Chapter 2: Archaeological Description

INTRODUCTION

The mass grave was discovered immediately to the west of the Ridgeway Hill excavation, in an area that was being mechanically excavated under archaeological supervision (see Chapter 1). The feature was initially identified when part of the upper fill containing human bones was discovered in the bucket of the mechanical excavator and removed to a collection of spoil at the side (see below and Appendix 2). Although all the spoil was meticulously searched by hand to retrieve the bones, their *in situ* organisation and relationships will never be known.

As soon as this unexpected discovery was made, the remainder of the feature (Pit 3690) was excavated archaeologically by hand (Figs 2.1 – 2.3). It had not been disturbed at the depth of the human remains, with the exception of compression and breakage to some of the skulls caused by the mechanical excavator, which had been positioned on top of the grave prior to its discovery.

THE GRAVE (GROUP NO. 3682)

On excavation, the feature proved be an irregular ovoid measuring more than 7m north-south and 6.8m west-east (Fig. 2.4). The base of was concave and irregular, as were the sides, due in part to the irregular nature of the natural chalk (Figs 2.8–2.10). The pit was 1.66m at its deepest, although by the time it was used as a mass grave the feature was partly infilled to a depth of *c* 0.75m (see Fig. 2.5).

Pit 3690 was similar in form to six others (pits 3072, 3075, 3110, 3194, 3241 and 20101) which lay immediately to the east and were scattered at intervals of 40–60m across the northern half of the main Ridgeway Hill excavation area (see Fig. 1.3 and Brown *et al*. 2014; figures 2.2 and 2.3). It seems likely

Fig. 2.1 Working shot of the mass grave in the early stages of excavation

that all of these large features, including the one which later became the mass grave, had been extraction pits for small-scale quarrying of the chalk bedrock. All were more or less irregular circular or oval, of various sizes but mostly around 7–8m in diameter and 1.0–1.5m deep. The fills of these features were generally similar, largely comprising brown silty clay and white chalk-rich layers, which seem to have accumulated over a long period. Datable material recovered from them indicated a Roman date of infilling; finds included worked flint and pottery (Brown *et al*. 2014). By the time Pit 3690 was reused as a mass grave in the early medieval period, it too was similarly partly infilled. There was no evidence that the pit had been re-cut to deposit the bodies, but the removal of soil by machining prior to the discovery of the feature inevitably caused some truncation of overlying deposits.

The primary fill (3703) of pit 3690 was a deposit of loose, creamy white chalk, *c* 0.4m thick, representing the natural collapse of the sides. The secondary fill (3702) was a compacted greyish brown silt with chalk and occasional flint fragments, it was overlain on the west side by a thin (0.16m) deposit of mid brown clay silt with chalk fragments (3701) which was not visible in the east-facing section through the feature (Fig. 2.5) and probably represents a similar event to that which formed 3702. The overlying deposit (3685) was a friable mid orange brown calcareous silt with chalk and flint inclusions (Fig. 2.5). The few datable finds within it are prehistoric and Roman and this, as well as the similarity to fills within the other quarry pits on Ridgeway Hill (see below and Brown *et al*. 2104), suggests that it too probably originally accumulated as natural silting/slumping of surrounding soil into the feature. The human remains [mass burial group 3682] were recovered from what appeared during excavation to be the upper 0.5m of this fill, with the main skull deposit located at between 138.93 and 139.42m OD and the infra-cranial skeletons at *c* 139.124 – 139.47m OD (Fig. 2.5 shows the fills after the human remains and surrounding soil had been removed). There was no evidence to suggest that the pit had been re-cut for the purpose of depositing the corpses, but it is possible, although not proven, that some of fill 3685 had been dug out to deepen the feature before deposition of the remains and the same soil subsequently dumped back to cover the bodies. This is indicated by the fact that the soil directly overlying and surrounding the human remains appears to be the same deposit as that comprising the main fill within the feature. Datable finds from around and above the human remains were again prehistoric and Roman. It is also possible that bones had become incorporated within the

Fig. 2.2 Excavation working shot (most of the deposit exposed)

Fig. 2.3 Detailed view of the mass grave during excavation

underlying fill as a consequence of general ground disturbance as well as subsequent sinking of the corpses within the matrix due to bioturbation.

