

ARCHAEOLOGICAL INVESTIGATIONS AT IVONBROOK HARD ROCK QUARRY, GRANGEMILL, PEAK DISTRICT, DERBYSHIRE

By ANDY RICHMOND, CLAIRE HALLYBONE and GARY COATES
(Phoenix Consulting Archaeology Ltd, Studley House,
Station End, Turvey MK43 8BH)

With contributions by
ROBIN HOLGATE (Luton Museum Service, Wardown Park Offices,
Old Bedford Road, Luton LU2 7HA)
and
the late LAWRENCE BARFIELD

SUMMARY

A programme of archaeological fieldwalking, a dry-stone wall survey and a watching brief was undertaken at Aggregate Industries Ivonbrook Quarry, Grangemill, Derbyshire between 1999 and 2005 in advance of an extension to their existing hard-rock quarry. The archaeological officers of the Peak District National Park Authority have been studying the process and history of enclosure across the moors and, as the quarry extension would remove a number of undated dry-stone walls, it was felt that wall junctions required dismantling archaeologically to trace relationships and to recover any evidence which could date their original construction. The programme of archaeological investigation involved the excavation of thirteen dry-stone wall junctions, followed by fieldwalking and subsequent watching brief across the 10 hectare extension.

Stratigraphic relationships were established between many of the walls during the survey. Although no evidence was recovered to firmly date their construction, building techniques indicated that investigated walls originated during the post-medieval period.

Across the majority of the survey area fieldwalking produced a low density of worked flints but, during the final phases of investigation, a single field produced a high density.

No archaeological deposits or features were observed beneath the topsoil throughout the entire watching brief. However, worked flint retrieved from the topsoil indicated that past archaeological activity on the hill top had been removed by later agricultural practices coupled with erosion.

INTRODUCTION

Ivonbrook Quarry is located in the Parish of Ivonbrook Grange, on the southern edge of the Peak District National Park (Fig. 1). The quarry lies c.7km to the south-west of Matlock, between the village of Aldwark and the farm of Ivonbrook Grange. The site of the quarry extension consisted of seven fields bounded by dry-stone walls and covered a total area of c.10 hectares. Between 1999 and 2005 a programme of fieldwalking, a dry-stone wall investigation and a watching brief was carried out

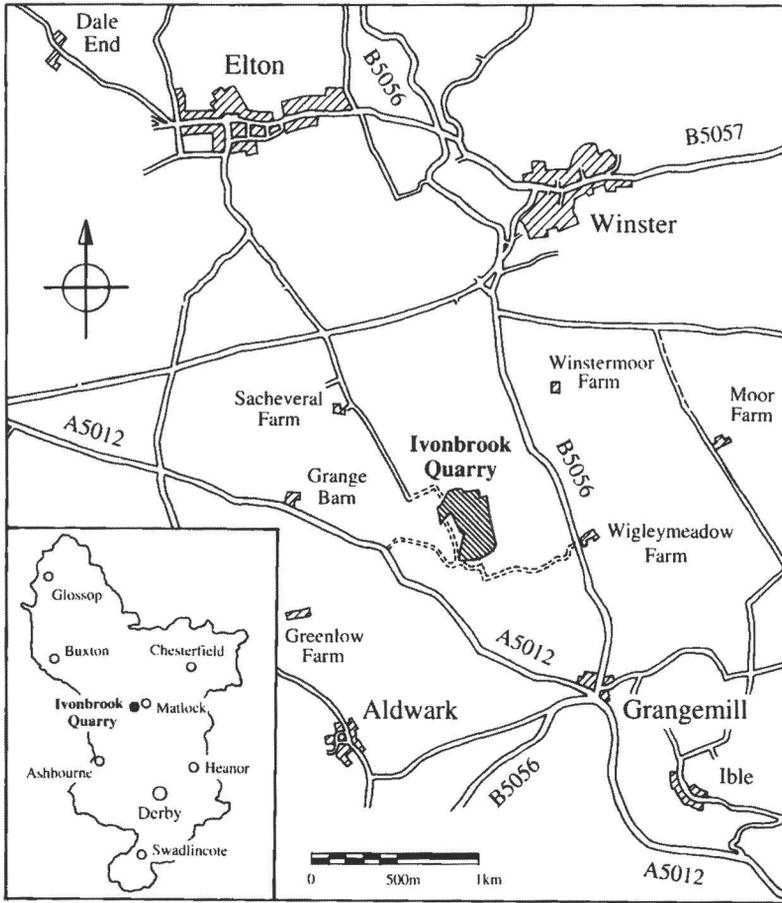


Fig. 1. Ivonbrook Quarry, Grangemill, Derbyshire.

in advance of mineral extraction (Richmond and Burton 1999, King *et al.* 2000, Cherrington and Richmond 2005).

