 - 1 2 1 2 1 2 1 2 5	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery  1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery  1x clay pipe; 1x post-medieval pottery  -  1x clay pipe; 1x post-medieval pottery 1x glass stopper 2x glass 1x post-medieval pottery  -  2x post-medieval pottery 1x glass; 1x post-medieval pottery 3x post-medieval pottery 1x glass; 1x post-medieval pottery 1x glass; 1x post-medieval pottery 1x glass; 1x post-medieval pottery 1x post-medieval pottery; 1x slag 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1  139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2 146/1 146/2 147/1	2 11 3 1 23 - 1 2 1 2 1 2 1 2 5	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery -   1x post-medieval pottery 8x glass; 2x animal bone; 3x tile; 2x post-medieval pottery   1x clay pipe; 1x post-medieval pottery -   1x clay pipe; 1x post-medieval pottery   1x glass stopper   2x glass   1x post-medieval pottery -   2x post-medieval pottery   1x glass; 1x post-medieval pottery   3x post-medieval pottery; 1x slag
	137/2 138/1 138/2 138/3 139/1  139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2 146/1 146/2 147/1 147/2 148/2	2 11 3 1 23 - 1 2 1 2 1 2 1 2 5	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery
	137/2 138/1 138/2 138/3 139/1  139/2 SUB-TOTAL AREA A Area A Spoil 141/1 141/2 142/1 142/2 145/1 145/2 146/1 146/2 147/1	2 11 3 1 23 - 1 2 1 2 1 2 1 2 5	10 11 1	4x post-medieval pottery; 2x glass; 1x clay pipe 3x clay pipe; 1x post-medieval pottery

150/2			1x glass
151/1	1		1x glass
151/2	<del>\</del>	· · · · · · · · · · · · · · · · · · ·	1x grass 1x iron item; 2x post-medieval pottery
152/1		$-\frac{1}{1}$	1x from them, 2x post-metheval pottery
153/1	<del></del>		1x post-medieval pottery
154/1	- +		1x burnt material
	·		
154/2	<del>-   -</del>	1	2x slag
155/2			1x stone
156/1	····	·	2x glass
156/2		2	
157/1			1x post-medieval pottery; 1x glass
158/1	-		1x charcoal; 1x post-medieval pottery; 1x glass
158/2	2		2x slag; 1x post-medieval pottery
159/1	2		2x post-medieval pottery; 1x glass
160/1		1	2x post-medieval pottery; 2x glass
160/2	5		2x slag; 1x clay pipe
161/1			lx glass; 1x post-medieval pottery; 1x leather
161/2	2	$\frac{1}{2}$	1 x iron item; 1x glass
163/2	1	-	2x stones
164/1		1	· · ·
SUB-TOTAL	36	15	
AREA B		·	
Area B spoil	9	7	1x clay pipe; 1x post-medieval pottery
166/1	1	-	1x iron nail; 1x post-medieval pottery
166/2	3		
166/3	1	···· <del>·</del>	
167/1	<del>-   -</del>	<del></del>	6x post-medieval pottery; 1x slag
167/2	1		ox post-medicinety, 1x stag
167/3	<u> </u>		
168/1			· · · · · · · · · · · · · · · · · · ·
168/2	— <del>                                    </del>		··
169/2	1 3		2t oluga
169/3		1	3x glass
170/1	<del></del>	·····	- 21:1:1
			2x post-medieval pottery
170/2	<u>-</u>	2	
170/3	. 4	·	1x glass
171/1			
171/2	3		-
171/3	_   1		
172/2			- <u> </u>
172/3	3	<u> </u>	
173/1	_ 1	<u></u>	
173/3	1		]-
174/1			1x post-medieval pottery
174/2	2	12	2x post-medieval pottery
	_		
174/3	4		(-
175/1	-	1	-
175/2	4		-
175/3			
176/1		·	1x post-medieval pottery
176/2	1		1x brick
176/3	- + <u>i</u>		
177/1	<del></del>		
1 *****	) -	I -	1 <sup>-</sup>

177/3	2	-	-
178/1	1	1	
178/2	1		1x post-medieval pottery
178/3	5		-
179/1	<del>-</del>	1	-
179/2		3	1x glass; 1x stone
179/3	14	-	1x glass; 1x animal bone
180/1	₩³ ====	· <u> </u>	1x post-medieval pottery
180/2	2	1	-
180/3	2	5	1x animal bone
181/1	1	<u> </u>	1x post-medieval pottery
181/3	3		-
182/3	$\frac{3}{2}$	2	
183/2	1	1	1x post-medieval pottery
183/3	8	-	-
184/1	1	<u> </u>	1x post-medieval pottery
184/2	3	1	3x glass
184/3	8	2	1x clay pipe
185/1	-	1	2x glass
100.1		1	1x slag
185/3	6	2	
186/1	{ <del>-</del>	1	1x post-medieval pottery
186/2	1	-	_
186/3	1	-	<del>                                     </del>
187/1	† <u>·</u>	1	
187/2	2	† <u>-</u>	<del>                                     </del>
187/3	2	<del> </del>	
188/3	8	1	-
189/1	Ī	1	2x post-medieval pottery
189/2	1 1	† <sub>2</sub>	<del>                                     </del>
189/3	1	-	-
190/1	+	2	1x coal
			2x post-medieval pottery
190/2	<u> </u>	1 2	-
190/3	8	+ <del></del>	1.
SUB-TOTAL	136	51	<del>                                     </del>
Trench 3, 3003		_	1x post-medieval pottery
Trench 3, U/S	1	-	2x glass; 1x stone
Trench 5, 5001		- <del>                                   </del>	2x post-medieval pottery; 1x brick
SUB-TOTAL	137	51	-
TOTALS	296	120	
<del>*</del>	<del></del>	<del></del>	<del></del>