Fill 3685, and the human remains (group 3682), was overlain on the south side by context 3691, a 0.12m layer of densely packed chalk rubble in a mid greyish brown sandy silt matrix with frequent flint inclusions. On the east side fill 3685/group 3682 was overlain by up to 0.4m of compact light brown grey calcareous silt with flint fragments (3684) and on the north side by a compact mid-dark grey-brown calcareous silt with flint fragments (3683) 0.1–0.4m thick. Stratigraphically, context 3684 overlay contexts 3691 and 3683. A skull fragment and four flints were recovered from 3683 while 3684 contained a single flint. A general number (3681) was assigned to the machine disturbance of the grave (see below).

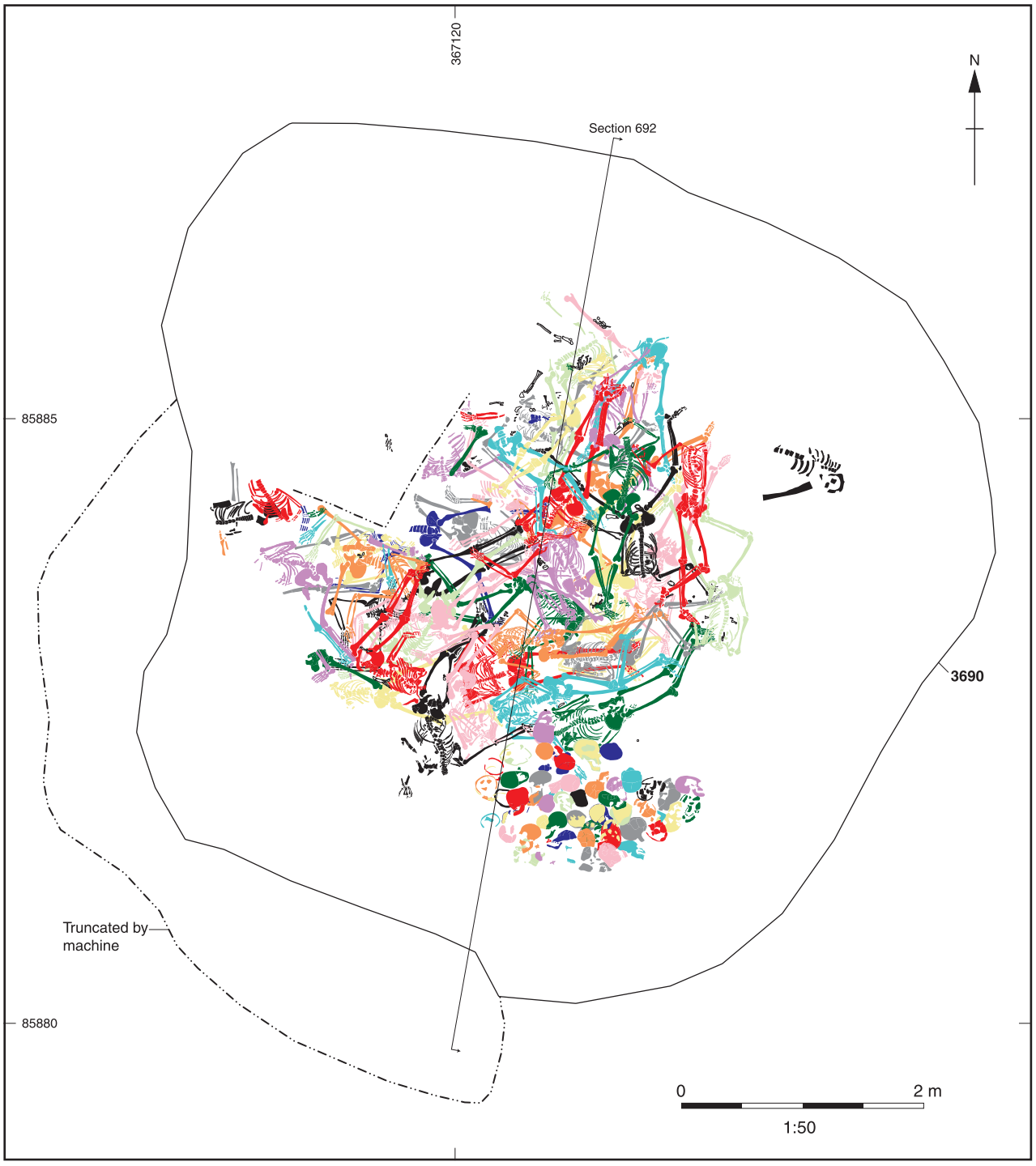


Fig. 2.4 Overall plan of the mass grave

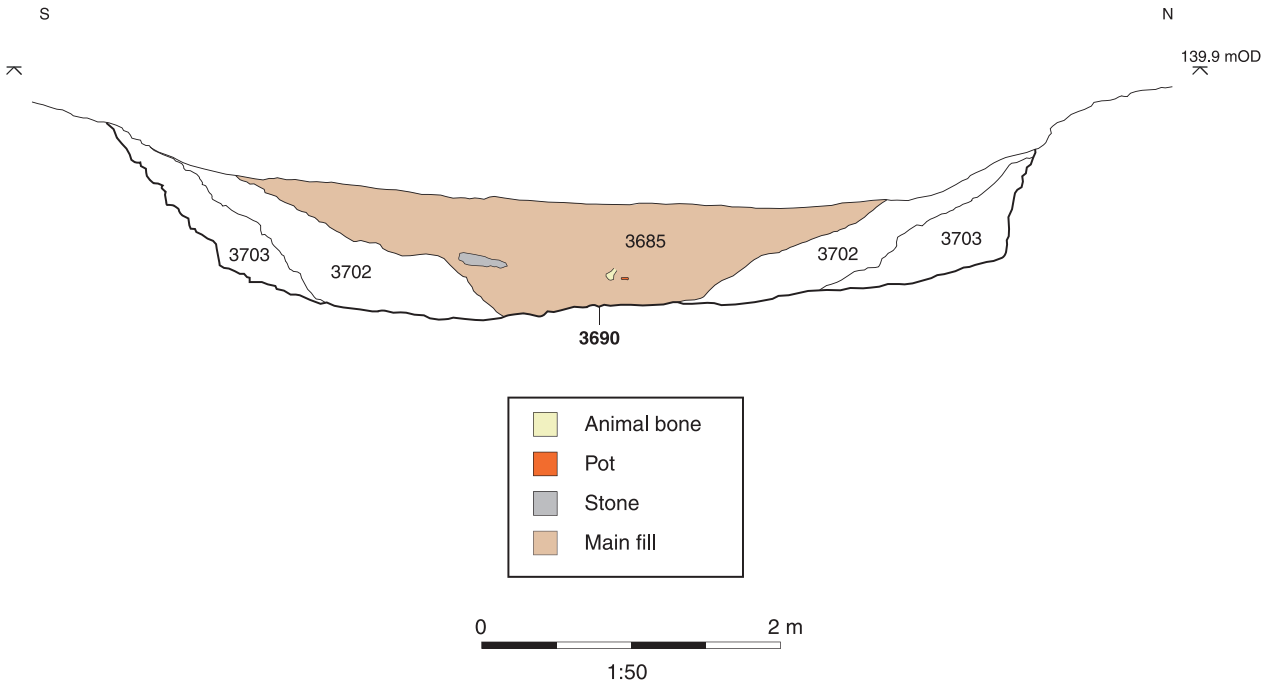


Fig. 2.5 East facing section through the mass grave after removal of the human skeletal remains (in the photograph the scale bar is positioned in the depression where the skulls and infra-cranial skeletons had been lying)

