5.0 DISCUSSION

The investigations that have been undertaken at Nosterfield Quarry since the 1990s have provided valuable evidence regarding the nature and extent of archaeological features within the area. Over successive phases of investigation, methodologies have been developed that have permitted the surviving archaeology to be suitably recorded and sampled, allowing a detailed picture to be created of the nature and extent of archaeological survival, and its significance regarding the development of landscape use in this area from the Mesolithic to the modern day.

5.1 FEATURE-TYPE AND PRESERVATION

A large number of features were identified across the whole area, but these showed considerable variation in terms of preservation, density and character. A significant number of features were identified as natural during excavation, including tree boles or vegetation pits (65 examples recorded), natural scoops (15 recorded), or animal disturbance (5 burrows recorded). In addition, at least 19 features were identified as sink holes; although a limited number contained archaeological material, they were formed due to underlying geology.

A proportion of features could be associated with the drainage and division of the land for post-medieval or modern agricultural purposes. Five features were identified as old hedgerows, 31 land drains were mapped, 2 culverts identified, and 19 furrows recorded. In addition, 2 modern wells were investigated and recorded.

Of the remaining features, pits and scoops predominated, comprising 420 pits and 39 scoops. These tend to fall into two groups. The better-preserved examples tended to be those which formed part of pit alignments, of which 6, and 1 ditch-pit alignment (182 pits in total), were identified. While these pits tend to be significantly deeper than the isolated pits identified across the rest of the quarry site, they generally consist of shallow cuts, U-shaped in profile, most of which seem to have been badly truncated by later agricultural activity. To these, a total of 9 possible hearths can be added, although such identifications remain tentative.

The pit alignments generally occur towards the southwest of the site, where archaeological features appear to be densest and most diagnostic. Across the remainder of the area, isolated pits seem to be widely dispersed, occurring most frequently in the northern, central and eastern parts of the quarry site.

A total of 31 ditches were recorded; during post-excavation, a number were shown to belong to the same features, but had been identified during different phases of investigation. Excavated ditches included successive curvilinear features, which appear to have been for drainage (Investigation 16). Rectilinear arrangements of ditches and furrows were identified, predominantly in the central part of the quarry site. In the western part of the quarry, a substantial, right-angled ditch was identified (initially as three separate features), which in plan was shown to form part of a rectilinear division of the land, in association with a second NE-SW orientated ditch and two of the pit alignments (Structures 1 and 2).

Also in the western part of the site, a series of three ring-ditches was identified, roughly aligned WSW-ENE. Within one of these, a pit containing human remains was identified, and the northeasterly example was located in the vicinity of ten pits which were found to contain cremated human remains. Two rectilinear ditches

(possible square barrows) were also identified in the western part of the site, and both were shown to have been recut.

Human remains, representing both cremation and inhumation, were identified in a number of pits, all of which occurred in the southwestern part of the quarry site. Eleven pits or scoops were found to contain cremated human bone, some of which had been placed within inverted urns. Two pits produced human remains which showed signs of having been excarnated, one within the southern ring-ditch F264, and one in the upper fills of a pit (F251, F253) in Structure 1. An intact inhumation burial, disturbed by recutting, was identified in the ditch of one of the possible square barrows, and a quadruple horse burial was also identified.

Again in the western part of the site, a corn-drying oven was excavated. Comprehensive excavation and recording of the feature allowed for reconstruction of the different phases of development and use of this structure.

5.2 DATING AND CHRONOLOGY

Overall, only a small proportion of features provided secure evidence for dating; ten of the features containing human or animal bone (horse burial) were subject to radiocarbon dating, as was sediment from one pit of Structure 4. The corn-drying oven provided an archaeomagnetic date in the 2nd century AD. For the remaining archaeological features, dating relies heavily on ceramic and lithic assemblages, as is frequently the case for prehistoric sites (Table 2; Figure 81).