## Appendix II

Table 12: quantification of flint

Test pit/ Grid square	Total worked flint	rked black chert			Comments on tools	Unworked flint				
1	- <del> </del>	<u> </u>	† <b>-</b>	<del>-</del>	-	-	2			
2	1		-	-	-	Ţ <u> </u>	2			
4	1	<u> </u>	1	<del>-</del> -	† <del></del>	-				
5	3	<del>  -</del>	1	<u> </u>	-	<del></del>	3			
6	$-\frac{3}{2}$	<del></del>	1		:		<u> </u>			
7	- + 2	1	†i	<del> </del>	-	-	· † ·			
- <sub>9</sub>	13	1	4	-	1	<del>-</del>	3			
10	6	<del>                                     </del>	†2		† <del>i</del>		-			
11	3	<del>-</del>	1-	<del>-</del>	1	† <del>-</del>	-			
12	<u> </u>	-	2		-	-	<del></del>			
15		<del></del>	-	-	·					
18	<u> </u>	<del></del>	1	<del></del>	<del></del>	-	1-			
19	$-\frac{1}{2}$	- <del>-</del>		\ <u>-</u>		<del></del>	<del>-</del>   <del>3</del>			
20	1	<del> </del>	$\frac{1}{1}$				- <del>- 3</del>			
21	<del></del>	<u>-</u>	<del></del>	+	<del>  -</del>	<del>  -</del>	1			
	- <del>  -</del>	<del> -</del>	<del>-</del>	ļ <b>-</b>	<del>[</del>	-	<del></del>			
27			-	<u> </u>	<u> </u>	-	1			
28		<del></del>	-	<u>  </u>	ļ <del>-</del>	<u>  -                                     </u>	1			
30	2	<u>-</u>	i		<u> </u>	scraper	-  <del></del>			
31	1			<u> </u>	-	-	<del> -</del>			
44	1		<u>'-</u>	ļ <del>.</del>	<u> </u>	-	<del></del>			
56			<u> </u>	<u> </u>	<u>  </u>	- . <del>-</del>	_]1			
63	3	<u> </u>	3	<del></del>	<u> </u>	-	<u> </u>			
65	1		-	1		scraper				
71		-	<u> </u>				6			
72	_ 2		1		<u> </u>					
73	3	<u> </u>	J <u>-                                    </u>	<u> </u>	<u> </u>	<u> </u>	_ 1			
74	1	1		-	<u> </u>		_			
75	4	-	1	-	-		-			
77	7 7	· -	2	-	1	-	-			
78	1	-	-	T -	-					
82	2	-	-	-	-	-	2			
85	2	<b> -</b>	1	<del> </del>		T-	<b>-</b>			
86	4	-	-	-	1	-	1			
87	9	-	1	-	2	-	3			
93	3	$\frac{1}{1}$	1	<u> </u>	Ţ <u>-</u>	-	· <del>-</del>			
95	1		1	<del>                                     </del>	-	-				
99			<u> </u>		<del>  -</del>	<del>  -</del>				
102	-		<del> </del>	† <del>-</del>	-		5			
103	<u> </u>	<del>  -</del>	<del> </del>	<del> </del>	-	-	3			
104	1		<del> </del>	<u> </u>	<del> </del>	·	· †			
107	<u> </u>	<del>  -</del>	<del> -</del>	<del>-</del>		<u> </u>	<del>-</del>			
108	1	<del>  -</del>	-	<u> </u>	<del> </del>	1_	<u> </u>			
110	1	- <del></del>	<del>  -</del> -	† <del>-</del>		·	·			
111	1	<del>-</del>	1	<del> -</del>	<del> </del>	<u>  </u>	<del>-</del>			
		<del></del>		<del></del>	<b>!</b>	<u> </u>	_ <u> </u>			
113		<del>  -</del>	<u>-</u>	<del> -</del>	ļ		1 -			
115	<u>-                                     </u>		<u> </u>	! _ <del></del>	<u> </u>	_ <u>   -</u>	1			

Test pit/ Grid	Total Worked	Cores	Blades	Scrapers	Worked black chert	Comments	Unworked flint		
square	flint	1	1						
116	1	<b>†</b> -	†		[-	Ţ -			
117	1	-	1	-	-	-	_		
120	1	- <u>-                                 </u>	1		-	•	<u> </u>		
122	1	T-	1	-	1	-	-		
125	1	Ţ <u>-</u>	-	_	-	-	-		
126	1	-	-	-	-	-	_		
128	1	- "	-		-	-			
129	1	-	-	1		scraper	-		
130		-		-	] -	-	1		
132	-	-	-	-	-	-	1		
135	1	T -	-	-	-	-	-		
136	3	-	2	-	1	retouched bladelet	T -		
137	2	-	-	-	-	-	-		
138	16	1	6	_	2	backed point + serrated flake	10		
139	2		1		1	<u> </u>			
141	3	1	T -	-	1	-	2		
142	3	-	-	1		scraper	-		
145	8	-	4	1	5	scraper + serrated bladelet?	-		
146	1	-	-	_	1	-	1		
148	1	-	T-	-	T-	-			
149	1	Ţ.	-	-	-	-	T -		
150	4	1	T-	-	2	-	4		
151	1		-	-	-	-	-		
152	<u> </u>	T -	-	-	-		1		
154	-	-	-	-	-	_	1		
155	1	-	ĺ -	-	1	-	-		
156		-		-	T	-	2		
157	1		Ţ <u>-</u>	_	-	-			
158	2	1	<u> </u>	-	İ	-	-		
159	2	-	<u> </u>	1	ļ -	scraper	-		
160	5	-	1	-	2	-	1		
161	2	1		1	<u> </u>	scraper	2		
163	1		1	-			-		
164	•	-	-	-	•	-	1		
166	5	2	2		-		1		
167	2		1		-	-	3		
168	2	•	1	1	<u> </u>	seraper	1		
169	4	1	1	<u> </u>			1		
170	4	-	1	-	-	serrated bladelet ÷ serrated flake	2		
171	4	-	3	-	-	-	1		
172	3		2			retouched bladelet	1		
173	2	-	2	<u> </u>	<b>T-</b>	-			
174	6		<u> </u>	-	1	serrated flake	2		
175	6		1				1		
176	2	-	<u> </u>	-	Ī.	-			
177	3	_	Ţ-	-	1	-	-		
178	7	11	2		1	serrated flake	1		
179	14	2	6		3	-	4		

