

Pre-history North of Biggar Project

The discovery and excavation of a Late Upper Palaeolithic site in Scotland and the field walking assemblages of multi pre-historic periods, and all from the same location at Howburn Farm, South Lanarkshire, Scotland.

Prehistory – Howburn Farm Report

by Tam Ward, August 2010

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Summary

During annual arable fieldwalking programmes operated by the Biggar Archaeology Group (BAG) a multi period assemblage of lithic including flint, radiolarian chert and pitchstone, and also sherds of Neolithic and Bronze Age pottery were retrieved from a single field on Howburn Farm near Biggar. A trench was eventually opened over a discrete surface scatter of unusual flint and this resulted in a larger collection of both flint and chert being recovered. Upon inspection of the lithics by Torben Ballin Smith, and Alan Saville of the National Museums of Scotland it was realised that a component of the assemblage dated to the Late Upper Palaeolithic period. Consequently a second programme of excavation was undertaken by BAG and a unique British assemblage of Late Upper Palaeolithic tools and debitage with affinity to the Late Hamburgian culture has been found. A paleoenvironmental programme of coring the valley floor was conducted by Richard Tipping of Stirling University.

Introduction

As part of the Biggar Archaeology Group's (BAG) **Pre History North of Biggar Project** (Ward, 1996); a scheme devised to establish the true nature of an apparent preponderance of Neolithic sites to the north of the town, and of Bronze Age sites to the south.

A particular field on Howburn Farm near the town of Biggar (Fig.1) has been under investigation since 2002. Part of the overall scheme is a study of modern arable field ploughing, and to understand if any scatters of objects and/or sites are under additional threat of destruction due to modern cultivation practices.

The field (Fig 2) lies immediately on the west side of the A702 Edinburgh /Carlisle road and is on the lower west flank of Broomy Law and is at 268m OD. It is 7km north of the town of Biggar and 0.75km south west of Melbourne Crossroads where the A702 crosses the A721. The National Grid reference is NT 0820 4362, the OS 1:10,000 map sheet is NT 04 SE, and OS Landranger No 72 covers the area.

The field was cultivated in 2002/2003, 2004, 2005, 2006 and 2007 during which time it was repeatedly walked for the purpose of retrieving surface artefacts and in 2006 and 2009 limited excavation was carried out on two areas of discrete concentrations of unusual flint. Trial pits were excavated in a nearby woodland area in 2010 (fig 7).

This interim report covers all fieldwork and some research work done to early 2010; it is produced in the first instance as an introduction to the final outcome of the project work at Howburn. In 2010 specialist work will be carried out on the lithics assemblage from the site and also in coring, identification and dating of paleoenvironmental deposits on the valley floor. The specialist's studies will be forthcoming and therefore no attempt is made here to deal with such matters other than to intimate their existence.

This report is split into two main parts; the first deals with the project as a whole and specifically with the field walking while the second part deals with the two excavations which took place.

Various appendices give lists (not catalogues) of finds and also the rationale and methodology for coring the valley floor.



Fig.1

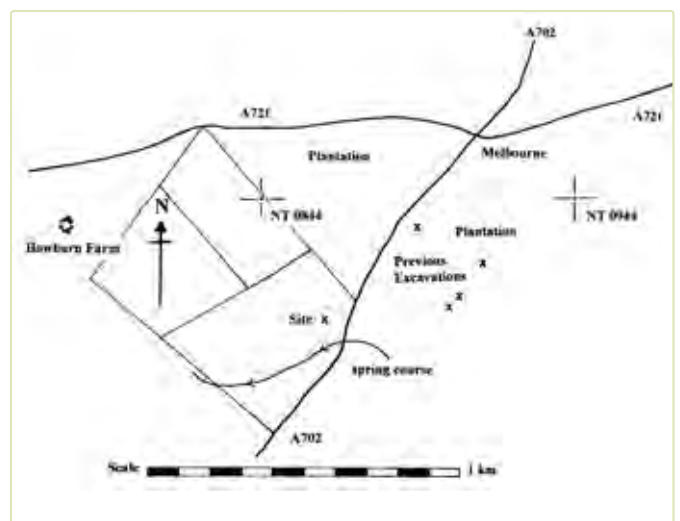


Fig.2

Fieldwalking

BAG conduct several ongoing fieldwalking projects in South Lanarkshire and for over two decades they have been building a significant data base of 'stray' finds spots, while numerous sites of various pre-historic periods have also been found.

Fields between Biggar and Dolphinton and straddling the A702 and A721 roads have been systematically walked resulting in excavations of Neolithic settlement at Melbourne (Ward 1996 *ibid*) and Brownsbank (Ward, 2000) Farms. Nearly every field has produced pre-historic lithic and in some cases pottery has also been found (Ward, 1996 & 2000 *ibid*).

As a consequence of this continuous work, various aspects of modern cultivation methods have been observed and which are believed to have serious adverse consequences for archaeological finds and sites, this is discussed below.

Fieldwalking methodology

It is the practice of BAG to walk fields systematically and comprehensively, walking in lines and with individuals spaced only a few metres apart. Wider spacing between walkers means that single finds and more especially small scatters of objects may be missed. Most finds, but certainly all flint is recorded by BAG and using GPS.

In the last decade it has been found that best results are achieved when walking over the fields when they are still in a furrowed condition. This is because when ploughing is followed by rotary harrowing to break down the soil, generally, stones are re-buried immediately beneath a fine layer of soil, thus obscuring them. In the case of cereal crops, once the field is rolled, hardly a stone is visible. Walking over plough ridges is of course extremely tiring and can be injurious if caution is not adopted. However, an advantage is that a larger area of ground is exposed and potentially more finds are open to view.

Generally, arable fields are ploughed over several consecutive years before being returned to grass for grazing, if upland fields are ploughed for re-seeding of grass, then a one off opportunity presents itself for archaeologists. In many cases the latter fields will be most productive since they are often being ploughed for the first time with mechanisation, and of course the uplands are where much previously undisturbed archaeology survives. If fields do produce good results then repeat walks are recommended, both in the same season and in subsequent ones. The results given below are testament to the validity of that opinion. Fields are also best walked in bright overcast conditions with better results coming after the field has been subject to rain, which washes soil from, and cleans the lithics, making them easier to see. Dry, dusty and bright sunshiny days give poorest results. Nevertheless, voluntary groups have to do the work when they can; regardless of the conditions.

During the course of fieldwalking in this particular Howburn Farm field over the years, weather and soil conditions varied considerably, but as the results below show, astute workers will spot even the tiniest artefact.

The finds were recorded as a regional grouping within the Pre-History North of Biggar Project and are prefixed with the code MB (Melbourne) and with the year included in the catalogue number (see appendix I).

The Howburn field

The initial inspection of the field given in this report was carried out by walking in close proximity, 2-3m apart to ensure that no small localised scatters of objects would be missed. It became evident at that time (2002) that a relatively small area of the field, being the uppermost part on the east side and forming a ridge running parallel with the main A702 road and then following an unnamed spring course in a south westerly direction, was producing all of the finds (Fig. 2). The lower slopes of the rest of the field yielded no artefacts. Consequently, the productive area was concentrated upon in subsequent inspections (2003 - 2007), walking to the same spacing factor to ensure complete coverage. Occasional, less detailed walking over the rest of the field appeared to confirm the absence of finds there.

Finds were recorded by GPS, and in the first two years all items were uplifted, no pottery was found at that time. For subsequent walk over's, chert items not considered to be tools or cores were not retrieved, however all flint and pitchstone pieces were collected. The decision to retain all flint items was made on the basis that it may be possible in the future to determine flint sources of procurement by type and colour; the chert, which is found in a variety of colours is all locally sourced to the nearby Southern Uplands.

Summary of finds by field walking 2002 – 2007

The finds from the field, both surface and excavated will be professionally examined in 2010, and therefore only a cursory statement on them is given here. The full list (not a catalogue) of finds is given in Appendix I, and the final numerical tally for each lithic type is given below, the final professional catalogue of 2010 and subsequent lithics analyses and report will be published in due course (Ballin & Saville forthcoming).

2002/2003

The field was walked during the winter of the two years

Sparse scatters of flint and chert, and three pieces of pitchstone were found and at this stage in the work it was appreciated that both Mesolithic and Neolithic components were present, the former represented by chert cores and microliths and the latter by the pitchstone.

The second uplift was composed of a smaller collection of flint and chert after fresh material had been washed out over the winter months.

2004

This was the second year of ploughing and it is often observed by the writer that despite the seemingly logic of diminishing returns, greater quantities of objects appears after second or subsequent consecutive cultivations. The reason is that the ground becomes softer allowing the plough to dig deeper and to disturb sub surfaces for the first time.

The uplift this time was significantly enhanced despite the decision not to retain chert items unless they were tools such as microliths, scrapers, or cores. All flint and other exotic pieces were recovered, and this time pottery was found. Pre-historic pot sherds found on field surfaces indicate that they have been moved for the first time since their original deposition, because they do not survive the attrition of weathering in plough soil for more that a year or so. Pre-historic sherds are

often seen to be decaying on the surface because they are composed of baked clay unlike the more resilient kiln fired pottery of later periods. The lesson being that recently disturbed pre-historic sherds must be retrieved as soon as possible.

Seven flint microliths were found along with chert examples. Thirteen pitchstone pieces compliment the pottery, at least some of which is Early Neolithic, along with two Type VI tuff Cumbrian axe flakes, these three artefact types are often found together on South Lanarkshire Early Neolithic sites (Ward, 2000 *ibid*) and pitchstone found in South Lanarkshire in the BAG projects is now recognised as being the largest grouping of such material on mainland Scotland (Ballin & Ward 2008, Ballin 2009), and possibly indicating the area as an exchange centre for this material.

Three flint transverse or 'duck bill' arrow heads brought the chronological range of finds to the Late Neolithic.

2005

Once again, a large assemblage was retrieved, significantly broadening the range of periods represented in the field, since among the pottery, much of which is clearly Early Neolithic, there are Bronze Age beaker sherds and also a rare, brown chert barb & tang arrow head (PI 26). Flint and chert scrapers were numerous as was the debitage from both stone types. Significantly, a discrete scatter of flint (MB/05/100/1-13) was located and which including at least six flint scrapers including end scrapers, two chert scrapers, flint and chert knives and a piece of pitchstone. This new scatter, (later to become Trench No 1) about 20-25m in diameter included 104 flint items several of which, apart from those given above, were retouched to some extent or other. Only a few pieces of chert were found in this collection.

Once more it was patently obvious that fresh archaeological material had been disturbed, and at this stage it will be obvious to the reader that repeat walk over's of ploughed fields will significantly alter the story of the field, in some instances fields produce little or nothing in a particular year, often the first year of ploughing, but as the heavy plough digs deeper in subsequent years, fresh archaeological deposits are opened up.

At this stage in the work the unusual nature of much of the flint from the field but especially from this new scatter was noted, mainly as long blades and end scrapers. Given the clear evidence of Early and Late Neolithic from the field and indeed from neighbouring fields (Ward, 1996 & 2000 *ibid*), the erroneous assumption was made that this scatter and much of the flint from the field represented a Neolithic site or sites, and probably settlement/s.

2006

The field was walked once again and the usual range of material was found; another ten pitchstone pieces, numerous scrapers, cores and microliths and a further flint transverse arrow head were all gathered.

Between the months of January and March of 2006 an excavation on the area of the discrete flint scatter was conducted. Still working on the (wrong) assumption that the majority of the flint from the field was Neolithic in date, it was anticipated that archaeological features would be found to prove it. The excavation is described below to allow the last year of field walking to be sequentially included here.

2007

This was the last year the field was walked over and the same range of material was recovered but pottery was absent on this occasion. However a further collection of 41 flint items including several tools was found surrounding the area of the excavation which took place in 2006 (see below). Five pitchstone pieces

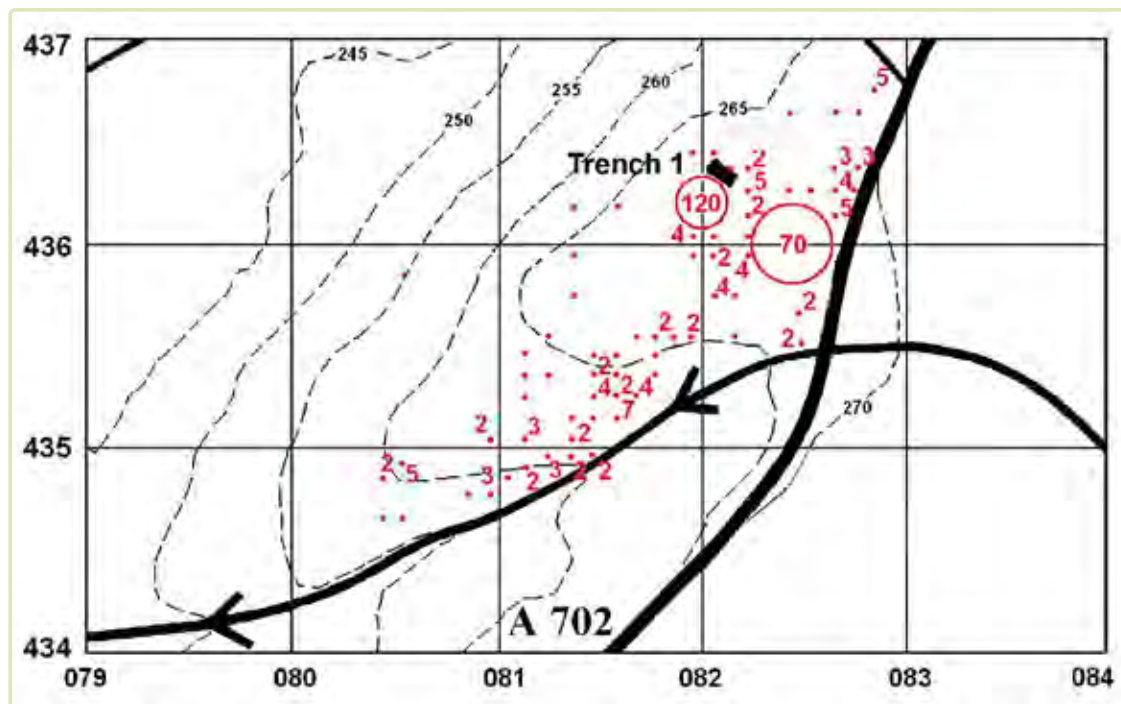
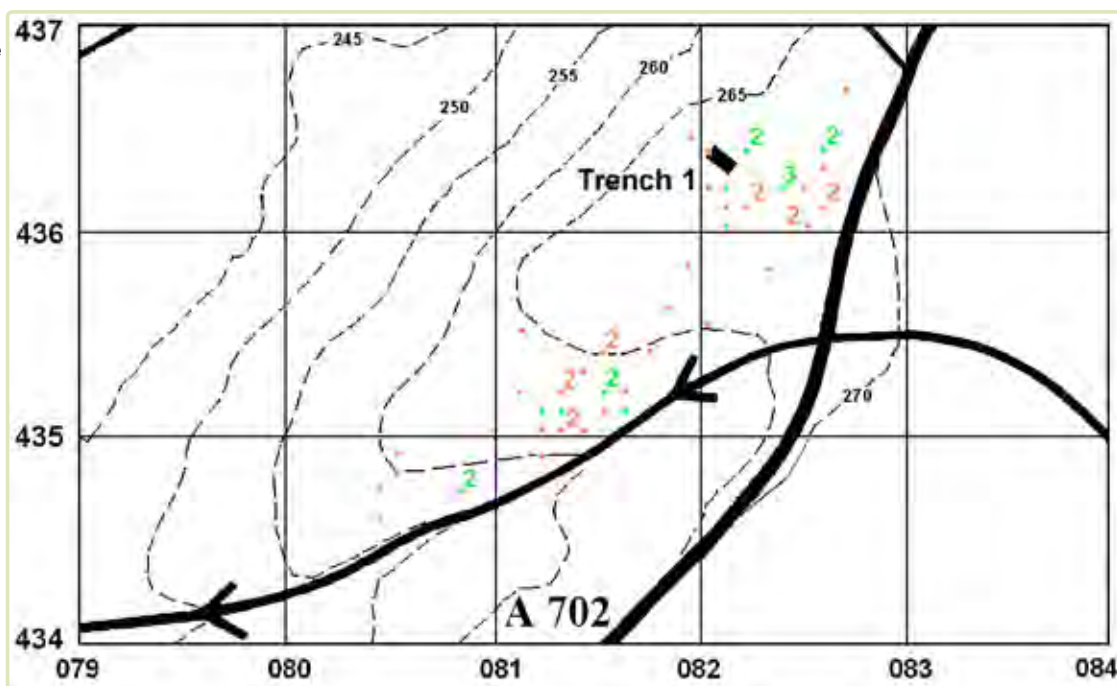


Fig.3: Sketch plan showing distribution of flint fragments recovered by fieldwalking at Howburn

Fig.4: Distribution of pitchstone fragments (orange) and potsherds (green) recovered by fieldwalking at Howburn



and two distinctive lithic types were found. These latter two pieces are currently an enigma in Scottish archaeology and indeed lithology, as they have so far defied lithological description. A sizeable collection of this strange material has been found by BAG on a Mesolithic site at Daer Reservoir (Ward, 2001) where several microliths have been fashioned from it. The lithic is believed to be a silicified limestone of possible

Carboniferous age and not of Scottish origin (I Paterson BAG, pers com).