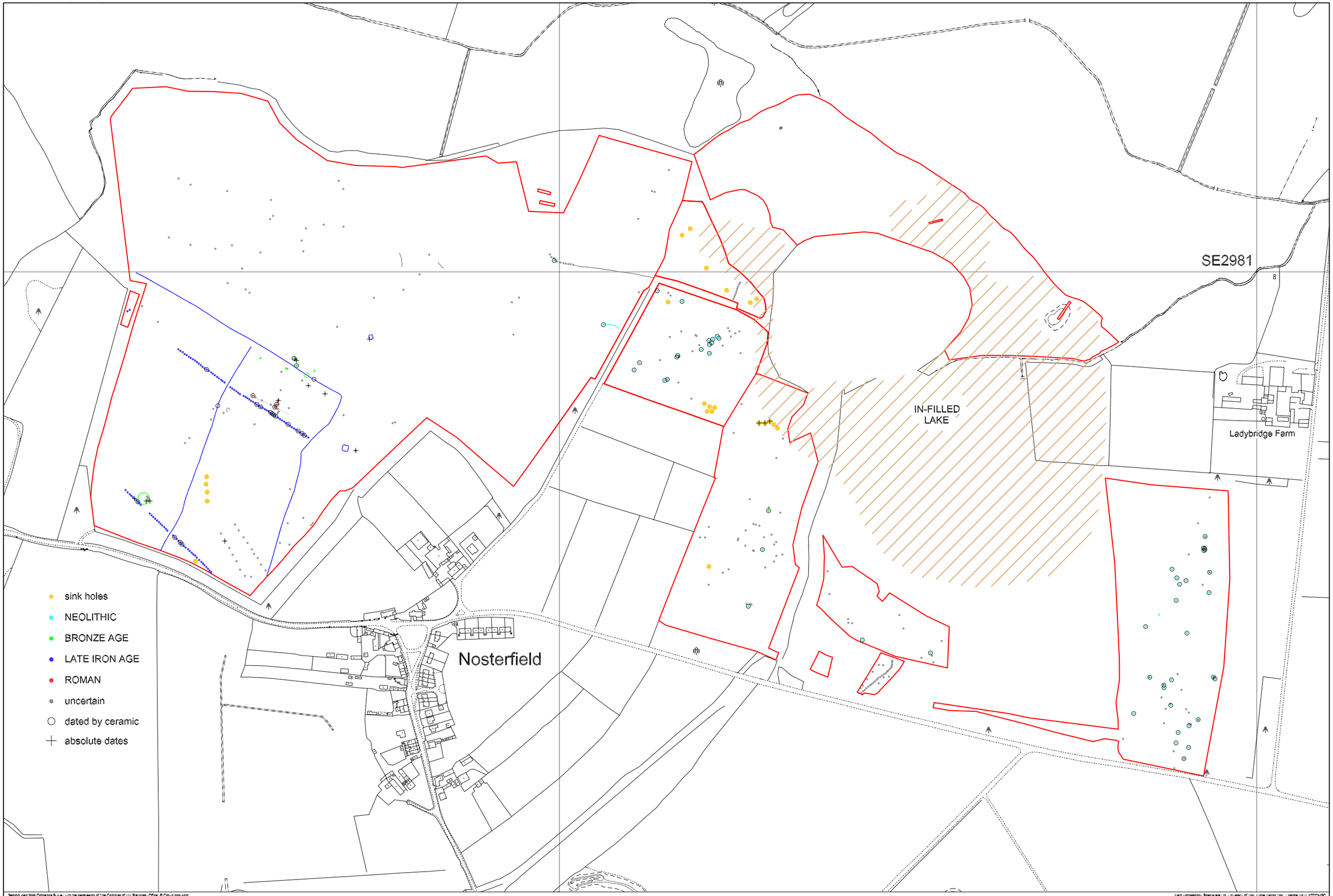
Table 2 Phases of activity

Phase	**Date range**	**Nature of activity**
MESOLITHIC	*c.* 8000BC - *c.*4500BC	Finds
NEOLITHIC	*c.* 4500BC - *c.*2500BC	Pits, finds, possible ditches
BRONZE AGE	*c.* 2500BC - *c.*700BC	Burials, possible ring ditches
IRON AGE	*c.* 700BC - AD43	Burials, pit alignments, enclosures, possible square barrows
ROMAN	AD43 - AD409	Oven, pits, disuse of earlier features
POST-ROMAN TO MODERN	AD 409 - modern	Agricultural, quarrying

Pits: dating

Of the 459 pits and scoops within the study area, only a limited number provided dating evidence (83). The best dated were those which contained cremated and unburnt human bones. Nine of the cremations were found to cluster in one area of Investigation 15 (Structure 7); four contained urns of Middle Bronze Age date, and the cremated remains were radiocarbon-dated to the same period. A pit containing cremated human remains within the southern ring-ditch produced an Early to Middle Bronze Age date, and an inhumation in a pit outside the same ring-ditch provided a Middle to later Bronze Age date. Inhumed remains in the upper fills of a pit within alignment (Structure 1) provided a late Iron Age date, and the horse burial produced a similar late Iron Age date (AD 50±35).