The geology of the site is characterised by limestone overlain by a variable thickness of silty aeolian drift. The dominant soils are of the Malham series (typical brown earths). These predominate on gently and moderately sloping ground and are generally of a fine silt character and moderately stony to the surface. They are well drained, although occasional ironpan stagnopodzols are found on the high ground.

Because the climate is generally cold, wet and exposed, growing seasons for crops are seriously reduced, hence grass is the dominant crop for stock grazing. The soils are also naturally acidic. Across the study area the land has been enclosed and improved by the removal of surface stones from the soils.

Ivonbrook Quarry lies within a landscape of known prehistoric, Anglian and medieval archaeology, but no actual archaeological sites are recorded within the boundaries of the quarry (OAU 1997). The principal sites in the area are two burial places of prehistoric date, both Scheduled Monuments (SM) located on the summit of Green Low, approximately half a kilometre to the south-west of the quarry.

Perhaps the most significant of the two is Green Low Chambered Tomb (SM 13368; Derbyshire Sites and Monuments Record [DSMR] -105), a class of burial monument constructed during the Early Neolithic (*c.*3800–3500 BC). This monument consists of a round cairn with a façade of coursed limestone blocks on the south side. Excavations of the cairn were undertaken in 1834 (Bateman 1848) and 1964 (Manby 1965), when disarticulated human bones, associated with Late Neolithic pottery and flint-work, were found. The second monument is Green Low Bowl Barrow West (SM 13331; DSMR-101). This represents a later ‘round barrow’ burial site of Early Bronze Age date (*c.*2100–1600 BC), which contained a primary cremation and a secondary inhumation burial.

Further archaeological evidence of prehistoric date has been located in the fields surrounding Ivonbrook Quarry. In fields 300m to the east, scatters of flintwork of Mesolithic (DSMR-8614), Neolithic (DSMR-8609-10) and Bronze Age date (DSMR-8603-5) have been found. In one particular field, 19 narrow-blade technology flints and a rim sherd of Peterborough Ware pottery were located on the ploughed surface (North Derbyshire Archaeological Trust fieldwork notes 1977).

Similar finds have also been made in fields 0.5km to the south-east (DSMR-8613; DSMR-8611-2), where pebble mortars, flint artefacts, including two Neolithic arrowheads and a Bronze Age barbed-and-tanged arrowhead, and pyramidal chunks of gritstone have been discovered (North Derbyshire Archaeological Trust fieldwork notes 1977). These scatters certainly attest to the presence of prehistoric groups on the slopes of the limestone hills of this part of Derbyshire.

Domesday Survey (1086) details that Ivonbrook contained land for one plough, although the land at that time was described as ‘waste’. The medieval period saw the land of Ivonbrook, including the study area, forming part of the landholdings of two monastic houses, being Ivonbrook Grange and Aldwark Grange. The former is listed by Hart (1981, 155) as belonging to the Cistercian abbey at Buildwas in Shropshire. It is thought that the undated earthwork to the north of Wigley Meadow Farm is a pastoral enclosure connected with the grange. Aldwark Grange, on the other hand, belonged to the Augustinian Monastery at Darley, near Derby.

METHODOLOGIES

Dry-stone wall survey

The earliest map to show the arrangement of fields across the study area is the 1st Edition OS 25" map of 1880, as the Tithe Award Map of 1841 does not include this part of the parish. Across the Ivonbrook area, field shapes suggest private piecemeal enclosure, rather than regular parliamentary enclosure, which is usually reflected in strict rectangular field patterns. It is likely that across the study area, land was subject to a series of random ‘intakes’ spreading out from Ivonbrook Grange, enclosing areas of formerly open moorland, and that this could have taken place at almost any time after the medieval period. The manner in which the walls abut each other seems to indicate that the pattern of fields may represent a gradual process of enclosure and sub-division over a long period of time.

Wall junctions were required to be dismantled archaeologically so relationships between individual walls could be traced and any evidence which dated the original construction phase of each wall could be recovered. The dry-stone walls were in a state

of relative collapse and overgrown with vegetation and modern barbed wire fences ran parallel, making the walls redundant as effective boundaries. Junctions had in most instances become a convenient dumping place for loose stones collected in the fields and farm debris. It was assumed that walls may well have been repaired on several occasions after partial collapse and thought probable that only their bases would reflect the original building sequence.

Obscuring vegetation was removed 2m from either side of the wall junctions. The walls were thereafter described on wall-record sheets, photographed and, where the surviving wall height was sufficient to show the building methods employed, a measured drawn elevation was produced. Dismantling then took place, course by course by hand, and notes and further photographs were taken at any significant change in wall character, or where relationships between walls could be ascertained. The basal courses were cleaned by hand, photographed and studied to see whether chronological relationships could be identified. They were then excavated archaeologically to study the foundation composition of the boundaries and to see whether any artefactual evidence beneath could provide a date for when the walls were constructed. In each case a length of *c.*1m along each wall from the junction was investigated.

