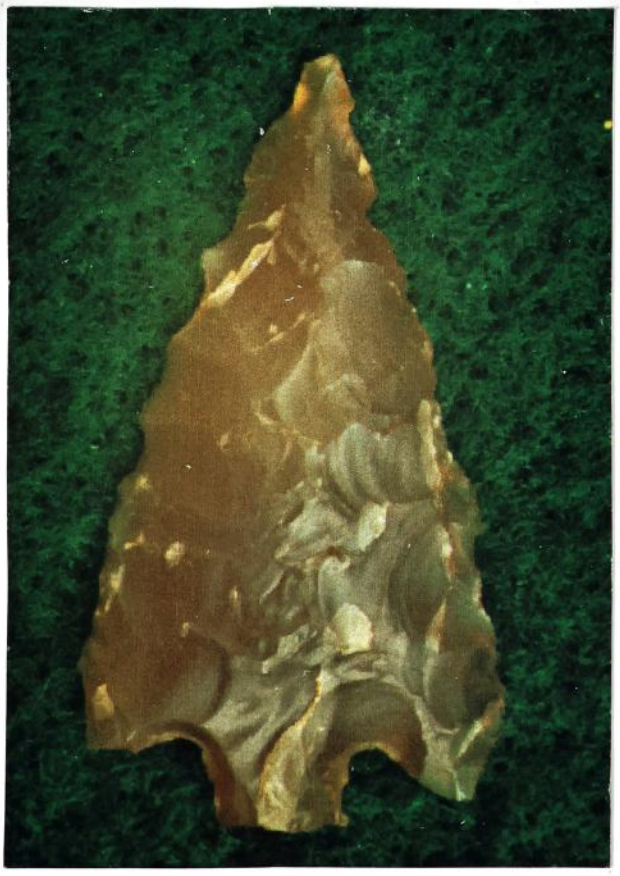
Prehistoric Activity along the Salt Way in N East Leicestershire



Prehistoric Activity along the Salt Way in N. East Leicestershire

The Salt Way is an ancient track which, for about six miles in N E Leicestershire, follows the top of a stunning escarpment called the Belvoir Edge. The land surface here lies at an elevation of around 500 ft, often on top of a bed of ironstone. Springs are common which, together with the Belle Mere at its northern end, apparently made this area ideal for prehistoric settlement.

The absence of limestone or chalk means flint surfaces recorticate so slowly that flakes and blades struck in the Bronze Age still appear fresh to the naked eye. The downside for the archaeologist is that ironstone mining in the previous two centuries has devastated huge tracts of the countryside taking with it much of our prehistoric and Roman heritage.

Over the past four years, all the fields which had not been mined or were not under permanent pasture have been systematically searched for stone-age material and the find-spots recorded, latterly using a hand-held GPS unit. On the attached map, all the fields which were walked are coloured in green, whilst the following pages summarise the artefacts found.

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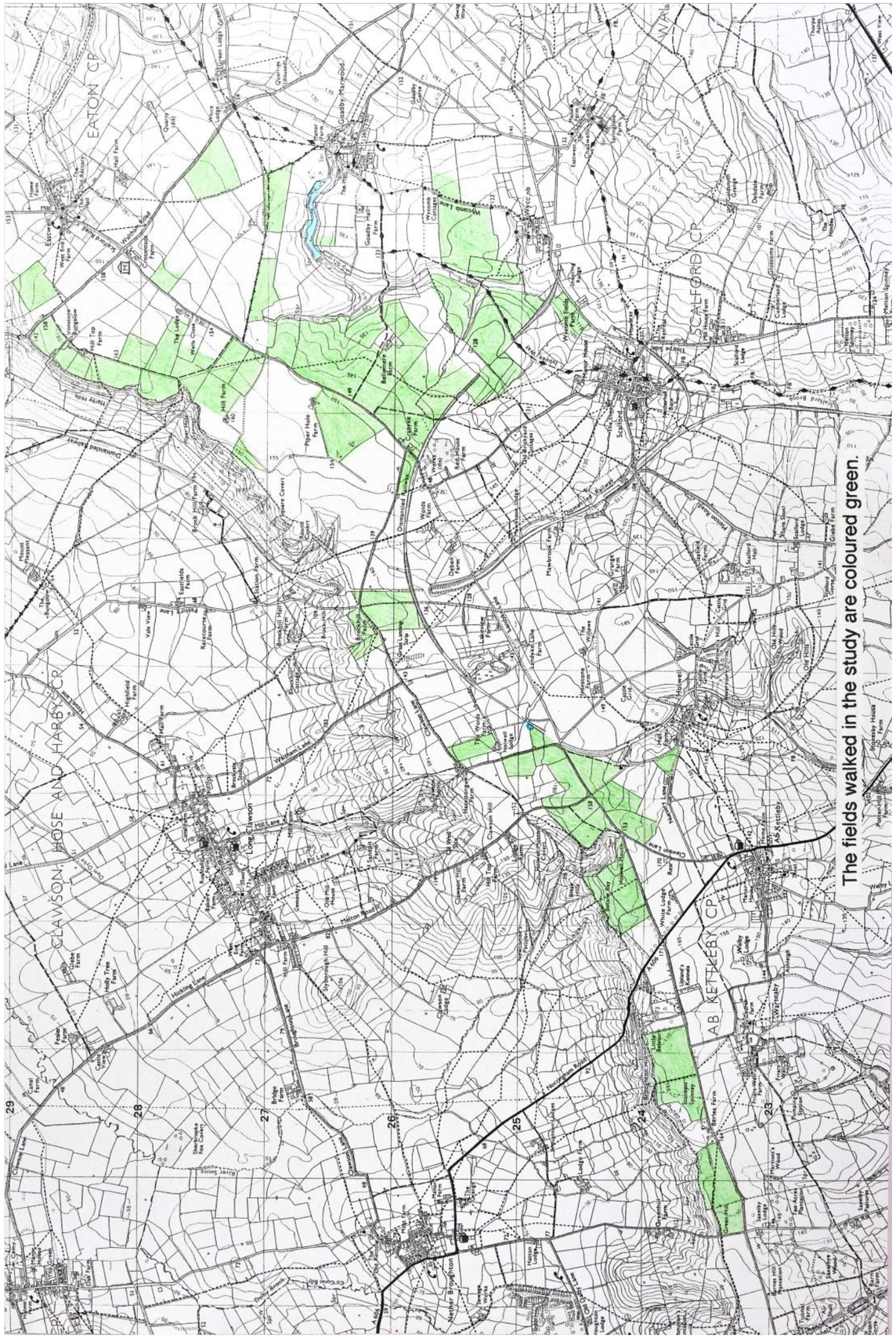
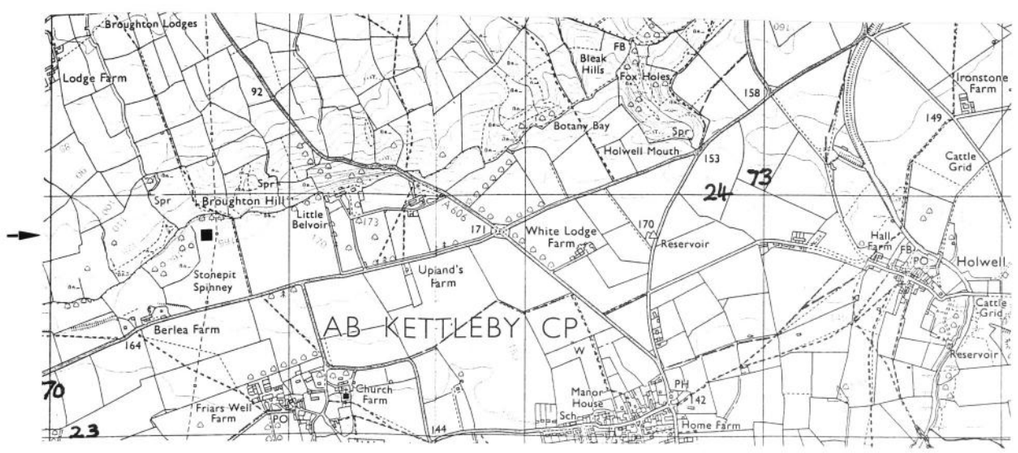
June 2002

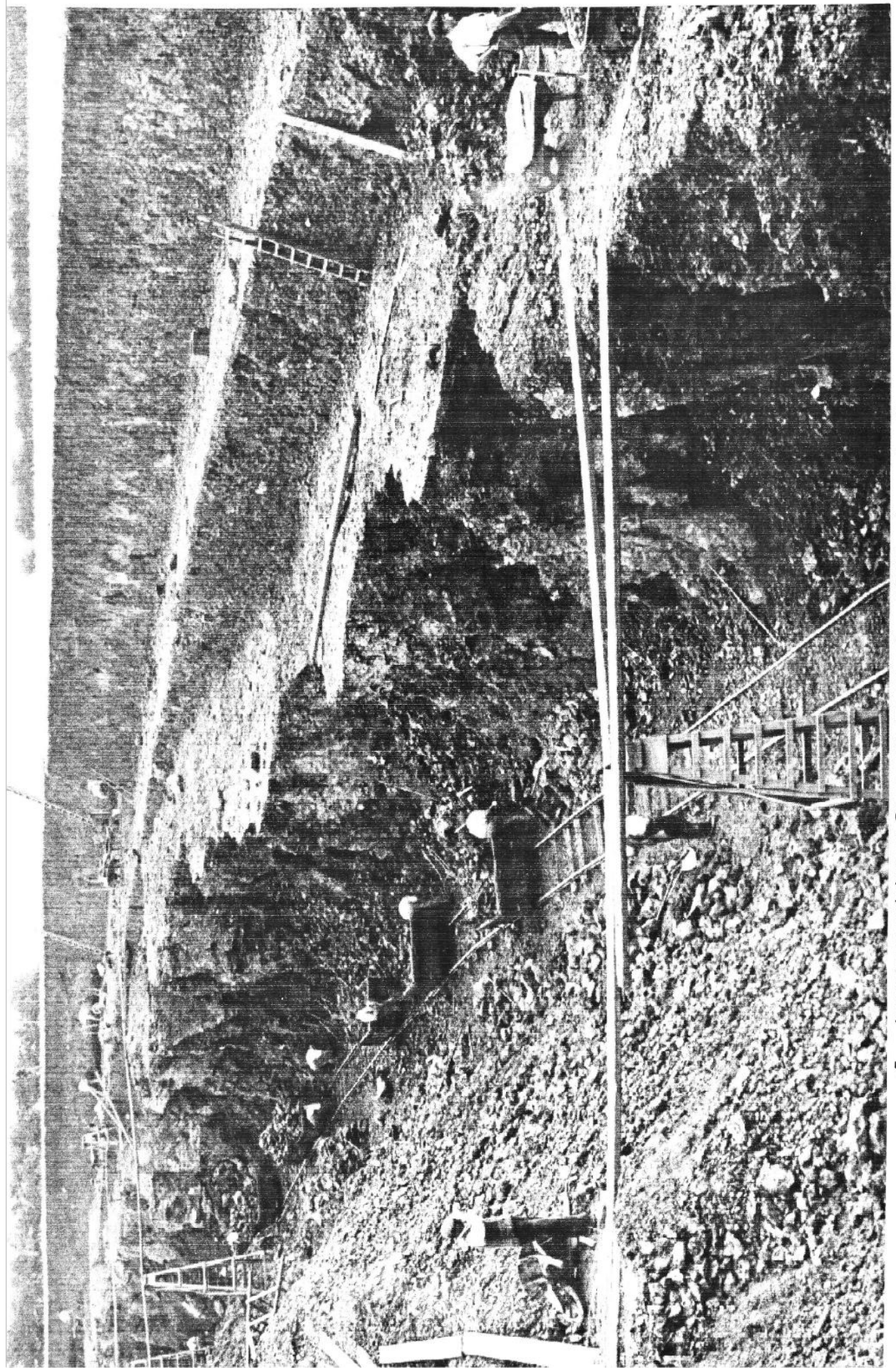


Stonepits Farm (Formerly, Berlea Farm)

Much of the land surrounding Stonepits was mined for ironstone by hand, sometimes to a depth of 30ft, during the early years of the twentieth century. The resulting chaos is well illustrated in the photograph dating from 1905 and shown in Figure 1. The reconstituted fields still contain the odd piece of Bronze Age flint which has somehow managed to stay close to the surface and so be revealed by the plough, but obviously much has been lost.

However, in a small area close to the escarpment edge (SK 706 238) I found blade-flakes and a scraper which had recorticated to a beautiful Cambridge-blue colour. A few of these blue blades bore brown chipping scars from re-use, presumably at sometime during the Bronze Age. These scars are particularly important because they show us that the soil here does not catalyse the recortication process, as happens in limestone areas, and hence the blue flints must have been struck off their parent cores several thousand years before the Bronze Age — presumably in the Mesolithic or early Neolithic.





1 Ironstone mining at Stonepits Farm, circa 1905. Assuming the man on the board-walk is about 5ft 9ins, the hole from this open-cast working must be at least 30 feet deep.

2b

Some of the recorticated flints from Stonepits Farm, most of which carry a prominent bulb of percussion.

2c

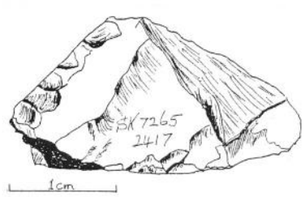
Possible Mesolithic arrowhead; although this very thin (1-2 mm) flake has recorticated, the delicate flaking across both surfaces can still be seen. (SK 706 238)

White Lodge Farm and Holwell Mouth

The book "The Ironstone Quarries of the Midlands, Part IX, Leicestershire" by Eric Tonks (Runpast Publishing, 1992) proved invaluable for checking which fields had been mined, and it showed that little of the land around Holwell Mouth had escaped the navvies' shovels. The deep ravine of Holwell Mouth itself proved to be too overgrown and wild for attempting surface archaeology, although one recorticated blade-flake (Mesolithic ?) was found on the bare soil beneath a hawthorn bush.

The field to the left of Holwell Mouth has been mined and hence little flint-work remains, except for a tiny spot alongside the Six Hills road at SK 7265 2417. Here was found a small cache of blade-flakes, a core and a scraper all of which were blue-white due to advanced recortication.

One of these blade-flakes tells of an interesting sequence of events at this site: a Mesolithic (or Early Neolithic) person stopped by to strike a few blades off his core, one of which was picked up thousands of years later in the Bronze Age to be fashioned into an end-scraper — this blade had been found, made into a scraper, used, and then discarded at virtually the very spot where it had originally been



struck from the core. I completed the cycle three thousand years later by picking up the blade for examination and photography.

There is an important social point arising from such a re-use of flint which is sometimes overlooked: for someone to be able to find an old blade implies that the soil surface at that time must have been cleared for agriculture. Ask any modern field-walker!

Much of the land to the right of Holwell Mouth has suffered badly from mining but some flint is present near to the ravine edge. The most significant find was a tiny but damaged, barbed-and-tanged arrowhead tinged slightly blue due to incipient recortication. Close examination of Figure **2** shows that some of the shaping flakes have not fully separated from the flint surface, possibly because the artisan was taking great care not to break the arrowhead in the final stages of manufacture.