Of the isolated pits and scoops (i.e. not in alignments), a further 51 produced Neolithic ceramics (11%), and 4



Provisional phase map

Scale 1:5000

Figure 81

have been ascribed a broad date in the Neolithic-Bronze Age using diagnostic lithic artefacts (1%). Roman pottery was identified in 6 of these pits (4%). Of the remaining examples, 13 produced undiagnostic flint, and 3 produced Mesolithic microliths considered to have been residual.

A small number of pits from within alignments provided dateable material, and could therefore be used to date a larger number by association. Twelve pits from Structures 1 and 2 were found to contain late Iron Age or early Roman pottery in their upper fills, and human remains from the upper fills of one pit (Structure 1) provided a radiocarbon date of AD 40±35. These finds suggests disuse of the feature, and therefore a valuable *terminus ante quem* in the late Iron Age: a broad Iron Age date for such features is widely accepted (Harding and Johnson 2003).

A pit-ditch alignment to the north of the quarry area produced an assemblage of Neolithic ceramic from an associated pit, and a Neolithic fabricator within the ditch fill. No further dateable material was recovered; a possible Neolithic date can be tentatively suggested. A single pit from a pit alignment (Structure 11) produced an anomalous fragment of Torksey Ware (dated to the 10th or 11th century AD), which may have been intrusive, while no dating evidence at all was produced for the southernmost pit alignment (Structure 12).

The double pit alignment identified at the southwestern corner of the site (Investigation 15) produced an unexpectedly early date. A sediment sample from one pit (F216) within the pit alignment provided a radiocarbon date of 4675±60 BC (6625±60BP: AA-51419, GU-10384), which places the monument in the later Mesolithic, bordering on the traditional transition to the Neolithic. The sediment that was dated derived from the latest fill within the pit, which would suggest that the structure had been constructed at an earlier date. Such a date would place the monument very early in the known sequence of landscape development in the Nosterfield and Thornborough area, and would be unique as a later Mesolithic pit alignment. The dating of this pit alignment currently relies on one radiocarbon date derived from sediment, and will be the subject of further analysis.

Ditches: dating

The majority of linear features have been interpreted as modern drainage ditches, field boundaries or furrows, and are therefore considered to be post-medieval or modern in date. Several could be overlaid with maps of historic boundaries which identified them as likely post-medieval or modern enclosures.

Only a small number of ditches provided dating evidence. A curvilinear section of ditch in the central part of the quarry site produced Neolithic pottery. Further west, the right-angled ditch (identified initially as three separate features, F82, F150 and F306) and a second ditch, running perpendicular to the pit alignments, and between gaps in both, has been seen to form part of a wider enclosure of rectangular areas of land. These features again produced Roman ceramic in their upper fills, and have been assigned an Iron Age date.

Ring-ditches and square-ditch enclosures: dating

Although ring-ditches (possible round barrows) and square-ditch enclosures (possible square barrows) are generally considered, on the grounds of form, to belong to the Bronze Age and Iron Age respectively, all but one of the features from the Nosterfield Quarry site lack independent dating evidence, and can only be given such dates on the grounds of association.

Dating evidence is lacking from all three ring-ditches identified in the southwestern part of the site, and a Bronze Age date can only be tentatively suggested, due to spatial association with securely dated burials. F264 encircles an Early to Middle Bronze Age cremation, and a Bronze Age inhumation lies just outside it. To the northeast, F148 appears to form the focus for the cluster of cremations ascribed to Structure 7.

Of the square-ditch enclosures, F320/F337 was dated to the Iron Age by the presence of inhumation burial (F335) between two distinct phases of ditch construction. Although lying 10m from the quadruple horse burial, the second feature of this type (F304/F307) lacked dating evidence, and can be given an Iron Age date only on the grounds of similarity of size, form and sequence to F320/F337.

5.3 PRELIMINARY INTERPRETATIONS

Bearing the limitations of the evidence in mind, in terms of preservation and dating, consideration of landscape use throughout prehistory can be undertaken on tentative grounds, and the conclusions drawn await refinement as post-excavation analysis and comparative research continues. However, the available results demonstrate that the work at Nosterfield Quarry has provided a unique opportunity to discuss the changing use of a wide tract of landscape from the Mesolithic to the modern day.

