Flint by M. Lightfoot

A total of 31 flints weighing 101g were during the trial trenching. Each flint was individually examined weighed and assigned to a category according to tool type. Categories include flakes, blades, bladelets, chips and shattered pieces. core rejuvenation flakes were also recorded as was the amount of cortex, recortication and burning.

Raw Material, Provenance and Condition

The flint was generally of very poor quality, typically pebbles, probably originating from local glacially deposited gravels. Very little cortex was evident and no cores were recovered. The condition of the flint varied and recortication was common.

Date and Function

There was only one flint of likely Mesolithic date; a possible backed bladelet of yellow-brown chert from context 294 (Trench 16). There were no tools diagnostically of Neolithic or Bronze Age date, though some crude scrapers may be Bronze Age or later (e.g. context 206 in Trench 18).

The majority of the flint was unworked, either unmodified flakes or possibly naturally or deliberately shattered pebbles, some of these were utilised, suggesting the casual use of flint already on the site. The lack of cores, flint from primary sources, recognisable tool types and the instances of large bulbs of percussion and hinge terminations implies that there was little skill, or even familiarity in the working of flint available, and that flint resources were confined to the site and its environs. Such flint may have been used in any period, but in the absence of diagnostically earlier forms it is possible that some of the flint was used in the Late Iron Age or Early Romano-British period on the site, possibly due to a temporary shortage of metal tools, this may particularly be the case with flint recovered from Trench 18.

Recommendations

No further study is recommended, though the flint should be retained with the site archive. Should further excavation occur on the site there may be an opportunity to identify securely dated flint yielding deposits, particularly in the area around Trench 18.

Table 8. Flint data

Trench	Context	Wt. (g)	Description	Comments
16	294	2	Yellow- brown flint, no recortication, some retouching	Mesolithic backed bladelet?
18	206	8	Light grey, re-corticated angular chunk, some ferrous spots	Utilised chunk
18	206	2	Grey, slightly weathered, quite large bulb of percussion some steep retouching	Scraper, similar to BA thumbnail scraper, though cruder, possibly residual LBA? Or LIA or ERB
18	206	8	Thin light brown cortex covering 75% of dorsal surface grey flint, Primary flake, large bulb of percussion, steep retouching	Fairly good quality flint, probably derived from a small pebble from the Wolds Area, utilised flake, IA/ERB
18	209	2	Grey flake, very irregular dorsal scarring, hinge termination	Unworked, possibly a core rejuvenation flake
18	209	<1	2 x grey patinated chips	Unmodified natural flints
18	211	2	Pink chert, flat and slightly curved	unworked, naturally occurring flint, possibly casually utilised
18	213	<1	2 x small flat grey flints	Unworked, natural flint
18	214	2	Dark grey chunk	Unworked, natural flint
19	243	10	Heavily weathered grey pebble, steeply retouched along one edge	Utilised pebble fragment
19	243	<1	Small flat light brown flint	Unworked flake, possibly debitage, hinge termination
19	243	<1	Small light grey flint	Unworked, natural flint
19	243	<1	Small brownish grey irregular flint	Unworked, natural flint
19	290	<1	Small flat, partially recorticated	Unworked, natural flint
20	104	<1	Small white, weathered flint	Unworked, natural flint
22	108	1	Grey flint, small amount of cortex, large bulb of percussion (negative and positive)	Unworked, evidently the result of significant direct force, possibly shattering of a large flint pebble
22	110	<1	Small grey chip	Debitage?
22	110	<1	Small grey flake	The end of a bladelet, debitage?