Fig. 2.6 3D view of the mass grave

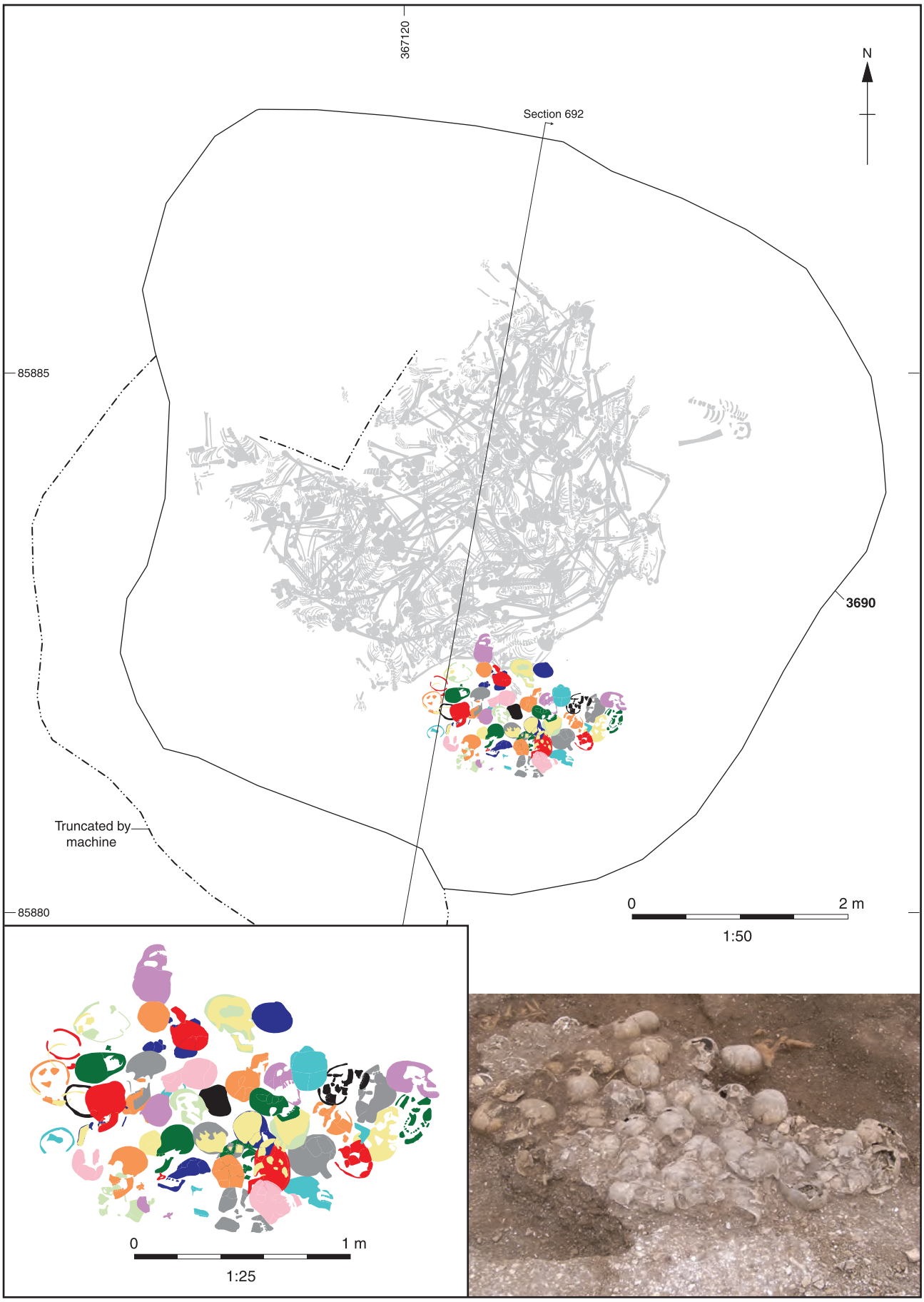
Table 2.1 Skull position

Skull No.	*Machine damage?*	*Position*
3686	Yes	?
3692	Yes	?
3693	Yes	?
3694	Yes	?
3695	Yes	?
3696	Yes	?
3704	Yes	On left side
3705	Yes	On right side
3706	Yes	On right side
3707	Yes	On left side
3708	Yes	On right side
3709	Yes	On left side
3710	No	On left side
3711	Yes	Face up
3712	Yes	On left side
3720	No	On right side
3721	No	On right side
3722	No	On left side
3723	Yes	On right side
3724	Yes	On right side
3725	Yes	?
3726	Yes	On base
3728	Yes	On right side
3729	No	On right side
3730	Yes	On left side
3731	Yes	On right side