5.3.1 Mesolithic

Typically for this period of prehistory, there is very little secure evidence for Mesolithic activity in the area, beyond the presence of worked flints found in later contexts. Fieldwalking undertaken by the Vale of Mowbray Neolithic Landscape project revealed dispersed evidence for Mesolithic and early Neolithic activity, in the form of lithic scatters, most notably in the region of Ladybridge Farm, to the east of the Nosterfield Quarry site (Harding 1994; 1998, 36-7). Recent excavations of a burial monument to the south of the quarry site also produced Mesolithic flint artefacts from a later Neolithic or Bronze Age context (Harding 2004d, 16). The finds from various phases of work at Nosterfield support a growing picture of dispersed Mesolithic activity within this wider landscape, although the scattered and relatively scarce nature of the material does not yet allow for more detailed conclusions to be drawn.

Although Mesolithic activity is predominantly represented by lithic assemblages, as modern archaeological investigation continues, more secure evidence for Mesolithic activity is being produced. Since the publication of Star Carr in 1954 (Clark 1954), further Mesolithic material has been subject to study in the Yorkshire area. Lithic assemblages at Chapel Cave were found in association with hearth features; radiocarbon-dated charcoal from within the excavated sequence provided a date of 6575±59 BP (OxA-8837: Donahue and Lovis 2003, 313). Further afield, evidence for Mesolithic activity has been produced from a site which later formed a focus for Neolithic monumentality, at Billown, on the Isle of Man (Darvill 1999; 2000; 2003). A hearth-pit (4658-4369 cal BC: Beta-89312), pit fill (4542-4464 cal BC; Beta-125767) and a burnt plank (4899-4719 cal BC: Beta-1106691) provided evidence for some, probably temporary, Mesolithic activity on the site. The hearth-pit and flint scatters were found to occur in the same location as later enclosures and pits of Neolithic and Bronze Age date; notably, this area may also have sink holes which may have formed the focal point for later activity (Darvill 2000, 68-70). Recent landscape studies have suggested that natural places and features that were visited with regularity during the Mesolithic came to have a permanent significance for societies, which 'ultimately set

the scene for the construction of monuments in the Neolithic' (Cummings 2003, 74). Such a scenario may present a possible context for the construction of the double pit alignment at Nosterfield in the late Mesolithic.

The nearest parallels for the pit alignments in the surrounding area have, so far, all produced later dates. Pit alignments are traditionally considered to date from the later Neolithic to the Roman period, and double pit alignments are generally thought to date to the later Neolithic (Harding and Johnson 2003, 23). Within the Nosterfield area, a number of double pit alignments have been investigated archaeologically, and have provided dating material in the form of radiocarbon-dated charcoal and ceramic.

During excavation of the Thornborough double pit alignment, between 1995 and 1998, evidence for timber uprights was identified, and Bronze Age pottery and lithic material was recovered from recuts, which have been associated with the removal of the posts themselves. A series of three radiocarbon dates the from post-pipe and recut of one pit, returned dates of 1750-1590 cal BC (3385±38 BP: OxA-11009), 1000-825 cal BC (2761±35 BP: OxA-11033) and 925-800 cal BC (2716±37 BP: OxA-11010) (Harding and Johnson 2003, 23). These dates are associated with the disuse of the feature, and have been used to suggest an approximate date for construction in the later Neolithic or early Bronze Age.

Three further double pit alignments were identified during the widening of the A1 at Dishforth, one of which also provided later Neolithic dates (Tavener 1996, 185-6), and radiocarbon dating of the two double post rows at the site of the Devil's Arrows provided dates of 4234±80 BP (RCD-1596) and 4314±87 BP (RCD-1597)(Harding and Johnson 2003, 23). Although similar in form to the Nosterfield double pit alignment, the examples within the wider area do differ in terms of scale. The nearest parallel is that adjacent to the Thornborough henges, which has pits every 5 to 7m along alignments spaced 10 to 11m apart. In contrast, the rows of pits forming the Nosterfield double pit alignment are 22 to 28m apart, with pits every 10 to 13m; in terms of scale, the Nosterfield pit alignment represents the widest spaced example in the area.

The interpretation and dating of features identified during the Nosterfield Quarry watching brief is at a preliminary stage and as such, conclusions are necessarily tentative. However, preliminary results suggest that the double pit alignment at Nosterfield is one of the earliest of its kind, representing rare, and highly significant, evidence for the development of monumentality within the Mesolithic landscape, and elucidating the way that societies during the Mesolithic exploited and shaped their surroundings.

5.3.2 Neolithic

For the Neolithic period, which is seen traditionally as a period of transition from small-scale agricultural communities to a more stratified society, evidence for occupation and activity becomes more substantial. The earlier part of this period is not well-represented, but is seems that by the later Neolithic, the area surrounding of the in-filled lake appears to have become the focus for domestic activity. Pits and possible hearths, producing ceramic and flint, are found grouped to the west, southwest and southeast of what would have been a broad, marshy area; such features are not attested in the western part of the quarry area.