Trench	Context	Wt. (g)	Description	Comments
33	154	14	Irregular grey flint, some pitted creamy white flint cortex	Unworked, possibly casually utilised
33	154	6	Dark greenish-brown flint, with black streaking and a small amount of thin buff cortex	Unworked, possibly casually utilised
33	154	<1	Small grey chip with some thin buff cortex	Unworked, possibly casually utilised
	U/S	11	Irregular shaped pebble, light grey and weathered	Unworked, naturally fractured casually utilised
	U/S	2	Irregular shaped flake, some weathering	Unworked, naturally fractured casually utilised
	U/S	9	Ovoid, white recorticated, thick, steep retouch	Ovoid Scraper LBA
	U/S	2	Rectangular brownish-grey flint, large bulb of percussion and hinge termination	Side Scraper, BA
	U/S	6	Irregular chunk	Unworked, naturally fractured
	U/S	3	Irregular grey flint	Unworked, naturally fractured
	U/S	1	Small white flint	Unworked, naturally fractured

Small Finds by H.E.M. Cool

This report is a preliminary statement on six items recovered during the trial trenching.

Small Find (SF) 1 is a Roman trumpet brooch for which a broad late 1st to mid 2nd century date can be suggested. This example is a hinged brooch with a closed cylinder holding the crossbar. This places it amongst Bayley and Butcher's Group B (Bayley and Butcher 2004, 161). Dating is sparse for the type but they seem most likely to have in use mainly in the 2nd century. Such brooches normally have a cast headloop but the current state of the brooch means that the original presence of one cannot be confirmed. The mouldings above and below the acanthus are currently obscured but it is possible that they have lentoid features. If so that might suggest it has affinities with the Chester variant of the type, though such brooches would not normally be expected in this region as both the manufacturing evidence and the main distribution is in the Gloucestershire area (Cool 2007, 173-4). Should any further work be carried out on this material, the acanthus and moulding area would benefit from cleaning so that the brooch can be more closely identified.

SF 3 is a fragment of jet that is clearly worked and a fragment from a much larger object. This would suggest that it too was of Roman date, as jet was exploited to produce a range of large items during that period (see for example Allason-Jones 1996, 48-50) and not just personal ornaments as was done in prehistory. Quite what this large chip came from is unknown, but a late Roman date is most likely as that was the period when the jet industries were at their peak.

The fragment of copper alloy sheet (SF 2) is not intrinsically dateable but is typical of the sort of find that frequently occurs in Roman assemblages. Nails are also a common find on Roman sites but the state of the three recovered with their relatively thin corrosion crusts might suggest that they are most likely to have been of relatively recent date. All three were derived from the upper features fills and could easily have been intrusive.

Catalogue

1. Trumpet brooch lacking pin and lower part of bow. Copper alloy. Oval trumpet head broken at top with closed hinge cover behind; bow tapers to central acanthus moulding of three petals on the front and sides with mouldings above and below, now obscured but possibly lentoid, tapering broken lower bow. Length 42mm, head width 15mm. *Trench 19 (101) SF1*

2. Copper alloy sheet fragment. Dimensions 15 x 7.5mm. *Trench 18 (209) SF2*

3. Worked block; jet. Currently with approximately square outline; upper face and three edges original, back and one side have conchoidal fracture from break. Two sides meet at a rounded right angle with upper face curving over to them, third original face meets the upper face at a sharper right angle, corner broken. Dimensions 18 x 18mm, present thickness 9mm. *Trench 18, (209) SF3.*

4. Iron nail. Lacking tip. *Trench 21 (113) SF4*

5. Iron nail. Complete. *Trench 4 (151) SF 5*

6. Iron nail. Complete. *Trench 18 (206) SF 6*

Quern by J. Cruse and G. Gaunt

The top stone of a beehive rotary quern was recovered during the mechanical stripping of the ploughsoil and subsoil in Trench 18. Geologically, it is made of pale brown, fine grained sandstone, with sub-angular and sub-rounded grains, which is well sorted, and fairly well compacted, with a tough matrix. It is probably siliceous (non-calcareous), and has traces of bioturbation, both minute and medium scale (up to 30mm long) with sparse irregular voids (up to 22mm wide), probably molluscan shell moulds. It is probably Middle Calcareous Grit (Upper Jurassic Corallian Group), although a source in the Lower Calcareous Grit or even Moor Grit in the Middle Jurassic Scalby Foundation cannot be precluded. The stone source is most likely derived from sandstone outcrop on the North Yorkshire Moors.