Part of the field belonging to White Lodge Farm on the other side of the Six Hills road escaped mining and has yielded many examples of worked flint. A blue-white core (SK 7275 2412) bearing some very narrow blade-scars is probably one of the oldest pieces (see Figure **3**), probably dating back to the Mesolithic like the several blued flakes found mainly at the end of the field nearest to Holwell Mouth

4a

2 Tiny arrowhead from Holwell Mouth (SK 728 246)

4b

3 Flints from the Holwell Mouth area; numbers 1,2 and 3 are actual size. Flint 3 is thought to be a hand-digger.

4

Comparison of a hand-digger and a hand-spade from Leicestershire with similar flint objects from Surrey (TQ 092 477) and a Grimes Graves pit.

(SK 727 242). Two cores (SK 7280 2401; SK 7282 2408) and other "fresh" flints are obviously younger, no doubt belonging to the Bronze Age.

In this field are some unusual objects which, it later turned out, are quite common in the Salt Way district. These are large, pointed lumps of flint, often crudely worked, which fit the hand well (right hand usually, but not always); where the soft parts of the second finger lie, the sharp edges of the flint have always been deliberately crushed for comfort and protection. I interpret these tools as being hand-held "hoes" or "diggers" for use in agriculture; one particularly well-made example (SK 7283 2407) is of virtually identical shape, though slightly larger, to one found in Gomshall, Surrey, as shown in Figure **4**. These flint "diggers" seem to have their pointed counterparts fabricated from sandstone although, due to the less durable nature of this material, some of these have deteriorated so badly that they are difficult to identify with full confidence. Two examples from the Holwell Mouth area (SK 7280 2410; SK 7329 2382) are shown in Figure **5**.

Hall Farm field at SK 733 238 lies at the top of a hill on the outskirts of Holwell and overlooks the Holwell Mouth area. There is modern rubbish at the end by the new houses, but the rest of the field contains much worked flint the best of which was a tiny thumbnail scraper found at SK 7331 2387.

5a

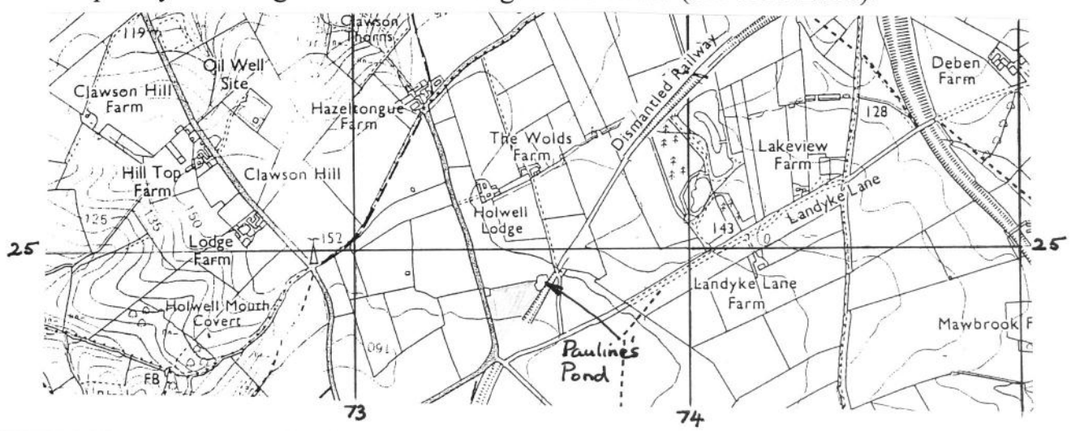
5 Various sizes of sandstone digger

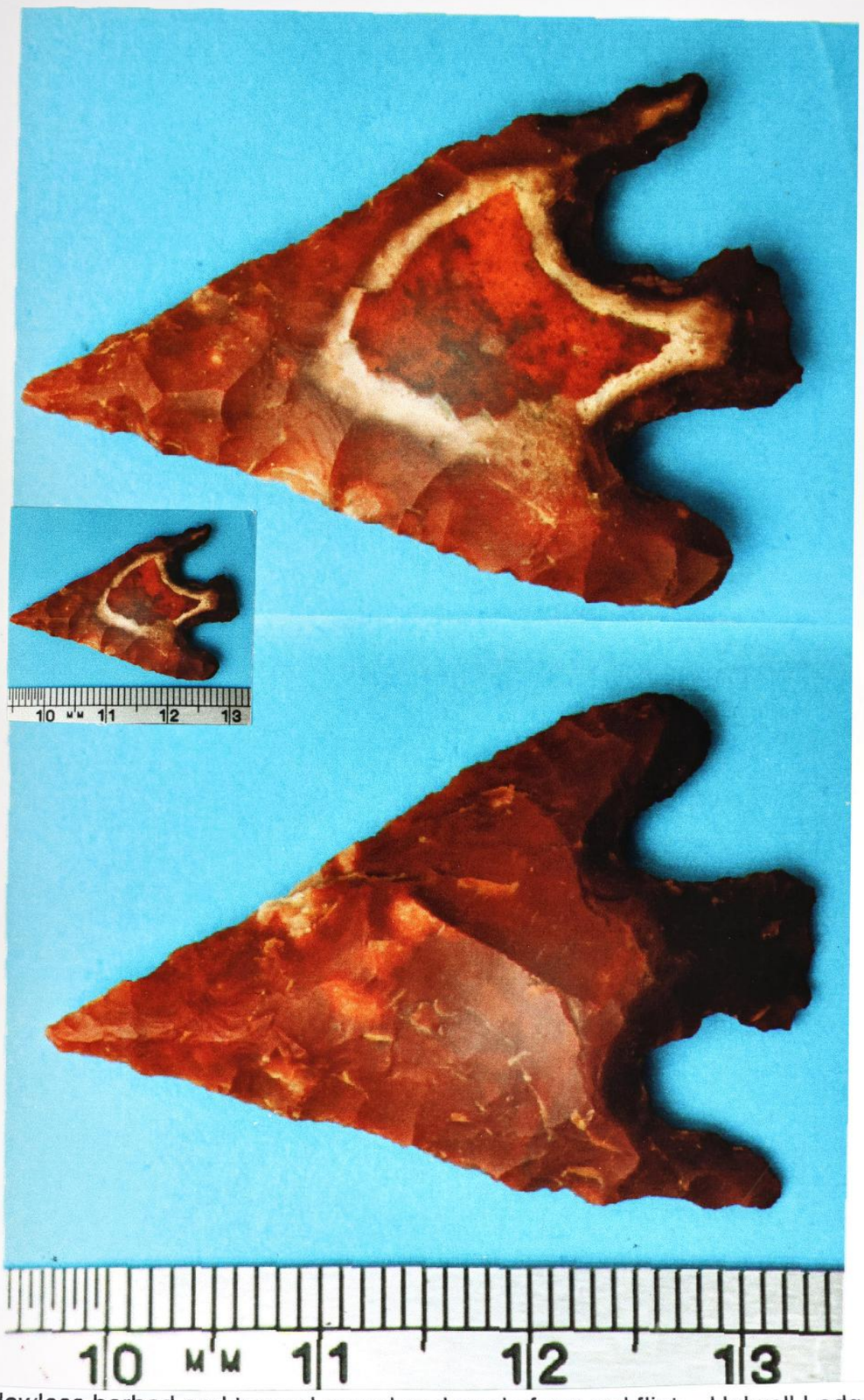
Holwell Lodge Farm Area

The small pockets of unmined cultivated land between Holwell Mouth and Holwell Lodge Farm contain much worked flint, including a few re-worked blued flints typical of Bronze Age activity; two particular areas worthy of citation lie along the field's edges at SK 729 248 (many small, worked flakes) and SK 731 246 (which may represent the remains of a site largely lost to mining).

The last field belonging to White Lodge Farm (SK 734 247) was only partially devastated by mining last century, the remainder yielding many more of the "pointed diggers" and several thumbnail scrapers (three of these scrapers were found close to the middle entrance to the field, which might suggest that Holwell Road has cut right through the living centre of a camp.

The field (SK 735 248) on the other side of Holwell Road has been disturbed somewhat on the perimeter, but beyond this modern rubbish were many "diggers", worked flakes, thumbnail scrapers and, at the far side near to Pauline's Pond, a completely undamaged barbed-and-tanged arrowhead (SK 7350 2486).





A flawless barbed and tanged arrowhead made from red flint.. Holwell Lodge Farm (SK 7350 2486). Inset shows the arrowhead at actual size.

This beautiful arrowhead is exceptional: it was made from dark red flint! It is the only artefact among the many thousands I have found in the Vale of Belvoir to be made of this material, presumably because all the natural lumps of red flint appear, from my own observations, to be of very poor quality, full of cracks and foreign inclusions — i.e. completely unworkable rubbish. When I showed the arrowhead to the farmer, he remarked that there had been a "sort of mound" in that part of the field but it had been ploughed out twenty or so years ago! If this mound had been a Bronze Age burial site, as seems likely, perhaps the arrowhead was one of the grave-goods; its undamaged nature would be fully consistent with this suggestion.

A railway cutting dating from the time of ironstone mining once bisected this field; a number of blued flakes were found close to the northern side of this cutting, showing that prehistoric activity occurred here well before the Bronze Age (e.g. at SK 7347 2481 were three blued flakes and one small blued core).

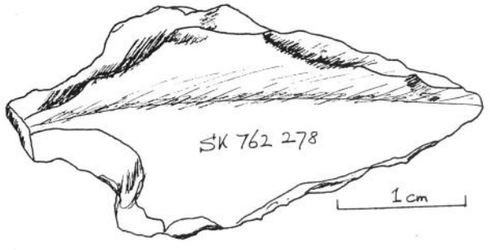
Hilltop Farm

Working along the escarpment top towards Eastwell, the next available field which produced evidence for prehistoric activity was at Hilltop Farm, SK 762 278. Here, the escarpment and a ravine called Piper Hole meet at right angles to form what

must have been a very defencable haven. For a couple of seasons, only about 3.8 acres of the unmined area were available for study but over two thousand flints were recovered. The intense activity which occurred here at various times over several millennia can be deduced from the 165 cores left behind; of these, 32 were bipolar, two were cream-coloured due to advanced recortication, 37 were blued, 35 were made of "fresh" brown or black flint, and 52 cores were of pale-coloured flint which often contained quite large inclusions. This latter type of poor quality flint was quite commonly used in the Vale, presumably because the prized black or dark brown flint was so rare. Two cores had been used as hammer-stones, one of them being bruised at both ends.

The differing ages of the cores, as revealed by their various stages of recortication, is in stark contrast to the 120 borers (or piercers) where only six bore the blue colour of recortication and of these, three had been made from re-used blued flakes; thus it would appear that 117 were used in the Bronze Age.

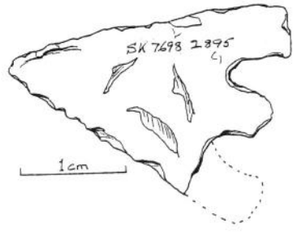
Surprisingly, only one thumbnail scraper was among the 111 scrapers collected; in other fields showing Bronze Age activity the ratio of "thumbnails" is much higher than this. No barbed-and-tanged arrowheads could be found and, in fact, only one arrowhead could be identified with certainty. This was a tanged variety made of a

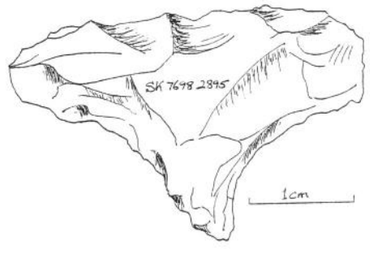


flake having a shallow-triangular cross-section, and probably dates from the late Neolithic era.

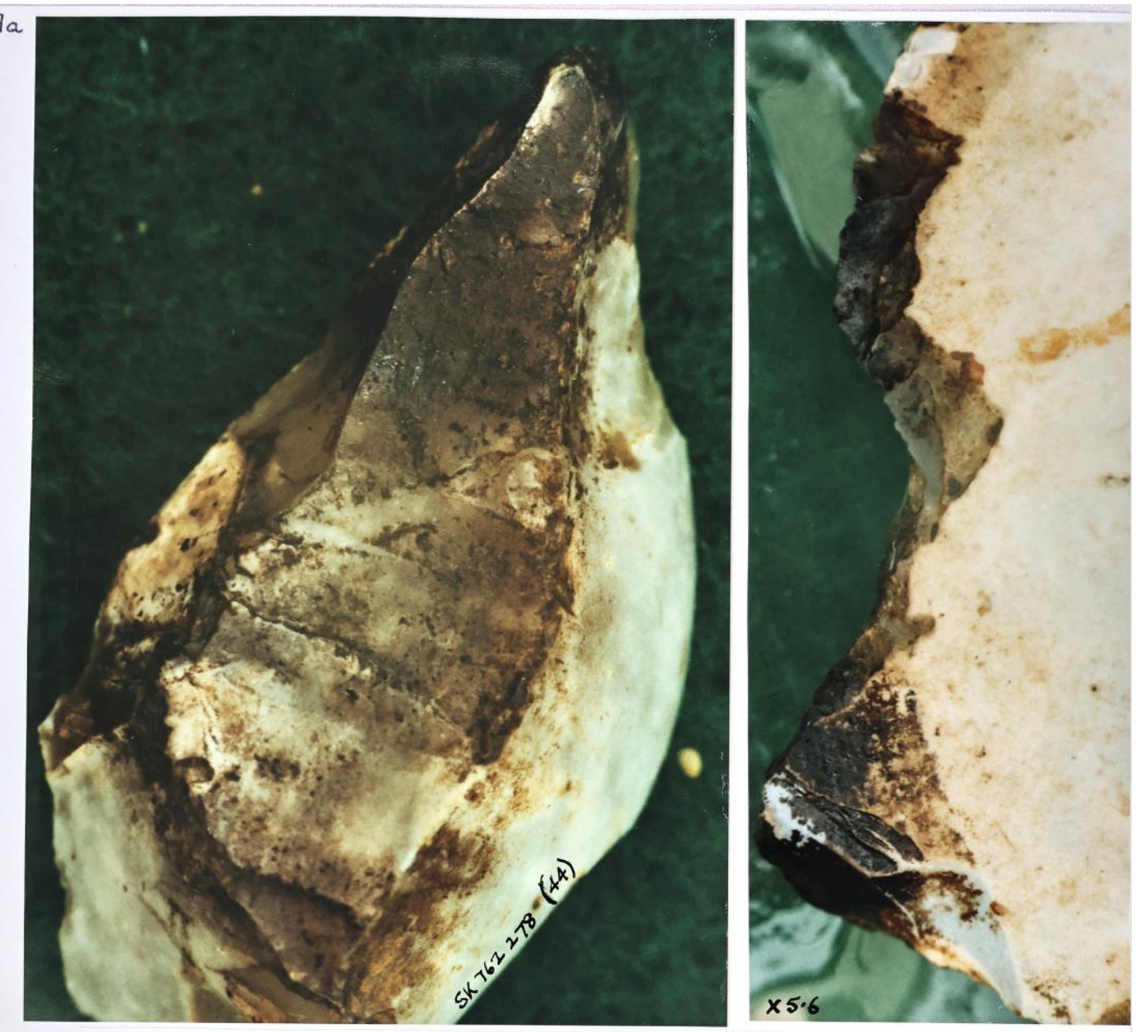
Fatty deposits on flints found in plough soil? Quite impossible! But at one spot on this Hilltop Farm field (SK 762 279) twenty worked flints, some heat-damaged, have been picked up which carry a dirty-looking, fat-like deposit on at least one surface. Infrared and mass spectra suggested the deposit was mainly "carbon" probably containing traces of trapped terpenes and triglycerides. These could have come from a wood-fire and, on checking old maps of the field, it is clear that a hedge has been removed from close to this find-spot. Burning of the hedge material could have been responsible for the flint deposits; repeated searching of the spot over three seasons finally provided a piece of modern, white-glazed pottery covered with the same black coating, confirming that the flints were not carrying prehistoric deposits.