An WNW-ESE pit-ditch alignment (Structure 10), tentatively assigned to the Neolithic, appears to delineate the northern extent of this activity, beyond which few pits of any date have been identified. It is possible that the

smaller pit alignment to the east (Structure 11) represents an extension of this boundary, after it continues beneath Flask lane, although no dating evidence has been provided for this structure.

The Neolithic also saw the development of the Thornborough monument complex, located to the south of the quarry site. The cursus monument is considered to have been established by the early to mid-Neolithic, and was added to through the construction of the three henges in the later Neolithic (Harding 1998, 29). Evidence for contemporary activity within the quarry site is restricted to its eastern side, and very little material of this date has been identified from the more westerly parts of the study area (Investigations 14 and 15).

5.3.3 Bronze Age

Evidence for Bronze Age activity is primarily funerary, and located in the western part of the quarry site. Finds of Bronze Age ceramic in isolated pits, and the loosely dated lithic artefacts, may represent activity in the wider area, but are rare and therefore difficult to interpret.

There appears to have been a focus for funerary activity in the Bronze Age, with cremation and inhumation burials concentrated seemingly on two of three ring-ditches. These features have only been identified within one area of investigation; given the extensive area that has been subject to archaeological study, it seems likely that this distribution reflects a real variation in landscape use.

The only dates provided for these burials at Nosterfield fall within the Bronze Age; in contrast, recent excavation of a barrow close to the henge complex has been used to suggest a later Neolithic date for the onset of monument construction (Harding 2004a; 2004d). A number of barrows subject to antiquarian investigations in the surrounding area produced ceramic evidence indicative of Bronze Age cremations.

5.3.4 Iron Age

The watching brief at Nosterfield also encountered rare evidence for Iron Age activity. Previous investigations have produced little or no evidence dating to this period, leading to suggestions that the area was not occupied, explained as due to exhaustion of the soils during the Bronze Age (Tavener 1996). Climatic deterioration was attested by the sediment analysis undertaken within the quarry, but the presence of communities within the wider landscape is demonstrated by the construction of a large enclosure, possible square barrows and associated burials which have been assigned an Iron Age date.

The large enclosure, demarcated by a rectilinear system of ditches and pit alignments suggests some reorganisation of the landscape at this time. Outside this enclosure, the presence of possible square barrows, associated with human and horse burials, demonstrates potentially contemporary funerary activity.

It is unclear how such activity relates to the pre-existing Bronze Age landscape. Juxtaposition of sections of ditch and pit alignment over two of the three ring-ditches may be of significance, but awaits further research. The possible erection of square barrows may have been focussed on the site of earlier burials, or may have been placed external to the rectilinear enclosures. The recutting of these features suggests that they remained in use for some considerable period of time.

5.3.5 Roman

During the Roman period, the landscape seems to have changed in character, and it seems that much of the land was given over to arable and agricultural functions. The upper fills of the pit alignments and associated ditches contained pottery of early Roman date, demonstrating that they continued into the Roman period as landscape features, but that they appear to have fallen out of use at this time. The pottery assemblage from the quarry has been used to suggest the presence of a high-status, highly Romanised community in the vicinity, and the oven, which is known to have been in use during the 2nd century AD, may have been associated with such a community.

The area surrounding Nosterfield appears to have been occupied by communities living a highly Romanised lifestyle, presumably centred on villa estates, such as those identified in Well and at Castle Dikes. The establishment of such sites, and the administrative network within which they operated, is likely to have meant considerable change to the organisation and exploitation of the landscape, leading to the disuse of existing monuments (such as the henges, pit alignments and ring-ditches).

5.3.6 Medieval and Post-medieval

The character of later features certainly indicates an agricultural landscape. Throughout medieval, post-medieval and modern periods, the archaeological features reveal the enclosure of fields, and suggest that demarcation and drainage of land were the main activities across the whole area. The variable geology of the region meant that considerable measures were required to drain certain areas of land, particularly in the modern period, and the falling watertable evidenced within one of the well structures may attest to the success of these operations.

The archaeological investigation at Nosterfield Quarry has clearly illustrated the destructive impact of recent agricultural regimes on the archaeological resource of the area. The remains of prehistoric activity defined during the watching briefs had suffered damage from ploughing, and particularly in the case of prehistoric burials, the degree of truncation and disturbance was found to be severe.