Upon studying the field plots of finds (Figs 3 and 4) it was realised that a second discrete scatter of the 'unusual' flint items, 70 of, had been located over the years and this was adjacent to the A702 road (later to become Trench No 2).

Phase 1 Excavation results

A final trench size of 79 square metres (Fig 5) was achieved in the time available, and it measured 12m by 8m in total and was aligned approximately NW/SE on the long axis.

The excavation area lay just above a break of slope, down to the valley floor and on the northern end of a ridge which itself forms the eastern side of the field. The fieldwalking results show that this ridge was a hub of activity covering all periods of Scottish pre-history.

Plough soil ranged in depth from 0.2m to 0.3m and lay directly on either till or, near the break of slope, broken bedrock which is volcanic andesite from the same sequence as the Pentland Hill range.

Apart from the surface collection of 120 pieces of flint, the rest of the finds were retrieved from within the plough soil and these are given as a list in Appendix II. Sub surface features in the form of pits and small patches of surviving charcoal were located (Fig 6) however no finds were made from these features.

Plough soil finds

The finds were almost entirely locally derived radiolarian chert and exotic flint. Surprisingly only a single piece of pitchstone was found. The numbers and ratios of each type of lithic will be appreciated from Fig. 5 and it can be seen that there is a greater quantity of both types in the south east corner of the trench.

The absence of finds from grids 22 and 39 are almost certainly due to an error in recording and the finds from these grids have probably been allocated to adjacent grids. However the absence of finds from the grids 76 – 79 is reliable.

In total 581 pieces of chert and 443 pieces of flint were recovered by excavation, and within this quantity and also including the material found initially on the surface there is a significant proportion of retouched material and tools of both lithic types, most especially scrapers of different types, but particularly end scrapers.

The above statistic where chert outnumbers flint in the plough soil may be taken as further evidence that the prominent surface flint scatter, with an absence of chert and found in 2005, was indeed the result of freshly disturbed lithic being brought to the surface of the plough furrows, while other material; both flint and chert already in the plough soil was buried below the 'new' material.

Since this report is already superseded by specialist work on these finds (Ballin, Saville & Ward) nothing further will be added here to this aspect of the work. Suffice to say that a high proportion of the flint and some pieces of chert were realised to be Late Upper Palaeolithic in date, of which more below.

Features

Fig 6, Plates 1, 2 & 3

Six features were identified below the plough soil horizon; these were all discovered as darker patches of ground, some with the obvious inclusion of charcoal, against the lighter coloured till. The three larger features were sectioned in half, the remainder of the fills being left untouched, the excavated halves were backfilled with fine clean sand and date tagged for future identification. The pits are described below; however, no objects were recovered from any of them.

The charcoal retrieved from the samples was identified by Dr Jennifer Miller of Glasgow University and her results are given below in the features descriptions.

F1 Fig 6, Plate 3

Feature No 1 was an oval shaped pit which measured 0.9m by 0.6m; it had steep to gradual sides and reached a depth of 0.28m, the base was slightly bowl shaped. Section a-b showed that the fill had taken place in three episodes; till with some angular rocks had been re-deposited within the eastern half of the pit, this material seemed to have been pushed in leaving a sloping surface down into the pit. A distinct

layer of charcoal up to 30mm thick lay on the incline over this primary fill. The remainder of the pit, the western side, was then filled with a charcoal enriched dark soil, which originally betrayed its presence during excavation.

From the bulk sample of c20 litres taken as an arbitrary upper layer, charcoal above 2m in size amounted to c 130 grammes with pieces measuring up to 25mm.

From the bulk sample of c.10 litres taken from the base of the pit, the charcoal above 2m in size was c.110 grammes with pieces up to 25mm in size.

It is clear that the majority of the larger charcoal from both upper and lower levels was derived from the dense horizon which split the two main fills of the pit.

Charcoal identified was *Maloideae* (apple/rowan type) and *Quercus* (oak).

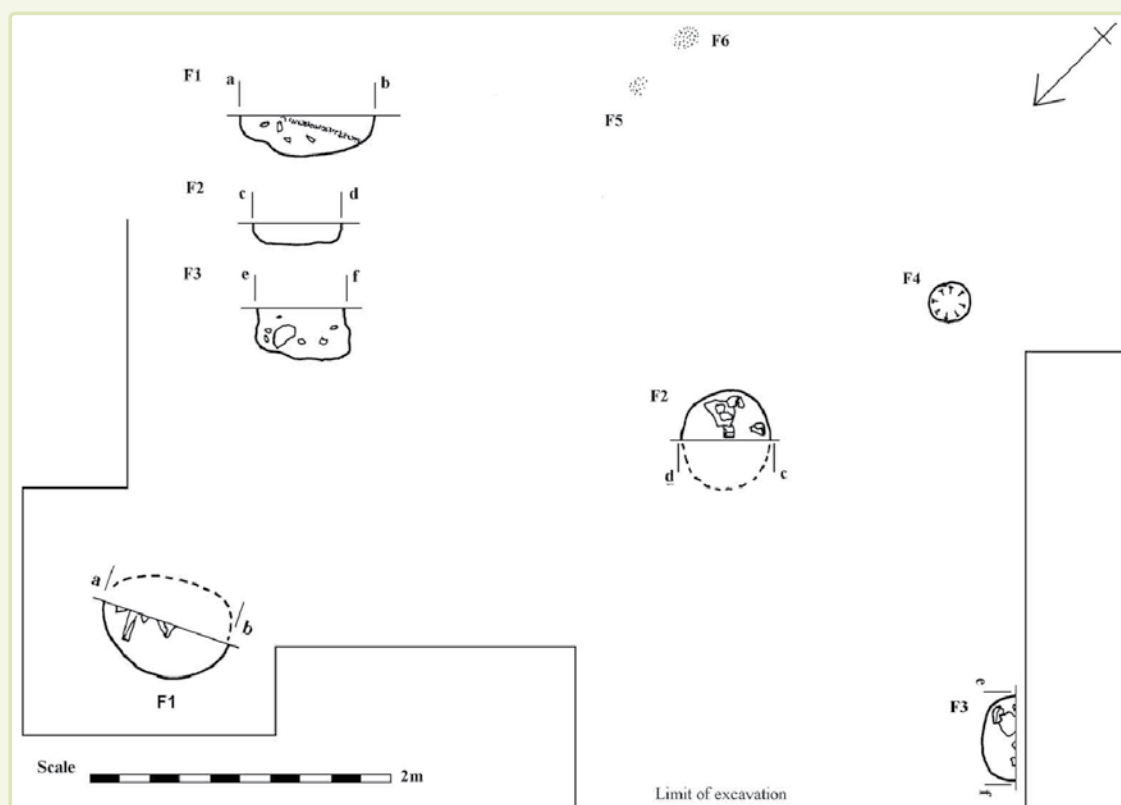


Fig.6 Features



Plate 2: Feature 2 circular shaped pit which measured 0.6m in diameter



Plate 3: Feature 1 oval shaped pit which measured 0.9m by 0.6m

F2 Fig 6, Plate 2

Feature No 2 was a circular shaped pit which measured 0.6m in diameter. It had straight to gradual sides and was 0.15m deep and with a flat base. The excavated half showed several small angular rocks lying in the fill which was a dark charcoal enriched soil. Round wood charcoal was noted during excavation. Section e-f showed the fill to be homogenous in appearance.

From the sample of c15 litres the charcoal larger than 2m amounted to 25 grammes. Pieces up to 20mm and many examples of round wood in the form of small twigs were noted.

Charcoal identified was Quercus (oak) Salix (willow) and Ericales (heather type).

F3 Fig 6

Feature No 3 was apparently an oval shaped pit which measured 0.6m by possibly 0.4m; an assumed approximate half was left untouched in unexcavated ground. The pit had undercut sides and reached a depth of 0.35m. Some angular stones lay within the fill and near the base which was for the most part flat. The fill was otherwise fairly homogenous in appearance with dark soil and some charcoal evident. The under cut sides may have been caused during the original excavation and/or in use, by pulling stones from the sides.

From the sample of c40 litres excavated from the section in two arbitrary layers, charcoal larger than 2m in size amounted to about a gramme from each level.

Charcoal identified from an upper sample was Betula (birch), Corylus (hazel), Quercus (oak) and Ericales (heather type).

Charcoal identified from a lower sample was Betula (birch), Ericales (heather type) and Quercus (oak).

An AMS radio carbon date was secured from a Betula fragment from the base of the pit and the result was as follows:

SUERC-17872 (GU-16472): 1855+-35BP cal 95.4% probability 70AD – 240AD

Therefore the pit dates to the Iron Age and perhaps could be associated with the nearby Roman road presumed to run directly past the site on the east side of the A702 road (RCAHMS, 1978). The probability is that the other features will be of a similar date. The absence of any lithic finds in the pits may be accounted for by the fact that this end of the trench was rather sparse in lithics.

F4 Fig 6

Feature No 4 was a smaller bowl shaped pit which measured 0.28m by 0.08m deep. The fill appeared as a dark soil.

From the sample of c 2 litres there was no appreciable charcoal.

F5 and F6 Fig 6

These two features were seen as small patches of charcoal enriched soil about 0.2m in diameter and which on excavation were shown to be amorphous in shape. F5 was bulk sampled; this 1 litre amount of soil being the darker of the two in composition, but the sample produced no appreciable charcoal.

Phase 1 Discussion and Conclusion.

The aims and objectives for fieldwalking, excavation and for understanding processes involved in modern cultivation were realised in full for this project.

The fieldwalking over several occasions demonstrates the need for repeatedly walking ground in order to get the fullest picture of what exists and is being exposed by cultivation. By reference to the lists (appendices 1, 2 & 3) it will be seen that if a single episode of walking had taken place on this field then a very different story would emerge. It has been the policy of this Group to ensure that at least two visits are made to fields on different seasons. Dissimilar results are often obtained with varying types of materials being exposed, simply as a consequence of slightly deeper ploughing and also varying weather and soil conditions.

A confident picture of pre-historic land use at this location may be easily grasped even if details remain obscure.

The full potential of the evidence gathered so far will not be realised until expert analyses of the lithic is under taken, this cannot be done within the Group. However, even at this stage certain statements may be given with a degree of confidence.

Mesolithic activity, presumably hunter gatherer camp site/s where knapping of chert (and possibly flint) has taken place, along the ridge and adjacent to the spring course, is demonstrable by the large scatter of struck chert which includes cores for small blade manufacture and of course the microliths themselves. It would appear that both the local radiolarian chert and flint was used for this early activity period. Despite extensive fieldwalking in numerous adjoining fields, this was the first conclusive evidence for the Mesolithic period in the area. However, in 2010, three further Mesolithic sites were identified through chert scatters; these are on the opposite side of the valley and adjacent to and south, and north of Howburn Farm (Ward, forthcoming).

The Early Neolithic is almost certainly represented by the relatively large assemblage of Arran pitchstone which, once again in South Lanarkshire makes a convincing correlation with pottery and tuff axe

flakes from that period. This discovery comes as no surprise to the Group as it is now an almost annual occurrence in their fieldwork (Ward, various reports) and indeed, just across the road to the east, the Melbourne excavations (Ward 1996, *ibid*) show that the site under discussion is simply an extension of the activity discovered there, where an even larger assemblage of pitchstone was found along with Early Neolithic pottery. Similarly, sites a few fields to the south, but on the east side of the A702 road produced significant assemblages of pitchstone and pottery (Ward 2000), and also pits not dissimilar in appearance to those found here, however those pits produced Early Neolithic dates and they included pottery and pitchstone.

Discovery of pitchstone in both fieldwalking and excavation in South Lanarkshire easily accounts for the largest assemblages in Scotland outside Arran itself. Fortunately, and since the work considered here was accomplished, an extensive study of both the pitchstone from the BAG projects and also the entire pitchstone collections from Scotland has been done by Torben Ballin (Ballin & Ward 2008, and Ballin 2009). A consequence of those studies is that the misconception that pitchstone tools were only found on Arran itself is now shown to be false. Although Arran still retains the best assemblages of microliths, scrapers and arrow heads (both leaf and barb & tang) made from pitchstone, the new study has shown that tools do exist in mainland collections. The logistics of acquisition of pitchstone from Arran and the actual use much of it was put to is still poorly understood.

Certainly most of the pottery sherds recovered in this project are Early Neolithic with some Bronze Age, probably beaker fragments, other sherds, while definitely pre-historic are less determinate because of their fragmentary or eroded condition.

The flint presented an interesting problem for several reasons. It was found in relative abundance and in a variety of colours. Relatively larger than usual flints for the area were recovered and the overall assemblage from the field shows a high percentage of tool types, most especially a variety of scrapers and other tools.



Plate 4: with catalogue numbers



Plate 5: with catalogue numbers

The surface concentration which led to the excavation came as a surprise since it certainly did not show on previous inspections of the field; the salutary lesson of repeat walking was easily demonstrated by this. The assemblage from both surface and excavated flint bore a similarity to that found along the entire ridge, especially as much of it was light cream to grey in colour and also contained flakes up to 50mm long, which is large for this part of Scotland.

The excavation also produced a somewhat surprising result in terms of lithic when an even higher quantity of chert over flint was retrieved, something not indicated by the surface scatter which was almost exclusively flint, even allowing for 'non diagnostic' chert not being lifted at that time (see list MB/05/100). Again the lesson of the surface scatter merely being 'the tip of the iceberg' is demonstrated.

Post script to the Phase 1 excavation

As stated above, a high percentage of pitchstone has been collected in the BAG projects, especially in the area of the work considered here. BAG was fortunate to have the services of Torben Ballin, an independent lithics expert to analyses and report on the locally found pitchstone collections. This work is reproduced on the BAG web site (Ballin & Ward 2008 *ibid*) and it

was then incorporated into a major work on Scottish pitchstone by the same specialist (Ballin 2009 *ibid*).

During discussions with him, the writer of this report produced some of the flint which seemed to be 'unusual' in the local context. Interest having been secured, Torben Ballin then consulted Alan Saville of the National Museums of Scotland and they came to the same conclusion that the flint in question was indeed unusual, and had never been seen in Scotland as such a large and secure assemblage. Indeed from the small sample they had at that time, they were tentatively happy to describe it as being Early Mesolithic, the earliest yet from Scotland in typological terms, and having affinities with the famous Star Carr site in Yorkshire (Saville, Ballin & Ward 2007 *ibid*).

When the full collection of flint found its way into their hands, they came to the happy and rather surprising conclusion that the flint was not Mesolithic at all, but of Late Upper Palaeolithic age on typological grounds (Ballin, Saville, Tipping & Ward 2010), since a new piece which came to them (1084) conjoined perfectly with one they already had (765), and formed a near perfect example of a classic Late Hamburgian or Havelte style tanged point (Pl. 4). Additionally, several other pieces found on the surface and in the excavation conformed precisely to the new opinion on age; these were long end and side scrapers, burins and piercers.

Furthermore, comparisons for the Howburn material could only be found on the continent on sites in The Netherlands, southern Denmark and northern Germany, but with none in Britain. The following quote is by Alan Saville:

“Detailed reconsideration of the typological content of the assemblage has shown that there are other highly significant indicators present, such as a blade preparation technique known as *en éperon*. When combined with the presence of end-of-blade scrapers, burins, and a Zinken-like piercer (PI.5), all these factors are convincing evidence for a Late Upper Palaeolithic camp at Howburn. The Continental parallels for lithic artefacts of Howburn type would indicate a date around about 12,000 14C years BP (which calibrates to around 12,000 calendar years BC). (Saville, 2009)”

At this stage in the story, Torben Ballin was commissioned by Historic Scotland to produce an assessment report on the complete assemblage (Ballin,

Saville & Ward 2009).

So it was that when the announcement was made public in early 2009, the Biggar Archaeology Group once more found themselves in the glare of media publicity. However, a decision had already been taken with the permission of the land owner to investigate the field further. Alan Saville and Torben Ballin agreed to be specialist advisers to the next phase of operations and at this point Richard Tipping of Stirling University agreed to investigate the possibility that the Howburn valley floor had once been a loch, since several of the continental sites of this period and culture are found beside existing or former lakes, for example at Slotseng in South Jutland (Jorgen Holm, 1991).

Phase 2 2009

The principal objective of the second phase of excavation at Howburn was to establish a better understanding of the early lithic scatter, and with a specific remit to determine if a camp or camp sites could be proved, if knapping or debitage dumping zones could be located and most especially if any dating or environmental evidence had survived from the Late Upper Palaeolithic, and while the latter did seem implausible the fact is that archaeological deposits, albeit of later pre-history, had been shown to have survived the attrition of the plough.

The strategy was to re-open the original trench and establish a new one beside the main road where a second discrete scatter of the early flint was now known to lie. Further trial trenches were to establish any relationship between the two concentrations of flint and determine if any others not yet disturbed by the plough existed.