Just to the north of this stone-age haven, but in the same 16-acre field, extensive mining occurred a century ago and continued on the far side of the Harby-Eastwell road. However, one small corner (SK 7698 2895) of this devastated area apparently managed to evade the miners and provided a glimpse of the now lost





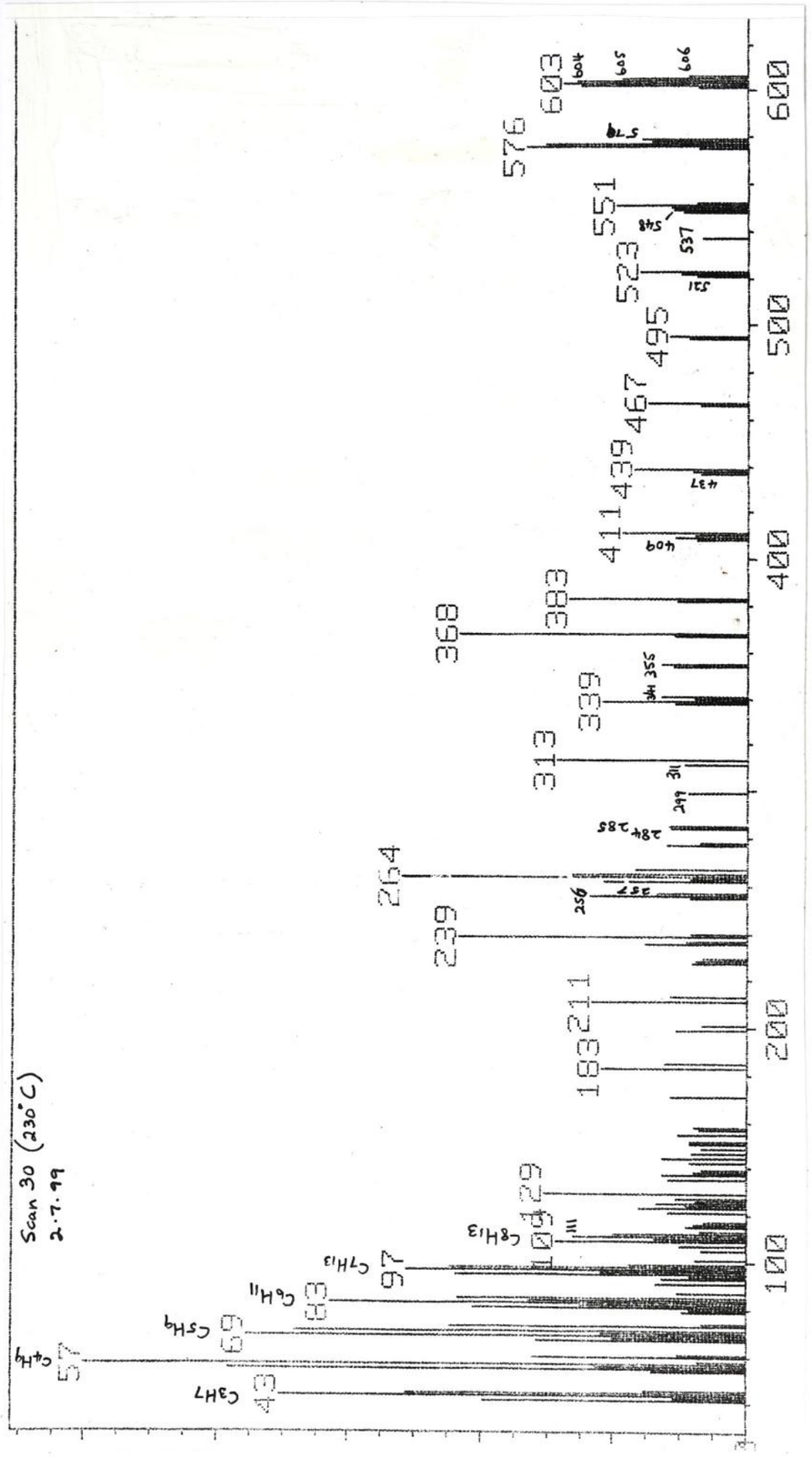
9a



Two flints from Hilltop Farm (SK 762 278) which carry a black, fatty-looking deposit.

A blackened flint retrieved from the edge of a smouldering fire in a field at Wycomb (SK775 251). The particular point of interest is in the almost regular "chipping" along one edge caused by the heat.

9b



Partial mass spectrum of the black deposit on one flint from Hilltop Farm; this scan shows peaks typical of fatty materials.

Fig. 136.—Flint borer, Les Eyzies. (⅔)

This boring implement has a hole passing right through it which is filled with a creamy-white substance. The infrared spectrum identifies the material as ∝-quartz rather than something left behind from the borer's use in prehistory. Note the similaritry of the tool to one found early last century at Les Eyzies (now in the Natural History Museum, London).

9d

Sandstone digger from Hilltop Farm (SK 7613 2800)

Bronze Age heritage in the form of a thumbnail scraper, a barbed-and-tanged arrowhead and a fine T-shaped borer.

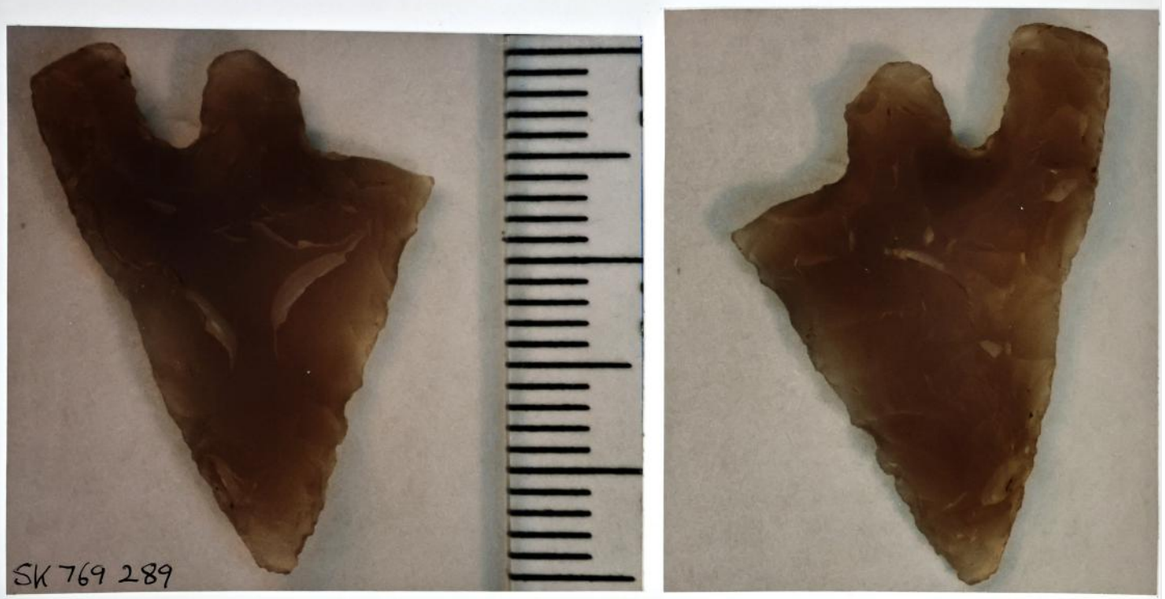
Fields SK 765 278, SK 763 277, SK 764275 and SK 761 274 to the east and to the south of the Hilltop Farm site also contain considerable amounts of Bronze Age flint-work but at a much lower density. In late 1979, a study of aerial photographs led Dr Patrick Clay to excavate a nearby multi-phase barrow at SK 762 266 for which carbon-14 dates of about 3500 bp were obtained from charcoal deposits. Dr Clay also suggested that two other barrows were probably sited at SK 766 260 and SK 764 270; clearly there was considerable activity in this locality during the Bronze Age.

Just across the road from Dr Clay's excavation, at SK 7619 2650, were two scrapers, one a well-worked thumbnail, accompanied by a smattering of sandstone lumps over quite a wide area. This field, on Bellemere Farm, contained a much larger sandstone scatter around SK 7639 2674 within which or close by were two cores, several diggers, one or two blade-flakes and a (freshly) broken arrowhead (at SK 7641 2669). The slightly-blued arrowhead was barely 2mm thick at the centre and was thinned down towards the edges by delicate flaking across the whole surface; careful searching failed to reveal the other half. Perhaps

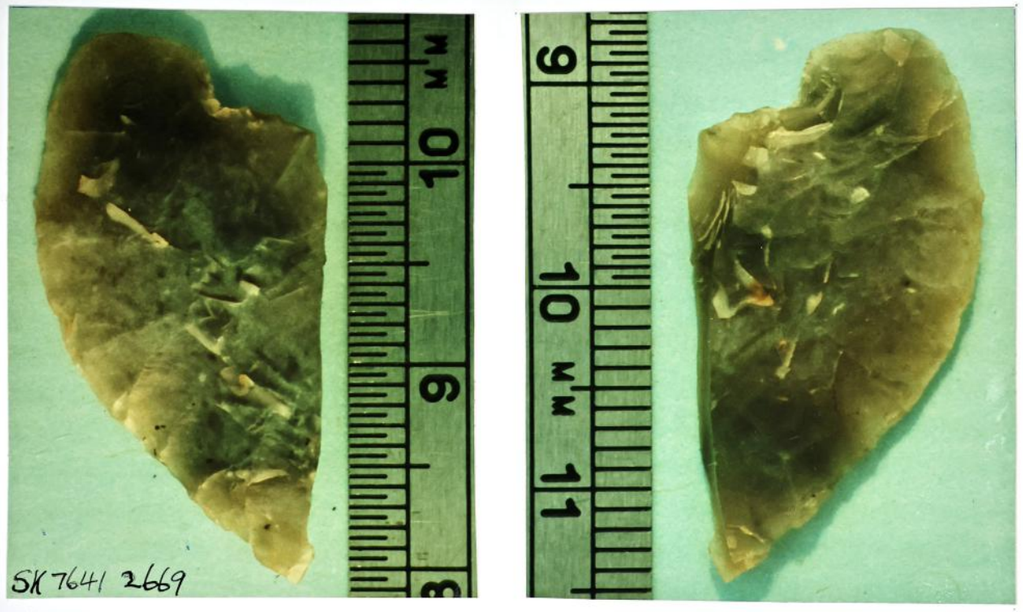
10a

A possible flint hoe-blade

This large flake was carefully struck so that a natural hole originally in the core lay in the centre of the ventral surface. Together with the deep, worked notch the hole would have greatly assisted the firm attachment of the flake to a suitably perforated wooden handle using leather thongs, as indicated. The objects in the three main photographs are shown at their actual size.



Barbed-and-tanged arrowhead with one barb broken off; found close to a thumbnail scraper and a nicely worked T-shaped borer (SK 769 289).



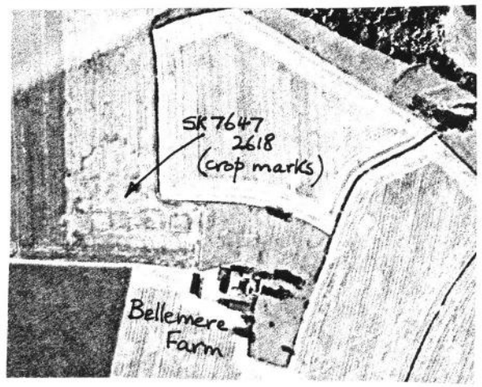
Half of what was probably a barbed-and-tanged arrowhead. It is less than 2 mm thick yet carefully flaked over both surfaces; the flint has slightly recorticated in places. The find-spot was very close to a sandstone scatter (SK 7641 2669).

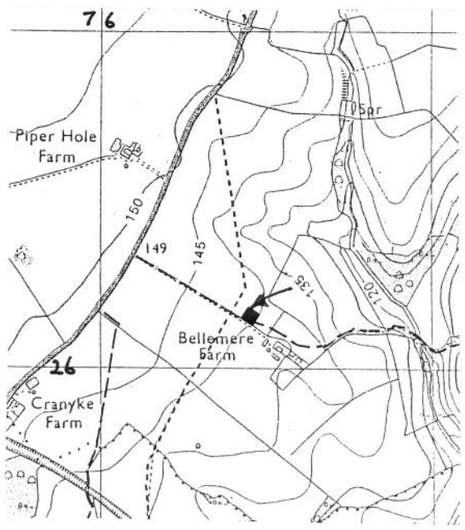
significantly an 8ft x 7ft patch of stout thistles grew among the sandstone at SK 7641 2673; close by was a blue core. On the slopes of a nearby hollow cutting across the field were three other beds of thistles (around SK 7638 2666).

Bellemere Farm fields (BF)

The noticeable thing about this farm is the complete absence of any mere, lake or pond which might be seen from the house (the lake at Goadby Marwood hall is well hidden behind a hill). Apparently there had once been a lake but it was drained a couple of centuries ago. From the distribution of worked flint it would seem probable that the Belle Mere of prehistory had been quite huge, filling all the many deep gullies in the neighbourhood. This expanse of water was obviously a strong magnet because human artefacts abound on all the higher ground and span the whole time-period from the Mesolithic to the recent past, including a strong Roman presence at the metal-working settlement of Goadby Marwood, SK 779 266, during the early centuries of the First Millennium.

BF (SK 7647 2618)





6 Cores from field (SK 766 263) at Bellemere Farm shown at actual size; note the breadth of some of the flake scars.

Aerial photographs taken in 1991 show clear crop marks which appear to outline the footings of a very large multi-roomed "building" with a big, semi-circular "apse" at its northern end. The current tennant of Bellemere Farm-house has no knowledge of any old farm buildings having been there, so this site may well be worth a geophysical examination and/or exploratory excavation.

BF (SK 766 263)

This field to the front of the farm-house, slopes down to a fence overlooking a small valley with a stream which drains from a spring rising close to the ruins of a grange (SK 767 267). A few of the worked flints found close to this fence have an ochreous colouration which might suggest they lay in iron-containing water for some considerable time.

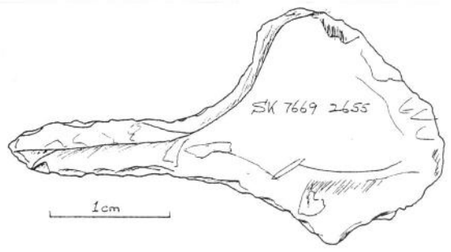
A couple of dozen cores were picked up, one of which had been well-used as a hammer-stone; the flake scars on some of these cores were very broad, in sharp contrast to the more usual narrow blade-scars (figure **6**). Although the field yielded a few scrapers there seemed to be a lack of the borers/piercers typical of Hilltop Farm. A much more modern find was a very corroded copper coin possibly dating from the 1750's.

Two particular flints are worthy of special note; one was a roughly square-sectioned sliver about 27mm long but barely 2-3mm wide. This was the first of only three such worked slivers to be found in all the fields walked in the Vale.