Test pit/ Grid	Total Worked	Cores	Blades	Scrapers	Worked black chert	Comments	Unworked flint
square	flint 4		1	1	-	scraper 1 serrated bladelet	6
181	4	-	2	-	-		-
182	2	-	-	-		-	2
183	9	1	4	† <u>-</u>		-	1
184	12	1	2	-	1	1 -	4
185	6	1	5	- <del>  -  </del>	-		3
186	2	-	-	T-	-	<del>-</del>	
187	4		2	-	-	serrated bladelet	1
188	8	[-	1	1	2	scraper	i
189	3	-	1	1	1	scraper?	3
190	9	-	Í	1	1	scraper + serrated bladelet?	4
Area A Spoil	-		-   -		-	-	1
Area B Spoil	9	-	-	-	•	•	7
Tr. 3 U/S	1	<u> </u>	ļ. —	† <u>-</u>	t <u> </u>	1 -	1-
TOTALS	2	96 18	84	12	37	12 scrapers; 9 retouched bladlets; 1 backed point; 4 serrated flakes; 4 serrated bladelets	120

(Note: 'serrated bladelets' have been counted as blades)

Field	Slag	Medieval pottery	Post-Medieval pottery	Clay pipe	Iron	Iron nail	Copper Alloy	Quartz	Burnt material	Animal Bone	Glass	Glass Bead	Brick	Tile	Stone	Coal	Button	Marble	Plaster	Leather
1	$\begin{bmatrix} 1 \end{bmatrix}$		28						2	1	9 1		2	-	2		-		-	
2	1		35	3	5	2		_1_	38	1	10		1	3	7	1	-			-
5		·	2	_						2	2_				-		-			
6	18	1	146	9	5	3			25	32	26	_		10	11	-	1		└ - ┤	
SUBTOTAL	20	1	211	12	10	5		1	67	36	47		3	13	20	1	1			
Phase 3 test pits AREA A, Field 2 SUBTOTAL	-   	-	15	3	1	- 	-	-	4	-	3	<b>-</b>	-	_	1	-	-	- 	<b>-</b>	-   
2	1		50	3		1		_ •	-		21			3	2	\	_	1		
3	1		44	1_	L <u>-</u>	2			<del></del>	6	6	-		_1_	_				13	
5	i	· -	155	15	2	_ 3	1		1	28	97	1	L	7	2				-	i
SUBTOTAL	2	<b>-</b> _	249	19	2	6	1	<b>-</b>	1	34	145	1		11	4	- ]		1	13	-
Phase 3 test pits AREA B, Field 2 SUBTOTAL	1	-	14	5		-	h	-	-	2	11	-	_	3	<b>-</b>	1	-	-	<b>-</b>	-
Area A spoil SUBTOTAL	7	_	21	4	2	1			1	1	16	:		1	3	1				1
Area B spoil SUBTOTAL	-	-	1	1	- 	-	-	- -	-	-	-	-	-	- [	<b>-</b>	-	-	-	-	-
Area B SUBTOTAL	2	-	23	1		1	-	-	-	2	12	-	1	-	1	1	-	-	_ _ 	• 
Trench 3 SUBTOTAL	-		-	-	-	-	-		-	-	2	-	-	-	1	-	-	-	-	-
Trench 5 SUBTOTAL	-	-	2	-	-	-	<u>-</u>	-	-	_	2	-	1	-	1	-	-	-	-	-
OVERALL TOTALS	32	1	536	45	15	13	1	1	71	75	238	1	5	28	31	4	1	1	13	1