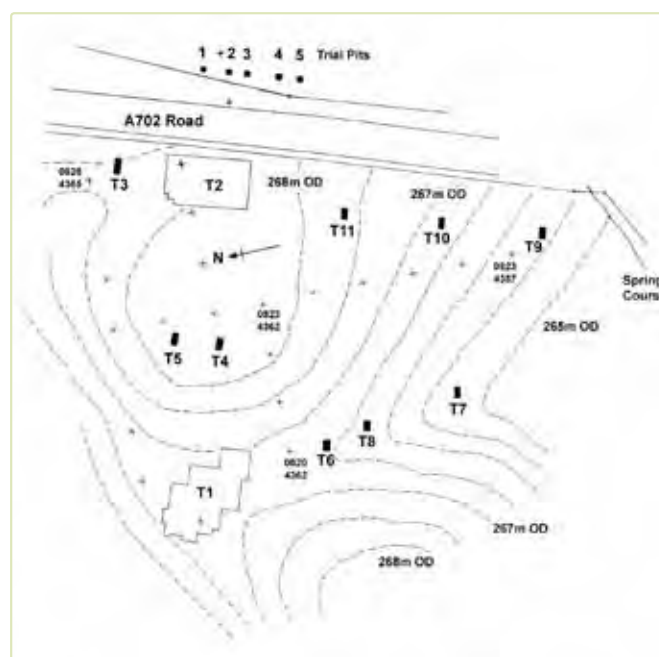


Fig 7: Site Plan

Excavation

Phase 2 Trench 1 (Figs 7, 8 & 9)

The original trench in Phase 1 was 79 square metres (Figs 3, 5 & 6) and this was extended for a further 122 square metres (Fig 8 & 9). The excavated grids followed the same alignment as before and the finds were similarly recorded to each metre box. The numerical tally of finds dictated the direction the excavation took on the ground and it will be seen from Fig 7 & 8 that there was a preponderance of finds made in the SE corner (Top right hand side of figs). However, a few items were found 'in situ' below the plough soil and these were also recorded to the square metre box within which they were found. The excavation was done, by hand trowelling, and with particular care to look for tiny debitage, as sieving was not done for the plough soil, but it was done for the cryoturbated silt (see below), using 2mm mesh sieves. During the work the weather conditions were for the most part favourable.

The plough soil depth varied only slightly as before being 0.2m to 0.3m deep. The sub stratum was also similar in places as before but in the SE corner, the clayey till surface undulated in some places and hollows were also encountered. The natural hollows in the till had been in filled and levelled off in post glacial times, presumably by melt waters, with a fine stone free sandy deposit of orange colour (Plate 6).

The silt played an interesting part of the post deposition history of the finds, some of which must have lain on it in Late Upper Palaeolithic times. By reference to Figs 8 & 9, the numbers of objects given in parenthesis indicate material found 'in situ', that is to say lying below the plough soil and generally being found within the silt layer. However, the silt encountered in some places reached a maximum depth of 0.4m below the base of the plough soil horizon, and within this material flints were located to the base of the silt deposit.

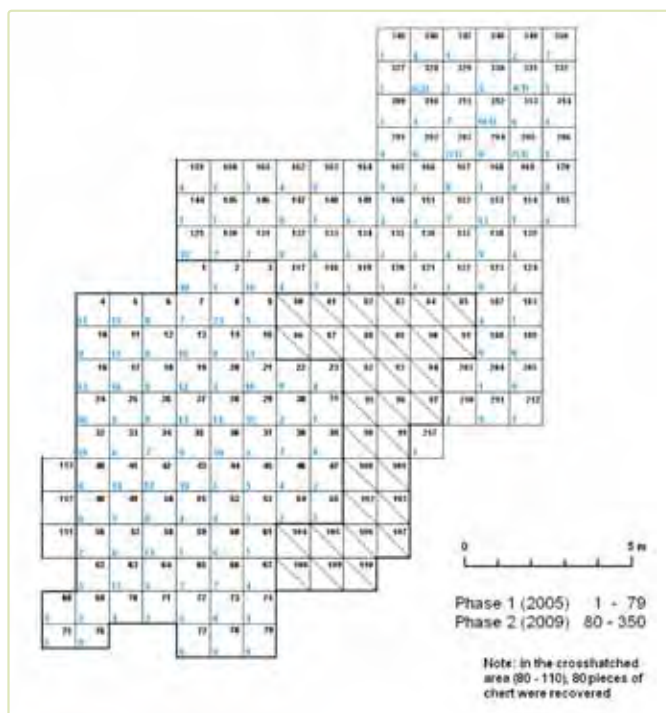


Fig 8: Distribution of chert recovered at Howburn 2009

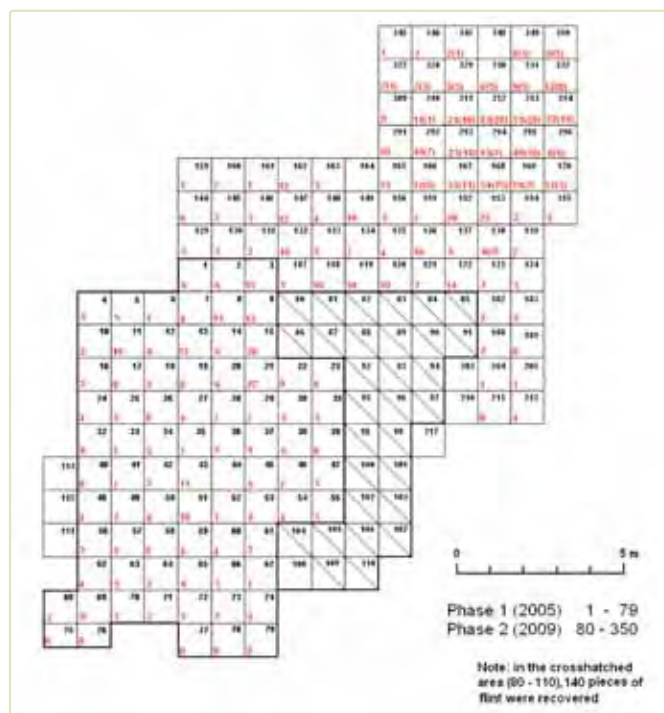


Fig 9: Distribution of flint recovered at Howburn 2009



Plate 6



Plate 7: Showing an end scraper embedded in silt.

Mostly flint, including many tools were found in this deposit (Plate 7) but with some exceptions of chert, some of these being long end scrapers and also considered to date to Late Upper Palaeolithic times. It has been deduced that the process of cryoturbation, the actions of freeze/thaw, was responsible for the migration of lithics into the otherwise 'natural' silt. If this interpretation is correct, and it appears to be the only logical one, then the cryoturbation could obviously only have occurred

after the lithic was laid down and before the end of the last ice age in Scotland when perma frost conditions prevailed, that event is known as The Loch Lomond Re Advance, occurring some time around 12,000 years ago. It is believed that the process of cryoturbation is the first to be recorded in Scotland and interestingly, almost identical occurrences of cryoturbation of Late Upper Palaeolithic flint has been found in sites on the continent, for example at Slotseng (Jorgen Holm, *ibid*).

The alternative for artefact migration into 'natural' is of course the process of bioturbation, caused by burrowing animals such as rabbits, moles or worms and or root activity whereby objects are displaced by being moved into burrows or former root spaces. All of these phenomena were seen at Howburn, most especially worm tunnels which had been vertically driven down to the base of the silty material, however, no lithics were found in any of these biological disturbances of the glacial deposits.

Only a few possible archaeological features were noted this time in Trench 1, the most convincing was a small pit with charcoal enriched soil (a post hole?) in grid 147. Other traces of charcoal patches were seen and all of these were bulk sampled. They are however considered to be most likely of later pre historic date and will not be pursued further. Horizons of dark material were noted in the sub surface silt but these were shown to be formed by deposits of naturally occurring manganese, samples were processed to test if charcoal was present and these proved negative.

The excavation was led by the presence of lithics and by reference to Figs 7 & 8, it will be seen that a

numerically higher deposit of finds occurred in the SE corner of the trench, including 'in situ' finds. The plough soil finds appear to have a direct correlation to higher numbers being located in the silt deposits below.

The excavation was terminated at a point when relatively large numbers of finds were being made in the SE corner; this decision was adopted in order to preserve a representative sample of the site, especially a productive part of it, undisturbed.

The numbers accorded to grids were part of an originally larger scheme of excavation which was not pursued for the reason given above. The second phase numbering system simply ran on from the original 79 squares, however as the proposed programme was not followed through, the numbered sequence of eventually excavated grids are not consecutive. It was decided not to revise the plans to rationalise the numbering system in case mistakes occurred.

Unfortunately, due to an error in trying to re located the original trench a number of grids were excavated without an accurate recording system in place. These are grids 80 – 110; consequently the finds from all of these squares have been intermixed.

Phase 2 Trench 2 (Figs 7, 10 & 11)

Trench No 2 was opened in a second area where a concentration of flint in particular had been found as surface material, in all, 70 pieces had been retrieved during walk over's.

The strategy was to open five adjacent blocks of 100 metre grids, this area (Fig 7) is directly beside the boundary fence of the field and the A702 road. In the event, only one full block was completed; Block 3. Twenty squares were excavated in Block 4 and forty seven in Block 2.

The methodology for excavation was the same as for Trench No 1 and the plough soils varied slightly more in depth here, being from c 0.15m to 0.5m deep, and the deeper plough soils being nearest to the boundary fence and are probably due to ploughing methods.

The numerical quantity and distribution of flint and chert are given in Figs 10 & 11 respectively, while the total number and types of finds are to be found in Appendix III.

Fig 10 shows that a significant concentration of flint lay in Block 2 in a semi circular patch and that in situ material (147of) complimented it, a higher rate than elsewhere of in situ chert (9of) appears to mirror the flint density while the rest of the Trench showed a rather sparse but even scatter of both flint and chert.

HOWBURN

Trench T2

Trench T3



Fig 10: Distribution of flint recovered at Howburn , Trenched T2 and T3. 2009

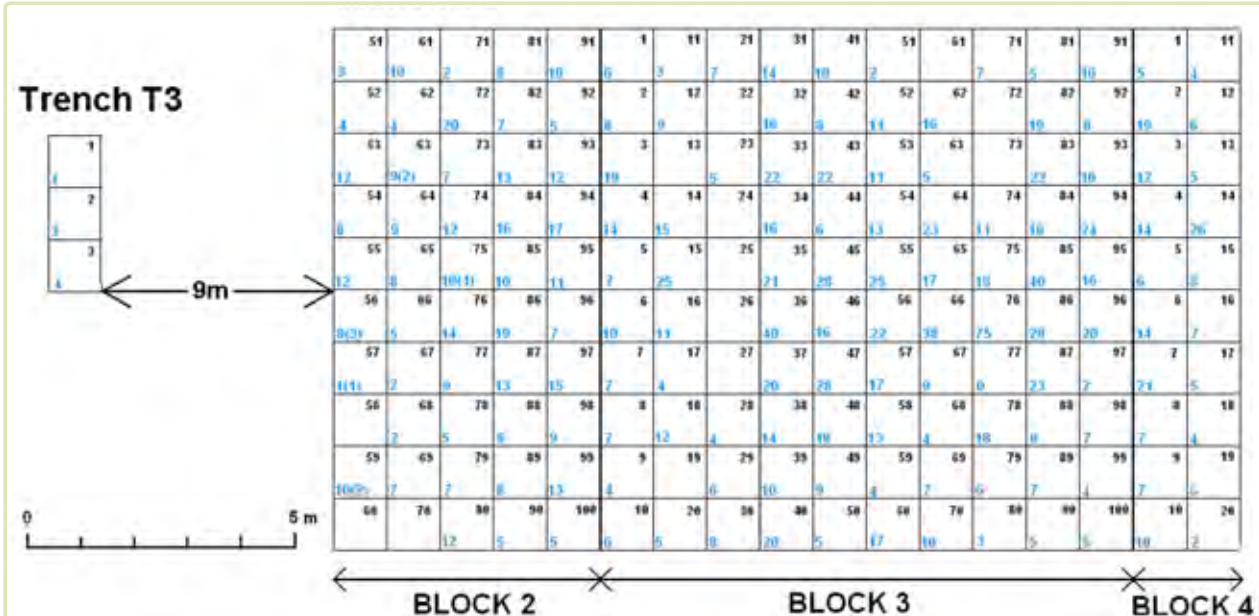


Fig 11: Distribution of chert recovered at Howburn , Trenched T2 and T3. 2009



Trenches 1 & 2

During the excavation both main trenches were operated simultaneously and it became apparent that in each trench dense concentrations of lithics were emerging (Figs 7 & 8 and 10 & 11) and in both cases cryoturbated material was also part of these concentrations. The decision was taken upon this realisation, to suspend the excavations on the grounds of site preservation for future research. Temptation to continue was resisted because it was felt that one of the objectives of the project had been fulfilled in determining that the surface scatters definitely indicated that camp/settlement sites did lie in the field, and since the Phase 2 work was initiated in the full knowledge that the project was dealing with a unique Late Upper Palaeolithic site, to continue to strip that site would have been irresponsible.

It is patently evident that a considerable quantity of early lithic still remains in the field and also that much of it lies below the plough soil and at different locations in the field. The writer is also aware that road re-alignments have been done on the A702 in the vicinity of this field and that further work is intended

to straighten bends in the road. There may well be an opportunity at some point in the future if such road works take place here, for a professional and fully resourced excavation on parts of the field now identified as having camp sites, and therefore the present work may be taken as an assessment of the quality of archaeological deposits there. It was also probable that some of the pre historic archaeology, of different periods may lie below the road and could also extend beyond it into the plantation; this theory was tested by trial pits and the results are given in Appendix IV below.

Trial trenches (fig 7)

Eight further trials trenches of 2m long by 1m wide and one of 3m long by 1m wide were opened to test the area for further concentrations of lithic. Trench 3 (the largest one) was originally to be part of Block 1 of Trench 2. Trenches 4 & 5 were opened on a slight summit and between the two main trenches, Trenches 9, 10 & 11 were placed to test the ground alongside the road and finally the position of Trenches 6, 7 & 8 were chosen to examine the gully in the field.

Discussion and Conclusion

Reindeer hunters?

Upon the realisation that some of the lithic represented a Late Upper Palaeolithic activity, an explanation for its presence was sought. The lithics assemblage appeared to have exact parallels on the continent from sites in The Netherlands, southern Denmark and northern Germany, but none from Britain. The evidence from the above countries seems biased in favour of reindeer hunters, as much faunal evidence in the form of bone and antler has been found on various sites there.

The hunters therefore appear to have come from the east and the logical explanation seems to be from over the area of the present North Sea, possibly following migrating herds from what is now mainland northern Europe. It is possible that some of the exotic flint was gathered along the way, from deposits now lying below the sea.

Certainly the culture at Howburn has close lithological affinities to the late Hamburgian settlements of Germany, and taking a direct route, the distance from Hamburg to Howburn is c550 miles, which is easily within the migration range of reindeer, and therefore of their hunters (Smith, 2006).

The Howburn Camp Site

It would appear that the camp site was used on successive occasions judging by the variety of flint types found there. How many times the hunters arrived will probably never be known but other factors regarding the site may be determined, such as why the spot was chosen and can spatial analyses of the finds throw light on the use of the site? The specialist lithic report may shed considerable light on the use of the sites.

Much of what follows here is based on assumptions, some of which may prove to be incorrect in due course.

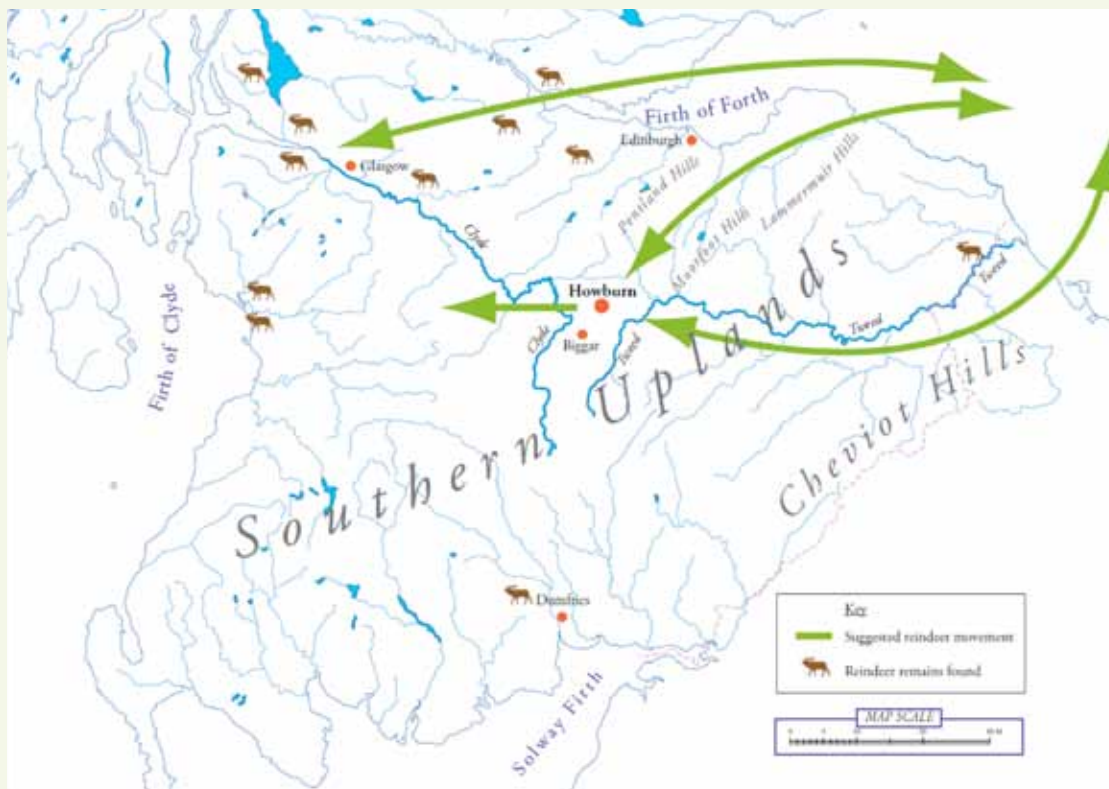


Plate 8 with reindeer finds added, (after Kitchener in Lambert, 1998)



Plate 9 Looking north east to the gap in the hills and where the site lies

Choice of site location

Working on the assumption that both hunted and hunters were travelling east/west and moving across the area of the present North Sea, and arriving on the east coast of Scotland, then easy routes further to the west and by passing Howburn are limited.