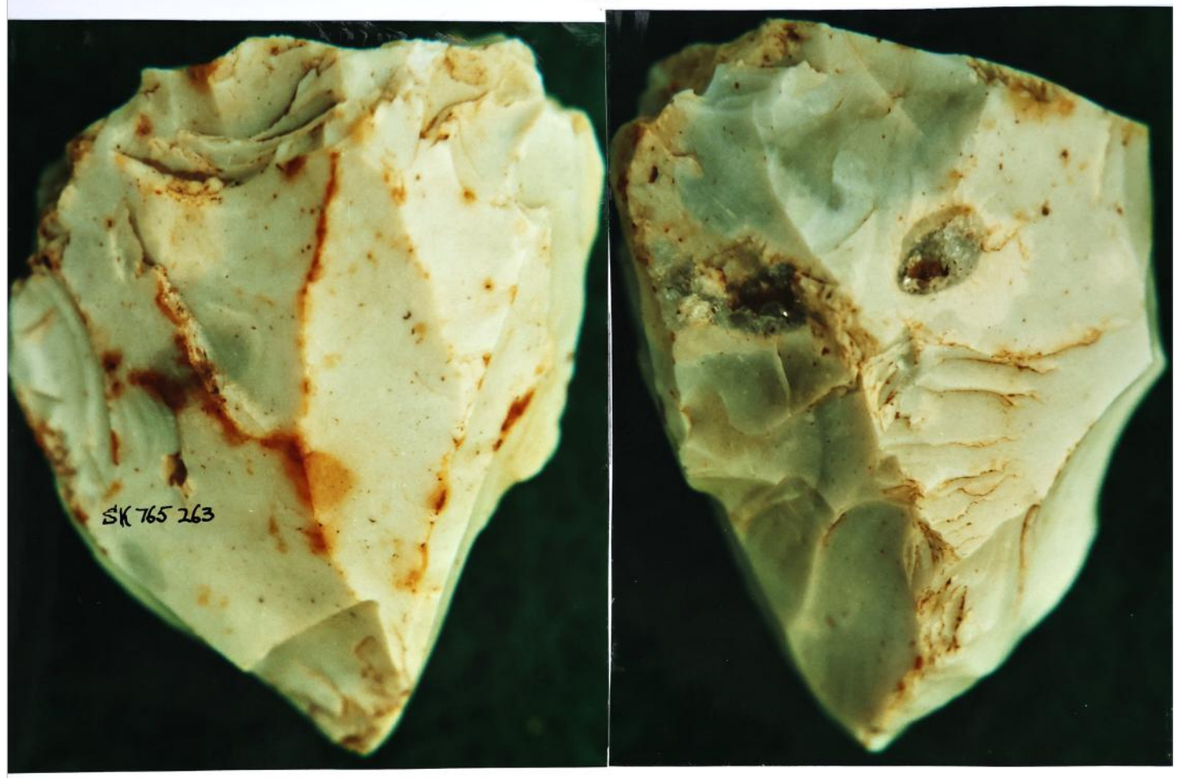
The other, unique flint seems to have been a deliberate attempt to "carve" a face from a lump of flint. The lump is, in fact, a small geode (ca. 3cm x 2cm) which was no doubt originally intended to be used as a blade-core. When one of the blade-flakes was removed it revealed a small hole in the core which was lined with tiny sparkling crystals of pure quartz. Whether by astute reasoning or by pure chance, the removal of a second blade opened the other end of the geode's hole so as to form a pair of "flashing eyes" on a feline-like face. The features on the tiny face are so well represented that they remain perfectly recognisable even when the image of the core is expanded many-fold up to at least the size of an A4 photograph.

BF (SK 764 266)

A fairly deep gully runs part way across the middle of this large field towards the stream-valley mentioned above; it is devoid of worked flint and in one part has a



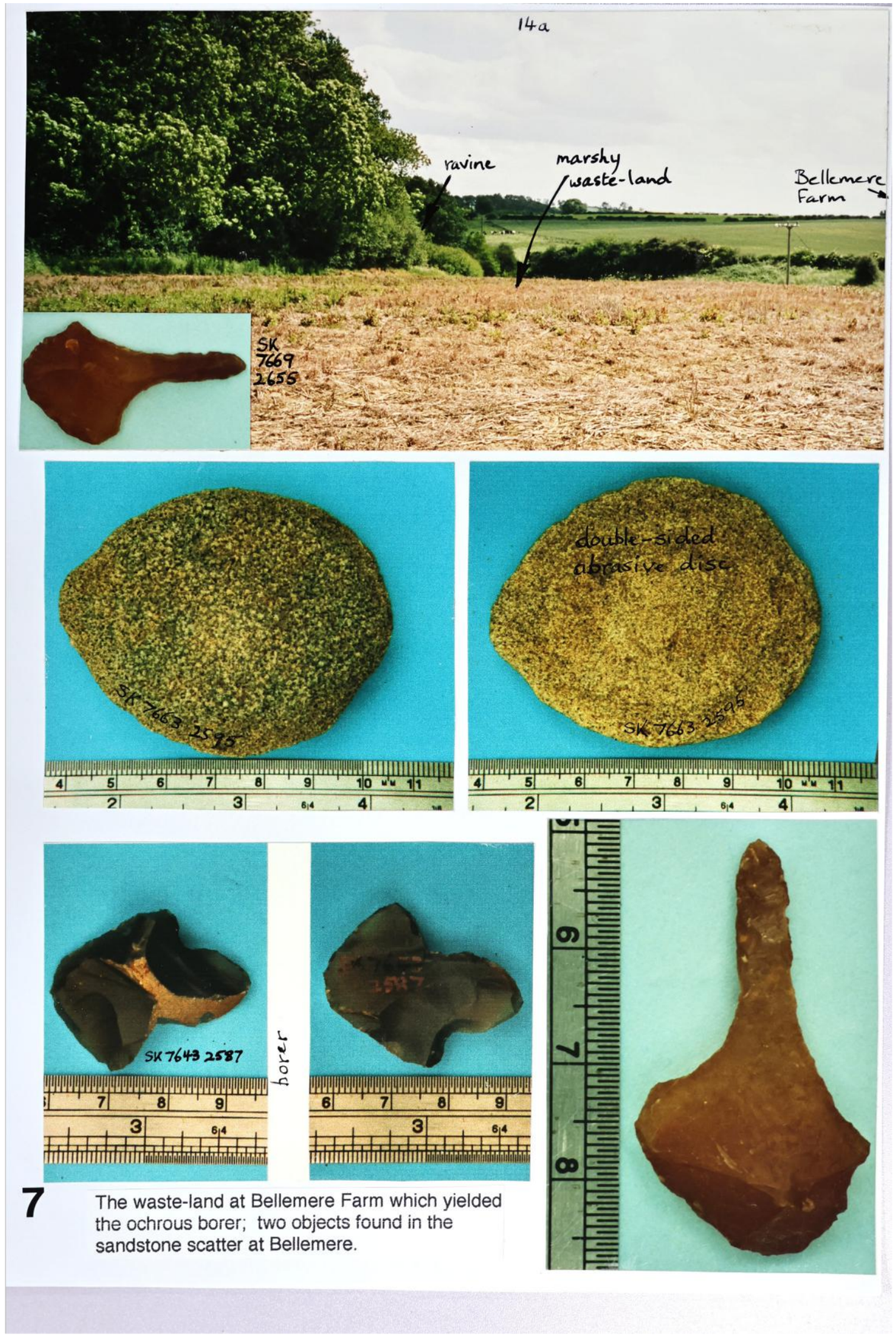
13a



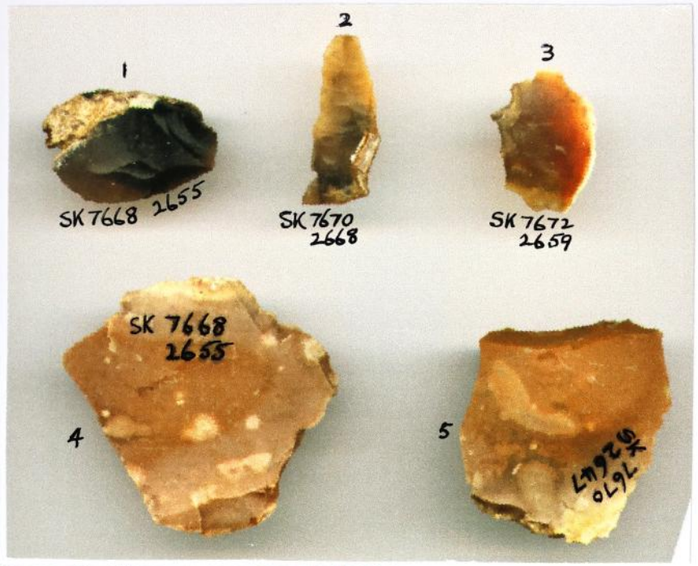
A very unusual core which appears to be a creditable attempt to "carve" a facial image from flint (Bellemere Farm, SK 765 263)

clay floor which is extremely sticky and slippery in wet weather. The end of the gully finishes in one corner of the field, close to the stream, which looks particularly forlorn and soggy after being left as set-aside for three seasons or longer. The farmer has obviously given up trying to cultivate it but in late Spring 2002 had sprayed the area with weed-killer. Having neglected the corner myself for two years as being a waste of flinting-time, I decided to check it quickly for ochrous flints to support the ancient Belle Mere "theory". To my surprise, at SK 7669 2655 there was a beautiful piercer (figure **7**) lying in the dead grass. The almost translucent flint was stained by iron, making it appear that the piercer had been made of warm amber. The downside of a district full of ironstone is the devastation caused by open-cast mining, but here the same iron, carried in some form by the water, is helping to chart those areas once under water. It seems unlikely that someone would take the trouble to create a beautiful piercer only to then throw it into (the edge of) a lake; that person was actually living on the land-surface where the tool was found. Further searching of the corner, and along the field-edge up-stream, yielded a few other ochrous flints, two good examples being at SK 7670 2667.

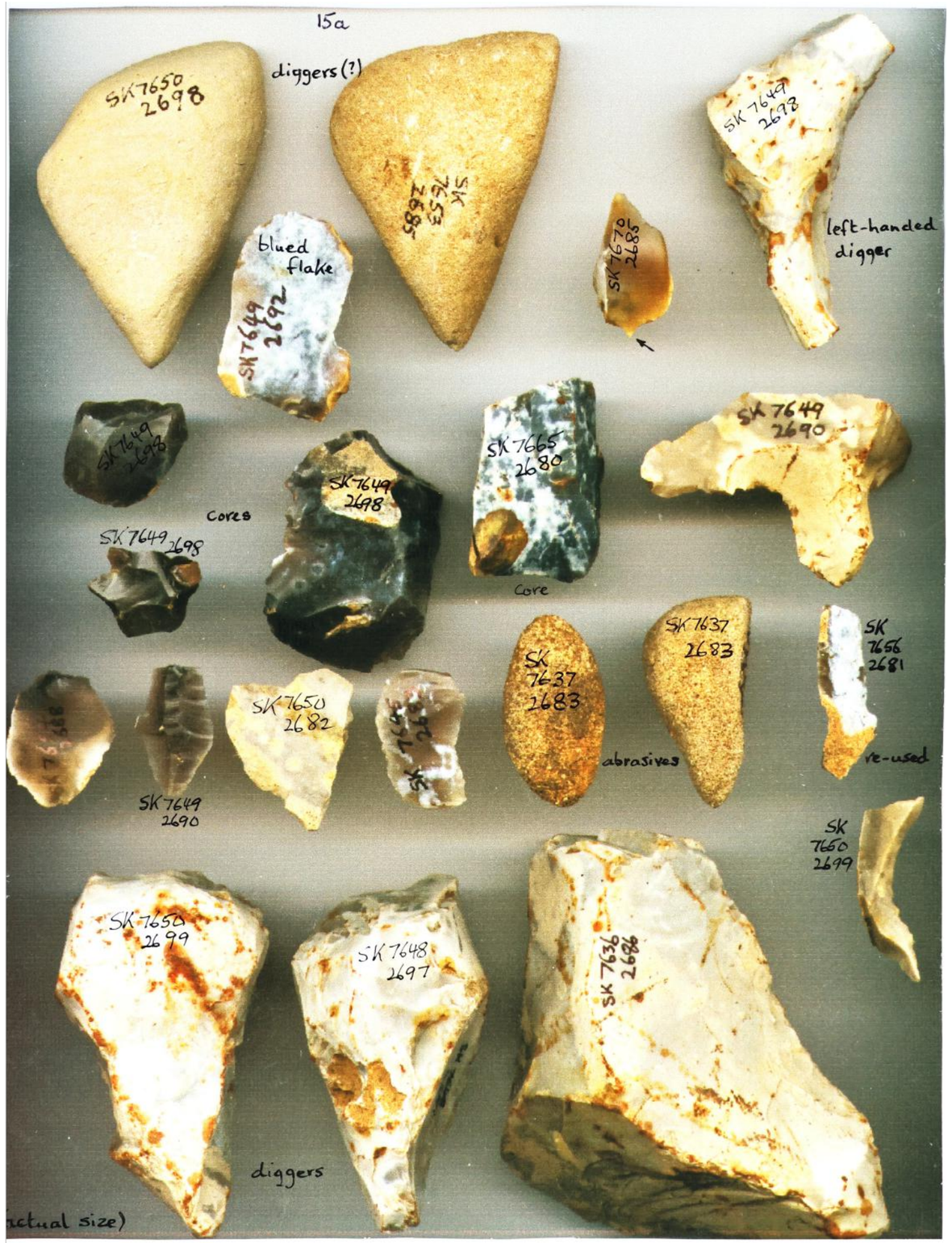
The rest of the field has some flint-work, part of which comprises of digging tools. Also present, in the area alongside Scalford Road, are some unusual flint objects



7 The waste-land at Bellemere Farm which yielded the ochrous borer; two objects found in the sandstone scatter at Bellemere.



Ochrous flints which probably lay under water for a long period of time. Flint 6 may be a very old core, and bears many hard-hammer scars. Flakes 9 and 10 have large bulbs of percussion. Flints 1-6 are actual size.

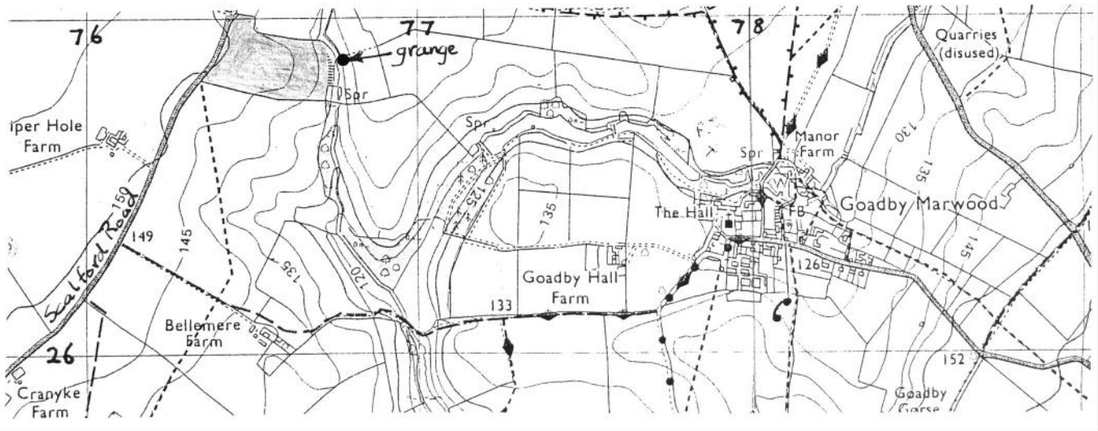


Diggers, cores and flakes from field BF (SK 765 268) at the Scalford Road end. This field has two sandstone scatters, one on the rise at the centre and a less dense one close to the road; many pieces of sandstone, some quite small, appear to have been deliberately fashioned into useful shapes as with the two "diggers" shown at the top left.

whose intended function is far form clear but they might well be called "bruised cores"; they also occur in some profusion in the two neighbouring fields SK 761 261 and SK 764 268. Blade-cores are sometimes found with battered ends arising from their final use as hammer-stones, but these bruised cores have been severely crushed in places completely inappropriate to hammer-stone use. The size-range of these objects is as unusual as their appearance because they can be as small as a marble through to the size of a billiard ball, or even beyond.