Appendix III Table 13: Pottery and other finds summary

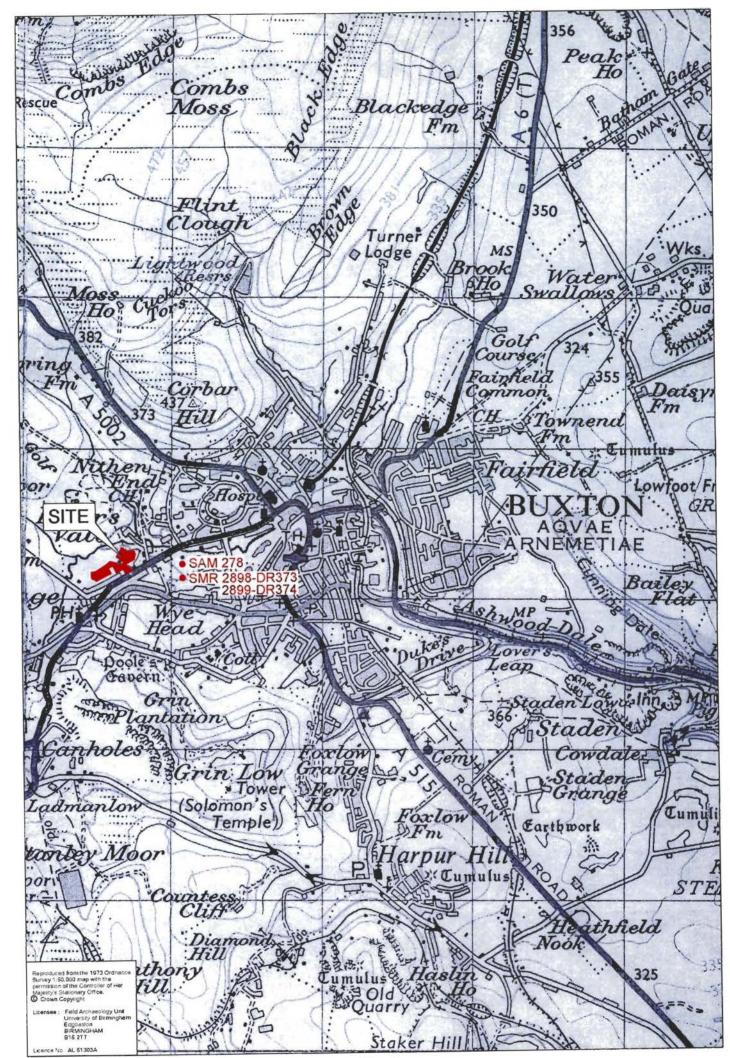


Fig.1

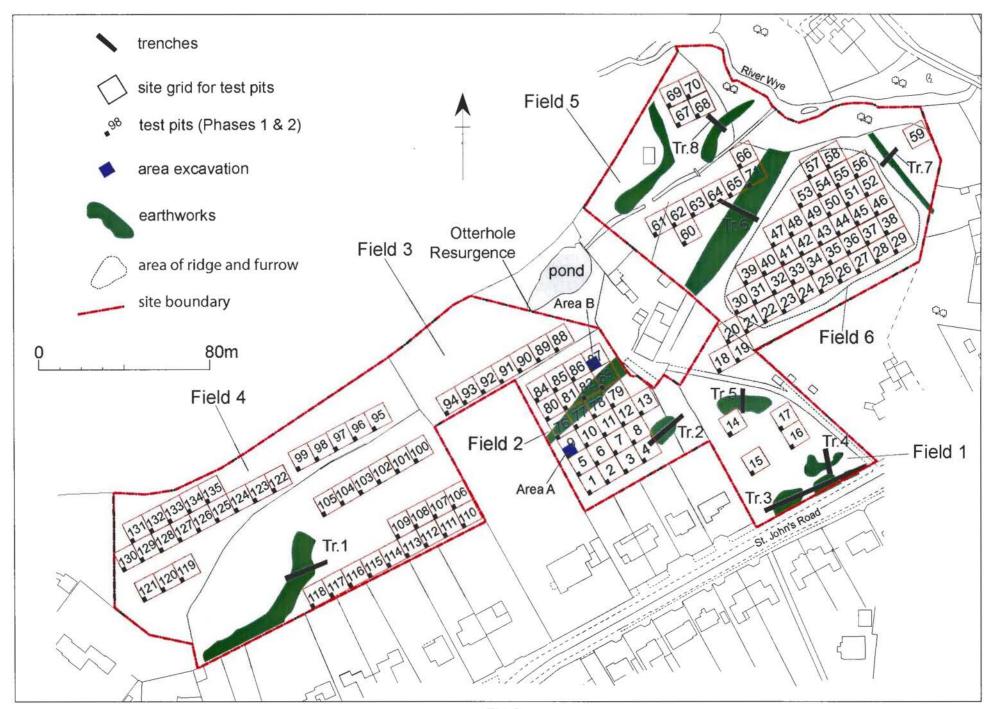


Fig.2

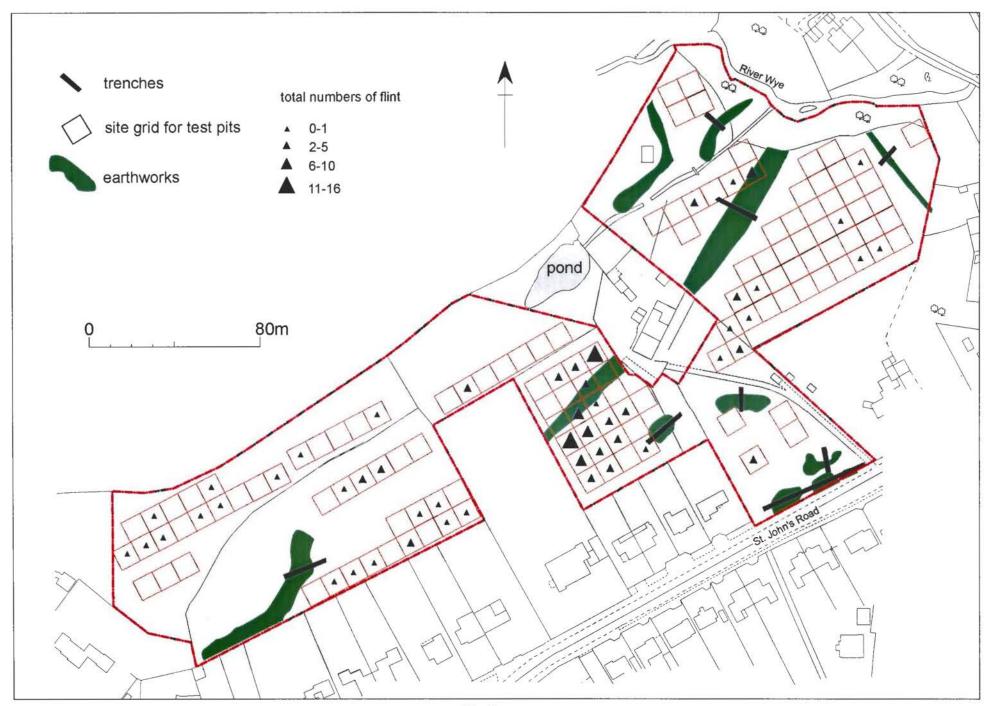