Indeed, judging by the topography, only two paths appear to have been likely; one is via the River Tweed which could connect to Howburn by way of the Biggar Gap from Broughton, and the other is by way of East Lothian and then leading south towards Howburn (Plate 8).

The Tweed appears at first glance to be the more direct route; however it may have imposed some disadvantages to a large migrating herd. One is the obvious fact that the river dissects the route and the plains upon which the animals would have grazed, although reindeer are excellent swimmers. The other possible problem is that in the Peebles area especially, the river valley constricts in to form a bottleneck gorge, therefore these two factors may have been unfavourable to migrating herds, if a better route was available.

That route may have been from the Lothian's and Edinburgh area. The Pentland Hills form a barrier running N/S from Edinburgh to Elsrickle. Making another assumption that the animals would prefer to stay along the valley floors and lower sides, since they eat as they walk (Smith, *ibid*), and not wish to proceed directly over steep and high hills with less food available, then two possibilities exist for passing the Pentlands on a march towards the west (which is another assumption). The most obvious is to carry directly on into West Lothian and beyond by passing the Pentlands northern extremity at Fairmilehead. This of course may have happened but that does not help with an explanation for the presence of the Howburn camp site. The other way is around the southern end of the Pentlands and running immediately past Howburn. Both of these hypothetical routes may have been used depending on the size of herds involved.

Coming south on the eastern side of the Pentlands there is a c8mile wide plain with a slightly undulating landscape lying between the Pentlands and the Moorfoot Hills. Gradually the distance between these two hill ranges lessens as one travels south. The herds may have begun to cluster in the West Linton area and then at Dolphinton, become channelled between Shaw Hill and Broomy Law on the east and Black Mount on the west, leading straight to the Howburn camp site (Plates 9 and 10).

A route past the northern end of Black Mount and leading to the Medwin valley and beyond could also

have been used, perhaps again, the herds may have split and taken both ways past Black Mount. In any event it seems likely that the animals did pass the camp site and one is reminded of the old adage of Western films of "cutting them off at the pass".

There is another rather bottle neck route between Howburn and the Biggar Gap, this is at Candymill only a mile to the south of the site. If the herds were coming up the Tweed, it seems unlikely that they would use this route past Howburn when they could more easily continue directly west and walk past Biggar to make the connection to the lower Clyde valley, and thus giving access to similar plains to those in West Lothian.



Plate 10



Plate 11

...at the base of the core pollen from birch and tall shrubs such as juniper were identified



Plate 12

Again, assuming the herds were moving further west, at Howburn the only way is past Elsrickle after which there are no real elevated obstacles which would seriously impede the trek.

Several of the continental sites have been discovered beside existing or ancient lakes where much organic and environmental material has been found and this has allowed radio carbon dating of the sites to be done. The idea that a loch had once existed at Howburn was followed up by coring the valley floor. This was done by Richard Tipping of Stirling University (forthcoming) and the result showed that a 4m depth of sandy sediment had accrued, however this appeared to be entirely free of any organic evidence and it was concluded that although there had been standing water there, probably ice dammed and was gradually silted with melt water sediment, it had dried up prior to the settlement by the hunters.

However, a nearby kettle hole (Plate 10) at Strathbogie to the SW of the site has also been cored (Plates 11 and 12) and the rationale for that is given in Appendix V and three preliminary reports are given on the

Biggar Archaeology Group website (Tipping 2010 x 3of). Suffice to say here that over 8m of sediment stratigraphy was retrieved, however further work has been done to reach even further down into the deposits (Tipping, forthcoming).

Dr Lucy Verrill of Stirling University has ran standard tests on the core (Plate 11) and a complete pollen record has been determined; at the base of the core pollen from birch (*Betula*) and tall shrubs such as juniper (*Juniperus*) were identified, and delicate moss stems should provide radio carbon dates.

Furthermore, the cores are being examined by Rupert Housley of The Royal Holloway College of London in the hope of finding volcanic ash and which may also help with dating the cores.

By endeavouring to establish a reason for the Howburn camp location, it may be possible to suggest other likely positions for similar camp sites, for example at the northern end of the Pentlands or at other elevated spots overlooking a narrow valley floor, especially with an existing or ancient loch.

The finds assemblage.

Since the BAG do not have the expertise to analyse the finds and therefore realise their true significance, the full extent of what it can tell about the site must await such expert work, which is in progress. However, during the excavation several points emerged about the site.

It does seem likely that the two areas targeted by the excavation and based on surface and excavated collections, have indicated the foci for activities involving the various tools and debitage found. Certainly many scrapers of different types, tang points and a great variety of other retouched pieces

such as burins and piercers were retrieved at each main location; Trenches 1 and 2. The presence of so many tools, especially the scrapers, surely indicates a habitation site. A rather perplexing aspect of the lithic collection is the fact that so many complete tools were left behind and a similarly apparent extravagance of discarded flint flakes seems to indicate that the flint was not regarded as a resource to be frugal with.

The following photographs are given merely to demonstrate the types of materials and artefacts recovered.



Plate 13 Some of the tanged points found



Plate 14 End and side scrapers are common; the pointed object is a dual scraper/burin



Plate 15 The variety of flint types and colours appears to indicate repeat visits to the site, the flint sources are not known.



Plate 16 Pebble flint and flakes with cortex were found



Plate 17 An unusual type of chalcedony, as yet unidentified



Plate 18 Core

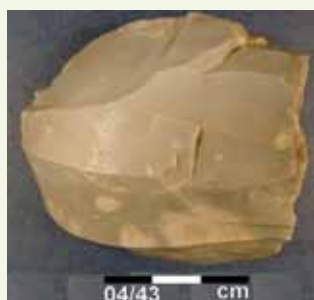


Plate 19 Cores indicate on site knapping



Plate 21 Core



Plate 20 End Scraper



Plate 22 End Scraper



Plate 23 End Scraper

Local radiolarian chert of different colours was fashioned into long end scrapers



Plate 24 Mesolithic cores and microliths of both chert and flint were common



Plate 25 Arran pitchstone, found in abundance in the locality, all the evidence suggests an Early Neolithic date; however, its function remains largely uncertain.



Plate 26

Debitage in the form of tiny flakes and spalls was found but not in sufficient concentrations to suggest actual knapping zones or rubbish dumps, however enough was found to clearly show that knapping was taking place, and the several cores and pebble fragments with cortex which were found, further enhance that view.

The variety of colours and types of flint suggest that the site was subject to repeat visits although the sources of procurement are unknown. Nevertheless, it is clear that the hunters had found sources of local radiolarian chert for use as long end scrapers. The chert is found in situ as outcrop and as scree along the Southern Uplands fault line which runs on a NE/SW alignment, the nearest point being only 2km to the east of the site. The colour range of this chert varies from the common grey/blue,

brown and black, and also variations on each of these. All of the chert identified on this site is recognised by the author as being of local origin, and has been repeatedly found on various BAG projects. It seems reasonable to suggest that the sparsely vegetated landscape in the Upper Palaeolithic would make finding the chert sources easy.

The plough soil was not sieved, and it is the writer's opinion that although a very small proportion of microlithic may have escaped the notice of some of the excavators; it would have been insignificant in terms of the numerical quantity actually retrieved. Random tests by sieving on spoil heaps confirmed this. The cryoturbated silt was however all dry sieved.

Trial trenches (Fig 7)

The few trial trenches (T3 – T10) appear to confirm the view that there were only two principal areas of activity; at T1 and T2, even though they are only 55m apart. For example T4 & T5 which are equidistant between the two main trenches and are on a summit of ground, produced only two flints, twelve chert and a pitchstone flake from four square metres. T3 shows that the LUP scatter does not reach it from T2 although the side of T2 nearest to T3 evidently has the greatest concentration of lithic remaining (figs 10 & 11). Trenches 6, 7 & 8 lie in a gully which runs downhill from T1, and as one may expect, the plough soil is slightly deeper here, and as with much of the surface collection from the ridge extending from the sites and to the SW, lithic attributable to the LUP was found. T9 lies on an alluvial debris fan from the spring course and therefore contained no finds and T10 – T11 were similarly disappointing but nevertheless clearly help to indicate the extent of the LUP lithic scatter.

In 2010, five trial pits measuring one square metre each were opened within the plantation on the east side of the A702 road and opposite from the Howburn Excavation site. The pits (fig 7) were aligned along the fence line of the plantation boundary, and the rationale for the work was to test the possibility that the archaeological deposits and finds found in the Howburn field, may have extended below the road and into the plantation.

The area lay c 0.75m above the field and was at the base of a break of slope upwards and towards the east.

The results of this work are given in Appendix VI; suffice to say here that no LUP material was found although Mesolithic and Early Neolithic evidence was recovered. The latter information was already known as surface recovery work in 1995 by the Group had found this. What lies below the road is not known however judging by the north end of T2 (figs 10 & 11) there may well be material from all periods in that area.

Surrounding fields

The land on the east side of the A702 road and opposite the site was inspected when it was ploughed in 1995 for the forestry plantation there, and considerable evidence for Early and Late Neolithic periods was found (Ward, 1996 *ibid*). The field immediately to the north of the site (but now a plantation) was also walked at that time but practically nothing was found in it. The field immediately to the south of the site and also on the same side of the road did produce a discrete scatter of chert and flint lithic, with round scrapers indicating a Neolithic age. None of the other surrounding fields, and most have been walked, have produced any evidence of the Late Upper Palaeolithic period.

It is taken for granted that Howburn will not be unique in a Scottish Late Upper Palaeolithic context, there must be other similar sites, and probably within a days walking distance from Howburn. A search for these sites can now use Howburn as a starting point and working along the possible routes suggested above. Reindeer migration routes, if they can be understood, may be the key to finding where other camps can be found.

If other groups, individuals, societies and perhaps universities can be convinced and encouraged to help in such a search, as part of a larger strategy, then surely this previously lost aspect of human endeavour in the land we call Scotland, could be considerably enhanced.

Field walked objects and features undoubtedly show that all pre historic periods are represented in the field, certainly making it a unique site in Scotland and perhaps in Britain, for example lithic arrow heads of all pre Iron Age eras have been found (PI 26). The fact that all of these epochs are found here, in a relatively small area is difficult to explain, given the long time scale the finds represent. It would be incredible to suggest any link between the various times, but coincidence hardly explains the phenomenon; there must surely have been some common attraction to the location, but apart from

the spring course and the elevated ridge (with a view?) the modern landscape offers few clues as to what that attraction may have been. The vegetation for each major period is known to have been radically different and is therefore not comparable in the search for a common denominator to explain why each group of site occupiers chose this spot.

The intensity of fieldwalking by BAG in the vicinity of Howburn leads strongly to the view that the site may be the only one in the area. Furthermore the spot appears to have been very special but for an as yet unknown reason. It is very discrete as far as the lithic scatter demonstrates and, and it has clearly been subject to repeat visits by its earliest occupants.

The surrounding and nearby fields have been inspected thoroughly since 1995 when the fieldwalking project began. Most fields, even when non productive have been visited more than once. No lithic which can be attributed to the Late Upper Palaeolithic (LUP) has been recognised other than that at the Howburn site.

Given the fact that stray or random pieces from all other pre historic periods are found in most fields, it seems extraordinary that no stray LUP objects have been found, especially considering the high density of lithics at the site.

One may have assumed that occasional stray pieces would be found further away, but the evidence so far gathered does not support that. BAG has also walked a considerable number of fields in other localities and as far as is known, the many assemblages recovered do not include LUP material.

When the lithics examination is complete much will be postulated about the use of the site; however the writer is now concerned about what it may tell us regarding activities in other places. Obviously the discovery of other camp sites should be a priority, but it may be

possible to find locations such as 'killing zones', where specific favourable locations have been used for the hunt and perhaps disembowelling of the animals before being transported back to the camp. Given the evidence from Stellmoor, in Germany (Brutlund) where numerous projectiles appear to have been fired at single reindeer, then surely many tanged points must have been broken at the hunt scene. If special spots were selected for the hunt, then it may be possible to find them by the lithic evidence of projectiles and perhaps cutting and scraping tools.

If hunt locations were more random then concentrations of finds would be unlikely. However, to labour the point, BAG have now walked large areas of landscape with a high success rate of lithic retrieval, and despite the fact that many arrows of different periods have been found as 'stray' objects, no tanged points have been recovered.

The nearby kettle hole at Strathbogie is BAG's starting point, but the two nearest fields there and walked in 2010 produced only Mesolithic evidence. This line of enquiry will now be continued and as more and more fields are walked in the Elsrickle area over the next few years, a more comprehensive understanding of the problem may become available.

The finds from both surface collections and excavations and taken with the Paleo-environmental work which is already underway, all courtesy of grant aid by Historic Scotland, will provide a unique opportunity to study the earliest known inhabitants of the land now called Scotland; and clearly a major revision will now have to be considered for Scotland's earliest inhabitants in all studies of the subject, especially written and taught work. The specialists work will be completed by 2011 and then a more complete and academic paper will be produced on the results of the project.

Acknowledgements

The Howburn project may truly be described as community archaeology, the fieldwork was carried out almost exclusively by a voluntary amateur group assisted by a few students but (and disappointingly) with practically no support from the profession, despite invitations to participate in Phase 2. The public appeal for Phase 2 workers was met with a great response from people from all walks of life and by locals and people from further afield, and including many families and children. From the outset inclusiveness was the key word to allow as many people as possible to experience the thrill of discovering the past – by touching it. The writer believes that all who did join in enjoyed the project and made it one of the happiest excavations he has been involved with.

The Group are indebted to Graham and Ann Barrie of Howburn Farm for permission to investigate the field by field walking and to conduct the excavations described above. 2006 ploughing was temporarily suspended in order that the intended area of excavation was completed and this additional co-operation ensured that the work achieved the aspirations of the Group. Mr Barrie also back filled the substantial spoil heap into the trench, saving a few sore backs. Parking many vehicles at the farm for Phase 2 work caused some congestion and this was borne by Mr and Mrs Barrie with courtesy and kindness. Lawson Barrie assisted with transporting heavy equipment to and from Strathbogie kettle hole for coring operations

We are grateful to Mr Rob Starling, owner of the plantation on the east side of the A702 for allowing the trial pits to be dug to test for further archaeology on that side of the road (Appendix VI).

Due to the need for enhanced safety, the site being adjacent a notorious stretch of the busy A702 road, we are extremely grateful to Contraflow Ltd for their sponsorship by providing and setting up road cones and signage, this undoubtedly slowed much of the traffic down to the relief of the writer.

Phase 1

The work of Phase 1 was carried during the months of December and January 2005/06, mostly in inclement weather, the following members of the Group participated; Fiona Christison, Carole Dickson, Brenda Dreghorn, Jacquie Dryden, Denise Dudds, Joyce Durham, Richard Gillanders, John Goody, Mike Harris, Sandra Kelly, Bob Lockran, Fraser McCrae, Bill McLellan, Jim Ness, Ian Paterson, Terry & Alan Paton and Robert Whitecross.

Phase 2

The work of Phase 2 was carried out by the following:

BAG members:

Fiona Christison, Margaret Brown, Sharon Corder, Brenda Dreghorn, Jacquie Dryden, Denise Dudds, Joyce Durham, Richard Gillanders, Sandra Kelly, Bill McLellan, Jim Ness, Ian Paterson and Alison White

Children and families:

*denotes members of Biggar Young Archaeologists Club

*Mark Callan, *Elliot Vietch and dad Duncan, *Findlay Morrison and dad Stewart, *Megan and *Kailee Frazer and mum Karen and dad Bruce, *Nicole McAlister, *Claire Logan, *Sophie Lawson, *Gavin Nicholl and mum Alison, *Niall Ball, *Michael and *Evie Glen (twins) and mum Shirley. Calum & Heather Somerville and mum Alison, Lucas and Bradley Anderson and mum and dad Mielissa and Richard, Bethany & Joshua Hughes and mum Sarah, Chloe and Rachael Hamilton, Luke and Conner Houston and mum and dad Lisa & Graeme, Eva, Laura and Connie Chekanksy and mum Tammy and granny Janet Ward, Sam & Asya Carlton and dad Richard, Amer, Asia, Abel & dad Adi Ratkusic, Castlecraig Cubs Ben Whyte, Ferdi Ferdnand, Theo Marples, Jack Patton, Andrew Raeburn & Angus Rose, Anne Mathieson, Kirsty Mauchline, Hannah & Elizabeth Newman, Janet Keddie (mum) & Megan, Eilidh and Varie Keddie.