Table 2.1 (continued)

Skull No.	*Machine damage?*	*Position*
3732	Yes	On left side
3733	Yes	On right side
3734	Yes	On base
3735	Yes	Face up
3736	Yes	Face up
3737	Yes	?
3738	Yes	On left side
3739	Yes	On left side
3740	Yes	Face down
3741	Yes	On left side
3742	Yes	Face up
3743	Yes	On right side
3744	Yes	On base
3746	Yes	On right side
3747	Yes	On left side
3748	No	On left side
3749	Yes	On right side
3750	Yes	Face down
3751	Yes	Face down
3752	Yes	On right side
3757	Yes	On right side
3758	No	On right side
3759	No	On left side
3760	No	Face down
3761	No	On base

Fig. 2.7 (facing page) The skulls


367120
N
Section 692
85885
3690
Truncated by machine
85880
0
2 m
1:50
0
1 m
1:25

During excavation 128 context numbers were allocated to the fills within the feature and to the human remains. Where these numbers refer to skulls or infra-cranial skeletons they are given as 'skull' or 'skeleton' number throughout the subsequent report. The sequence of activity represented by the fills can be defined as follows:

- The pit was dug, presumably as a quarry for chalk, at some point in the late Iron Age or Roman period.
- The pit infilled naturally due to slumping from the sides and natural silting.
- When partially infilled by natural slumping and silting the pit was used for the deposition of the decapitated corpses. This comprised a single event, possibly preceded by the digging out of some of the pit infill.
- The pit was backfilled immediately after the deposition of the human remains, with much of the material probably derived from the upper part of the original quarry pit fill.

Evidence for deliberate backfilling is suggested by the absence of any evidence for animal activity in the form of burrowing, and gnawing (see Chapter 3). Furthermore, the small bones of the hands and feet were generally present in their original positions, except where disturbed by the mechanical excavator. Right and left hands and feet were present in 20 examples (see Chapter 4, skeletons 3753, 3755, 3762, 3763, 3764, 3770, 3775, 3777, 3781, 3787, 3789, 3790, 3794, 3800, 3803, 3804, 3805, 3806, 3809, 3810). In addition, a total of 21 skeletons had both left and right patellae (see Chapter 4, skeletons 3753, 3756, 3762, 3763, 3764, 3770, 3775, 3777, 3786, 3787, 3789, 3794, 3795, 3796, 3798, 3801, 3804, 3806, 3809, 3810, 3811).

THE SKULLS (GROUP NO. 3776)

The skulls were located at the southern edge of the pit (south-eastern quadrant) in the top of fill 3685 (Figs 2.6 and 2.7), sealed by chalk rubble deposit (3691). A total of 41 out of the 51 skulls had suffered some damage from the mechanical excavator prior to excavation. Each skull was allocated a separate context number, hereafter referred to as 'skull number'.

The skulls were found lying in a variety of positions, including: face up (resting on the back of the skull), on the base (where it joins the neck), face down (resting on the face), on the left side and on the right side (Table 2.1; Fig. 2.8 and Chapters 3 and 4). The majority of skulls were on their right side (17; 33.3%), while 27.5% (14) were