The stone is *c.*85% intact and has suffered three episodes of edge damage, two of which (probably significantly) removed the bulk of both handle-holes. There is also evidence of modern damage to the quern, possibly plough inflicted, resulting in it being neatly dressed, with random pecking, into a hemispherical shape, which smoothly curves from the grinding surface to the small, funnel-shaped, hopper.

The feed-pipe had been partially drilled from the hopper downwards and then completed by drilling upwards from the centre of the grinding surface. The misalignment of these operations left a 8mm ledge in the feed-pipe, *c.*35mm above the grinding surface, which must have somewhat constricted the grain flow. Subsequently, the restricted area was apparently reworked. Evidence of asymmetric spindle and grinding surface wear (*c.* 4 degrees) indicates periods of non-rotary operation.

The two handle-holes sited at comparable heights above the grinding surface are presumably contemporary, but are angled at 150 degrees to each other. From the limited remnants, they were chiselled, rather than drilled. The grinding surface is flat, with no obvious signs of dressing. The patterns of arcs in the grinding surface may result from the natural bedding planes in the stone.

Hemispherical beehive querns have been found in native settlements of Late Iron Age and Romano-British date in the area, so its use and disposal is quite appropriate for this site. Damage to both handle-holes suggests that it was deliberately taken out of use, prior to its disposal.

Catalogue

7. Top stone of beehive rotary quern in fine grained, well sorted, yellow sandstone. Diameter 320mm; height: 150-160mm; hopper width: 95mm; hopper depth: 60mm; feed-pipe diameter: 20mm (originally). Handle hole A: *c.*20mm diameter, with 40mm depth remaining; probably

*c.*70mm deep originally. Handle Hole B: only 15mm of the tip survived, original depth *c.*55mm. Weight 16 kg (thus intact *c.*19 kg). *Trench 18; Unstratified.*

Industrial Residues by Jennifer Jones

Industrial residues with a total weight of 1095g were recovered for examination and identification. There were *c.*282 pieces from 10 contexts across the site, including around 270 pieces (610g weight) from contexts within one feature (216 in Trench 18). Contexts, weights and identifications of samples can be found in Table 9 below.

The material was examined visually and under x16 magnification, and classified by morphology, density, colour and vesicularity. The aim of the assessment was to characterise the residues and identify the type and scale of the industrial processes from which they originated. Category criteria are based on the English Heritage Centre for Archaeology Guidelines on *Archaeometallurgy* (Bayley *et al.*, 2001). In addition, energy dispersive X-ray fluorescence (EDXRF) analysis was undertaken on selected sub-samples.

EDXRF analysis was carried out on freshly broken surfaces, the aim being to look at the elements present, to assist with or to confirm identifications. An EDXRF method designed to detect a wide range of major, minor and trace geological elements was used.

Ironworking slag

Only a small quantity of material (290g from 3 contexts) was found. Where identifiable, this was smithing slag, made up of an accumulation of drips and blobs of molten slag expelled from the iron bloom during smithing or forging, and accumulating below the smithing hearth.

Fuel ash slag and cinder

All the remaining material (805g from 7 contexts) was identified as fuel ash slag or cinder. Fuel ash slag is a lightweight, vesicular material, of varying colour, formed during combustion, when the non-organic components of the fuels used react with silicates present in earth, stone or ceramic. The fragments found, which were clearly once plastic or molten, are lightweight, grey/brown/white in colour and similar in appearance and inside, they are highly vesicular. Identification as fuel ash slag was confirmed on fragments from Trench 18 (contexts 214 and 219) by EDXRF detection of a range of common earth elements, including silica, iron, aluminium, sodium, phosphorus and potassium.