Others:

Betty Adair, Russell Anderson, Ed Archer, Jamie Barnes, Vie Boyle, Dave Brummit, Jim Bryson, Elizabeth Bryson, Sean Campbell, Anne Cockroft, Laura Conlon, Nuno Cordeiro, Ruth Davidson, Vicky Davidson, David Drury, Val Ferguson, Lorna Fitzpatrick, Bill Glass, Owen Greenhorn, Carol Greig, Fred Hay, Gary Haley, Michael Harris, Will & Alison Higgs, Tom Hislop, Rab, Elaine & Jennifer Hood, Mary Howie, Bob Jackson, Michael Jones, Sue Kelly, Angela King, Irene Lancaster, Gordon Lang, Bob Lockhart, Maureen Saint Martin, Helen McCall, John McCormick, Leigh Ann McCormick, Jenny Morrison, Liz McNight, Mark Naples, Jim Oliphant, Doug and Alison Ramsay, Douglas Ritchie, Bob Robertson, Kathryn Smith, Rowena and Barbara Thomson, Alan Thompson, Michael & Sue Thornley, David Wallace, Alick Walkinshaw, Florence Whittaker.

Some people came for a single day while others made repeat visits to the site, all of their contributions were required to make the project the success it was, the writer wishes to thank in particular Alick Walkingshaw and Duncan Vietch who additionally helped with preparation of the site for other diggers and helped with backfilling of spoil heaps.

We are grateful to specialists Alan Saville of the National Museums of Scotland and Torben Ballin Smith who gave preliminary advice on lithics as they appeared from the ground, thus allowing excavators a better appreciation of what was being found. Richard Tipping and Clare Wilson both of Stirling University investigated the surrounding landscape and site soils respectively and Richard was joined by Dr Lucy Verrill, a pollen specialist for work on the valley cores. Jon Merritt of The British Geological Survey visited to advise on underlying geology, their full reports will eventually appear in the final publication.

Rupert Housley visited the coring operations and intends work on the cores for volcanic fall out of ash.

Denise Dudds of BAG processed all of the finds by cleaning where appropriate and listing in preparation for specialists work.

Jacquie Dryden (Web Manager) of BAG kept all of the volunteers, and the world informed of progress by regular update newsletters and web reports.

Ian Paterson of BAG produced the diagrams and plots used in this report and Brenda Dreghorn also of BAG encapsulated all signage used on the farm and the site.

David Oxley of BAG assisted with photographing a large selection of the finds and in the compilation of this report.

John and Rosie Wells demonstrated pole and kite photography to the Group, took pictures on site and donated a pole for future work.

Recognising the importance of the work, unsolicited grants were received from Biggar Community Council (£250), Biggar Civic Society (£250), Lanark & District Archaeological Society (£100) and an anonymous donor from Inverness who sent £20. These funds offset much of the expenditure of the Project and our appreciation is duly acknowledged.

Historic Scotland have subsequently grant aided aspects of the professional work such as lithics analyses and environmental coring and analyses of sediments, we record our appreciation for that.

The writer organised and managed the entire Project, he is extremely grateful to all of the above, and any he has inadvertently failed to mention.

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Appendix I

Sediment coring and the significance of the sediment stratigraphy beneath Strathbogie Plantation

Richard Tipping: 2nd March 2010



Plate 27

With the Howburn archaeological site now shown to be the oldest open-air site in Scotland, dating to the last phases of the last glacial period, the Devensian Epoch, comes the pressing need to understand the environment these Late Upper Palaeolithic hunters occupied. Two concerns are uppermost: first, an understanding of the geography 12000 calibrated years ago; second, whether these hunters and their prey, be it reindeer or horse, lived in a wooded or open grassland habitat.

Most comparable archaeological sites on the continent are close to standing water, with the interpretation that prey are drawn to a watering-hole. The valley-floor immediately below the archaeological site was cored in February 2009 with a lightweight corer and lake sediments were identified directly beneath the soil and recent alluvium. These clays and silts are laminated, interpreted as varves, the products of seasonally varying glacial melt-water pulses into a lake dammed by an ice-front, a pro-glacial lake. The significance of this discovery is that, although very poorly dated,

ice-sheet recession, and thus the draining of what we are calling 'Loch Howburn', has always been assumed to be at least 3000 calibrated years earlier than the Howburn hunters were in the valley. They would have looked out over a dry valley.

The pro-glacial lake sediments at Howburn itself can only be dated by peat overlying them in one small unploughed part of the field, and this peat will be much younger than lake drainage. Attention has turned to the downstream end of the valley, at Strathbogie Plantation, below Elsrickle, where the pro-glacial sediments are overlain by younger lake sediments, but demonstrably much older than the peat, and these, hopefully, can be dated.

Seen from Elsrickle, (Plate 27) the flat bog at the bottom of the ridge, in front of the plantation, is a kettle-hole. When the valley was dammed by a glacier, a large iceberg drifted away from the glacier snout and beached at this spot. Such blocks of ice, when covered by the sludge in melt-water, can persist for a long time, but will eventually melt. When this happens, what

was the iceberg turns into a pond. The Strathbogie kettle-hole should then contain a sediment record from pro-glacial varved clays and silts, through an open-water phase, until fen peat sealed the sediments. This sequence, being continuous, should tell us when the pro-glacial lake was drained.

The basal sediments in this kettle-hole have not been reached with lightweight corers: they are at least 13m down! With this in mind, a large and fit team was assembled by Tam Ward on Saturday, 27th February. Amid snow-drifts, this team used a 1.0m long, 6.0cm internal diameter Russian corer to retrieve nearly 8m of sediment, from 2.32 to 8.74m depth. These cores will be analysed over the coming weeks in the laboratories at the University of Stirling by Dr. Lucy Verrill, a post-doctoral research fellow. Analyses will include simple analyses of organic matter content and carbonate content as well as pollen analysis.

These analyses are needed in order to understand the age-range of the lake sediments retrieved. Because the bedrock around the kettle-hole is calcareous sandstone, the lake sediments are in part also calcareous, and this means that we are unlikely to ¹⁴C date the stratigraphy. We will use pollen analysis to compare with the patterns seen at other well-examined sites in the Scottish Borders. However, the calcareous sediments that formed in the kettle-hole are valuable because they give us a 'thermometer', on the basis that such sediment needs warm water to form. The organic content of the sediment may also be a 'thermometer' if warm water is needed to make lake water biologically productive, although lower lake levels bringing the fen-edge nearer the sampling site is a complicating factor here.



Plate 28

These factors came into play immediately, even as we were coring, as suggestions of the age-range of lake sediments can be made from just looking at the sediment as it came out of the ground. The deepest sediments, below 7m depth, are varved clays and silts, and were formed in the pro-glacial lake. These are overlain by highly organic lake mud – a warmer climate? Maybe the warming climate that led to glacier melting? Then this organic mud is accompanied by beautifully delicate, laminated (thinly banded) calcareous mud called marls.

These must also be warm-water sediments, probably also seasonal, with marl produced in the summer, organic matter in the winter.

So far this fits with the regional picture of a cold pro-glacial lake replaced by warm-water muds in what is called the Lateglacial Interstadial. This is the period when the Howburn hunters were here. The only open water when the hunters were there was here at Strathbogie. However, the warm-water marls at Strathbogie then pass up above 500cm depth to fen deposits and the peat which eventually covered the entire valley floor. But there's a problem: after the Lateglacial Interstadial is another very cold phase called the Loch Lomond Stadial, so cold that lakes everywhere in Britain received mud from eroding vegetation-free soils. This phase is not seen so far in the Strathbogie sediments. What this means must wait on the laboratory analyses.

My special thanks for their help in coring goes to Tam and Steven Ward, Alan Rae, Brenda & Peter Dreghorn, Joe Foley, Alick Walkingshaw, Joyce Durham and Jim Ness and farmer Lawson Barrie for transport.



Plate 29

Appendix II

Photographs of the project

Some people came for a single day while others made repeat visits to the site, all of their contributions were required to make the project the success it was.



Appendix III

Finds retrieved by field walking 2002 - 2007

Location Number	Find Type	Type of find	NGR(All NS)
MB/02/ 1	LI	Flint 9 of	c50m dia' scatter knoll
MB/02/ 2	Li	Chert 61 of	ditto
MB/02/ 3	Li	Chert cores 2 of	ditto
MB/02/ 4	Li	Chert side scraper	ditto
MB/02/ 5	Ce	2 of	ditto
MB/02/ 6	Li	Flint chunk	c 50 scatter east of ridge
MB/02/ 7	Li	Flint 2 of	ditto
MB/02/ 8	Li	Siltstone? 2 of	ditto
MB/02/ 9	Li	Chert core	ditto
MB/02/10	Li	Chert 97 of	ditto
MB/02/11	Li	Chert microlith	Area 3 on ridge NT 08181 43592
MB/02/12	Li	Chert chips	ditto
MB/02/13	Li	Flint (broken slug knife) ditto	
MB/02/14	Li	Flint 4 of	ditto
MB/02/15	Li	Pitchstone	ditto
MB/02/16	Li	Chert cores 2 of	ditto
MB/02/17	LI	Chert 106 of	ditto
MB/02/18	Li	Flint	c75m scatter on ridge NT 08116 43546
MB/02/19	Li	Flint 6 of	ditto
MB/02/20	Li	Chert cores 2 of	ditto
MB/02/21	Li	Chert scraper	ditto
MB/02/22	Li	Chert 102 of	ditto
MB/02/23	Li	Chert microlith	NT 08053 43488 scatter
MB/02/24	Li	Pitchstone 2 of	ditto
MB/02/25	CE		ditto
MB/02/26	Li	Flint 3 of	ditto
MB/02/27	Li	Chert cores 2 of	ditto
MB/02/28	Li	Chert 67 of	ditto
MB/02/29		NO FIND	
MB/02/30	Li	Chert microlith	NT 09029 45081 scatter
MB/02/31	Li	Flint 2 of	ditto
MB/02/32	Li	Cannal coal 2 of	ditto
MB/02/33	Li	Chert scraper	ditto
MB/02/34	Li	Chert 12 of	ditto
MB/03/ 5	Li	Chert 2 of, cores?	NT 08155 43516

Location Number	Find Type	Type of find	NGR(All NS)
MB/03/ 6	Li	Flint 1 of	ditto
MB/03/ 7	Li	Flint 1 of	NT 08134 43504
MB/03/ 8	Li	Flint 1 of	NT 08124 43553
MB/03/ 9	Li	Greywacke Hammer stone	ditto
MB/03/10	Li	Flint 2 of	NT 08256 43636
MB/03/11	Li	Chert 1 of, retouched	ditto
MB/03/12	Li	Flint 1 of	NT 07929 43190
MB/03/13	Li	Chert 1 of	NT 08142 43500
MB/03/14	Li	Chert 1 of	NT 08163 43558
MB/03/15	Li	Flint 1 of	ditto
MB/03/16	Li	Quartz 1of	ditto
MB/03/17	Li	Chert core	NT 08133 43511
MB/03/18	Li	Chert core	ditto
MB/03/19	Li	Flint 8 of	c50m
MB/03/20	Li	Agate/Cornelian?	ditto
MB/03/21	Li	Flint, edge damaged/worked?	ditto
MB/03/22	Li	Chert chunks 27 of	ditto
MB/03/23	Li	Flint pebble	General Scatter
MB/03/24	Li	Flint 2 of	ditto
MB/03/25	Li	Chert 9 of	ditto
MB/04/ 1	Li	Chert microlith	NT 08139 43513
MB/04/ 2	Li	Pitchstone	NT 08169 43526
MB/04/ 3	Li	Pitchstone	NT 08135 43529
MB/04/ 4	Li	Pitchstone	NT 08114 43524
MB/04/ 5	Li	Pitchstone	NT 08138 43509
MB/04/ 6	Li	Pitchstone	NT 08142 43530
MB/04/ 7	Li	Chert microlith	NT 08135 43494
MB/04/ 8	Li	Chert 3of poss' microliths	NT 08135 43494
MB/04/ 9	Li	Type VI axe flake	NT 08117 43503
MB/04/10	Li	Flint double sided knife	NT 08110 43531
MB/04/11	Li	Flint transverse arrow? Knife?	NT 08114 43524
MB/04/12	Li	Chert Arrow-head?	NT 08135 43494
MB/04/13	Li	Flint scraper	NT 08138 43509
MB/04/14	Li	Flint	NT 08099 43472
MB/04/15	Li	Flint	NT 08117 43503
MB/04/16	Li	Flint	NT 08157 43519
MB/04/17	Li	Flint	NT 08142 43530

Location Number	Find Type	Type of find	NGR(All NS)
MB/04/18	Li	Flint pebble	NT 08135 43494
MB/04/19	Li	Chert 2 of Agate 2of	Random not plotted
MB/04/20	Li	Chert core	NT 08164 43511
MB/04/21	Li	Flint	NT 08135 43494
MB/04/22	Li	Chert scraper	NT 08135 43494
MB/04/23	Li	Chert scraper	NT 08155 43509
MB/04/24	Li	Chert cores 2 of	NT 08133 43519
MB/04/25	Li	Chert end scraper?	NT 08094 43539
MB/04/26	Li	Chert 2of	NT 08155 43509
MB/04/27	Li	Chert 3 of	NT 08138 43509
MB/04/28	Li	Chert 4 of	NT 08157 43519
MB/04/29	Li	Chert 3 of	NT 08117 43503
MB/04/30	Li	Chert core flakes	NT 08135 43494
MB/04/31	Li	Chert scraper	NT 08135 43494
MB/04/32	Li	Chert 14 of	NT 08135 43494
MB/04/33	Li	Chert 5 of +core?	NT 08135 43494
MB/04/34	Li	Chert with Ce	NT 08160 43517
MB/04/35	Li	Chert 13of inc'core +2of flint with Ce	NT 08150 43512
MB/04/36	Ce	tiny sherd	NT 08150 43512
MB/04/37	Ce	Sherd	NT 08118 43521
MB/04/38	Ce	Fragments	NT 08160 43517
MB/04/39	Ce	tiny sherd	NT 08124 43531
MB/04/40	Ce	sherd frag'	NT 08140 43500
MB/04/41	Ce	Rim sherd frags 2 of	NT 08155 43529
MB/04/42	Li	Pitchstone 2 of	NT 08151 43543
MB/04/43	Li	Flint 2 of (1 core)	NT 08268 43625
MB/04/44	Li	Flint, with cortex	NT 08264 43645
MB/04/45	Li	Flint 1 of, Chert core	NT 08173 43545
MB/04/46	Li	Flint 5 of	NT 08349 20344 c.5m. radius
MB/04/47	Li	Flint 3 of	NT 08208 43623
MB/04/48	Li	Flint 1 of	NT 08209 43603
MB/04/49	Li	Flint core	NT 08212 43553
MB/04/50	Li	Flint 1 of	NT 08219 43611
MB/04/51	Li	Flint 3 of	NT 08214 43622 c.10m. radius
MB/04/52	Li	Jet / Cannel Coal broken bangle	NT 08192 43602
MB/04/53	Li	Flint 1 of	NT 08221 43612
MB/04/54	Li	Flint 2 of (1 scraper)	NT 08238 43598
MB/04/55	Li	Flint 1 of	NT 08227 43598
MB/04/56	Li	Pitchstone 1 of	NT 08229 43610
MB/04/57	Li	Flint 1 of	NT 08142 43497
MB/04/58	Ce	Rim Sherd	NT 08216 43607

Location Number	Find Type	Type of find	NGR(All NS)
MB/04/59	Li	Flint Burin	NT 08349 20344 c.5m. radius
MB/04/60	Li	Flint Microlith	NT 08221 43612
MB/04/61	Li	Flint Microlith	NT 08219 43611
MB/04/62	Li	Pitchstone	NT 08203 43556
MB/04/63	Li	Chert core	NT 08252 43475
MB/04/64	Li	Agate chunk	NT 08094 43475
MB/04/65	Li	Chert core	NT 08264 43619
MB/04/66	Li	Flint scraper	NT 08262 43625 (beside No 67)
MB/04/67	Li	Quartzite hammer stone	NT 08262 43625 (beside No 66)
MB/04/68	Li	Pitchstone	NT 08143 43508
MB/04/69	Li	Type VI axe fragment	NT 08254 43619
MB/04/70	Li	Flint	NT 08254 43619
MB/04/71	Li	Flint	NT 08182 43562
MB/04/72	Li	Flint pebble	NT 08100 43483
MB/04/73	Li	Flint Microlith	NT 08236 43614
MB/04/74	Li	Chert Core	NT 08265 43629
MB/04/75	Li	Flint	NT 08242 43615
MB/04/76	Li	Flint	NT 08273 43629
MB/04/77	Li	Flint, burnt	NT 08273 43629
MB/04/78	Li	Pitchstone	NT 08250 43622
MB/04/79	Li	Chert	NT 08250 43622
MB/04/80	Li	Flint flake	NT 08250 43629
MB/04/81	Li	Quartz flake	NT 08236 43614
MB/04/82	Li	Flint	NT 08255 43601
MB/04/83	Ce	Pot frag	NT 08255 43601
MB/04/84	Li	Flint knife?	NT 08237 43625
MB/04/85	Ce	Pot frag	NT 80237 43625
MB/04/86	Li	Flint	NT 08245 43638
MB/04/87	Li	Flint blade?	NT 08266 43620
MB/04/88	Li	Pitchstone	NT 08260 43619
MB/04/89	Li	Flint	Misc find
MB/04/90	Ce	Pot frag	NT 08246 46321
MB/04/91	Li	Flint	NT 08225 43634
MB/04/92	Ce	Pot, rim sherd	NT 08225 43634
MB/04/93	Li	Flint	NT 08202 43615
MB/04/94	Li	Flint 2 of	NT 08214 43623
MB/04/95	Li	Flint Microlith	NT 08255 43597
MB/04/96	Li	Flint Microlith	NT 08272 43647
MB/04/97	Li	Chert Microlith	NT 08209 43632
MB/04/98	Li	Flint Microlith	NT 08209 43632
MB/04/99	Li	Flint 2 of	NT 08244 43597
MB/04/100	Li	Chert Microlith	NT 08191 43629
MB/04/101	Li	Flint Scraper?	NT 08191 43629
MB/04/102	Li	Flint	NT 08191 43629