Clearly they were battered for a reason after the blade-flakes had been removed — perhaps to stop fraying of a binding material (?). Considering their proximity to the ancient Belle Mere and to the Salt Way (now Scalford Road?) they may have been used as weights for fishing lines and nets, or perhaps even as loom weights in the era before ceramic ones were made. It might be argued that some of the larger ones were bruised to protect the operators' fingers when the flints were used as crushers during food preparation, a job to which the smallest ones would clearly be inappropriate.

BF (SK 765 268)



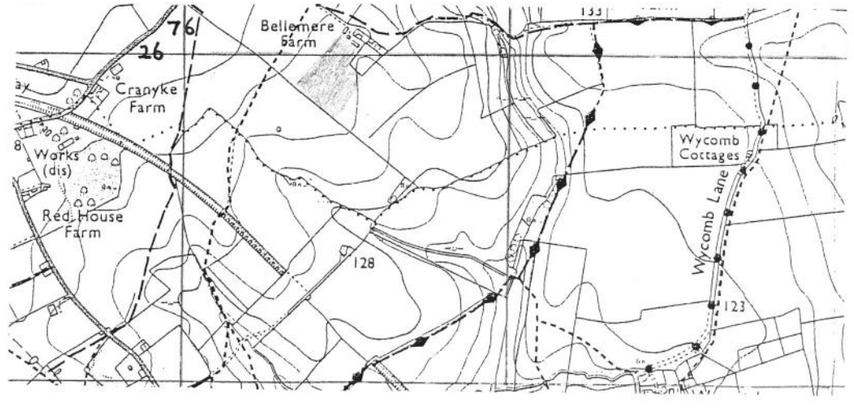
The end of this field nearest to Scalford Road contains many bruised cores; the field as a whole contains blade-flakes, a few scrapers, several pointed flint diggers and has a scatter of sandstone lumps in the centre.

BF (SK 766 271)

The southern edge of this field is on a level with SK 765 268 and contains struck flakes but it quickly shelves into a large basin-like hollow. Mining maps appear to show that no ironstone digging took place here so the hollow, which seems to have no worked flint, may once have been filled with water as part of the ancient Belle Mere.

BF (SK 765 260)

All the fields surrounding Bellemere Farm are rich in prehistoric flints mainly from the Bronze Age, but this particular area lying directly behind the farm buildings has produced so many flakes, blades, "diggers", borers and thumbnail scrapers that it must be classed as a "site".



The site borders onto field SK 763 262 which is nearer Scalford Road; rather few flints are present here except close to SK 7605 2615 where more than a dozen of the curious "bruised cores" were found. (The next season, more bruised cores were collected just over the hedge from this spot, on Cranyke Farm).

BF (SK 766 260)

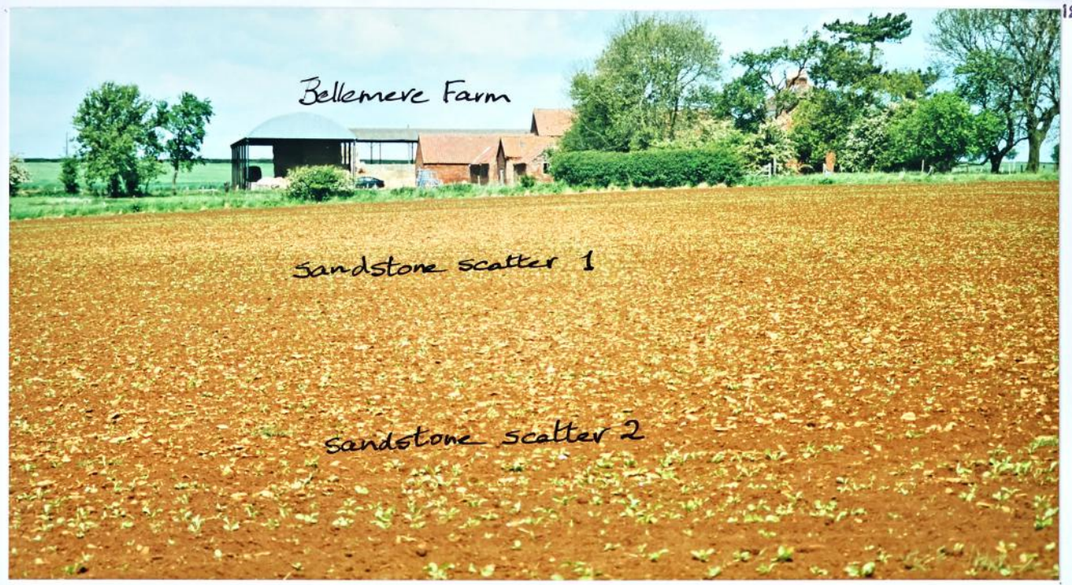
Patrick Clay noticed signs of a burial barrow at this map location on aerial photographs of Bellemere Farm which, on the ground, probably correspond to two large patches of sandstone debris lying along the top of a slight rise to the side of the farm-house. On immediately passing from the garden into the field one begins to find good quality, worked flints including blades and fine scrapers but rather few are within the sandstone scatter itself. Some of the sandstone pieces have been burnt to the dark red colour highly characteristic of iron oxide, and a few pieces of flint also bear obvious signs of severe heat damage.

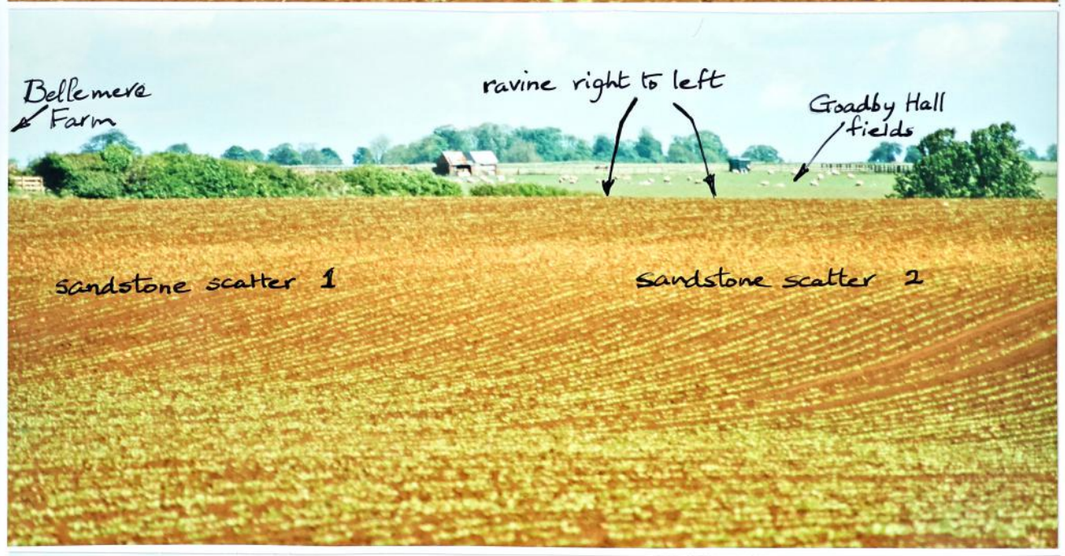
A geophysical examination, possibly followed by an exploratory excavation, would appear to be warranted in this area to check if the sandstone scatter arose from two burial sites or represents material from the floors of Bronze Age dwellings.

The land surface falls away from the sandstone debris area to form a broad, but shallow U-shaped trough running across the field. Perhaps this trough was once part of the Mere, although a few worked flints were found within it suggesting that the bottom was dry during certain periods.

On the other side of the trough is another scatter of sandstone debris at SK 7657 2582 with the major amount of material being within an area of about 30 yards diameter. Rather less worked flint is here, but one piece was a nicely-made thumbnail scraper; again, some of the sandstone has been strongly heated to give the typical dark red colouration arising from oxidised iron. (An X-ray powder diffraction pattern of such reddened sandstone from the Vale showed weak lines arising from the presence of iron(III) oxide, Fe_2O_3). Thus this sandstone scatter probably also represents the remains of either a burial mound or a dwelling.

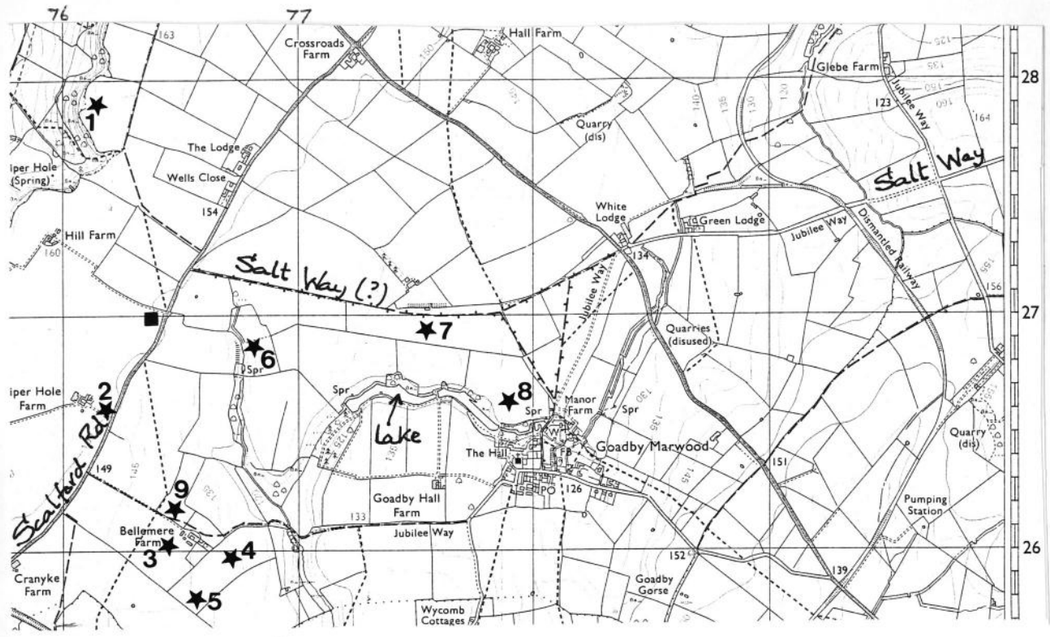
The many acres of land surrounding these two sandstone scatters contain much flint-work but not in a very high density at any one spot; although some of the flakes may well have been used as arrow points no barbed-and-tanged arrowheads were found. The fields behind Bellemere Farm and behind Cranyke Farm blend together as, in several places, there are no hedges separating them; worked flints





Sandstone scatters at Bellemere Farm,28 May 2002; see page 17.

Hilltop Farm - Bellemere Farm Area.



1 SK 762 278 high density of worked flints.

2 SK 762 266 multiphase barrow excavated by Dr Clay; he suggested there were two others at SK 764 270 (square block) and SK 766 260 (see number 4).

3 SK 765 260 much worked flint (site ?).

4 SK 766 260 two large patches of sandstone debris (barrows?) much high-quality worked flint.

5 SK 7657 2582 dense sandstone scatter (barrow?); some worked flint.

6 SK 768 2685 ruins of a grange perched on a hill-side by a spring and pond.

7 SK 775 269 sandstone scatter; worked flints; Romano-British pottery; teeth and bones.

8 SK 779 266 large Romano-British site revealed by ironstone mining.

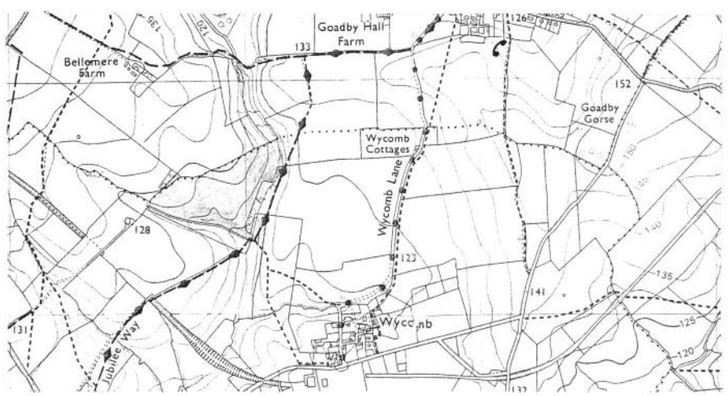
9 SK 7647 2618 aerial photographs taken in 1991 show crop marks suggesting a very large building or compound.

are present on the Cranyke fields but there are no spectacular "caches" similar to those described above.

Watchorn's Fields (WF)

The lands owned by this family are fairly close to Wycomb hamlet and those walked lie on both sides of a deep ravine; this now only carries a small stream draining from Goadby Hall lake but was once probably part of the Great Belle Mere. The scatter of worked flints in field SK 768 255 allows us to determine the approximate position of the prehistoric water-front on the more gently sloping western side of the Mere, but there is a fairly steep escarpment on the opposite bank which would have prevented any occupation close to the water's edge. A few flints have been found in what had been the flooded area which, interestingly, have a fine ochrous colour due to staining by iron dissolved in the water. Whether these flints were thrown into the Mere after use or whether they represent occupation before flooding took place, is not known. Two ochrous flints were found at a similar low-lying point (SK 7670 2667) where flooding is thought to have occurred near Bellemere Farm.

WF (SK 768 255)



In prehistoric times, this field would have presented a "double promontory" to the Great Mere because of fingers of water reaching into it — these are now long, dry hollows except in very wet weather. Blades, cores, well-worked scrapers including a small "thumbnail," and a barb-less, tanged arrowhead were flints picked up when the land was set-aside and full of weeds; more would obviously have been visible had the soil been tilled. No flints could be found at the bottom of the hollows.

The ochrous flints, which presumably define the presence of water, were found at SK 7699 2547; SK 7701 2550; SK 7706 2565 (two flints); and SK 7699 2543.

Two note-worthy finds were (i) a piece of particularly robust, and thus unweathered, sandstone in the shape of what can only be described as a hand-spade (SK 7692 2563); (ii) a point made from bone or antler of indeterminate age (SK 7700 2549).