Discussion

The small quantity of ironworking residues recovered suggests that this was not an economically significant industry or activity at the site. The material examined could represent debris from just one or two episodes of smithing.

It is interesting that much of the fuel ash slag recovered came from contexts within feature 216, where it was found mixed with fragments of limestone. EDXRF analyses of the fuel ash slag detected levels of calcium of 12% and 15%, inviting speculation that this is debris derived from the production of quicklime (CaO), which is made by burning limestone in a kiln. Lime

has many uses, amongst which is the manufacture of mortar and plaster. But only a relatively small quantity of fuel ash was recovered, and just four fragments were identified with traces of burnt clay adhering. No tangible evidence for a kiln structure has, so far, been found on the site. However, production of lime somewhere in the vicinity remains a possibility.

Recommendations

As there are no associated structures on site to support the suggestion for lime production, further analysis of the fuel ash slag would be of limited use in the study of industrial residues. No further work is therefore recommended as this stage.

Table 9. Industrial residue identifications

Trench	Cxt	Wt(g)	No	Description	EDXRF
14	118	197	1	Piece of smithing slag, dark, fairly dense, made up of accumulated drips. Shape of the piece suggests that it collected in a depression. Traces of burnt ground surface on underside.	
18	207	11	1	Small piece of reddened burnt clay hearth/furnace lining or ground surface, with attached traces of fuel ash slag on one surface.	
18	207	132	*c.*20	Fragments of fuel ash slag, mostly 20-35mm long, largest 54mm long. Also includes small fragment of burnt bone.	
18	211	27	13	Fragments of fuel ash slag, mostly <30mm in length.	
18	213	252	*c.*92	Fragments of fuel ash slag, ranging from <10mm up to 47mm, but mostly 20-30mm long. One fragment has traces of burnt ground surface or hearth/furnace lining attached.	
18	214	9	3	Fragments of fuel ash slag, 20-30mm long.	
18	214	218	*c.*80	Fragments of fuel ash slag, ranging from <10mm up to 40mm long. One fragment has traces of burnt ground surface or hearth/furnace lining attached.	Yes
18	215	122	*c.*52	Fragments of fuel ash slag, <10-30mm long. One fragment has traces of burnt ground surface or hearth/furnace lining attached.	
18	215 <40 >	3	1	Small fragment of fuel ash slag.	
18	219	26	7	Fragments of fuel ash slag, <10-30mm long.	Yes
18	300 <61 >	4	1	Fragment of undiagnostic ironworking slag, brown in colour and fairly dense with a vesicular interior.	
22	108	89	10	Ironworking slag, mainly undiagnostic, but including 3 small pieces of probable smithing waste. All pieces dark in colour, quite dense and fairly vesicular inside. Largest nodule has layer of well-formed crystals over part of its surface (unidentified iron/silica + compound) and incorporates a fragment of burnt wood.	Yes
22	110	4	1	Small, dark, irregularly shaped fragment of cinder with vesicular interior and some surface reddening.	

7 Environmental Record

Cremated Bone by Malin Holst

A small assemblage of cremated bone (10.7g) was recovered from Feature 162 in Trench 33. The assessment aimed to identify whether the cremated human bone recovered from the site was human. The skeletal assessment aimed to determine age and sex, as well as any manifestations of disease from which the individual may have suffered.

Preservation was good; the bone exhibited little bone surface erosion and moderate fragmentation. Moderate cracking and little bone warping was observed. Most of the bone was derived from the 5mm sieve; however, 3.8g (36%) of the bone was 10mm in size or larger. The cremated bone was well burnt, as a result of which it had a white colouration.

Only 10.7g of cremated bone was recovered, an amount which weighs considerably less than what would be produced by modern crematoria, which tends to range from 1000.5g to 2422.5g with an average of 1625.9g (McKinley 1993).