Fig.3



Fig.4



Fig.5



Fig.6

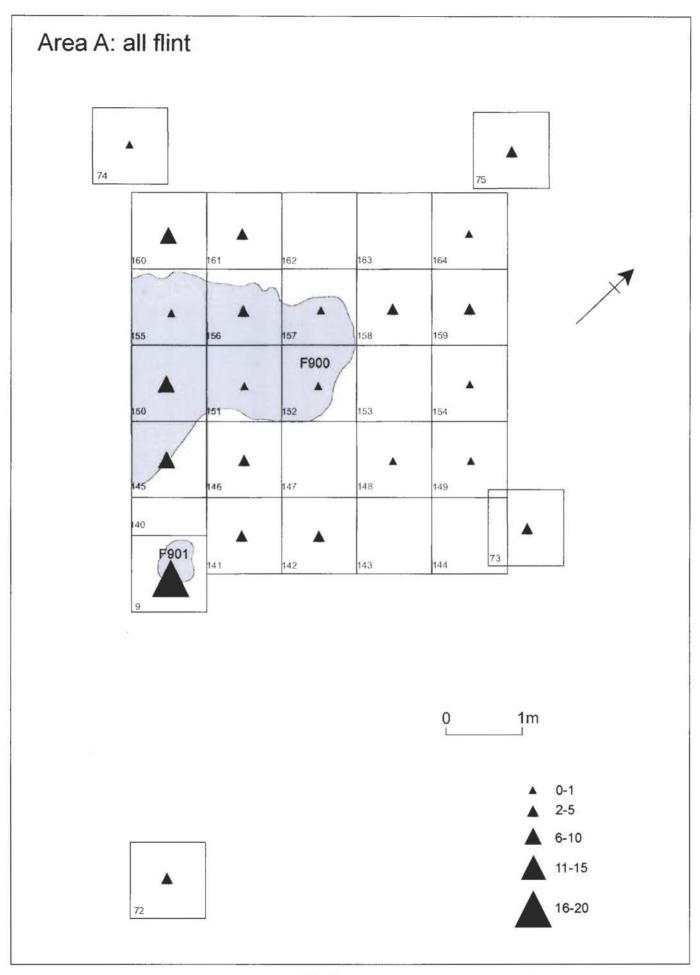


Fig.7

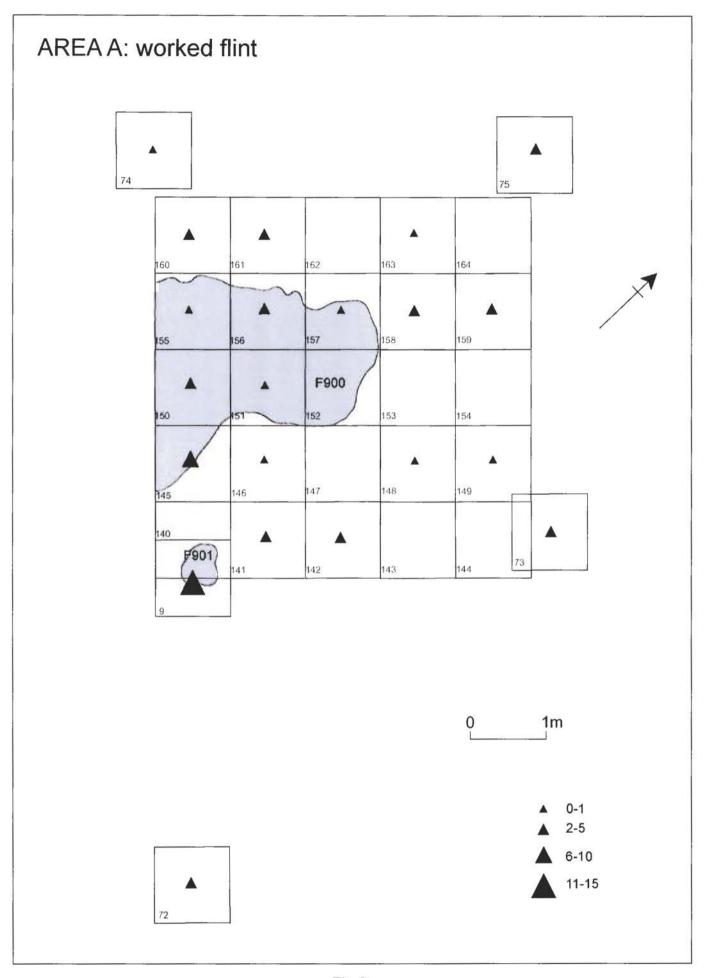


Fig.8

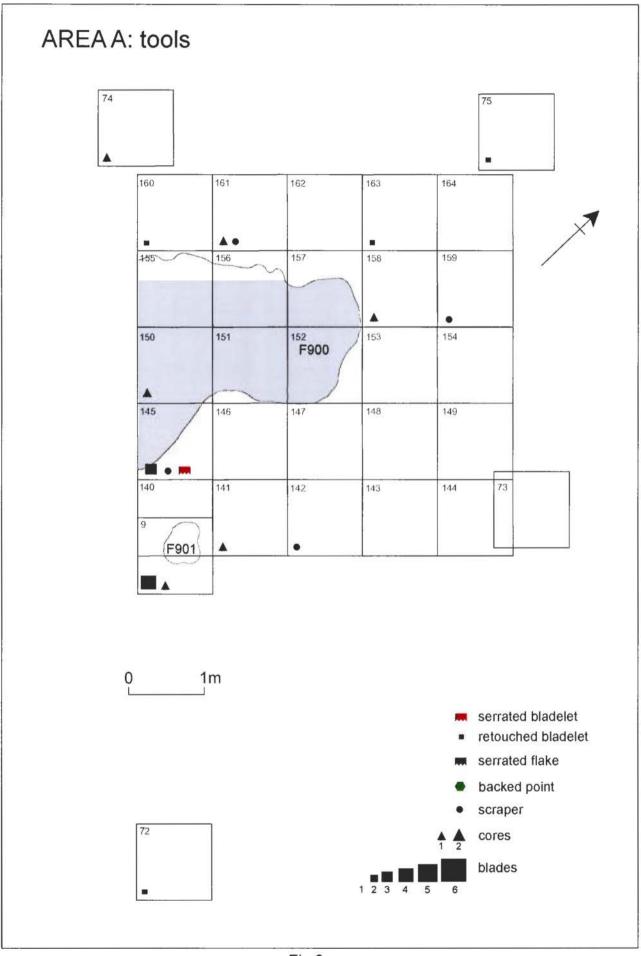