Fieldwalking

The basic premise of fieldwalking is that scatter patterns and the types of artefact located on the surface of cultivated fields can reflect the nature and extent of past activity. Approximately one month prior to the commencement of the fieldwalking for each quarry phase, the land was ploughed so weathering of the soil would allow any artefacts to show more clearly on the surface. Each land parcel comprising the survey area was allocated a field number, in the order in which they were surveyed. The survey grid was aligned with the OS National Grid, and base lines were laid out using an EDM, based upon data taken from OS 1:2500 digital plans. Intermediate lines were set out using measuring tapes and line-of-sight. Each stint was identified by an eight-figure grid reference, relating to its southern end. All artefacts retrieved were individually bagged and labelled with the relevant grid reference and removed from the site for cleaning, re-packaging and analysis. Following identification and dating, scatter plots were prepared illustrating artefact distribution.

Watching brief

A watching brief was conducted on the site so the removal of topsoil and subsoil could be monitored to minimise the damage caused to any potential buried archaeological remains. The work was carried out in accordance with the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Watching Briefs* (IFA 1999). Topsoil and overburden was stripped by a 360° tracked excavator. The soil was transported from site by articulated dump trucks and during each site visit, a written and photographic record was maintained.

RESULTS

Dry-stone wall survey

A total of thirteen junctions were identified for study (Fig. 2), however, junctions 5 and 6 could not be fully excavated due to their close proximity to the edge of the

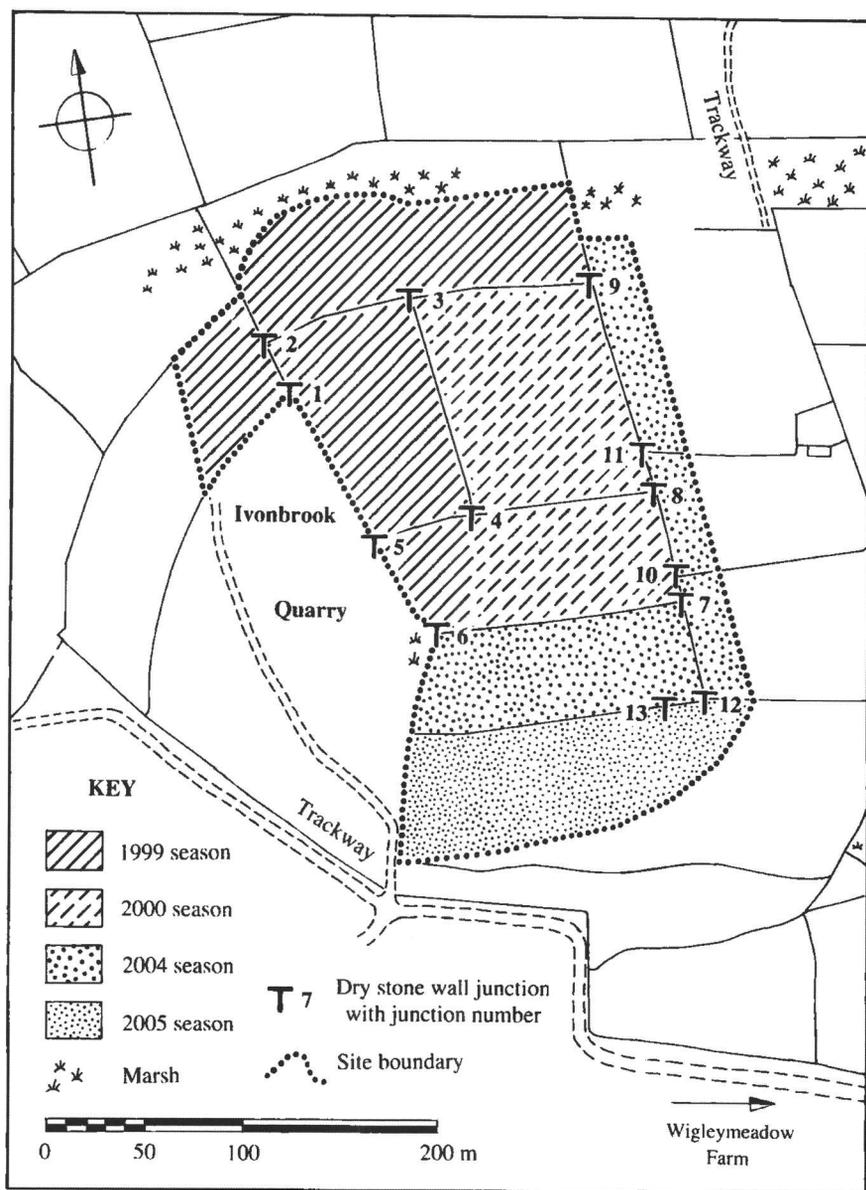


Fig. 2: Ivonbrook Quarry: Area of fieldwalking showing dry-stone wall junctions.

quarry. Junctions 7 and 11 were seen to be access points allowing the farmer to travel between the fields, and hence there was not an actual interface between the walls. However, excavations took place at ground level to see whether they once were joined, as indicated on the early OS maps.