Despite the fragmentation of bone elements, it is possible to identify skeletal elements, all of which were skull fragments. It was not possible to identify the sex of the individual, nor the age, though based on the size of the bone fragments this individual was probably a juvenile. No pathological lesions were noted.

Further osteological analysis of the assemblage would not reveal any additional information about the burial or cremated individual.

Animal Bone by J. Richardson

In total, 1389 fragments of animal bone were recovered as a result of hand excavation and environmental sampling (Table 10). Given the small assemblage, all fragments were recorded but diagnostic element zones, which by definition are easily identifiable and non-reproducible, were also noted. Of the 1389 bones, only 16% are classified as zones. As such, the assemblage falls well below the minimum reliable sample size of around 500 (with reference to a number of statistical parameters after van der Veen and Fieller 1982, 296).

Methods

Bones were identified to taxa wherever possible, although lower-order categories were also used (e.g. sheep/goat, cattle-sized). For age-at-death data, epiphyseal fusion (after Silver 1969) and the eruption and wear of deciduous and permanent check teeth were considered. Bone condition, erosion and fragment size were recorded in order to assess bone preservation, while gnawing, burning and butchery marks were noted to determine bone treatment. Given the fragmented and poorly preserved nature of the assemblage, little biometrical data were recorded. No pathological bones were noted.

Table 10. Animal bone fragments by context (zones in parentheses)

	pre-Roman Iron Age	Iron Age/early Roman	Late Roman	Not phased	Total
Cattle	(9) 23	(7) 13	(1) 2	(1) 1	(18) 39
Horse	(3) 3	(1) 5			(4) 8
Sheep				(182) 743	(182) 743
Sheep/goat	(13) 41	(3) 18	1		(16) 60
Pig	(1) 2	(2) 3			(3) 5
Dog	(1) 1	1			(1) 2
Red deer	4				4
Hare		(1) 1			(1) 1
Cattle-size	169	87	16	5	277
Sheep-size	(1) 149	(1) 98	1	1	(2) 249
Bird spp.		1			1
Total	**392**	**221**	**20**	**750**	**1389**

Results

Overall, bone preservation is poor with cracked and porous bones and eroded bone surfaces. No gnawed bones were noted, but this is probably a product of the poorly preserved bone surfaces rather than any absence of dogs. Butchered bones are rare (thirteen un-phased bones and two Iron Age/early Roman bones displayed the marks of dismembering and/or meat removal), while burnt bones are much more common: 78 (20%) from pre-Roman Iron Age features, 33 (15%) from Iron Age/early Roman features and 10 (1%) from un-phased deposits.

Sheep (sheep/goat and sheep-sized) bones are most commonly recorded, although the majority of these represent the atypical disposal of at least two sheep skeletons in pit/post-hole 256 (see below). Excluding this deposit, sheep are still predominant especially from pre-Roman Iron Age features, although the much heavier cattle will have offered most in terms of meat weight. Pig and hare offered rare dietary variability. Horse is unlikely to have been eaten during the Roman period due to prohibitions against the consumption of horseflesh (Toynbee 1973, 185). Certainly no butchered horse bones were noted. Dog is represented a single metacarpal (pre-Roman Iron Age) and a loose tooth (Iron Age/early Roman), while red deer is represented only by small antler fragments (pre-Roman Iron Age) and consequently there is no evidence for it having been hunted.

Age data are limited given the small assemblage, and are largely restricted to Iron Age deposits. Nevertheless young adult and adult cattle and sub-adult and young adult sheep are represented (with reference to dental wear data). These suggest that some animals were slaughtered specifically for their meat. The range of body parts represented (including low-utility and meat-rich joints) suggests local slaughter and consumption. A single juvenile horse

bone recovered from pre-Roman Iron Age enclosure ditch 176 and a neonatal pig bone from Iron Age/early Roman feature 216 might indicate the local rearing of these species.