Fig.9

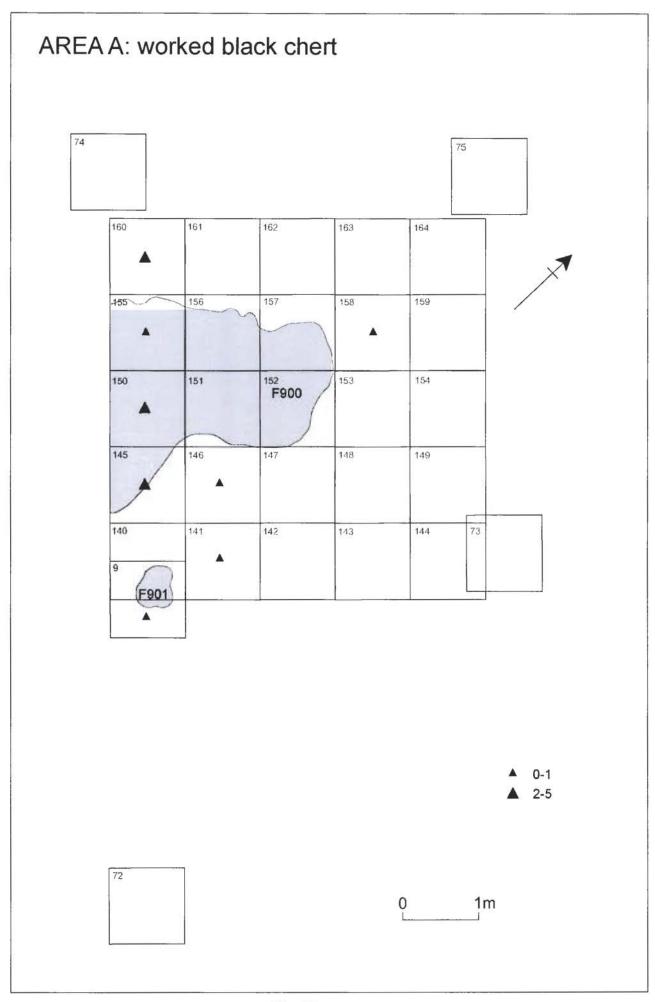


Fig.10

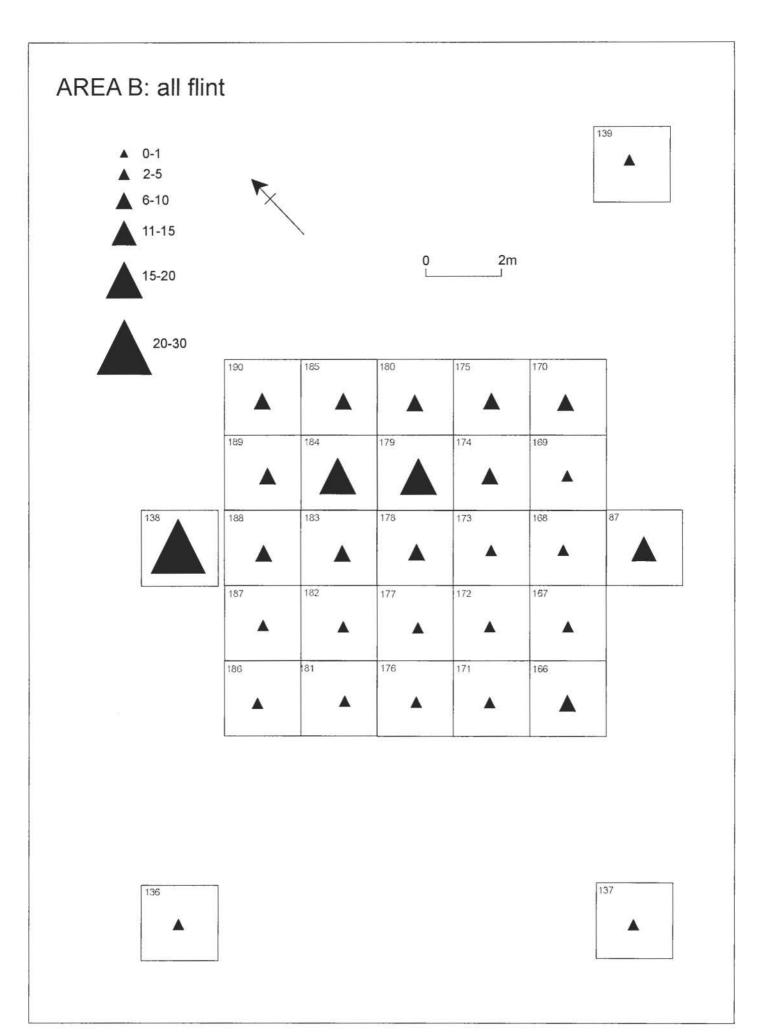


Fig.11

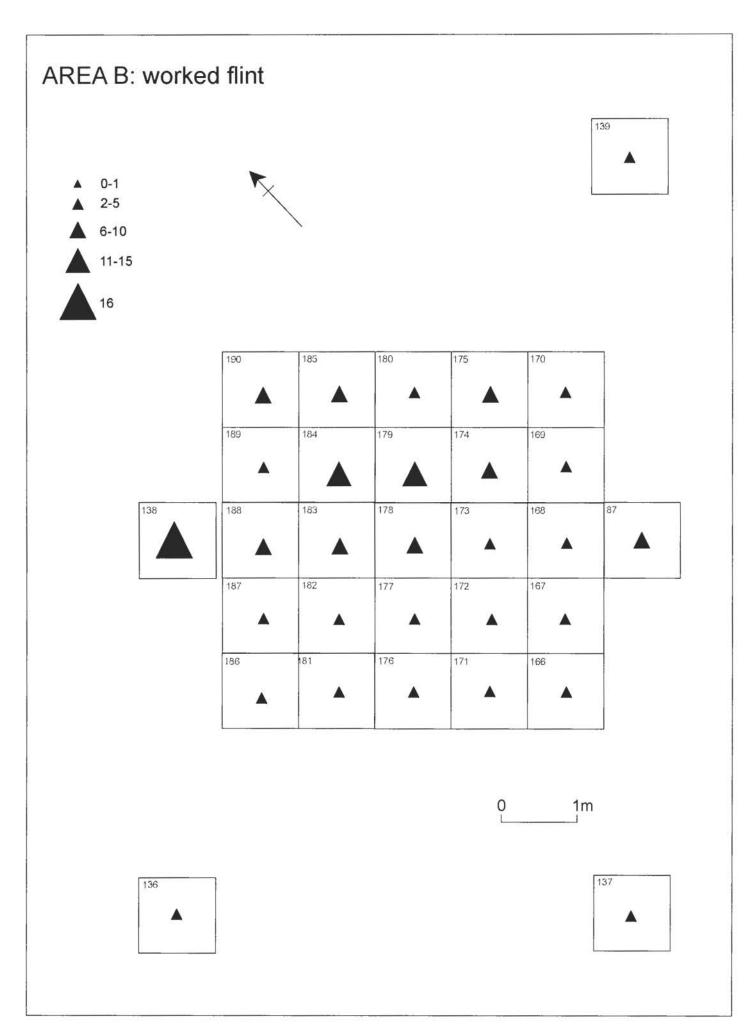
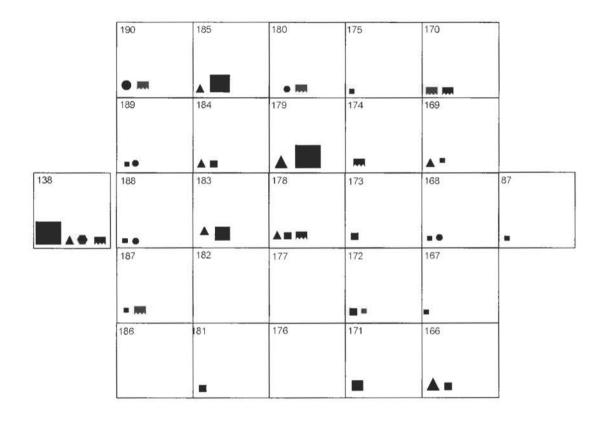