Location Number	Find Type	Type of find	NGR(All NS)
MB/04/103	Li	Flint	NT 08215 43633
MB/04/104	Li	Flint	NT 08220 43629
MB/04/105	Li	Flint	NT 08214 43612
MB/04/106	Li	Pitchstone	NT 08193 43648
MB/04/107	Li	Pitchstone	NT 08201 43646
MB/04/108	Ce	Pot Frag.	NT 08193 43616
MB/04/109	Li	Flint Core	NT 08202 43615
MB/04/110	Ce	Pot Frag.	NT 08217 43624
MB/04/111	Ce	Pot. Frag. Rim sherd	NT 08283 43671
MB/04/112	Li	Chert Core	NT 08217 43618
MB/04/113	Li	Flint	NT 08274 43641
MB/04/114	Li	Flint. Microlith	NT 08217 43618
MB/04/115	Li	Flint	NT 08283 43671
MB/04/116	Li	Flint	NT 08155 43543
MB/04/117	Li	Flint	NT 08154 43622
MB/04/118	Li	Chert	NT 08154 43622
MB/04/119	Li	Flint	NT 08265 43606
MB/04/120	Li	Chert 3 of	NT 08265 43606
MB/04/121	Li	Chert Core	NT 08217 43618
MB/04/122	Li	Flint	NT 08217 43618
MB/04/123	Li	Flint	NT 08259 43607
MB/04/124	Li	Flint 2 of	NT 08251 43595
MB/04/125	Li	Flint	NT 08147 43555
MB/04/126	Li	Chert, Amorphous Core	NT 08329 43634
MB/04/127	Li	Chert	NT 08329 43634
MB/04/128	Li	Flint Knife	NT 08276 43617
MB/04/129	Li	Flint Scraper	NT 08283 43671
MB/04/130	Li	Flint Transverse Arrow?	NT 08283 43671
MB/04/131	Li	Flint 2 of	NT 08216 43619
MB/04/132	Li	Chert, notched	NT 08283 43671
MB/04/133	Li	Flint	NT 08240 43560
MB/04/134	Li	Flint	NT 08251 43595
MB/04/135	Li	Flint Core	NT 08660 08968
MB/04/136	Li	Flint	NT 08145 43535
MB/04/137	Ce	Pot frags 2 of	NT 08080 43474
MB/04/138	Li	Flint, Transverse Arrow	NT 08171 43535
MB/04/139	Li	Chert Cores 2 of	NT 08139 43494
MB/04/140	Li	Chert Microlith	NT 08139 43494
MB/04/141	Li	Flint 2 of	NT 08283 43671
MB/04/142	Li	Chert 2of, Flint 1 of	NT 08139 43494
MB/04/143	Li	Chert, broken Microlith	NT 08139 43494
MB/05/ 1		Pitchstone	all NT 08172 43642

Location Number	Find Type	Type of find	NGR(All NS)
MB/05/ 2		Axe flake	08201 43647
MB/05/ 3		Chert	08188 43661
MB/05/ 4		Flint 2 of	08121 43497
MB/05/ 5		Flint	08279 43661
MB/05/ 6		Chert Microlith	08266 43643
MB/05/ 7		Flint	08147 43491
MB/05/ 8		Flint	08244 43599
MB/05/ 9		Flint 5 of	08266 43600
MB/05/10		Pitchstone	08229 43615
MB/05/11		Pitchstone	08272 43678
MB/05/12		Pitchstone	08210 43613 Edge of scatter
MB/05/13		Chert Scraper	08265 43586
MB/05/14		Flint Scraper	08337 43733
MB/05/15		Flint 4 of (1 scraper)	08246 43630
MB/05/16		Flint 3 of	08209 43576
MB/05/17		Flint Core	08209 43576
MB/05/18		Flint	08252 43579
MB/05/19		Flint	08270 43629
MB/05/20		Flint 4 of (1 scraper)	08273 43610
MB/05/21		Axe flake	08261 43638
MB/05/22		Flint	08249 43586
MB/05/23		Chert Microlith	08249 43586
MB/05/24		Flint	08251 43631
MB/05/25		Chert core	08150 43528
MB/05/26		Flint 2 of	08150 43528
MB/05/27		Chert core	08179 43547
MB/05/28		Flint	07991 43436
MB/05/29		Flint 2 of	08172 43562
MB/05/30		Flint core	07872 43966
MB/05/31		Flint	08263 43606
MB/05/32		Pitchstone	08250 43624
MB/05/33		Flint 3 of	08248 43626
MB/05/34		Chert core	08186 43546
MB/05/35		Chert 3 of (2 cores)	08134 43437
MB/05/36		Chert microlith	08134 43437
MB/05/37		Flint 2 of (1 knife?)	08191 43557
MB/05/38		Flint 3 of	08269 43624
MB/05/39		Flint scraper	08233 43595
MB/05/40		Flint	08191 43538
MB/05/41		Flint 5 of (1 core)	08054 43491
MB/05/42		Pitchstone	08054 43491
MB/05/43		Flint	08242 43567
MB/05/44		Flint (retouched?)	08216 43578
MB/05/45		Flint	08266 43644

Location Number	Find Type	Type of find	NGR(All NS)
MB/05/46		Chert core	08269 43616
MB/05/47		Chert 2 of (1 micro?)	08272 43622
MB/05/48		Pitchstone	08257 43602
MB/05/49		Chert 2 of	08257 43602
MB/05/50		Flint 2 of (1 core?)	08046 43486
MB/05/51		Flint 2 of	08155 43515
MB/05/52		Flint 2 of	08224 43591
MB/05/53		Flint 2 of (1 retouched)	08194 43607
MB/05/54		Flint	08170 43534
MB/05/55		Flint 2 of (1 retouched)	08263 43597
MB/05/56		Chert B&T arrowhead	08232 43607
MB/05/57		Flint	08232 43607
MB/05/58		Flint	08266 43629
MB/05/59		Flint scraper	08159 43519
MB/05/60		Pitchstone	08188 43562
MB/05/61		Pitchstone	08198 43581
MB/05/62		Pitchstone	08264 43615
MB/05/63		Flint retouched	08192 43596
MB/05/64		Chert point	08214 43543
MB/05/65		Pitchstone	08121 43501
MB/05/66		Chert microlith	08112 43497
MB/05/67		Flint 2 of	08112 43497
MB/05/68		Flint 2 of	08204 43591
MB/05/69		Chert microlith	08204 43591
MB/05/70		Axe flake	08095 43479
MB/06/71		Flint	08268 43641
MB/05/72		Flint 2 of	08257 43610
MB/05/73		Chert 2 of (1 core)	08257 43610
MB/05/74		Chert microlith	08257 43610
MB/05/75		Chert 2 of (1 core) (1 scraper)	08199 43590
MB/05/76		Chert core	08192 43542
MB/05/77		Flint (burnt)	08215 43554
MB/05/78		Flint 2 of	08198 43602
MB/05/79		Chert core	08198 43602
MB/05/80		Chert scraper	08127 43506
MB/05/81		Flint	08247 43664
MB/05/82		Flint	08262 43633
MB/05/83		Flint	08247 43621
MB/05/84		Flint 2 of	08266 43632
MB/05/85		Pitchstone	08266 43632
MB/05/86	CE		08266 43632
MB/05/87	CE	rim sherd (poss. Roman)	08266 43632

Location Number	Find Type	Type of find	NGR(All NS)
MB/05/88	Li	Pitchstone	08222 43596
MB/05/89	Li	Flint	08222 43596
MB/05/90	CE		08295 43598
MB/05/91	CE		08119 43510
MB/05/92	CE		08251 43631
MB/05/93	CE		08246 43630
MB/05/94	CE		08238 43586
MB/05/95	CE, EN		08337 43733
MB/05/96	CE	2 of	08247 43621
MB/05/97	CE	beaker sherd Comb impressed	08236 43627
MB/05/98	CE	medieval strap	08117 43702
MB/05/99	CE		08209 43629
Follows items from discrete scatter c20-25 diam.			Centred 08209 43629
MB/05/100/1		Pitchstone	
100/2		Chert cores 2 of	
100/3		Chert scraper 2 of	
100/4		Flint scraper	
100/5		Flint scraper	
100/6		Flint end scraper	
100/7		ditto	
100/8		ditto	
100/9		ditto	
100/10		Flint knife	
100/11		Flint knife point	
100/12		Chert knife	
100/13		assorted flint 96 of some showing edge damage/wear	
Note: at 08136 42493 there was a patch of subsurface charcoal on the slope 4 metres from the fence			
MB/05/101		Chert scraper	08177 43587
MB/05/102		Pitchstone	08153
MB/05/103		Flint 2 of Chert scraper	08087 43472
MB/05/104		Chert 1 of Flint 1 of	08139 43516
MB/05/105		Chert core Axe flake Flint 2 of	The Scatter above
MB/05/106		Flint 3 of	08139 43572
MB/05/107		Flint	08260 43669
MB/05/108		Flint	08158 43534
MB/05/109		Chert microlith	08149 43568
MB/05/110		Chert microlith	08168 43529
MB/05/111		Flint	08168 43529
MB/05/112		Chert microlith	08217 43559
MB/05/113		Flint scraper	08217 43559

Location Number	Find Type	Type of find	NGR(All NS)
MB/05/114	CE	2 of	08167 43593
MB/05/115		Flint worked?	08098 43476
MB/05/116		Chert	08145 43508
MB/05/117		Chert core Chert worked? Flint	08250 43601
MB/05/118		Pitchstone worked?	08103 43292
MB/05/119		Flint	08116 43500
MB/05/120		Flint	08226 43633
MB/05/121		Pitchstone core	08136 43504
MB/05/122		Flint core/scrapper?	08263 43624
MB/05/123		Pitchstone	08111 43553
MB/05/124		Chert amorphous core	08214 43588
MB/05/125		Flint amorphous core Flint 2 of	08160 43521
MB/05/126		Pitchstone	08138 43521
MB/05/127		Pitchstone	08230 43587
MB/05/128		Flint scraper	08068 43465
MB/05/129		Flint	08147 43516
MB/05/130	CE		08122 43509
MB/05/131	CE		08146 43504
MB/05/132	CE		08048 43465
MB/05/133	CE		08122 43519
MB/05/134	CE		08138 43504
MB/06/ 1		Pitchstone	NT 08129 43490
MB/06/ 2		Pitchstone	NT 08045 43473
MB/06/ 3		Pitchstone	RANDOM
MB/06/ 4		Flint	NT 08129 43533
MB/06/ 5		Flint	NT 08129 43490
MB/06/ 6		Flint	NT 08040 43468
MB/06/ 7		Flint	NT 08094 43509
MB/06/ 8		Flint	NT 08148 43528
MB/06/ 9		Flint	RANDOM
MB/06/10		Flint 2 of(next to site)	NT 08208 43615
MB/06/11		Flint	NT 08222 43605
MB/06/12		Flint	NT 08118 43543
MB/06/13		Flint	NT 08093 43509
MB/06/14		Flint	NT 08247 43576
MB/06/15		Chert (microlith?)	NT 08226 43572
MB/06/16		Chert (core/scraper?)	NT 08135 43529
MB/06/17		Chert	NT 08069 43470
MB/06/18		Chert	NT 08136 43510
MB/06/19		Charcoal (location only)	NT 08181 43546
MB/06/20		Flint	NT 09138 43613

Location Number	Find Type	Type of find	NGR(All NS)
MB/06/21		Pitchstone	NT 08059 43488
MB/06/22		Pitchstone	NT 08055 43570
MB/06/23		Pitchstone flake	NT 08123 43524
MB/06/24		Pitchstone flake	NT 08069 43492
MB/06/25		Pitchstone flake	NT 08157 43523
MB/06/26		Pitchstone flake	NT 08234 43504
MB/06/27		Flint broken core	NT 08211 43593
MB/06/28		Flint end scraper	NT 08219 43602
MB/06/29		Flint flake	NT 08056 43485
MB/06/30		Flint flake, edge damaged	NT 08242 43583
MB/06/31		Flint scraper	NT 08234 43635
MB/06/32		Flint flake, edge damaged	NT 08209 43554
MB/06/33		Flint flake, worked	NT 08157 43523
MB/06/34		Flint flake	NT 08193 43598
MB/06/35		Flint edge scraper	NT 08213 43613
MB/06/36		Flint edge scraper	NT 08912 43638
MB/06/37		Flint edge scraper	NT 08133 43593
MB/06/38		Flint flake	NT 08105 43494
MB/06/39		Flint flake	NT 08124 43520
MB/06/40		Flint core	NT 08251 43607
MB/06/41		Flint edge	NT 08112 43516
MB/06/42		Flint core	NT 08084 43500
MB/06/43		Chert microlith	NT 08128 43502
MB/06/44		Chert amorphous core	NT 08197 43620
MB/06/45		Chert core	NT 08212 43545
MB/06/46		Chert core/scraper	NT 08171 43554
MB/06/47		Flint core Flint knives 2 of Rock crystal flake	SCATTER
MB/06/48		Pot sherd	NT 08912 43638
		Charcoal scatter (0.3m dia')	NT 08229 43617
MB/06/49		Flint flakes 2 of	NT 08097 43520
MB/06/50		Flint knife	NT 08266 43626
MB/06/51		Chert Core/scraper	NT 08125 43493
MB/06/52		Flint end scraper	NT 08166 40511
MB/06/53		Chert knife tip	NT 08166 40511
MB/06/54		Flint side scraper	NT 08041 43473
MB/06/55		Flint flake 1 of	NT 08041 43473
MB/06/56		Pitchstone flake	NT 08244 43616
MB/06/57		Pot sherd	NT 08244 43616
MB/06/58		Flint flake	NT 08128 43531
MB/06/59		Pot sherd	NT 08128 43531
MB/06/60		Chert flake 1 of	NT 08093 43473
MB/06/61		Flint flakes 8 of	SCATTER

Location Number	Find Type	Type of find	NGR(All NS)
MB/07/ 1		Flint assorted includes tools 41 of found around excavation site 2006	NT 08209 43629
MB/07/ 2		Pitchstone	ditto above
MB/07/ 3		Chert burin	ditto
MB/07/ 4		Chert scraper	ditto
MB/07/ 5		Chert flake edge damage	ditto
MB/07/ 6		Pitchstone chunk	c NT 082 436
MB/07/ 7		Pitchstone flake	c NT 081 436
MB/07/ 8		Chert microlith	c NT 081 435
MB/07/ 9		Flint flake notched	c NT 080 436
MB/07/10		Bluestone? (similar to Daer bluestone)	c NT 082 436
MB/07/11		Chert microlith	NT 08100 43490
MB/07/12		Pitchstone	NT 08207 43618
MB/07/13		Flint	ditto
MB/07/14		Flint 8 of 5m dia' scatter	NT 08187 43590
MB/07/15		Flint	NT 08221 43593
MB/07/16		Flint	NT 08085 43497

Location Number	Find Type	Type of find	NGR(All NS)
MB/07/17		Flint	2 of
MB/07/18		Chert microlith	ditto
MB/07/19		Flint	NT 08069 43486
MB/07/20		Flint	NT 08280 43630
MB/07/21		Flint 2 of	NT 08157 43589
MB/07/22		Flint	NT 08091 43502
MB/07/23		Flint	NT 08086 43486
MB/07/24		Flint	NT 08240 43624
MB/07/25		Flint	NT 08108 43487
MB/07/26		Chert scraper	NT 08241 43624
MB/07/27		Flint	NT 08100 43491
MB/07/28		Flint	NT 08143 43502
MB/07/29		Flint 2 of	NT 08183 43597
MB/07/30		Flint	NT 08084 43510
MB/07/31		Bluestone? (similar to Daer bluestone) ditto	
MB/07/32		Flint	NT 08176 43558
MB/07/33		Tuff Type VI axe flake	NT 08158 43560
MB/07/34		NO FIND	
MB/07/35		Pitchstone	NT 08088 43504