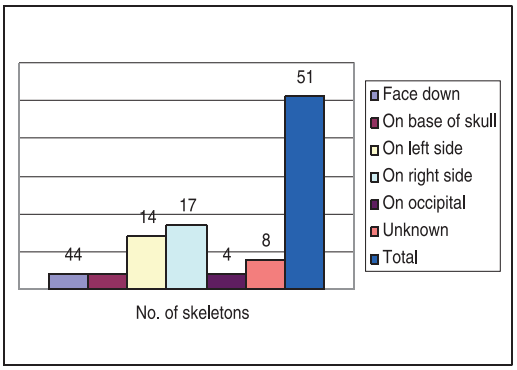


Fig. 2.8 Position of skulls

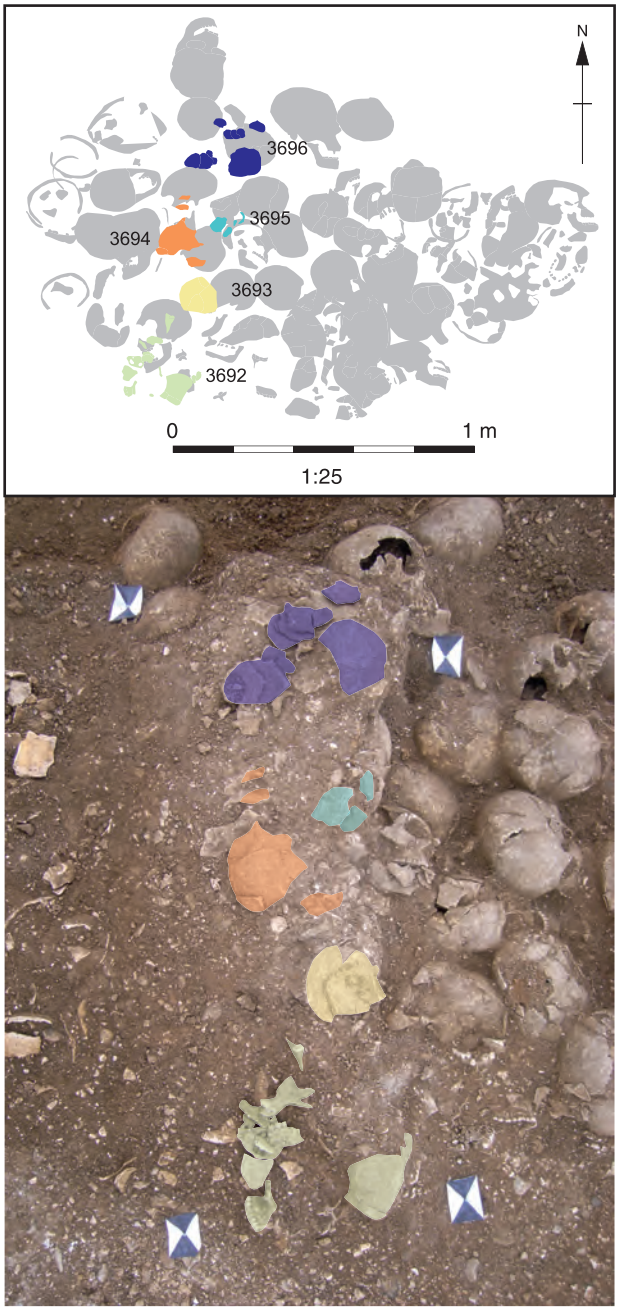


Fig. 2.9 Plan and photograph of fragmented skulls 3692, 3693, 3694, 3695 and 3696

on their left side. It was not possible to determine the position of eight skulls (15.7%) because they were insufficiently intact.

A north-south alignment of five badly fragmented skulls (3692, 3693, 3694, 3695, 3696) lay above the main concentration (Fig. 2.9). The presence of a quantity of soil overlying the latter may suggest that backfilling of the grave had begun before these particular individuals were decapitated and their corpses deposited and that they were among the last of the men to die.

THE INFRA-CRANIAL SKELETONS (GROUP NO. 3765)

The infra-cranial skeletons were allocated 65 separate context numbers (hereafter 'skeleton number' and 'skeleton') within grave fill 3685. The skeletons were lying in a variety of positions, one on top of another, many with splayed limbs (see Chapters 3 and 4 for further details). There was a high degree of entanglement of skeletal parts, reflecting an overall lack of organisation. For example, the right arm of skeleton 3715 overlay the right tibia of 3780 while the torso of 3715 was overlain by the right tibia and fibula of 3780. The right arm of 3764 lay over the right arm of 3763 while the left leg of 3763 lay over the legs of 3764. The right upper leg of 3798 was overlain by the torso of 3800 while the lower leg of 3798 overlay the right lower arm of 3800. Examples of entanglement can be seen in many of the figures which accompany this chapter.