Fig.12

## AREA B: tools serrated bladelet retouched bladelet serrated flake backed point scrapers cores blades







137

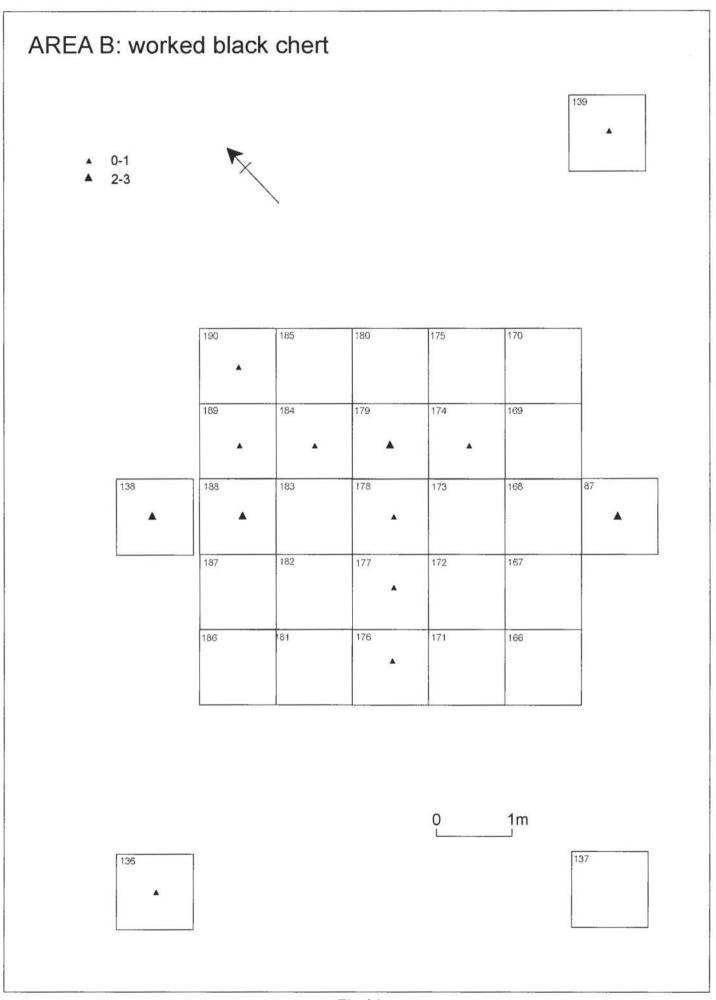


Fig.14

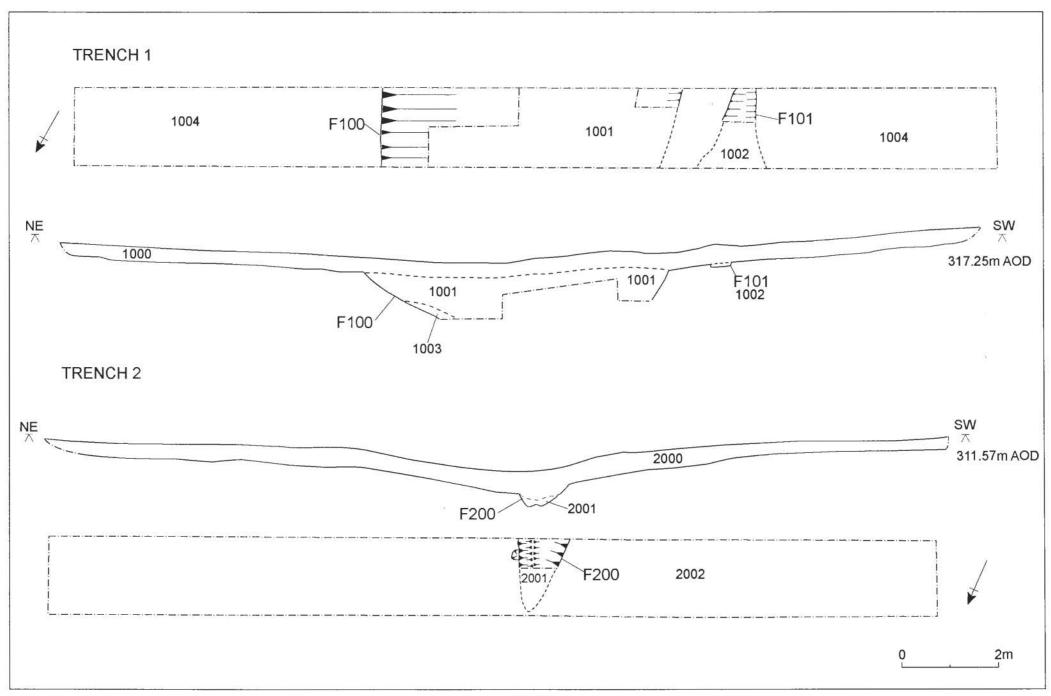


Fig.15

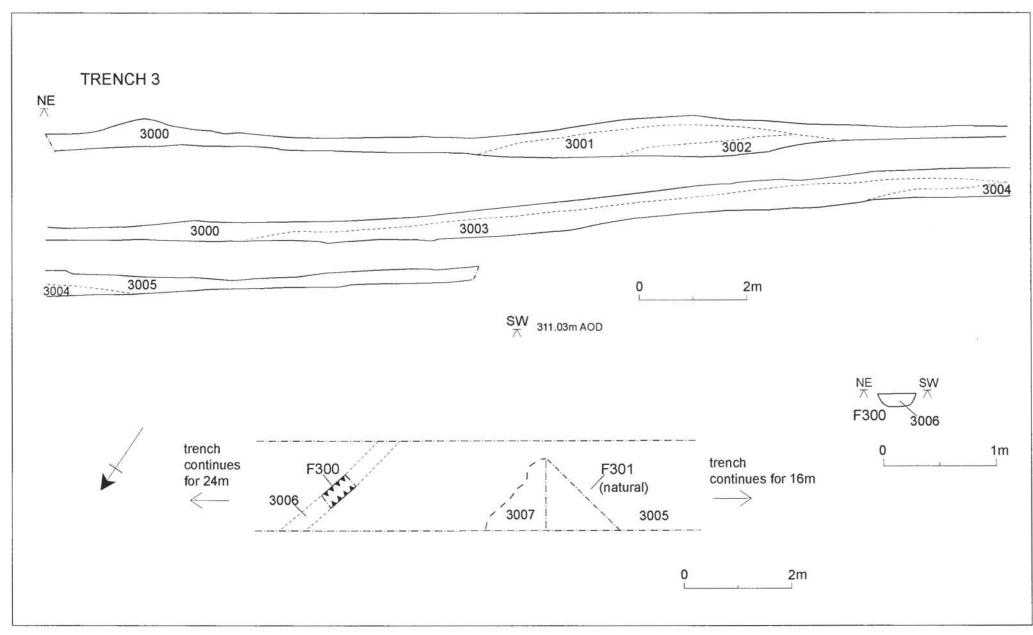


Fig.16