One atypical deposit, the disposal of at least two sheep carcasses into pit/post-hole 256, was noted. It is likely that two ewes were discarded here, although butchery marks to the back of one head, two hips, a knee and three hocks suggests that they were dismembered before disposal. Examination of the pelves suggest two females, while fusion and dental data indicate that the animals were three to four years old on death. Metrical data from two left metatarsals provided withers' heights of 540m and 570mm. Perhaps these bones represent the waste from feasting, although unfortunately the feature is currently un-phased.

Recommendations

The animal bone assemblage is in poor condition and is also limited due to its small size. Based on the body parts present and the age data, the pre-Roman Iron Age deposits are dominated by butchery and food waste largely from sheep, to a lesser extent from cattle and only a few pigs. Horses were probably kept as working animals. A tendency for the proportion of cattle to increase over time at the expense of sheep is possible, but this cannot be confirmed given the small assemblage. No additional recording is required, but some re-assessment of the data, in light of revisions to the phasing or in the event of further excavations, might be warranted.

Carbonised Plant Macrofossils and Charcoal by D. Alldritt

Introduction

A total of 30 environmental sample flots were assessed. Nineteen bags of charred material sorted from the sample retents were also examined for identifiable charcoal and presence of other carbonised remains and molluscs.

Methodology

Bulk environmental samples were processed by Archaeological Services WYAS using an Ankara style water flotation system (French 1971). The subsequent flots were allowed to dry prior to examination using a low power binocular microscope. The majority of samples were fairly small containing from <2.5ml to up to 15ml of charred material. Occasional samples proved slightly richer with 20ml to 30ml of carbonised remains, whilst a single sample (58, context 294) was highly abundant producing over 300ml of charcoal fragments, mostly from the retent. Modern root material and occasional modern seeds were visible throughout the samples, but generally in low amounts from <2.5ml to (rarely) 25ml.

Charcoal fragments suitable for identification were selected from both flot and retent portions of the samples and examined using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. A representative portion of fragments was examined from sample 58 (294) due to the abundance of material. Identification of charcoal was made by reference

to Schweingruber (1990). Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants, apart from cereal grain, which follows Zohary and Hopf (2000).

Results

Results are tabulated in summary form in Table 11 and discussed below.

Discussion

The 30 flots and 19 retent samples examined produced an interesting range of carbonised plant macrofossils, which included cereal grain, weed seeds and wood charcoal. Occasional samples also produced burnt peat and rhizome remains. The largest amounts of material recovered were concentrated in six of the samples; namely 21 (153, Trench 33), 34 (202, Trench 10), 37 (211, Trench 18), 53 (268, Trench 26), 58 (294) and 65 (257) both from Trench 16, whilst the majority of the remaining samples produced single specimens or small trace amounts only. Non marine mollusc shells were also present in small quantities throughout the samples and these have been approximately quantified in the table of results.

Carbonised cereal grain was recovered from eleven samples, 5 (113, Trench 21), 7 (119, Trench 14), 12 (135, Trench 4), 27 (168, Trench 5), 34 (202, Trench 33), 37 (211, Trench 18), 52 (269, Trench 26), 61 (300, Trench 26), 65 (257, Trench 16), 67 (253, Trench 16) and 68 (307, Trench 21), with nicely preserved identifiable specimens present in seven of these. The largest amount of grain was recovered from sample 37 (211, Trench 18) with mostly *Avena* sp. (oat) identified, together with lesser amounts of *Hordeum vulgare* var. *vulgare* (six row hulled barley) and *Triticum aestivum* (bread wheat). This was however, the only sample to produce both oat and wheat grains from the assemblage as a whole, with the other six samples, 7 (119), 12 (135), 27 (168), 61 (300), 65 (257) and 68 (307), containing *Hordeum vulgare* sl. (barley) and indeterminate grain only. It is possible that sample 37 (211) may be of a slightly different date to the other cereal samples, given its difference in content, possibly a later rather than early date, which is, to a degree, supported by the pottery dating.