Appendix IV

Finds from Phase 1 excavation

Find type	Quantity	Style
Block 1		
Chert	10	flakes
Flint	6	flakes
Block 2		
Chert	3	flakes
Flint	6	flakes
Block 3		
Chert	1	core
Chert	1	side scraper
Chert	9	flakes
Chert	8	chunks
Flint	11	flakes
Flint	1	amorphous core
Flint	1	core scraper
Flint	1	end scraper
Flint	1	broken blade
Block 4		
Chert	4	chunks
Chert	6	flakes
Chert	1	possible borer
Flint	3	flakes
Flint	2	retouched
Block 5		
Chert	3	chunks
Chert	1	pebble
Chert	7	flakes
Chert	1	core
Chert	1	bi-polar core
Flint	3	flakes
Flint	1	double ended scraper
Flint	1	side scraper
Block 6		
Chert	3	chunks
Chert	5	flakes
Flint	1	core (long blades)
Block 7		
Chert	1	core fragment
Chert	6	flakes
Flint	1	end scraper
Flint	1	snapped blade

Find type	Quantity	Style
Flint	2	flakes (1 retouched)
Block 8		
Chert	23	flakes
Flint	1	scraper
Flint	1	flake (retouched)
Flint	9	flakes
Block 9		
Chert	5	flakes
Flint	12	flakes
Block 10		
Chert	9	flakes
Flint	1	flake
Flint	1	flake (retouched)
Flint	3	flakes
Block 11		
Chert	1	flake
Chert	1	chert
Chert	10	flakes
Flint	10	flakes (4 with cortex)
Block 12		
Chert	1	amorphous core
Chert	8	flakes
Flint	1	piercer
Flint	5	flakes
Block 13		
Chert	2	pebble
Chert	3	chunks
Chert	14	flakes
Siltstone	1	
Flint	2	retouched
Flint	3	flakes regular
Flint	10	flakes
Block 14		
Chert	8	flakes
Flint	6	flakes
Block 15		
Chert	2	chunks
Chert	2	flakes with retouch
Chert	9	flakes
Flint	1	flake
Flint	3	flake

Find type	Quantity	Style
Flint	16	flakes
Block 16		
Chert	1	flake (retouched)
Chert	12	flakes
Flint	2	flakes (retouched)
Flint	1	flake
Block 17		
Chert	1	chunk
Chert	1	microlith
Chert	14	flakes
Flint	8	flakes
Block 18		
Chert	1	core
Chert	7	flakes
Flint	3	flakes
Block 19		
Chert	1	chunk
Chert	1	flake with retouch
Chert	10	flakes
Flint	1	end scraper
Flint	7	flakes
Block 20		
Chert	5	flakes
Flint	1	end scraper
Flint	5	flakes
Block 21		
Chert	2	amorphous cores
Chert	17	flakes
Flint	1	end scraper
Flint	2	flakes
Flint	3	broken bladelets
Flint	1	knife fragment
Flint	20	flakes
Block 22		
No Finds		
Block 23		
Chert	4	flakes
Flint	1	knife tip
Flint	1	blade
Flint	6	flakes
Block 24		
Chert	2	chunks
Chert	14	flakes
Flint	1	chunk

Find type	Quantity	Style
Flint	3	flakes
Block 25		
Chert	2	chunks
Chert	6	flakes
Flint	1	core
Flint	2	broken blades
Flint	2	flakes
Block 26		
Chert	8	flakes
Flint	1	flake retouched
Flint	7	flakes
Block 27		
Chert	1	pebble
Chert	12	flakes
Flint	1	core/scraper
Flint	1	end scraper
Flint	1	bladelet / burin
Flint	1	blade
Block 28		
Chert	14	flakes
Flint	1	piercer
Flint	6	flakes
Block 29		
Chert	15	flakes
Flint	2	broken bladelet tips
Flint	5	flakes
Block 30		
Chert	2	flakes
Flint	5	flakes
Block 31		
Chert	1	chunk
Flint	5	flakes
Block 32		
Chert	4	chunk
Chert	1	flake retouched
Chert	14	flakes
Flint	1	snapped blade
Flint	7	flakes
Flint	1	broken core
Greywacke	1	hammer stone
Bead	1	Glass 18th/19th C
Block 33		
Chert	6	flakes
Flint	7	flakes
Block 34		
Chert	7	flakes
Flint	3	flakes

Find type	Quantity	Style
Flint	2	end scrapers
Block 35		
Chert	1	chunk
Chert	8	flakes
Flint	6	flakes
Flint	1	scraper
Block 36		
Chert	9	flakes
Chert	1	scraper
Flint	2	flakes
Flint	1	snapped blade
Flint	1	backed bladelet
Flint	1	scraper fragment
Block 37		
Chert	2	chunks
Chert	3	flakes
Flint	9	flakes
Block 38		
Chert	7	flakes
Flint	1	piercer
Flint	3	snapped blades
Flint	2	backed blades
Flint	1	end scraper
Block 39		
No Finds		
Block 40		
Chert	2	chunks
Chert	6	flakes
Flint	6	flakes
Flint	1	snapped blade
Flint	1	backed blade
Block 41		
Chert	3	chunks
Chert	11	flakes
Flint	1	core fragment
Flint	6	flakes
Block 42		
Chert	5	chunks
Chert	6	flakes
Chert	1	end scraper
Flint	2	snapped blades
Block 43		
Chert	1	chunk
Chert	9	flakes
Flint	1	broken core
Flint	1	core rejuvenation flake
Flint	3	end scrapers

Find type	Quantity	Style
Flint	5	flakes
Block 44		
Chert	3	flakes
Flint	13	flakes
Flint	1	flake,edge damaged
Flint	1	end scraper
Flint	2	scraper flakes
Block 45		
Chert	1	chunk
Chert	2	flakes
Chert	2	retouched flakes
Flint	3	flakes
Flint	1	end scraper
Flint	1	flake edge damaged
Block 46		
Chert	4	flakes
Flint	5	flakes
Flint	2	broken blades
Block 47		
Chert	2	flakes
Flint	3	flakes
Block 48		
Chert	3	chunks
Chert	3	flakes
Flint	2	flakes
Flint	1	steep sided scraper
Flint	1	lanceolate point
Block 49		
Chert	4	flakes
Chert	1	end scraper
Flint	2	flakes
Block 50		
Chert	7	flakes
Chert	1	core
Flint	2	flakes
Flint	1	flake,edge damaged
Flint	1	snapped knife point
Block 51		
Chert	3	flakes
Chert	1	broken core
Flint	6	flakes
Flint	2	backed blades
Flint	1	amorphous core
Block 52		
Chert	5	flakes

Find type	Quantity	Style
Flint	1	broken core
Block 53		
Chert	3	flakes
Flint	6	flakes
Block 54		
Chert	2	flakes
Flint	4	flakes
Block 55		
Chert	3	flakes
Flint	3	flakes
Block 56		
Chert	2	chunks
Flint	1	flake
Flint	1	bladelet
Block 57		
Chert	2	chunks
Chert	3	flakes
Chert	1	bladelet
Flint	7	flakes
Flint	1	backed bladelet
Flint	1	flake with retouch
Block 58		
Chert	1	pebble
Chert	1	chunk
Chert	11	flakes
Flint	8	flakes
Block 59		
Chert	1	flake
Flint	4	flakes
Block 60		
Chert	1	scraper/arrow?
Chert	5	flakes
Flint	4	flakes
Block 61		
Chert	1	flake
Flint	1	end scraper
Flint	1	flake
Block 62		
Chert	5	flakes
Flint	4	flakes
Block 63		
Chert	2	chunks
Chert	11	flakes
Flint	1	side scraper
Flint	4	flakes
Block 64		
Chert	4	flakes
Chert	1	flake, retouched
Flint	1	knife

Find type	Quantity	Style
Flint	1	flake
Block 65		
Chert	6	flakes
Chert	1	microlith
Flint	6	flakes
Block 66		
Chert	7	flakes 1of (retouched)
Flint	5	flakes
Block 67		
Chert	2	chunks
Chert	2	flakes
Flint	1	flake
Block 68		
Chert	4	flakes
Chert	1	snapped bladelet
Flint	2	flakes
Block 69		
Chert	1	flake
Chert	1	scraper
Block 70		
Chert	3	flakes
Chert	1	notched flake
Flint	2	flakes
Flint	1	snapped bladelet
Block 71		
Chert	2	flakes
Flint	1	snapped blade
Flint	1	end scraper
Pitchstone	1	bladelet
Block 72		
Chert	5	flakes
Flint	5	flakes
Block 73		
Chert	8	flakes
Flint	2	flakes (1 with retouch)
Block 74		
Chert	4	flakes
Block75		
Chert	2	chunks
Chert	1	flake
Block 76		
No Finds		
Block 77		
No Finds		
Block 78		
No Finds		
Block 79		
No Finds		

Appendix V

Finds from Phase 2 excavation

Location	Find type	Quantity	Description
Follows Trench No 1, 2009			
T1/80 – 110	Flint	140of	13of tools
	Chert	80of	1of microlith
Note: This material comes from all of these grids and was not plotted to 1m square grids. See report for explanation. This material contains several tools.			
T1/111}	Flint	Flint scraper,	1 of 8 other flints (non tools) now lost!
T1/112}	from these three square metre grids		
T1/113}			
T1/97	Flint	4of	
	Chert	2of	
T1/117	Flint	5of	
	Chert	4of	
T1/118	Flint	16of	
	Chert	7of	
T1/119	Flint	10of,	2 snapped blades
	Chert	5of	
T1/120	Flint	10of	1 of tanged point
	Chert	5of	
T1/121	Flint	3of	
	Chert	1of	
T1/122	Flint	14of	
	Chert	3of	
T1/123	Flint	2of,	1of end scraper, 1 of backed blade
T1/124	Flint	5of	
	Chert	2of	
	Slit/ Mudstone	1of,	conjoins with 154 snapped blade
T1/129	Flint	3of	
	Chert	10of	
T1/130	Flint	3of	
	Chert	7of	
T1/131	Flint	2of	
	Chert	7of	
T1/132	Flint	10of	
	Chert	9of	
	Flint	1of	
	spoil heap circa 132		
T1/133	Flint	5of	
	Chert	8of	
	1 microlith, 1 core		

Location	Find type	Quantity	Description
T1/134	Flint	7of	
	Chert	5of	
	Pitchstone	1of	
T1/135	Flint	4of	
	Chert	2of	
T1/136	Flint	10of	
	Chert	3of	
T1/137	Flint	5of	
	Chert	4of	
	Axe Flake	1of	
T1/138	Flint	3of,	possibly a broken tang
	Flint	3of,	in situ, 1 of end scraper
T1/139	Flint	7of,	1 of end scraper
	Chert	4of	
T1/144	Chert	13of	
	Ceramic	1of	
T1/145	Flint	2of	
	Chert	1of	
T1/146	Flint	5of	
	Chert	2of	
T1/147	Flint	12of	
	Chert	9of	
T1/148	Flint	4of	
	Chert	1of	
T1/149	Flint	10of	
	Chert	8of	
T1/150	Flint	5of	
	Chert	4of	
T1/151	Flint	7of	
	Chert	4of	
T1/152	Flint	20of	
	Chert	7of,	1 of leaf arrow
T1/153	Flint	28of,	1 of end scraper
	Chert	13of	
T1/154	Flint	2of	
	Chert	1of	
	Slit/ Mudstone	1of,	conjoins with 124
T1/155	Flint	5of	1 possible broken Tang, 1end scraper
	Chert	6of	
T1/159	Flint	1of	
	Chert	4of	

Location	Find type	Quantity	Description
T1/160	Flint	7of,	1 of tanged point
	Chert	3of	
T1/161	Flint	1of	
	Chert	1of	
T1/162	Flint	12of,	1 of side scraper
	Chert	4of	
T1/163	Flint	5of	1 of side scraper, 1 of tool
	Chert	5of,	
T1/165	Flint	11of	
	Chert	9of	
T1/166	Flint	12of	350mm below surface
	Chert	3of	
	Flint	5of	
T1/167	Flint	22of	in situ, 350mm below surface
	Flint	4of	
	Flint	4of	
	Flint	3of	
T1/168	Flint	25of,	in situ
	Flint	29of,	
	Chert	1of	
T1/169	Flint	2of,	in situ
	Flint	17of,	
	Chert	6of	
T1/170	Flint	3of,	in situ
	Flint	8of,	
T1/182	Flint	2of	1 of with 'tang'
	Chert	4of	
T1/183	Flint	2of	
	Chert	1of	
	Slit/ Mudstone	1of	
T1/188	Flint	2of	
	Axe flake	1of	
T1/189	Flint	2of	hammer stone/? 151mmx57mmx32mm
	Chert	4of	
	Greywacke	1of	
T1/204	Flint	1of	1of
	Chert	1of	
T1/205	Flint	4of	
T1/210	Chert	1of	
T1/211	Chert	2of	
T1/212	Flint	4of	1 of end scraper, 1 of broken blade?
	Chert	9of,	

Location	Find type	Quantity	Description
T1/217	Flint	1of	
	Chert	1of	
T1/225	Chert	1of	
	Siltstone	1of	
T1/291	Flint	10of,	1 of broken blade, 1 of core flake
	Chert	4of	
T1/292	Flint	7of,	1 of side scraper in situ
	Flint	12of,	
T1/293	Flint	14of,	in situ
	Chert	1of,	
	Flint	9of	
T1/294	Chert	6of	in situ
	Flint	7of,	
	Flint	6of	
T1/295	Flint	36of,	in situ 100mm- 250mm, 1 of end scraper
	Chert	3of,	
	Flint	13of,	
	Chert	4of	
T1/296	Pitchstone	1of	in situ
	Flint	1of,	
	Flint	5of	
T1/309	Chert	1of	1 of end scraper
	9of,	1 of end scraper	
	Chert	3of	
T1/310	Flint	1of,	in situ
	Flint	12of,	
	Chert	5of	
T1/311	Flint	7of,	in situ (4 of filmed), 1 of end scraper
	Flint	11of,	
	Chert	7of,	
T1/312	Flint	5of,	in situ, 1 of end scraper, 1 of side scraper
	Flint	9of,	
	Flint	12of,	
	Chert	1of,	in situ <100mm, ditto, tanged?
	Flint	2of,	
	Flint	15of	
T1/313	Chert	5of	in situ 100mm
	Flint	14of,	
	Flint	24of,	
	Flint	3of,	in situ 100 – 250mm, 2 of side scrapers, 1 of end scraper, 1 of backed blade/microlith?
	Flint	10of	
	Chert	6of,	
			in situ base c300mm
			1 of end scraper

Location	Find type	Quantity	Description
T1/314	Flint	8of	
	Flint	9of	in situ >100mm
	Flint	5of	in situ + 100mm
	Chert	6of	
T1/327	Flint	1of,	in situ, 1 of end scraper
	Flint	6of,	1 of core
	Chert	3of	
T1/328	Flint	5of,	in situ, 1of end scraper
	Flint	4of	
	Chert	4of	
T1/329	Flint	3of,	in situ
	Flint	2of	
	Chert	3of	
T1/330	Flint	5of,	in situ, 2 of end scrapers, 1 with tang
	Flint	1of,	end scraper/oblique arrowhead
	Chert	5of	
T1/331	Flint	5of,	in situ
	Chert	1of,	in situ
	Flint	4of	
	Chert	3of	
T1/332	Flint	1of,	scraper
	Flint	3of	
	Flint	6of	in situ , includes scraper
	Chert	3of	
T1/345	Flint	1of	
	Chert	1of,	1 of end scraper
T1/346	Flint	3of	
	Chert	4of	
T1/347	Flint	1of,	in situ <250mm,
	Flint	1of,	with tang
	Chert	1of	
T1/349	Flint	7of,	in situ
	Flint	1of	
	Chert	2of,	1 core/scraper
T1/350	Flint	2of,	in situ, 1 of worked
	Flint	3of,	in situ 300mm, 1 snapped blade
	Flint	1of,	worked point?
	Chert	7of	
T1/spoil	Flint	4of	
	Chert	3of	
	Flint	1of	point?
	Circa grid 132		
Follows Trench 2, 100m block number 2.			