When describing the junctions the main north-south alignments were prefixed Wall A whilst the east-west alignments were prefixed Wall B. Junction 6 was the only one

to consist of three abutting walls and therefore included a category prefixed Wall C. Construction relationships were established for junctions 1, 4, 8, 9 and 10 but were not clear for 2, 3, 5, 6, 12 and 13. Junctions 8 and 9 are described in detail below.

Wall junction 8 (Table 1; Fig. 3; Plate 1)

Both walls were surviving to a height of over 0.75m above ground level, and relatively little tumble or dumped material was found against them. The relationship between the two walls was clearly visible in both the above ground walling and the subsequent foundation excavations. Wall B abutted Wall A, indicating that the north-south alignments were laid out first with the east-west walls being constructed after.

	Wall Construction	Foundation Cut	Foundation Construction
Wall A	<p><i>Height:</i> 0.95m to base of foundation cut.</p> <p><i>Description:</i> Width at top 0.55m. No clear courses were discerned and no coping identified. Large facing stones to east and west filled with rubble hearting, 0.3m wide. Occasional through (binding) stones near top of wall.</p> <p><i>Maximum stone dimensions:</i> 0.40 × 0.40 × 0.15m.</p> <p><i>Fill:</i> No material until just above foundations, where brown loamy topsoil had filled gaps.</p>	<p><i>Width:</i> 0.95m</p> <p><i>Depth:</i> 0.25m</p>	<p><i>Description:</i> Lowest stones on natural, in foundation trench. Basal stones large, facing stones up to 0.50 × 0.25 × 0.25m, rubble hearting continued into foundation course.</p>
Wall B	<p><i>Height:</i> 0.90m to base of foundation cut.</p> <p><i>Description:</i> Width at top 0.65m. Clear facing stones to south, but not clear to north. No through stones noted. Rubble hearting.</p> <p><i>Maximum stone dimensions:</i> 0.50 × 0.30 × 0.25m.</p> <p><i>Fill:</i> Dark brown loamy topsoil filled much of the structure.</p>	<p><i>Width:</i> 0.75m</p> <p><i>Depth:</i> 0.15m</p>	<p><i>Description:</i> Butted against Wall A. Lowest stones on natural, probably in shallow trench. Basal stones less regular sizes and shapes than Wall A, including one large stone pushed into Wall A.</p>

Table 1: *Junction 8 — construction detail.*

Wall junction 9 (Table 2; Fig. 4; Plates 2 and 3)

A considerable amount of tumbled stone had been dumped into the south-west corner of the junction. It was thus not possible to ascertain the relationship between the walls until the material had been cleared. Once this had been done, it was clear that Wall B

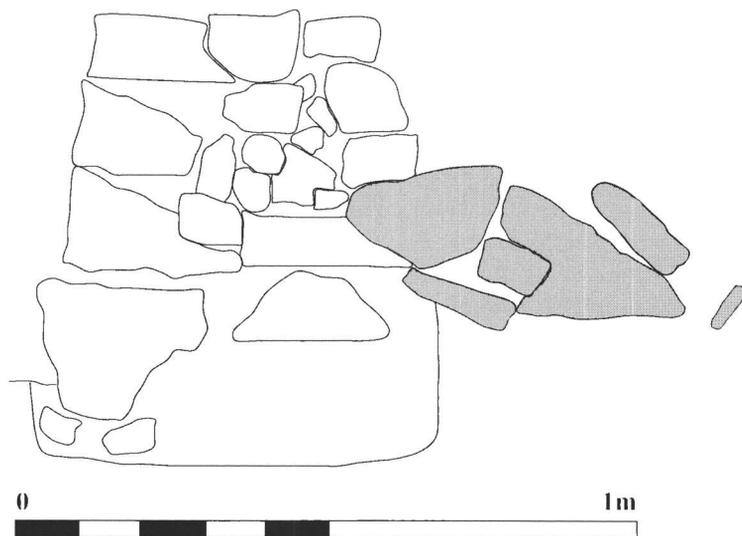


Fig. 3: Junction 8 — east facing Section through Wall B. Grey stones indicate tumble.



Plate 1: Junction 8 — east facing section through Wall B (scale 1m).