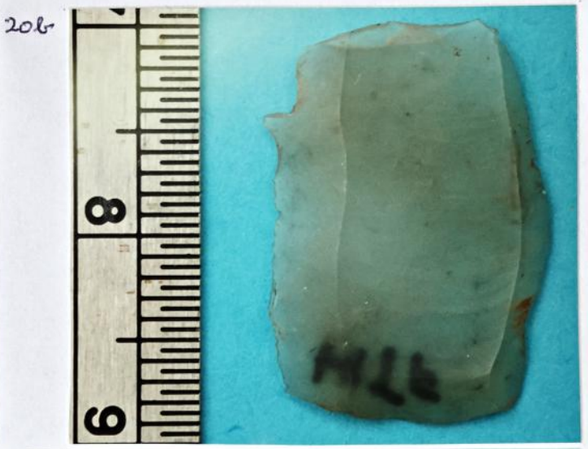
WF (SK 766 253)

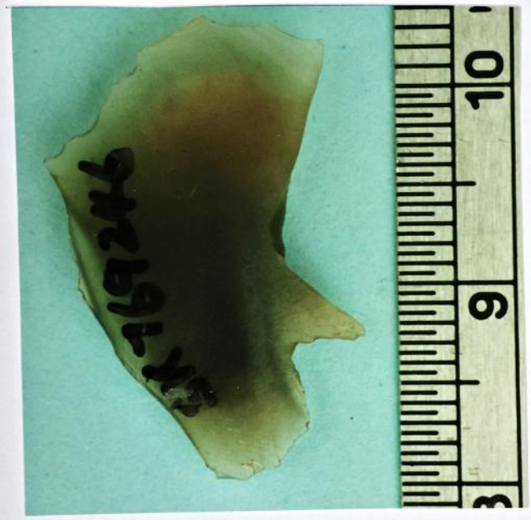
This field shares a gully with the promontory field but lies several feet above it. There is much worked flint present: cores, flakes and scrapers. A considerable

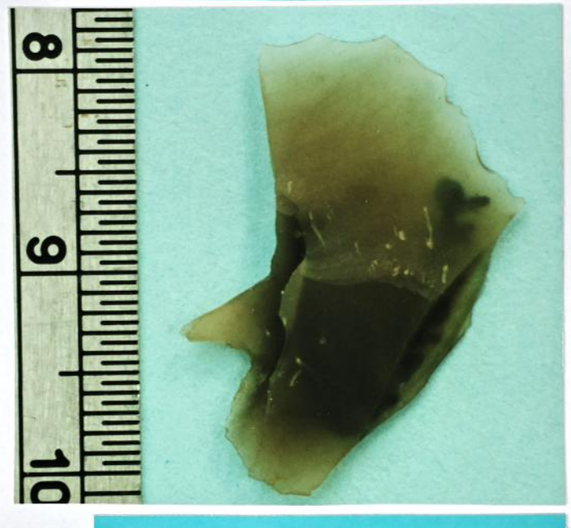
20a

Three flint borers and a bone (or antler) point

20b







Three of the more unusual piercers, each one carefully worked.

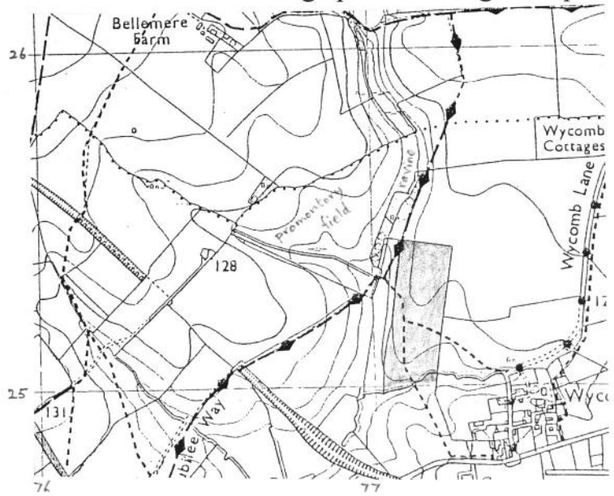
number of the flakes and cores are blue-white from advanced recortication; the fact that many of these lay close to 'fresh' flint shows the surface transformation is due to age and not to soil conditions. There appears to be a significant concentration of Bronze Age flint-work close the gully edge around SK 7680 2535.

The land on the far side was much disturbed by the passage through the field of a railway cutting and the building of a bridge (the latter is at SK 7640 2525). The cutting, which is now filled in, doubtless led to a substantial loss of prehistoric material.

Between the field and the ravine, which probably held most of the Mere water in this location, is another field currently growing a rape crop; worked flint lying on the narrow footpath of the Jubilee Way which crosses it shows that this field too was occupied in prehistoric times.

The land on the other side of the railway cutting seems to have rather little flint, but around SK 764 250 there were several large pieces of unglazed pottery.

WF (SK 772 251)



The eastern side of the ravine rises quite steeply up to this field which is rich in both 'fresh' and recorticated flint including cores, blades and diggers; one of the cores had been used as a hammer-stone. Also present were several pieces of sandstone which appeared to have been deliberately shaped into digging implements. By far the most interesting find was a barb-less and tang-less arrowhead (SK 7718 2518) possibly dating from the Early Bronze Age.

It has been noticed that in many fields containing stone-age or Roman material there are often pretty quartz pebbles lying among the artefacts. I wondered many times if they had been collected and "treasured" for their beauty in those far-off days. One small, pinkish pebble from SK 772 252 may answer this question because on its upper surface are several impact scars identical to those produced on flint by blows from a hard hammer. Someone, just possibly a child, picked up this pebble because of its beauty and then, or later, wanted to know what the inside looked like (broken, pure white pebbles have been found on sites before but I assumed them to have been damaged by ploughing). As the impact scars occur on only one part of the surface it may reasonably be assumed that they were not produced naturally; furthermore, stone-age man would know that the quartz was unfit for making tools, hence the pebble can only have been chosen for its beauty(?).

WF (SK 774 254); (SK 775 252); (SK 773 251)

Some worked flints are present in these three fields but their abundance is rather low. In the corner (SK 776 256) by Wycomb Cottages, there are large numbers of natural flint cobbles and fragments but no worked examples could be found. The field almost opposite the Cottages (SK 778 257) seems to be devoid of flint of any sort, certainly to half way up the slope.

WF (SK 768 2465)

Two railways met at Wycomb during the period of ironstone mining, and this field lies in the V-shape of their junction; this fact, and the field's downward slope away from the adjoining road, led me to assume that it had suffered badly from mining activities. Indeed, there is much modern rubbish at the embankment end, but Mr. Watchorn explained that this arose from a farm track which had once crossed the field, rather than it being mining rubble.

Around about SK 7685 2460 there is a scatter of sandstone debris amongst which are many worked flints — and large pieces of unglazed pottery of undoubted

23a

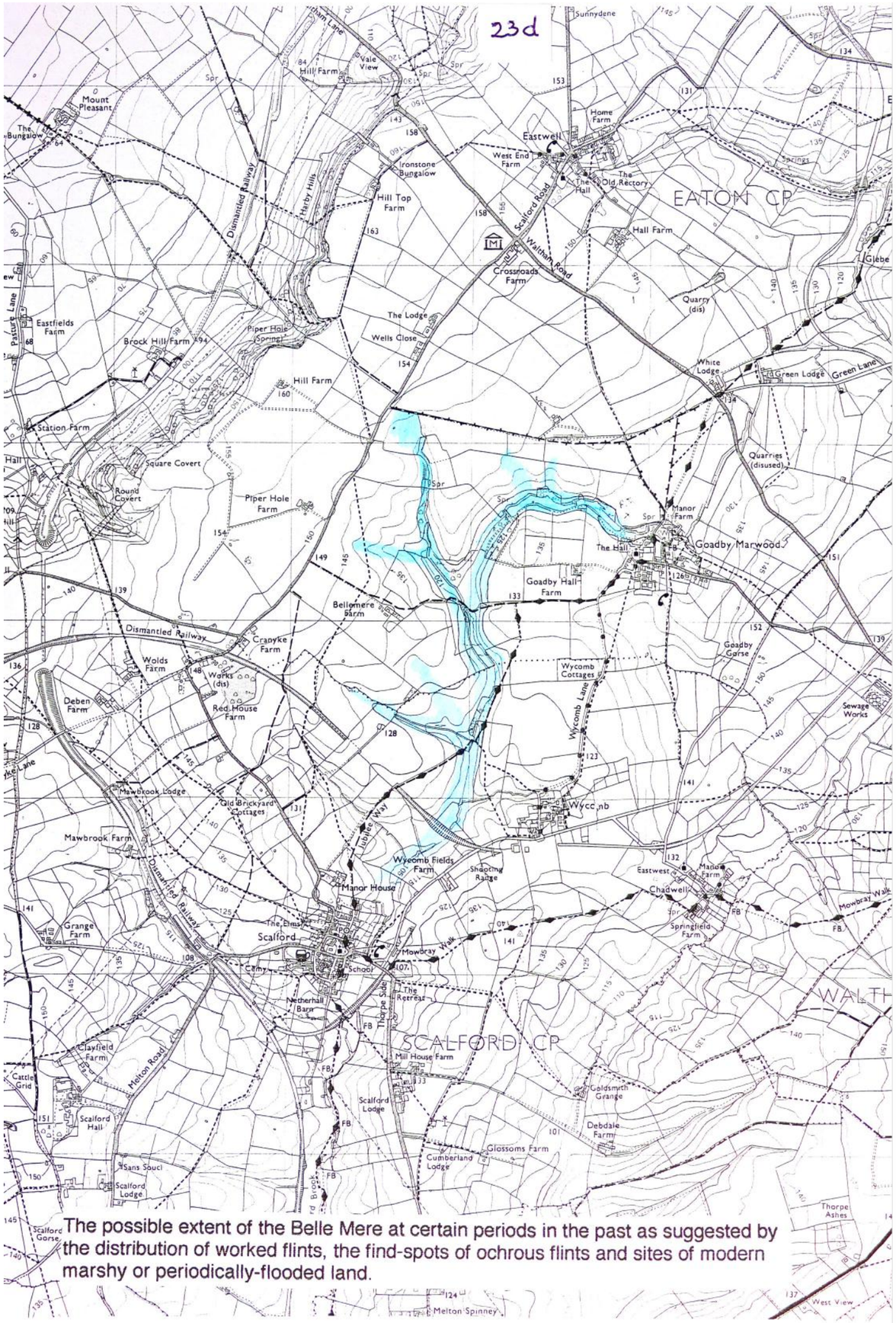
The three main features which were probably flooded at certain times during the past : the main ravine which still carries a stream; a central hollow; a deep side-gully.

23b

Some objects from the Watchorns' fields.

23c

Possible crop marks in a hay field (SK 766 248) near to the village of Scalford; if these are indeed crop marks, they presumably show the outline of old ditches rather than walls.



The possible extent of the Belle Mere at certain periods in the past as suggested by the distribution of worked flints, the find-spots of ochrous flints and sites of modern marshy or periodically-flooded land.

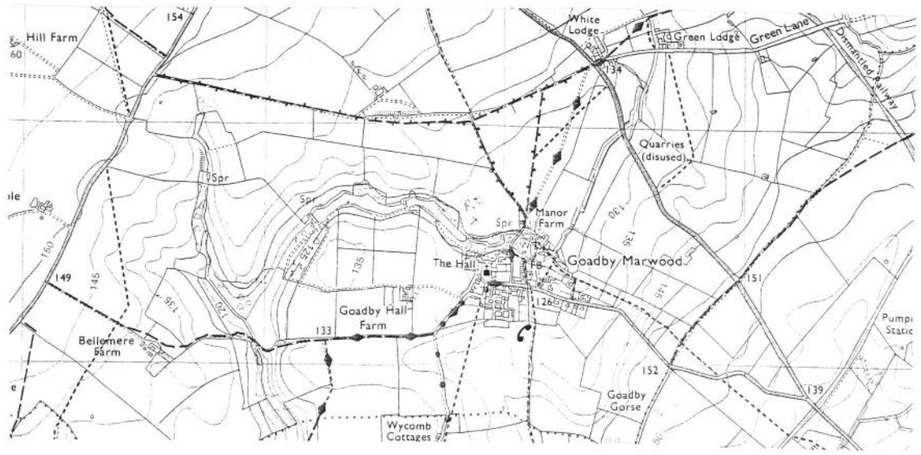
Ochrous flints whose find-spots possibly define the edge of an ancient lake but which were later covered by rising water; many have large bulbs of percussion.

Romano-British origin. The size of the potsherds rules out the possibility of them being present due to the spreading of compost manure, so this may be the site of a small dwelling which, judging from the presence of three pieces of (undecorated) Samian ware, was of reasonably high status.

The stream issuing from the ravine runs along the bottom edge of this field, the low-lying land roundabouts being marshy and still prone to flooding notwithstanding modern attempts to drain it. Probably in Roman times this land was permanently flooded so that the villa would actually have been on a hillside overlooking a large lake and having a fine view of the surrounding country-side.

Whether the sandstone debris, flint tools, horse teeth and Romano-British pottery belong to the same era can't be established with any certainty. In view of the materials found on the Bellemere Farm site, however, it would seem reasonable to assume that the sandstone lumps and the flints belong to the Bronze Age whereas the horse teeth, fragments of bone, and the pottery were probably all contemporary.

Goadby Marwood Area (GM)



Extensive mining operations last century laid waste many of the fields around the village of Goadby Marwood, revealing at the same time several hoards of Roman coins and a number of Roman burials; Robert Abbott has summarised some of the findings in The Leicestershire Archaeological and Historical Society Transactions, vol. 32 (1956) page 17-35.

GM (SK 775 269)

Having been told by the owner, Michael Holmes, that this field had been mined along with all the neighbouring ones, I was most surprised one day to find two scrapers whilst casually walking along the edge back towards the car parked at Bellemere Farm. When I consulted maps showing the mined areas it was apparent this particular field lay on the western extremity of the activity and that most of it had actually escaped the attention of the navvies.

Several careful searches resulted in the collection of much Romano-British pottery (but no Samian ware), animal teeth, animal bones with cut-marks and even a tiny, somewhat corroded bronze coin probably dating from Claudius II, about 267 AD. Flint artefacts included blades (some of which were blued), flakes, scrapers,

"bruised cores": note the waist on each one suggestive of binding or tethering

diggers and a broken barbed-and-tanged arrowhead (at SK 7763 2702), the latter suggesting Bronze Age occupation.

Around SK 764 270 there was yet another scatter of sandstone debris and, again, it appeared that some of the pieces had been deliberately shaped into pointed digging implements. In the rest of the field there are various sandstone lumps here and there, many of which have turned to a dark red colour due to being heated in a fire.

A depression, which cuts across the middle of the field, may once have been flooded as part of the Belle Mere and linking with the main body of water on what is now the estate of Goadby Hall. Interestingly, more of the "bruised cores" (fishing weights or loom weights?) are to be found near SK 777 270. The contents of this field are almost identical to those found near Scalford (SK 768 2465); both sites would no doubt reward a close professional evaluation.

Goadby Hall Estate

Even parts of this estate did not escape the mining activities, which uncovered eleven wells, numerous burials, a coin hoard, and slag from the Roman working of ironstone. Two years ago when the new owner, Mrs Westropp, had part of the 10-

acre lake dredged, there was much Romano-British pottery in the material removed; close by the dredge-dump was an undamaged tanged arrowhead (SK 774 267). Since this arrowhead had not been stained by iron, it was assumed that it had not been brought out of the lake but just happened to lie close to the dump.