Location	Find type	Quantity	Description
T2/B2/51	Flint	6of,	in situ, 1 end scraper, + tool
	Flint	4of	
	Chert	3of	
T2/B2/52	Ceramic	1of,	rim sherd
	Flint	1of,	in situ, worked
	Flint	2of	
	Chert	4of	
	Quartzite	3of,	same pebble
	Pitchstone	1of	
T2/B2/53	Flint	3of,	in situ, 1 side scraper
	Flint	1of,	side/end scraper
	Chert	12of	
T2/B2/54	Flint	2of	tangs?
	Flint	4of,	in situ includes core fragment
	Flint	8of	
	Chert	8of	
T2/B2/55	Flint	3of,	in situ, 1 broken blade
	Flint	4of	
	Chert	12of	
T2/B2/56	Flint	14of,	in situ, 1 broken blade
	Flint	3of	from same pebble?
	Chert	3of,	in situ
	Flint	7of	
	Chert	5of	
T2/B2/57	Flint	11of,	in situ, 1 end scraper, 1 poss. tanged point/burin
	Chert	11of,	in situ
	Flint	8of,	1 core
T2/B2/58	Flint	23of,	in situ, 1 end scraper, 1 blade
	Chert	2of,	in situ
	Flint	5of	
	Chert	8of	
T2/B2/61	Flint	4of,	in situ, 1 worked
	Flint	4of	
	Chert	10of	
T2/B2/62	Flint	2of,	1 of red
	Chert	4of	
T2/B2/63	Flint	4of,	in situ, 1 thumbnail scraper, 1 side scraper
	Chert	2of,	in situ
	Flint	3of	
	Chert	7of	
T2/B2/64	Flint	12of,	1 poss. burin, 1 red
	Chert	9of,	1 snapped blade
	Pitchstone	1of	

Location	Find type	Quantity	Description
T2/B2/66	Flint	7of	
	Chert	5of	
	Greywacke	1of	hammer stone 60mmx45mmx30mm
T2/B2/67	Flint	6of	
	Flint	3of	in situ includes scraper + tang?
	Chert	2of	
	Pitchstone	1of	
	Tuff	1of	in situType VI axe flake
	Greywacke	1of	hammer stone 74mmx64mmx13mm
T2/B2/68	Flint	3of,	1 of worked
	Flint	17of	in situ, 4 scrapers, tang?, sickle gloss?
	Chert	2of	
T2/B2/69	Flint	5of,	in situ, 1 end scraper
	Flint	3of,	
	Chert	7of	
T2/B2/71	Flint	1of	tool
	Flint	2of	in situ
	Chert	2of	
T2/B2/72	Flint	6of	
	Flint	7of	in situ 2of scrapers
	Chert	18of	
T2/B2/73	Flint	3of,	in situ
	Flint	4of,	1 with edge damage
	Chert	7of,	1 microlith
T2/B2/74	Flint	6of,	2 of conjoin
	Flint	1of	in situ core
	Chert	12of	
T2/B2/75	Flint	12of	
	Flint	2of	conjoin (broken on site)
	Flint	25of	includes 2of scrapers
	Flint	1of	microlith
	Chert	9of	
	Pitchstone	1of	
T2/B2/76	Siltstone?	1of	Tang?
	Flint	4of	
	Flint	8of	tang? + microlith
T2/B2/77	Chert	14of,	1 leaf arrow
	Flint	6of,	in situ, 1 snapped blade
	Flint	6of	
T2/B2/78	Chert	9of	
	Quartzite	1of	hammer stone 145mmx120mmx65mm
	Flint	3of,	in situ
	Flint	3of	
T2/B2/79	Chert	5of	
	Flint	4of	
T2/B2/79	Flint	4of	
	Chert	7of	

Location	Find type	Quantity	Description
T2/B2/80	Flint	2of	
	Chert	12of	
T2/B2/81	Flint	4of	
	Chert	8of	
	Ceramic	3 of	
T2/B2/82	Flint	2 of	
	Chert	7of	
	Pitchstone	2of	
T2/B2/83	Flint	6of	
	Chert	13of	
T2/B2/84	Flint	17of	
	Chert	16of	
T2/B2/85	Flint	14of,	5 of in situ
	Chert	10of	
T2/B2/86	Flint	11of	
	Chert	19of,	2 end scrapers
	Mudstone	1 of,	flake
T2/B2/87	Flint	5of	
	Chert	13of	
T2/B2/88	Flint	2of	
	Chert	8of	
	Quartzite	1of	broken pebble
T2/B2/89	Flint	3of,	1 broken blade with retouch, 1 end scraper
	Chert	8of	
T2/B2/90	Flint	1of	
	Chert	5of	
T2/B2/91	Flint	4of,	1 of red with a notch in one side
	Chert	10of	
T2/B2/92	Chert	5of	
	Pitchstone	1of,	Grey
T2/B2/93	Flint	2of,	1 of red, 1 of core
	Chert	12of	
T2/B2/94	Flint	3of	
	Chert	17of	
	Pitchstone	2of	
T2/B2/95	Flint	7of	
	Chert	11of	
	Pitchstone	1of,	Grey
T2/B2/96	Flint	4of	
	Chert	7of	
T2/B2/97	Flint	4of,	1 of end scraper, 1 tool
	Chert	15of	
	Pitchstone	2of	
T2/B2/98	Flint	2of	
	Chert	9of	
T2/B2/99	Flint	2of	
	Chert	13of,	1 of microlith

Location	Find type	Quantity	Description
T2/B2/100	Flint	2of	
	Chert	5of	
T2/Spoil	Flint	5of	
	Chert	5of	
Follows Trench 2, 100m block number 3. Finds from turf, grids 1-10			
	Flint	12of	
	Chert	46of	5 of worked
	Pitchstone	1of	
T2/B3/1	Flint	1of	
	Chert	6of	
	Pitchstone	1of	
	Ceramic	4of,	2 of rims
T2/B3/2	Flint	2of	
	Chert	8of	
T2/B3/3	Flint	2of	
	Chert	19of	
T2/B3/4	Flint	4of	
	Chert	14of	
T2/B3/5	Flint	2of	
	Chert		
T2/B3/6	Flint	7of	
	Chert	10of	
T2/B3/7	Flint	2of	
	Chert	7of	
T2/B3/8	Flint	3of	
	Chert	7of	
T2/B3/9	Flint		
	Chert	4of	
	Tuff	1of	
T2/B3/10	Flint		
	Chert	6of	
	Quartzite	1of	
T2/B3/11	Flint		
	Chert	3of	
T2/B3/12	Flint		
	Chert	9of	
T2/B3/13	Flint	2of	
	Chert	16of	
T2/B3/14	Flint	5of	
	Chert	15of	
T2/B3/15	Flint	1of	
	Chert	25of	
T2/B3/16	Flint	3of	
	Chert	11of	
T2/B3/17	Flint	5of	
	Chert	4of	
T2/B3/18	Flint	1of	
	Chert	12of	

Location	Find type	Quantity	Description
T2/B3/19	Flint	NO FINDS	
T2/B3/20	Flint	1of	
	Chert	5of	
T2/B3/21	Flint	3of	
	Chert	7of	
T2/B3/22	Flint		
	Quartzite pebble, broken		
T2/b3/23B	Flint	1of	
	Chert	5of	
T2/B3/24	NO FINDS		
T2/B3/25	Pitchstone	1of	
T2/B3/26	NO FINDS		
T2/B3/27	Flint	4of	
T2/B3/28	Flint	1of	
	Chert	4of	
T2/B3/29	Flint	3of	
	Chert	6of	
T2/B3/30	Chert	8of	
	Tuff	1of,	axe flake
T2/B3/31	Chert	14of	
	Axe Flake	1of	
T2/B3/32	Flint	3of	
	Chert	16of	
T2/B3/33	Flint	2of	
	Chert	22of	
T2/B3/34	Flint	2of	
	Chert	16of	
T2/B3/35	Flint	3of	
	Chert	21of	
T2/B3/36	Flint	6of	
	Chert	40of	
T2/B3/37	Flint	5of	
	Chert	20of	
T2/B3/38	Flint	4of	
	Chert	14of	
T2/B3/39	Flint		
	Chert	10of	
T2/B3/40	Flint	2of	
	Chert	20of	
T2/B3/41	Flint	2 of	
	Chert	10of	
T2/B3/42	Flint	4of	
	Chert	8of	
T2/B3/43	Flint	2of	
	Chert	22of	
T2/B3/44	Flint	2of	
	Chert	6of	
T2/B3/45	Flint	8of	
	Chert	28of	

Location	Find type	Quantity	Description
T2/B3/46	Flint	3of	
	Chert	16of	
T2/B3/47	Flint	2of	
	Chert	28of	
T2/B3/48	Flint	5of	
	Chert	18of	
	Pitchstone	1of	
T2/B3/49	Flint	1of	
	Chert	9of	
T2/B3/50	Flint	2of	
	Chert	5of	
T2/B3/51	Flint	1of	
	Chert	2of	
T2/B3/52	Flint	2of	
	Chert	11of	
	Pitchstone	1of	
T2/B3/53	Flint	3of	
	Chert	11of	
T2/B3/54	Flint	1of	
	Chert	13of	
T2/B3/55	Flint	4of	
	Chert	25of	
	Pitchstone	1of	
T2/B3/56	Flint	4of	
	Chert	22of	
T2/B3/57	Flint	3of	
	Chert	17of	
T2/B3/58	Flint	2of	
	Chert	13of	
T2/B3/59	Flint	1of	
	Chert	4of	
T2/B3/60	Flint	5of	
	Chert	17of	
T2/B3/61	NO FINDS		
T2/B3/62	Flint	3of	
	Chert	16of	
	Ceramic	1of,	body sherd
T2/B3/63			
	Chert	5of	
T2/B3/64	Flint	5of	
	Chert	23of	
	Pitchstone	1of	
T2/B3/65	Chert	17of	
T2/B3/66	Flint	2of	
	Chert	38of	
T2/B3/67	Flint	1of	
	Chert	9of	
T2/B3/68	Chert	4of	
T2/B3/69	Chert	7of	

Location	Find type	Quantity	Description
T2/B3/70	Quartzite	1of,	broken pebble
	Chert	10of	
T2/B3/71	Flint	1of	
	Chert	7of	
T2/B3/72	NO FINDS		
T2/B3/73	NO FINDS		
T2/B3/74	Flint	1of	
	Chert	11of	
T2/B3/75	Flint	6of	
	Chert	18of	
	Pitchstone	1of	
T2/B3/76	Flint	10of	
	Chert	75of	
T2/B3/77	Flint	2of	
T2/B3/78	Flint	1of	
	Chert	18of	
T2/B3/79	Flint	2of	
	Chert	6of	
T2/B3/80	Chert	3of	
T2/B3/81	Flint	1of	
	Chert	5of	
T2/B3/82	Flint	6of	
	Chert	19of	
T2/B3/83	Flint	7of	
	Chert	22of	
T2/B3/84	Flint	8of	
	Chert	18of	
T2/B3/85	Flint	5of	
	Chert	40of	
T2/B3/86	Flint	2of	
	Chert	28of	
T2/B3/87	Flint	3of	
	Chert	23of	
T2/B3/88	Chert	8of	
	Pitchstone	1of	
T2/B3/89	Flint	1of	
	Chert	7of	
T2/B3/90	Chert	5of	
T2/B3/91	Flint	3 of	
	Chert	10of	
T2/B3/92	Flint	3of	
	Chert	8 of	
T2/B3/93	Flint	3of	
	Chert	10of	
	Pitchstone	1of	
T2/B3/94	Flint	2of	
	Chert	24of	
	Pitchstone	1of	

Location	Find type	Quantity	Description
T2/B3/95	Flint	2of	
	Chert	16of	
	Pitchstone	1of	
T2/B3/96	Chert	20of	
T2/B3/97	Flint	2of	
	Chert	2of	
T2/B3/98	Chert	7of	
T2/B3/99	Chert	4of	
	Pitchstone	1of	
T2/B3/100	Flint	2of	
	Chert	5of	
Follows Trench 2, 100m block number 4.			
T2/B4/1	Flint	3of	
	Chert	5of	
	Pitchstone	1of	
T2/B4/2	Flint	7of	
	Chert	19of	
	Pitchstone	1of	
T2/B4/3	Flint	6of	
	Chert	12of	
	Pitchstone	1of	
T2/B4/4	Flint	2of	
	Chert	14of	
T2/B4/5	Flint	3of	
	Chert	6of	
T2/B4/6	Flint	5of	
	Chert	14of	
T2/B4/7	Flint	3of	
	Chert	21of	
T2/B4/8	Flint	1of	
	Chert	7of	
	Pitchstone	1of	
T2/B4/9	Chert	7of	
T2/B4/10	Flint	1of	
	Chert	10of	
T2/B4/11	Chert	4of	
T2/B4/12	Flint	2of	
	Chert	6of	
	Pitchstone	1of	

Location	Find type	Quantity	Description
T2/B4/13	Flint	7of	
	Chert	5of	
T2/B4/14	Flint	4of	
	Chert	26of,	1 core
T2/B4/15	Flint	1of	
	Chert	8of	
T2/B4/16	Flint	5of	
	Chert	7of	
T2/B4/17	Flint	1of	
	Chert	5of	
T2/B4/18	Flint	4of	
	Cannal Coal	1of	
T2/B4/19	Chert	6of	
T2/B4/20	Chert	2of	
Follows other trenches; Numbers 3 - 10			
T3/1	Flint	2of	
	Chert	1of	
T3/2	Flint	3of	
	Chert	3of	
T3/3	Chert	4of	
	Pitchstone	1of,	core
T/4	Flint	2of	
	Chert	6of	
T/5	Chert	6of	
	Pitchstone	1of	
T/6	Flint	2of,	in situ, 1 side scraper
	Flint	3of	
	Chert	6of	
T/7	Flint	1of	
	Chert	12of	
T/8	Flint	5of	
T/9	NO FINDS		
T/10	Flint	11of,	8 of red
Miscellaneous			
Picked during excavations 2009			
	Flint	1of	NS 08190 43522
	Chert	1of	NS 0830 4365

Appendix VI

Result of trial pit excavation within the plantation east of the A702 road in 2010

Introduction

Five trial pits measuring one square metre were opened within the plantation on the east side of the A702 road and opposite from the Howburn Excavation site. The pits (fig 7) were aligned along the fence line of the plantation boundary, and the rationale for the work was to test the possibility that the archaeological deposits and finds previously found in the field opposite, may extend below the road and into the plantation.

The area lay c 0.75m above the field and was at the base of a break of slope upwards and towards the east.

Details of the pits

In each pit the plough soil was a dark humic soil. Silt, where it occurred was a fine sandy, stone free layer of orange/brown colour and the underlying till was a solid mass of clayey/broken stone material, exactly the same as in the field. The soil and silt were biologically active with root and worm activity which extended to the compacted till.

The work was done by hand trowelling and where silt occurred, it was removed down to the compacted till in case any cryoturbated artefacts lay within it, none were found.

Trial pits No's 1 – 3 lay on a slope and the other two were on fairly level ground.

Trial pit No 1

The plough soil was between 0.25m and 0.3m deep and overlay a fairly level compacted till.

Trial pit 2

The plough soil was between 0.25m and 0.3m deep and overlay c100mm of silt which lay directly on the compacted till which had a slightly irregular surface. Charcoal fragments and darker silt, stained with microscopic charcoal suggested a pre historic surface.

Trial pit 3

The plough soil was 0.25m deep and overlay c100mm of silt which lay directly on the compacted till which had a level surface. Charcoal fragments and darker silt, stained with microscopic charcoal indicated a pre historic surface; this was sampled by taking c10litres of soil. In the NW corner of the excavation an area of charcoal fragments and darker silt persisted, this was shown to be a 'pear' shaped pit with gradual sides, the excavated part of the pit measured 0.7m by 0.7m and was 0.2m deep below the surface of the till. The eastern and deepest part of the feature may have been a separate pit measuring 0.25m in diameter but the fill did not show any difference to support that. However, two small patches of more enriched charcoal on the west side may indicate intrusions into the original fill in that area. There were no finds within the feature which was arbitrarily sampled as an upper and lower fill, each comprising of about 10litres in volume.

Trial pit 4

The plough soil was 0.3m deep and overlay c100mm of silt which lay directly on the compacted till which had a level surface. Charcoal fragments and darker silt, stained with microscopic charcoal indicated a pre historic surface.

Trial pit 5

The plough soil was 0.25m deep and overlay a silt layer of c50mm deep, the silt lay directly on the compacted till which was level.

List of finds

TP1 plough soil

- TP1/1 Pitchstone
- TP1/2 Chert 2of
- TP1/3 Quartzite pebble possible rubbing stone

TP1 till

- TP1/4 Chert
- TP1/5 Early Neolithic rim sherd
- TP1/6 Early Neolithic rim sherd
- TP1/7 Early Neolithic carination fragment

TP2 plough soil

- TP2/1 Chert 3of

TP3 plough soil

- TP3/1 Chert 11of
- TP3/2 Sherd fragment
- TP3/3 Sandstone pebble, possible rubbing stone

TP4 plough soil

- TP4/1 Chert 11 of + one possible microlith
- TP4/2 Early Neolithic rim sherd

TP4 till

- TP4/3 Chert 2of
- TP4/4 Sherd

TP5 plough soil

- TP5/1 Chert

Discussion/conclusion

It is known that the woodland area was arable ground prior to 1995 when the trees were planted. However, ploughing would not have been done by the very heavy, modern equipment currently used (Mr Gilchrist, former farmer, pers comm), therefore the likelihood that archaeological deposits survive in the woodland is good. Indeed, this was proved during previous work by BAG (Ward, 1996 *ibid*) when several Neolithic settlement sites were excavated (Fig 2). Nevertheless the residual nature of the deposits found here indicates that they have been truncated by ploughing in the past.

The principal aim of this small scale work appears to have been achieved. Given the range of Late Upper Palaeolithic flint distribution in the field opposite, it seems safe to conclude that the flint scatter does not extend across the road. Trial pit No 1 is 17.5m from trench No 2 on the field side of the road. However, the finds do indicate that Early Neolithic and probably Mesolithic archaeology survives within the plantation and most likely below the main road also.

The three samples collected will be processed for charcoal retrieval but it is not expected that the work will be pursued beyond that.