A very small range of carbonised weed seeds was present in two of the samples only, with both these also containing cereal grain. Sample 65 (257, Trench 16), producing exclusively barley grain in its cereal assemblage, also contained a single *Fallopia convolvulus* (black bindweed). This is a ubiquitous weed of waste and disturbed ground and may have been a chance inclusion in the sample, perhaps growing in the local vicinity of the site. The weeds recovered from sample 37 (211) are more likely to be related to agricultural practice, given the combination of *Bromus* sp. (bromes), *Rannunculus* sp. (buttercups) and *Danthonia decumbens* (heathgrass), found together with oat grains. These weeds of grassland, damp rough pasture and rough grassy heath are concurrent with an oat crop grown on rough or marginal land, perhaps on higher ground unsuitable for a wheat or barley crop. The likely 2nd century Roman date for 37 (211, Trench 18) could indicate a change in agricultural practice by this time, with an expansion onto more marginal land, perhaps instigated by the need to increase fodder production.

Identifiable wood charcoal was present in ten samples, 3 (108, Trench 22), 5 (113, Trench 21), 21 (153, Trench 33), 23 (160, Trench 33), 25 (161, Trench 33), 34 (202, Trench 10), 37 (211, Trench 18), 53 (268, Trench 26), 58 (294, Trench 18) and 65 (257, Trench 16), with the largest fragments, mostly oak, recovered from the retent portions. Wood types consisted in the main of *Quercus* (oak), with lesser amounts of *Betula* (birch), *Corylus* (hazel) and *Salix/Populus* (willow/poplar). These results were slightly skewed by the abundance of charcoal recovered from the retent of sample 58 (294, Trench 16), which contained a large amount of almost exclusively oak fragments ranging from 0.5cm to 2cm in size. It is probable this represented the remains of a fire pit, or a cremation or similar, given the abundance of charcoal, but distinct lack of any other plant remains. The retent of sample 53 (268, Trench 26) was quite similar, producing only a single *Betula* (birch) fragment, with all other charcoal appearing to be oak. Interestingly the cereal rich sample 37 (211, Trench 18) contained very little charcoal, but two pieces were identified as *Salix/Populus* (willow/poplar), a fast growing wood type of open and scrub environments, which could have been used as fuel for cereal drying or similar processes. The range of wood types in use at the site suggested mixed deciduous oak woodland with open and lighter areas containing hazel and willow/poplar, and perhaps also wetland/heath areas, suggested by birch.

In addition to wood charcoal, alternative sources of fuel in use at the site were suggested by findings of burnt peat and rhizome fragments. Peat was recovered from samples 5 (113, Trench 21), 27 (168, Trench 5) and 34 (202, Trench 10), whilst rhizomes were found in sample 65 (257, Trench 16) only. These indicated the exploitation of heath and peat land environments for use as fuel.

Conclusions

The assessment samples from Newbridge Quarry produced a range of charred plant material, which was mostly concentrated in a small number of the samples. Carbonised cereal grain and weed seeds indicated an agricultural economy reliant upon barley and oats, with less evidence for wheat production. The later oat rich sample, 37 (211, Trench 18), has an abundance of oat grain, together with weeds of rough grassy land, reflects a different agricultural regime and is suggestive of an expansion onto more marginal agricultural areas. The appearance of oat in this sample may also indicate a requirement for fodder production at this time.

Identification of wood charcoal showed the use of oak, birch, hazel and willow/poplar, most likely as a fuel resource, but possibly also for construction purposes. The combination of wood types indicate mixed deciduous woodland with open areas being exploited, perhaps at different times for different purposes. The abundance of oak in samples 58 (294, Trench 16) and 53 (268, Trench 26) certainly stands out as different from the other samples, and may reflect single use episodes, perhaps for cremations or fire-pits.

No further identification work is recommended on this sample set as all carbonised plant macrofossils have been identified. It would be possible to identify further charcoal pieces from some of the samples but as the majority appears to be oak there would probably be little