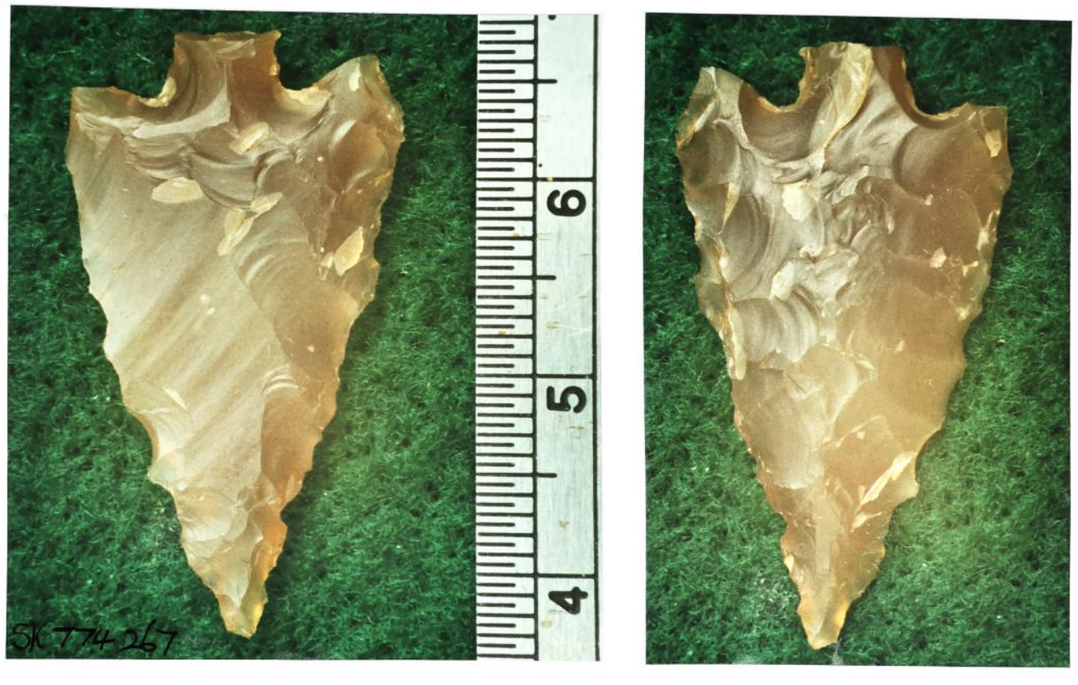
Almost the whole estate grounds are currently laid down as sheep pasture but, luckily, three small areas were ploughed up to plant game-bird cover. The first plough-spot to be checked was about 50yds x 25yds at around SK 7706 2666 and it yielded among other things a large, beautifully worked scraper (ca. 3.5cm in diameter), a thumbnail scraper made from dark flint, and a broken scraper.

The large scraper had a substantial, hard-hammer impact scar at the very centre of the flat under-surface, as though someone had wished to break it in two; why? In the Vale I have found three D-shaped "half-scrapers" which appear to have been made by breaking a pre-formed circular scraper in half; does this practice suggest a way of conserving good flint when it is a scarce commodity?

Next season (Spring, 2002) another 40yds x 20yds strip adjoining the above plot was ploughed and, likewise, found to contain well-worked flints including two more fine scrapers. In the soil were also pieces of partially-combusted, poor

27a

Tanged arrowhead, slightly fire-damaged, from Hilltop Farm (SK 762 278)



Barbed -and-tanged arrowhead from Goadby Hall estate (magnified X 3.4)

quality coal which, when dirty, resembled charcoal lumps. Similar material is present among the flints of several other fields, and may be ancient (or is simply fire-box debris from old steam-driven farm machinery).

GM (SK 7688 2675)

This small plot, ca. 30yds x 20yds, lies against the partially demolished estate wall and is close to what are said to be the ruins of a 'grange'; it was ploughed twice, first in May 2000 and again in May 2002. The first check revealed 10 potsherds, including part of a mortarium, and 30 flints some of which were recorticated. In 2002 a few more flints were recovered together with an almost complete bowl from a clay pipe; this was dated by the Museum of London, from photographs, to between 1610 and 1640.

GM (SK 7705 2641)

Only one piece of flint worthy of note found on this 30yds x 15yds plot was part of a broken scraper.

GM (SK 772 264)

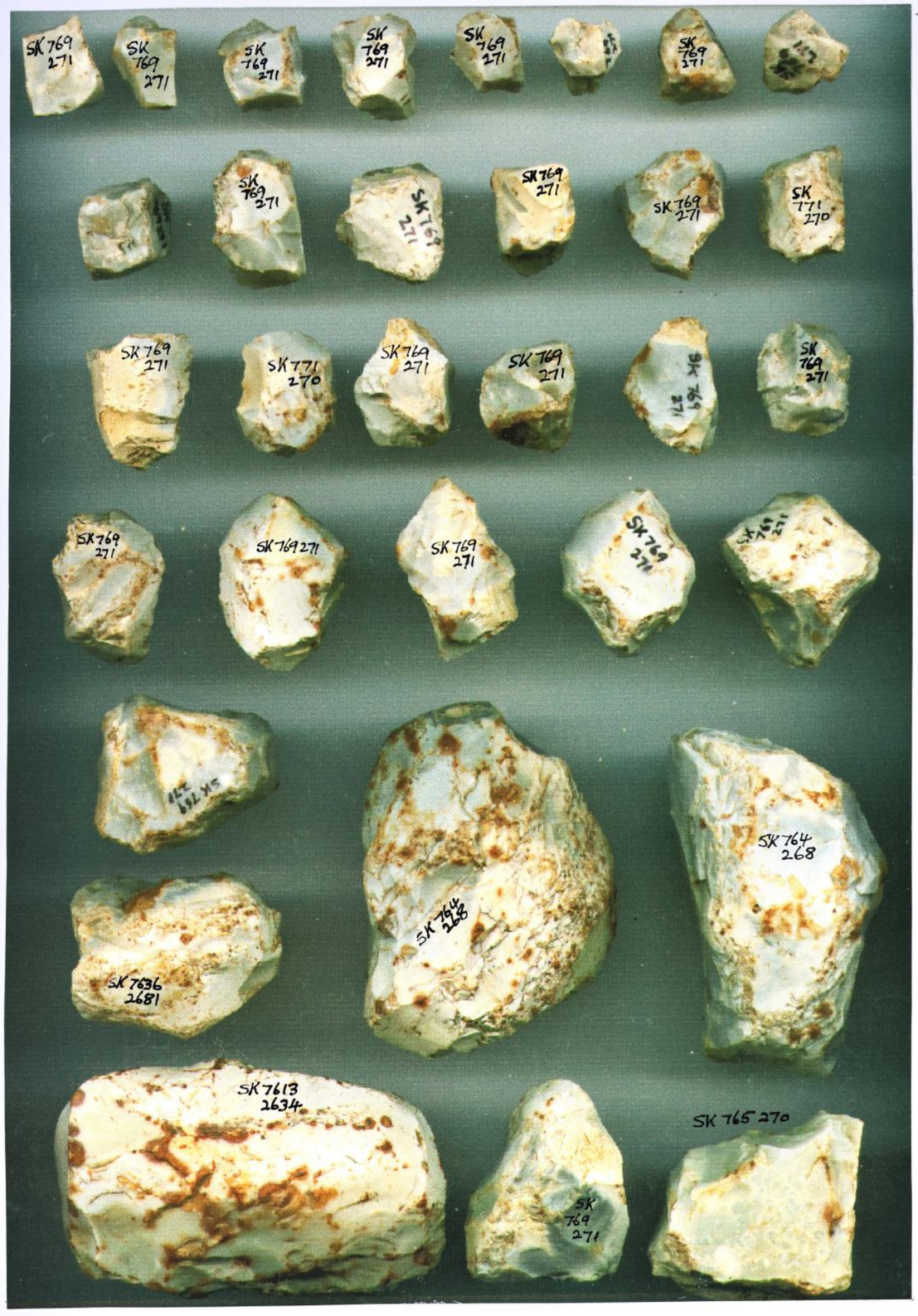
The ploughing of part of this field in May 2000 was done to lay down pasture for sheep and is thus unlikely to be opened up again for some years; a few unremarkable worked flints were present. Much of the land on this side of the lake, belonging to Hall Farm, is under sheep pasture and so can't be investigated.

GM (SK 769 271)

Maps show that this field was one of those mined for ironstone last century, but careful searching revealed that a strip about 20yds wide around part of the edge had been left untouched and contained good quality flint work: blades (some white), scrapers, "fishing weights", diggers and a probable arrowhead. This edge strip starts at the corner SK 7720 2694 and extends round to about SK 7690 2710. There appeared to be a particular concentration of flints close to SK 7716 2707 which suggests an occupation site, now demolished by the miners; this putative site lies at the side of a "right-of-way" footpath which may mark the route of the old Salt Way since it links up with Green Lane – Salt Way at White Lodge Farm Stud.

If the Belle Mere had been as large as I have suggested in prehistory, then the Salt Way would have had to skirt around the water somewhere near to this right-of-way

29



A selection of "bruised cores" showing the wide range in sizes. Two large cores, not shown, were perforated by natural holes carefully preserved during the flaking process, perhaps suggesting use as a bolas (?).

in its progress to the east coast. The large number of flint diggers and fishing/loom weights, together with the two burial barrows, in the fields alongside Scalford Road might suggest Bronze Age occupation close the Salt Way (now under the modern road?) before it swings eastwards at SK 7655 2720.

Some thoughts on recortication

When freshly-struck flint lies in certain types of soil it slowly undergoes a physical change which, due to light-scattering effects, makes the surface appear, successively, blue then bluish-white and, finally, creamy-white. This recortication process, formerly referred to as patination, occurs most rapidly in limestone or chalk areas where the soil is rich in calcium carbonate, $CaCO_3$. Recortication, or at least a similar optical change, sometimes appears to be accelerated after flint has either been in a fire or been severely abused by repeated impacts.

It had been wondered whether flint struck in the Mesolithic period had recorticated under the influence of leaf mould from the, then, forest environment, especially as Bronze Age flint looks so fresh. Assuming that the present tree-line along the escarpment edge at Hilltop Farm field (SK 762 278) has changed little over millennia, all the struck flints within the leaf-fall zone at the edge were collected

and examined. Their surfaces covered the whole range of optical hues from the invisible, through blue, to white (Figure **8**). Thus tree debris would appear not to be a major factor in the process.

The recorticated surfaces of many artefacts from the Vale of Belvoir appear to be much softer than the underlying flint and often record, as dozens of scratches, the harsh life suffered by the tools as they lay (obviously not passively) in the soil. Such abrasions, probably arising mainly from the action of ploughing, frost and animals, are seldom severe enough to leave their mark on "fresh" flint surfaces.

The recortication layers on flint from the Vale are far too thin to study easily, so a pebble from a chalk district, which had a cortex about 14 mm thick, was used as a probable model. Quite unexpectedly, infrared spectra and X-ray diffraction data failed to show any difference between the cortex and the underlying flint; both were α-quartz. Physically, the cortex was obviously very much more porous and open than the flint but, chemically, both were identical.

If calcium carbonate is responsible for accelerating recortication, it probably acts via the bicarbonate produced by the action of rain containing dissolved carbon dioxide:

8 Struck flakes from the leaf-fall zone of the escarpment edge at Hilltop Farm (SK 762 278). It is evident from the wide range of recortication effects shown by these flakes that tree debris can have little or no influence on the recortication process.

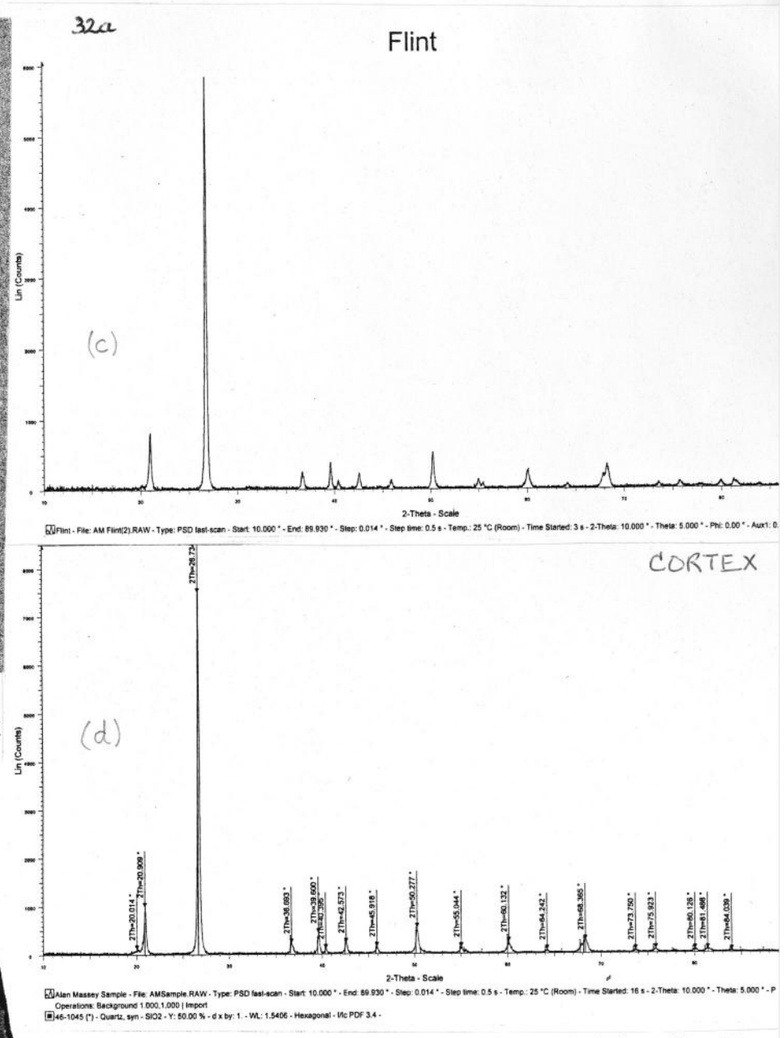
$$CaCO_3 + H_2O + CO_2 \rightarrow Ca(HCO_3)_2$$
(insoluble) (soluble)

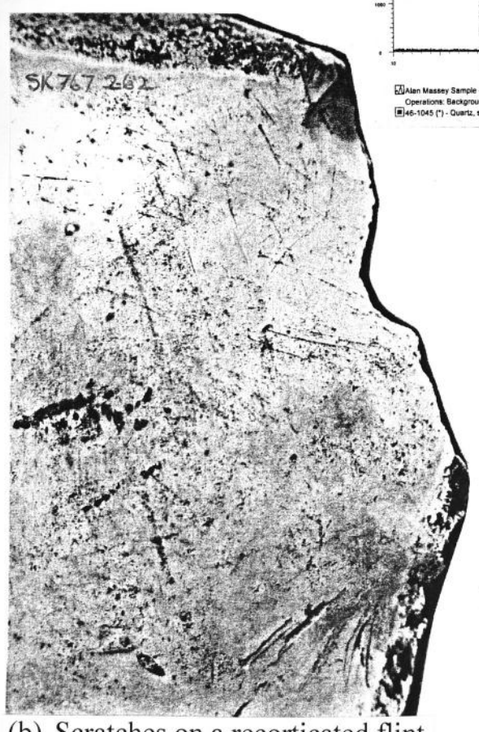
An acidic Si — OH (silanol) group on the flint surface might then interact with dissolved bicarbonate ions in a process which partially pulls the silicon atom out of the flint surface, to reattach it in a different lattice position so starting to build a new structural unit. If so, then recortication must be a dynamic process in which silicon atoms both on the flint surface and on the surface of the growing cortex are continually relocating whilst the flint is damp (with either rain or dew).

Tests with acid, and infrared spectra, show that the soil at Hilltop Farm contains small amounts of calcium carbonate which may account for slow recortication of flint in that field. The numerous fossil shells from ironstone lumps (shown by infrared spectroscopy to be pure calcium carbonate), animal and avian droppings, and discarded egg-shells could all maintain the low $CaCO_3$ background.

An interesting point about the many re-used blued flints found in the Vale is that the recortication may not have been sufficiently advanced to show up visually in the Bronze Age — even though the surface had microscopically changed.