	Wall Construction	Foundation Cut	Foundation Construction
Wall A	<p><i>Height:</i> 1.15m to base of foundation cut.</p> <p><i>Description:</i> Width at top 0.45m. Few hearting stones were used, large stones on both east and west faces were filled with a few smaller packing pieces - pinings. Four binding stones were noted during dismantling. Typical stones 0.25 × 0.25 × 0.10m.</p> <p><i>Maximum stone dimensions:</i> 0.60 × 0.40 × 0.25m.</p> <p><i>Fill:</i> Some plough soil noted in the lower levels.</p>	<p><i>Width:</i> 0.85m</p> <p><i>Depth:</i> 0.30m</p>	<p><i>Description:</i> The largest stones were noted in the construction of the wall. Stones up to 0.35 × 0.35 × 0.40m were used, with some small packing stones. One binding stone was noted at ground level.</p>
Wall B	<p><i>Height:</i> 0.75m above field surface.</p> <p><i>Description:</i> Stones were irregularly placed, with no clear faces. Central packing stones were smaller than the outer stones.</p> <p><i>Maximum stone dimensions:</i> Too little remained to assess typical stone sizes.</p> <p><i>Fill:</i> Very dark grey soil filled lower levels, especially on the north side, this probably resulted from dumping against the wall.</p>	<p><i>Width:</i> Maximum width was over 1m, against Wall A, but the edges of the trench were indistinct.</p> <p><i>Depth:</i> 0.25m</p>	<p><i>Description:</i> Base level was constructed with the largest stones and seemed to have widened on the eastern end against Wall A.</p>

Table 2: Junction 9 — construction detail.

was loosely bonded into Wall A on its western face. Whilst the joint between the walls partially collapsed as cleaning progressed, the bonded joint was still visible in the foundation courses and there was little difference in the construction of the two walls at foundation level. The foundation levels of both walls at the junction included some very large basal stones. Wall B ran down slope into Wall A and thus put structural pressure on Wall A. One large stone (0.70 × 0.45 × 0.40m) was just outside the main footing trench to the south of Wall B and may have been located to spread the load from Wall B. The slope on the east side of Wall A fell away quite sharply. Excavation of the boundary did not identify clear facing, hearting or coping stones.



Fig. 4: Junction 9 — north facing Section through Wall A.



Plate 2: Junction 9 — north facing section through Wall A (scale 1m).



Plate 3: Junction 9 — east facing section through Wall B (scale 1m).

DISCUSSION

The north-south aligned walls were believed to be the earliest constructed boundaries, although no absolute dating material was recovered. The east-west walls either abutted or were bonded into these or no relationship could be ascertained. The bonded walls may have been contemporary or could have been added at a slightly later date. The typology of wall construction suggested for the Peak District, based largely on the excavations at Roystone Grange, near Ballidon (Hodges 1991, 2006, 36), indicates that initial land clearances resulted in walls with massive foundations. On this basis, the relatively small size of the foundations suggest that they were built from field stones gathered during secondary clearances and are of likely post-medieval date, although Barnatt and Smith (1997, 80) have stated that wall construction is not always a reliable indicator of date.

Although no archaeologically dateable finds were sealed by the foundation stones from any of the excavated wall junctions, a small number of finds were recovered from within the wall make-up at a number of points. Residual 19th century pottery sherds were found in the centre of Wall A, Junction 1. Residual worked flint and post-medieval pottery was recovered from directly above the basal course of Wall A, Junction 2 and a rim sherd of early post-medieval pottery was recovered from the disturbed topsoil overlying the basal course of the western arm of Wall A, Junction 4. At junction 6, a single worked flint from the topsoil amongst the hearting stones of Wall C close to the junction with Wall A was recovered. Modern and agricultural debris (bailing twine, bottle glass and ceramics) were recovered from all but the lowest levels of the excavated walls and junctions, indicating recent disturbance.

Fieldwalking (Fig. 2)

In 1999 the fieldwalking survey recovered 29 humanly-struck flints over an area of *c.* 5 ha in the west and north of the area, whilst in 2000 only seven worked flints were recovered from an area of *c.* 3.5 ha to the east. In 2004, however, fieldwalking at the southern end of the site recovered 153 humanly-struck flints from a relatively small hillside field of just *c.* 1 ha.

Prehistoric flint (1999 season) by Robin Holgate

The raw material used was mainly small nodules or pebbles of dark brown flint or grey chert originating from surface deposits, e.g. glacial drift and river gravels. Distal ends are intact on 19 of the flakes, blades (including the cutting blades) and the bladelet in the assemblage, three-quarters of which display the characteristics of having been detached from cores using a soft hammer.

About half of the assemblage (Table 3) is Mesolithic in date. This includes flakes, a bladelet, a single-platform bladelet core, the truncated blade and probably the cutting blades. The remainder of the assemblage, comprising flakes, a possible discoidal core fragment and the scrapers (including a 'thumbnail' scraper), dates to the later Neolithic/earlier Bronze Age.

Part of the area surveyed was probably the 'site', possibly occupied on more than one occasion, of a short-stay or task-specific camp in the Mesolithic period. It was probably also the site of activity, possibly domestic or farming-based, in the Neolithic/earlier Bronze Age.