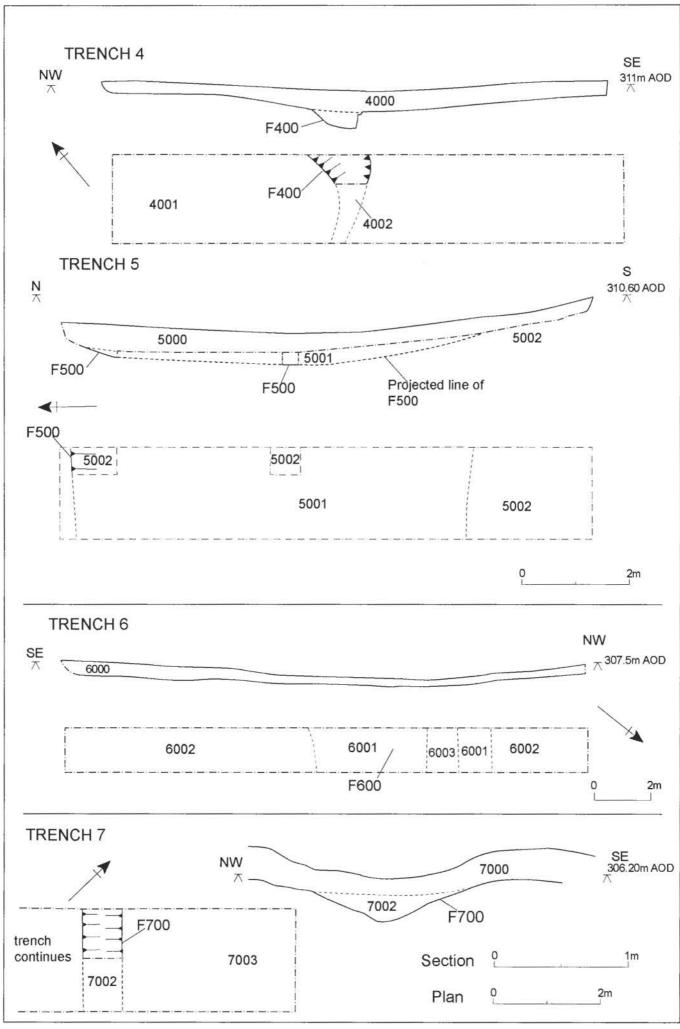


Fig.17

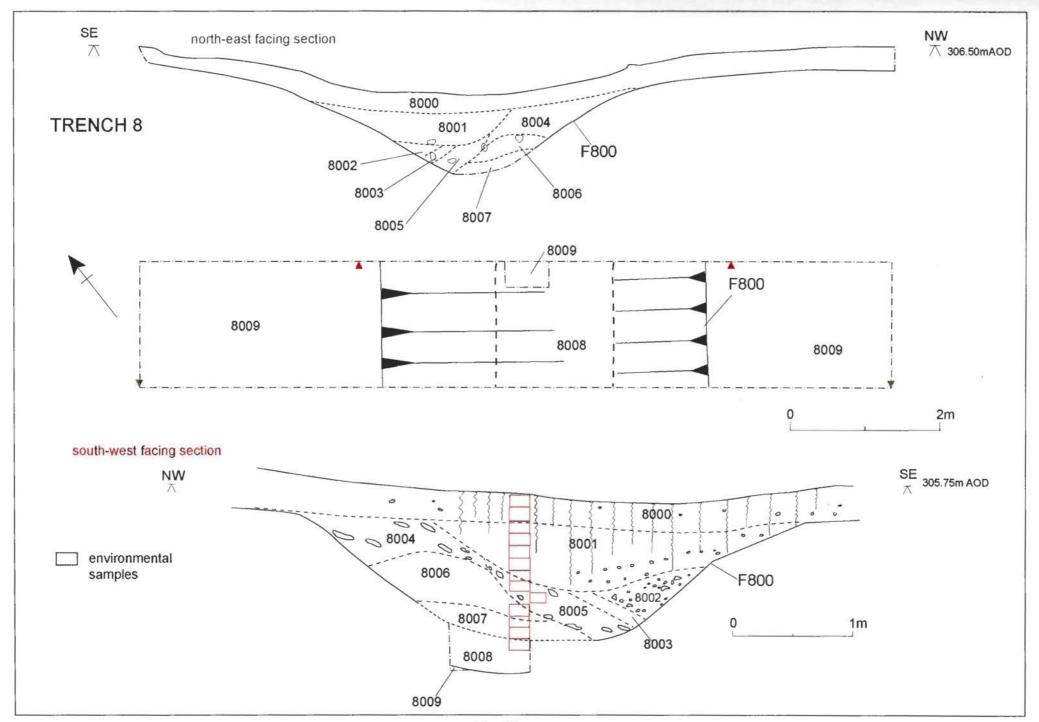


Fig.18



Plate 1



Plate 2



Plate 3



Plate 4



Plate 5



Plate 6



Plate 7



Plate 8



Plate 9



Plate 10



Plate 11



Plate 12



Plate 13



Plate 14



Plate 15



Plate 16



Plate 17