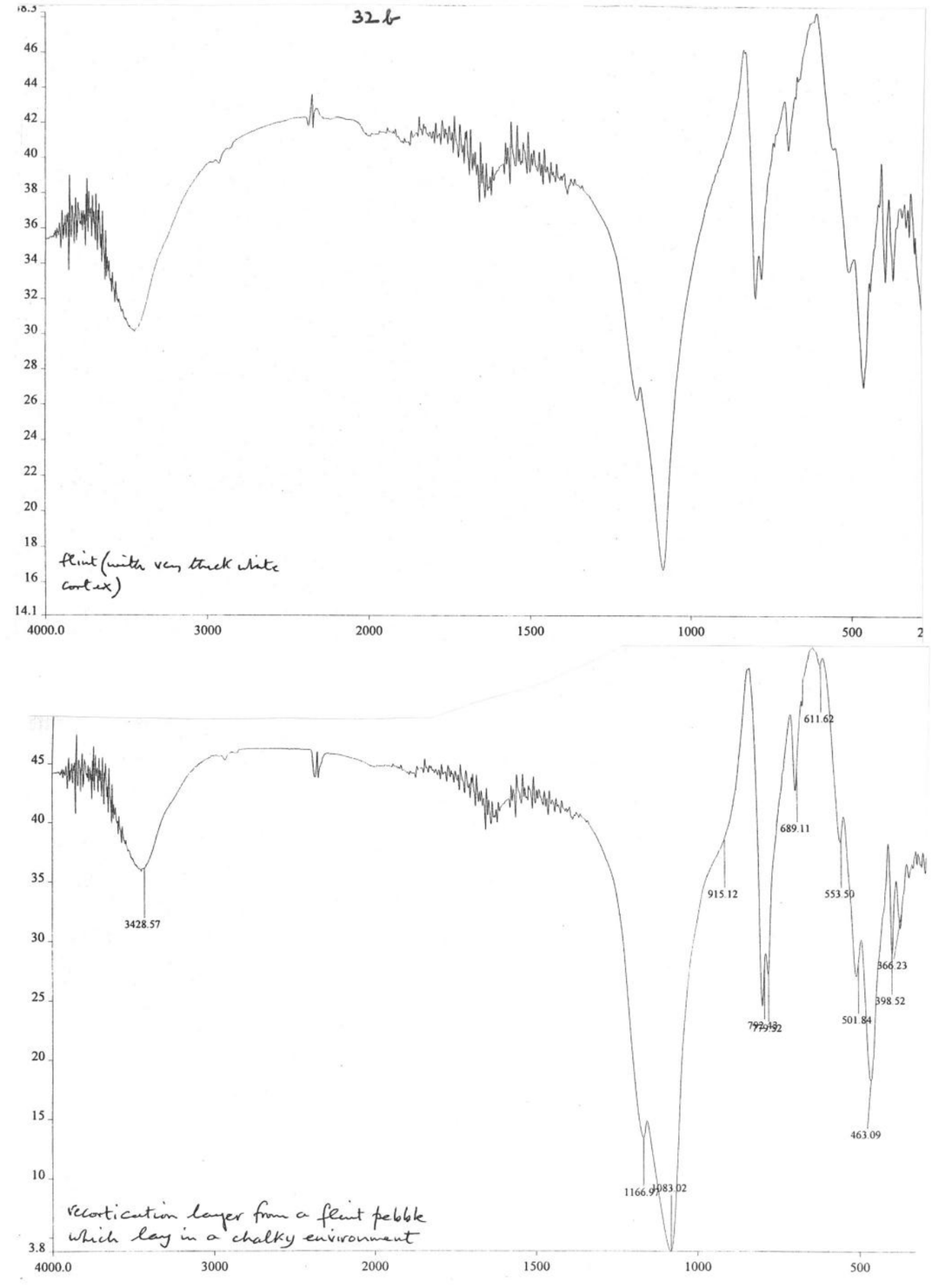
) Part of a flint pebble from the chalk downs showing the thick cortex.





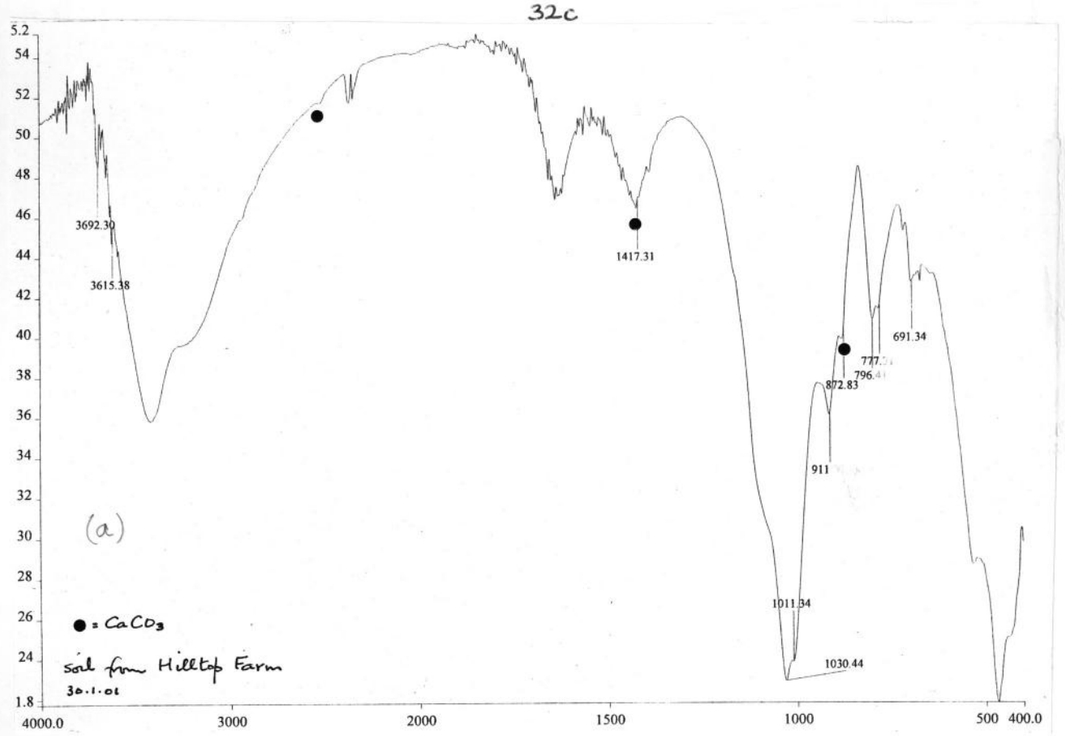
(b) Scratches on a recorticated flint surface.

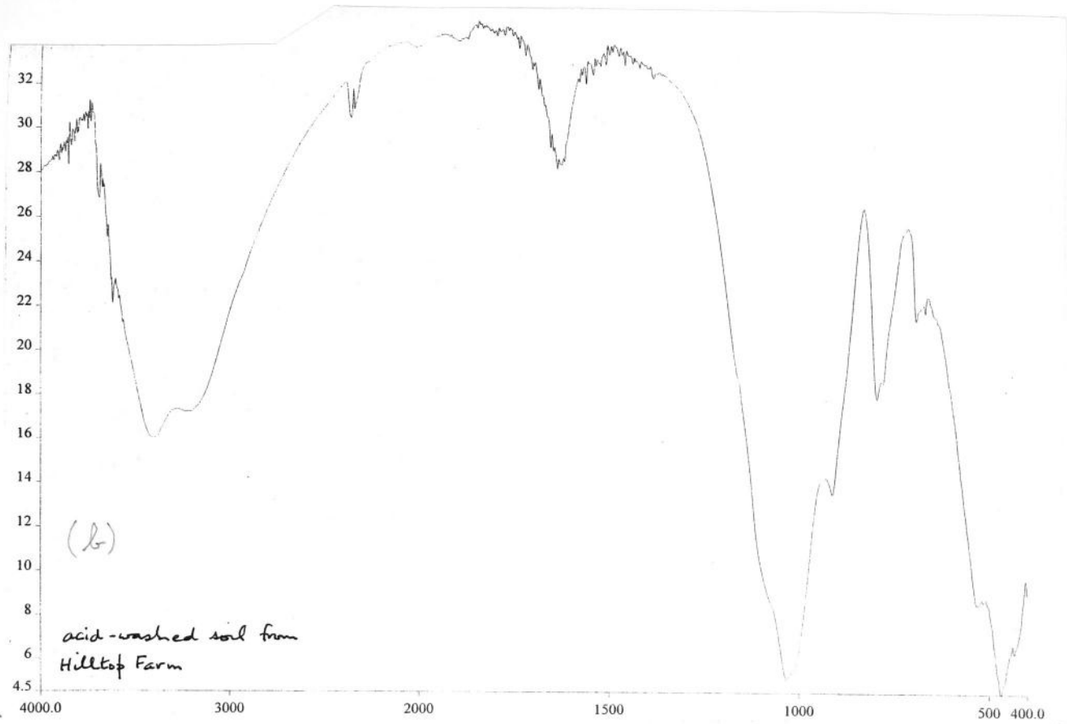
X-ray diffraction data for the underlying flint (c), and the outer cortex (d) for the pebble shown in (a). Both diffraction patterns are identical to that of α-quartz; note the very flat base-line in (d) showing there was no amorphous material in the sample.



Infrared spectra of the underlying flint (top) and the outer cortex (bottom) from the chalk downs pebble shown on the previous page. Both spectra are identical to that of α-quartz. (KBr discs).

32c

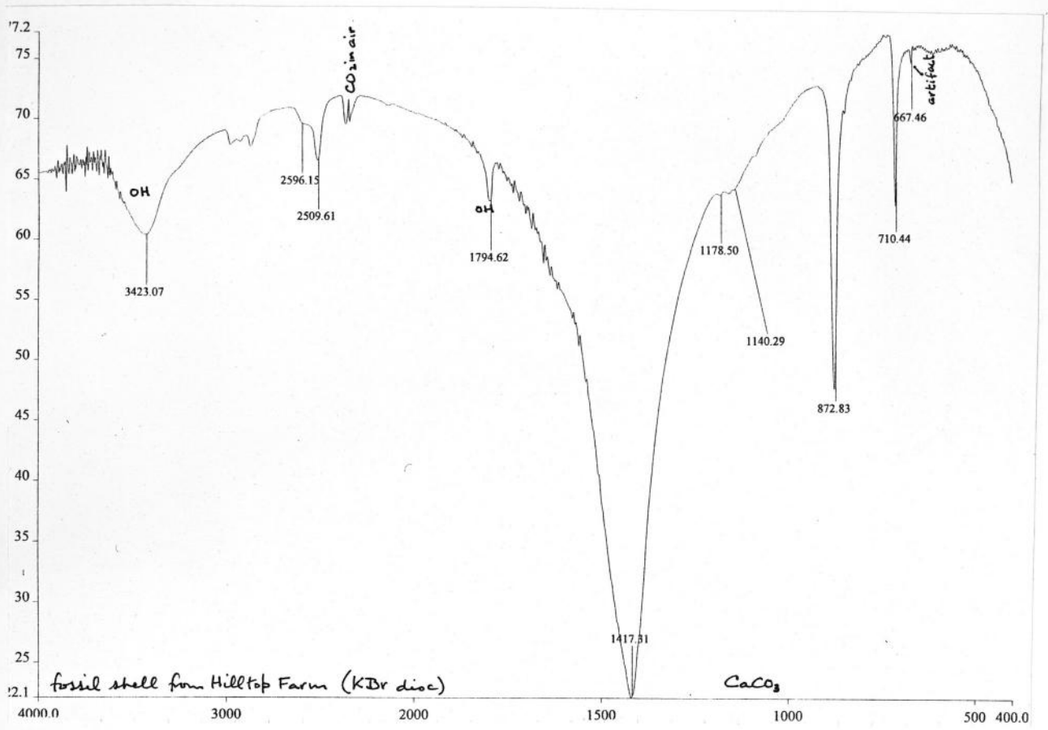




(a) Infrared spectrum (KBr disc) of soil from Hilltop Farm field SK 762 278. Peaks marked with a black circle are due to traces of calcium carbonate.

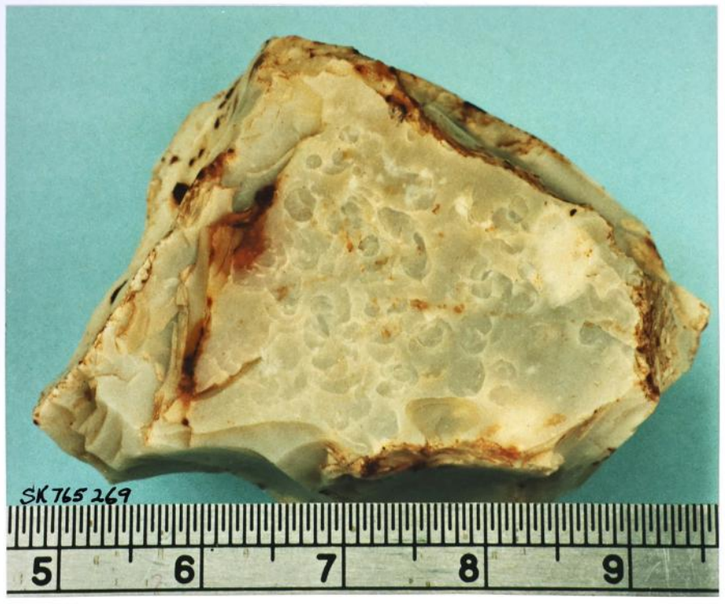
(b) Infrared spectrum (KBr disc) of the same soil after the calcium carbonate had been destroyed with acid.

32d



Infrared spectrum (KBr disc) of a fossil shell taken from a piece of ironstone found in the soil at Hilltop Farm (SK 762 278). The spectrum confirms that the shell is made of calcium carbonate.

Hertzian fracture cones



When the striking platform of a core is struck with a hard hammer, a fracture cone ('Hertzian cone') is produced in the flint body. Often a number of concentric, partial Hertzian cones form cracks, one of which will dominate and grow to release a flake. Some of the other cracks may form separate flakelets; these secondary flakelets are diagnostic of hard hammer percussion. If blows from a hammer-stone (or plough) do not cause flakes to separate, the top of each Hertzian cone is seen as a circular scar on the flint surface.

APPENDIX

The following photographs highlight further aspects of the prehistoric material from the Salt Way district; the very high concentration of worked flints found at Hilltop Farm (SK 762 278) is reflected in the number of illustrations.

Cores from Hilltop Farm; the bottom two have also been used as hammer stones (SK 762 278)

A2

A3

Cores of dark flint from Hilltop Farm (SK 762 278)

Cores of flint-with-inclusions from Hilltop Farm (SK 762 278)

Borers from Hilltop Farm (SK 762 278)

Borers from Hilltop Farm (SK 762 278)

Borers from Hilltop Farm (SK 762 278)

Borers or piercers from Hilltop Farm (SK 762 278)

Large borers (reamers) and diggers from Leicestershire and Surrey

Blade-flakes from Hilltop Farm (SK 762 278)

Re-used, blued flints from Hilltop Farm (SK 762 278)

A12

Flints with black deposits on them; Hilltop Farm (SK 762 278)

A13

Flints and potsherds from Goadby Hall estate (SK 7705 2641)

Flints, some fire-damaged, from Goadby Hall estate (SK 7706 2666)

Flints, potsherds, glass and clay-pipe stem from Goadby Hall estate (SK7687 2672)

Flints, teeth and perforated fossil shell from Goadby Marwood (SK 779 270)

Bone, teeth, potsherds, oyster shell and large sandstone implement from Goadby Marwood (SK 778 269)

A18

Flint slivers

Tanged arrowhead made of ironstone (?).

Long flint borer