The foci for the prehistoric activities identified in 1999 did not seem to have extended into the fields on the eastern side of the hill which were surveyed during the 2000 season. The smaller assemblage here, of only seven scattered worked flints, consisted of one flint tool, a retouched flake and five discarded working flakes.

Flakes	18
Bladelet	1
Cores	2
Cutting blades	3
Knife	1
Scrapers	3
Truncated blade	1

Table 3: Summary of flint collected in 1999.

The Flint and Chert (2004 season) by Lawrence Barfield

The 2004 survey of a small field on the southern slope of the quarry extension recovered in excess of 150 worked flints and chert, including nine arrowheads and one fragment of a polished stone axe (Table 4). This large and varied assemblage dated from the Mesolithic period through to the later Bronze Age.

Microlith

A single microlithic point was recovered. This was a small irregular blade-like flake of black chert with unilateral backing at the tip. The use of chert during the Mesolithic in the Peak District appears to be characteristic.

Microlith	1
Arrowheads	9
Scrapers	5
Polished axehead fragment	1
Flaked knives	6
Point	1
Awl	1
Retouched flakes	19
Cores	6
Core fragments	2
Piece esquillée	1
Flakes and blades	85
Chips	16

Table 4: Summary of flint collected in 2004.

Arrowheads

The nine recognisable arrowheads belong to a range of different types (Fig. 5). Following Green (1980: 1984), one kite-shaped, five transverse, one triangular, one barbed and tanged and a probably unfinished leaf-shaped example were identified.

The tranchet group included two chisel, the base of probably another chisel type and two triangular oblique forms. The latter are very simple minimally worked pieces, one with unifacial retouch on a single side and the broken example with bifacial retouch, also probably only on one side. The two chisel arrowheads, as well as a fragmentary one, are made by the Levallois technique. The barbed and tanged arrowhead conforms to Green's Sutton type. The triangular arrowhead has marginal bifacial retouch. Although Green suggests that the triangular form may not constitute a regular type, this example is well made and deliberate in shape. The unfinished arrowhead appears to be a leaf-shaped type. Part of the surface is clearly unworked and it would not have been possible to haft it in its present form.

The dating of the arrowheads may represent a long period. The leaf form is Earlier Neolithic, while the kite-shaped form is already present in the Early Neolithic (although attributed by Green (1980) to the Late Neolithic). The range of tranchet arrowheads are usually attributed to the Late Neolithic, while the Sutton barbed and tanged type is Beaker to Early Bronze Age (*ibid.*).

Polished stone axe

One very small fragment of a distinctive white flint had an area of surface polishing suggesting that it was part of a polished flint axe-head (Fig 5.5). Axes of this type of flint are considered to derive from the Louth area of Lincolnshire and were widely traded across lowland Britain (Bradley 1999, 77). They were also frequently reworked into other tools following breakage.

Scrapers

The five scrapers included two discoidal examples on thick hard-hammer struck flakes, an end-scraper on a thick irregular blade-like flake and an atypical example on a short, wide flake. Another, by contrast, was on a very thin flake.

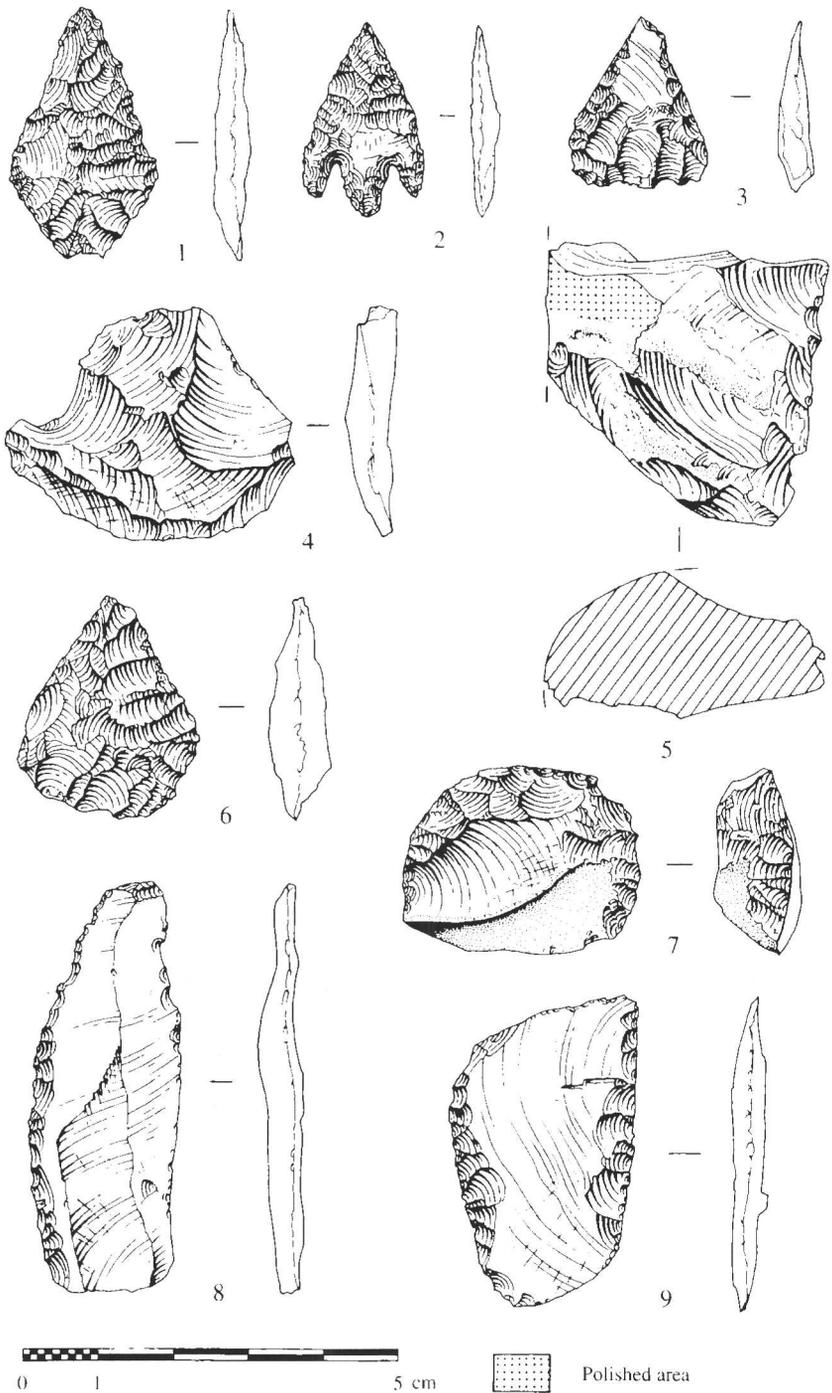


Fig. 5: Sample of flint tools from Ivonbrook Quarry: 1-4, 6 arrowheads; axe flake 5; 7 scraper; 8,9 knives.

Flaked knives

The five items comprise a non-standardised range of blades and blade-like flakes with unilateral invasive retouch. They included one knife on a small blade and three on larger blades. One of the larger blades has a serrated edge on the side opposed to the flaked edge and bifacial trimming on the distal end for hafting. The other two larger blades were represented by a thick, irregular blade-like flake with a serration and heavy utilisation on the side opposite the retouch and a blade with a narrow band of high-use wear polish along the teeth of the serrated edge. Although sometimes suggested as indicating use as a saw, studies of this type of use-wear points to some kind of plant processing (but not sickle use) (Juel Jensen 1994). Unilaterally retouched knife blades and flakes are found from the Early Neolithic (Pierpoint 1980, 126) through to the Bronze Age.

In addition to the above flints were a flake of white cherty flint, which was roughly and unilaterally retouched to a point, and an awl that was steeply retouched along three sides. Also recovered were 19 flakes and blades with very marginal retouch which varied from an easily recognisable to very fine irregular notching of the cutting edge. The latter is found on both Mesolithic and later pieces. The collection also contained six cores. They included one bladelet core of Mesolithic type and summarily flaked pieces with two flake removals. Four others all showed evidence of crude workmanship in a black flint with smashed, irregular surfaces suggesting a late (later Bronze Age?) date. Fragments of two others are probably Mesolithic. No cores could thus be attributed to any period covered by the Neolithic to early Bronze Age.

Raw materials

Two pieces of black chert are from sources in the Pennines (Henson 1989, 19–20). A coarse white cherty flint, represented by four pieces, one a bladelet which may also be Mesolithic. The rest is flint.

The difficulty in identifying the sources of flint used in areas east of the Pennines has been stressed by several authors. Although given the absence of flint from the Pennines, they are most likely to be derived from the beach pebble, till and the Trent River gravels in the area of the Yorkshire Wolds and Lincolnshire (Brooks 1988; Henson 1985 and 1989). At least seven pieces show thin, grey, rolled cortex suggestive of beach cobble flint, probably from the Flamborough Head region or Trent basin. These include one chisel arrowhead showing Levallois working which is likely to have been made on specialist production sites in the area of Flamborough Head (Henson 1985, 11). Two of the scrapers on thick flakes, on the other hand, show a reddish stained cortex suggestive of a source in the glacial till (*ibid.*). Two fragments of white opaque flint are present, of which one is the fragment of a polished axe certainly from Lincolnshire (probably the area of Louth) (Brooks 1988, 55; Bradley 1999, 77).

Reduction technology

A Mesolithic bladelet technology is represented by seven bladelets, three of which are punch struck while other Mesolithic flakes suggest the use of a soft hammer technique. The debitage attributable to the post-Mesolithic period includes many flakes with mostly hard-hammered bulbs of percussion. Diagnostic technical flakes include core

platform refreshment flakes, core trimming and spur removals from core face trimming, indicating some on site flaking. The two chisel arrowheads were manufactured by the Levallois technique from tortoise cores. One anvil struck (*esquillée*) piece and an anvil split pebble are also represented.

One distinctive component of the assemblage is the presence of a very coarse working technique, which appears to correlate with cores and flakes and chips in a good quality black flint. This material is represented by at least two cores, eight flakes and four chips. The aggressive, uncontrolled striking results in shattered pieces, sometimes without bulbs of percussion. Incipient surface cones of percussion from failed attempts at flaking are also present on some pieces. Such crude working can perhaps be compared to assemblages found in other parts of the country, which in at least one case have been dated to the later Bronze Age (Brown 1992). There were eight burnt fragments.

Discussion of the flint

The flint from the site is unstratified and appears to represent intermittent occupation of the site from the Mesolithic through to the later Bronze Age.

A Mesolithic component across the entire site is represented by one microlith, at least seven bladelets, a truncated blade, three cutting blades, four cores and core fragments and, to judge by technology, raw material and patination, also about ten other flakes, making a total of *c.*26 pieces, or approximately 15% of the assemblage. The single microlith is in black chert and one other flake of black chert is also probably Mesolithic.

The predominance of transverse arrowheads suggests that main later use of the site was Late Neolithic, with the barbed and tanged arrowhead suggesting that activity continued into the Beaker/Early Bronze Age. The flaked knives and thick scrapers also belong to this general later period.

The 43 retouched pieces represent *c.*20% of the total assemblage, which is a high ratio and suggests that tools were imported ready made to the site. The high percentage of arrowheads is also to be noted. An even later period of occupation, perhaps during the later Bronze Age, is indicated by the crude working of cores of mainly black flint.

Pottery

Across the whole site a general scatter of post-medieval ceramics was recovered. However, during the 2004 survey, three very abraded sherds of prehistoric pottery were recovered, further supporting the evidence for prehistoric activity on the site.

Other Finds

Water worn quartz pebbles were recovered from the 2000 survey and as quartz is not a natural stone in the area, it must have arrived by human influence.

Watching brief

A watching brief was undertaken during each quarrying season, but no archaeological features or horizons were identified. Unstratified finds of worked flint were recovered however, strengthening the evidence suggesting prehistoric occupation/activity on the site.

CONCLUSIONS

Dry-stone walls

Reliable relationships for Junctions 1, 4, 8, 9 and 10 were identified; 8 and 9 are described above and details of others are in the archive. However, the process of dismantling the above-ground courses for Junctions 2, 3, 12 and 13 did not establish reliable stratigraphical relationships between the walls. None of the walls were evenly coursed and most were unstable. The deposition of the basal stones sometimes suggested one wall was older than another, but it cannot be assumed that the wall with the larger, more regularly sited basal stones was necessarily older than the poorly built wall with smaller hearting stones as its foundation.

The general impression gained from studying the junctions was that the north-south oriented walls may have predated the east-west walls. However, the excavations produced no reliable artefactual evidence which could be used to date any of the phases of wall construction. Therefore, all walls studied may have been contemporary or part of the same phase of enclosure. The relatively small size of the foundations encountered in this project suggests that they were built from field stones gathered during secondary clearances. According to the typology of wall construction suggested for the Peak District (based largely on the excavations at Roystone Grange) this would indicate post-medieval origins but wall construction should not always be regarded as a reliable indicator of date (Barnatt and Smith 1997, 80). Compared with other parts of the Peak District National Park, the boundaries at Ivonbrook Quarry are poorly documented, and in most cases their condition is poor.

Fieldwalking and watching brief

The fieldwalking identified an assemblage of flint scattered over the general area which was seen to date to two distinct chronological periods, the Mesolithic and the late Neolithic/early Bronze Age. As with much of the general region, most of the flint scatters attest to sporadic prehistoric activities having taken place and from that it is possible to state that part of the area surveyed was probably the site of a short-stay or task-specific camp in the Mesolithic period. The area was probably also the site of domestic or farming based activity in the Late Neolithic/Early Bronze Age period. A few artefacts suggested activity through into the later Bronze Age.

The largest concentration of flint and chert artefacts was recovered from the final phase of fieldwalking close to the southern end of the site on the hill slope. This assemblage comprised over 150 worked flint and chert artefacts, including nine arrowheads and one fragment of a polished stone axe.

Despite the quantity and quality of prehistoric flint artefacts recovered during the fieldwalking, the watching brief found no evidence of buried archaeology. The artefact assemblage is indicative of small seasonal visits or hunting camps in use throughout much of the prehistoric period. Such small-scale and transient activities would have left very little mark on the landscape. The soils of this upland landscape are also remarkably thin and stony. Any evidence of past occupation is likely to have been removed relatively swiftly when the land was enclosed, cleared of its surface stones and brought into agricultural use in the post-medieval period.

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