Some of the remains to which skeleton numbers were allocated were only partial skeletons and in some instances more than one skeleton number was allocated to the remains of a single individual. Only 17 skeletons were complete and had suffered no damage prior to excavation (skeletons 3753, 3755, 3763, 3775, 3777, 3781, 3787, 3789, 3790, 3794, 3800, 3803, 3804, 3805, 3806, 3809, 3810). The remaining 23 contexts comprised partial skeletons (3687, 3688, 3689, 3697, 3700, 3715, 3716, 3754, 3756, 3762, 3764, 3770, 3778, 3783, 3786, 3788, 3791, 3795, 3798, 3799, 3801, 3805, 3811). These were from the north and north-western sides of the grave and had been disturbed by the mechanical excavator.

A total of 25 isolated limbs and extremities were identified and these comprised arms, legs, hands and feet (skeletons 3698, 3699, 3713, 3714, 3719, 3766, 3767, 3768, 3769, 3771, 3772, 3773, 3774, 3779, 3780, 3782, 3784, 3785, 3792, 3793, 3797, 3802, 3807, 3808, 3812). Most/all were from the disturbed area of the grave (Fig. 2.10). Skeleton 3807 comprised only a left femur, the distal third of which had been removed by sharp force trauma. Skeleton 3808 comprised a left lower leg and foot close to 3807. Both were re-associated with skeleton 3805 during the course of osteological analysis (see Chapter 3).

A Harris Matrix constructed for both skulls and skeletons, based on the context numbers allocated in the field (ie, skull and skeleton numbers), suggests a different total number of individuals to that calculated during later osteological analysis (see Chapter 3). In the field, 51 context numbers were assigned to skulls, while 65 were assigned to skeletons. These numbers, however, did not take into account the re-associations which were achieved during osteological analysis; at this stage apart from the re-association mentioned above, skeleton 3766 was re-associated with 3783, and skeleton 3792 with 3797. The osteological analyses indicate that between 46 and 52 individuals were present (see Chapter 3).

Post-depositional movement of some elements and subsequent disassociation from the skeleton to which they belonged had resulted from the settling of individual bones under the influence of gravity as the soft tissue connecting them and beneath them decomposed. In the majority of cases, it was possible to reassociate these bones with individual skeletons in the field. In only 67 cases could a physical relationship with a skeleton not be made; these disassociated bones were recorded as small finds. Some of these were displaced during the process of excavation, the aim of which was to expose as much of the deposit as possible prior to lifting any skeletons, so that that they could be removed in stratigraphic order.

Sequence of deposition

Determining the order in which the corpses were deposited is complicated by the fact that 45 of the skeletons had suffered some damage prior to excavation (see Table 2.2). Twenty two skeletons (3698, 3715, 3716, 3755, 3756, 3763, 3764, 3777, 3780, 3781, 3782, 3786, 3789, 3790, 3794, 3798, 3799, 3800, 3803, 3804, 3805, 3811) were part of complicated stratigraphic sequences, with other skeletons lying both above and below, while 12 skeletons (3687, 3688, 3689, 3699, 3714, 3766, 3767, 3769, 3772, 3773, 3793 and 3802) were not related stratigraphically to any others and so could have been deposited at any point in the sequence. Fifteen skeletons (3700, 3719, 3753, 3770, 3778, 3783, 3784, 3787, 3788, 3795, 3796, 3801, 3806, 3809, 3810) only lay below others in the stratigraphic sequence while a further 15 skeletons (3697, 3754, 3762, 3768, 3771, 3774, 3775, 3779, 3785, 3791, 3792, 3797, 3807, 3808 and 3812) lay only above others in the stratigraphic sequence. Skeleton 3713 was an isolated group of disturbed phalanges from a right hand.

Skeletons located nearer the centre of the pit which did not overlie any others (particularly skeletons 3753, 3770, 3787, 3796, and 3810) are likely to be amongst the earliest deposited (see Fig. 2.11). All of these corpses had been in a prone position.

Skeleton 3753 was located on the southern edge of the deposit in the south-east quadrant. It was that of a young adult male (18-20 years) who had been buried SW-NE. The right upper arm was tight against the body with the arm fully flexed and the hand below the shoulder. The left arm was extended, very slightly bent at the elbow with part of the lower arm and hand below the pelvis. The right and left legs were extended and very slightly bent at the knees. This skeleton was overlain by

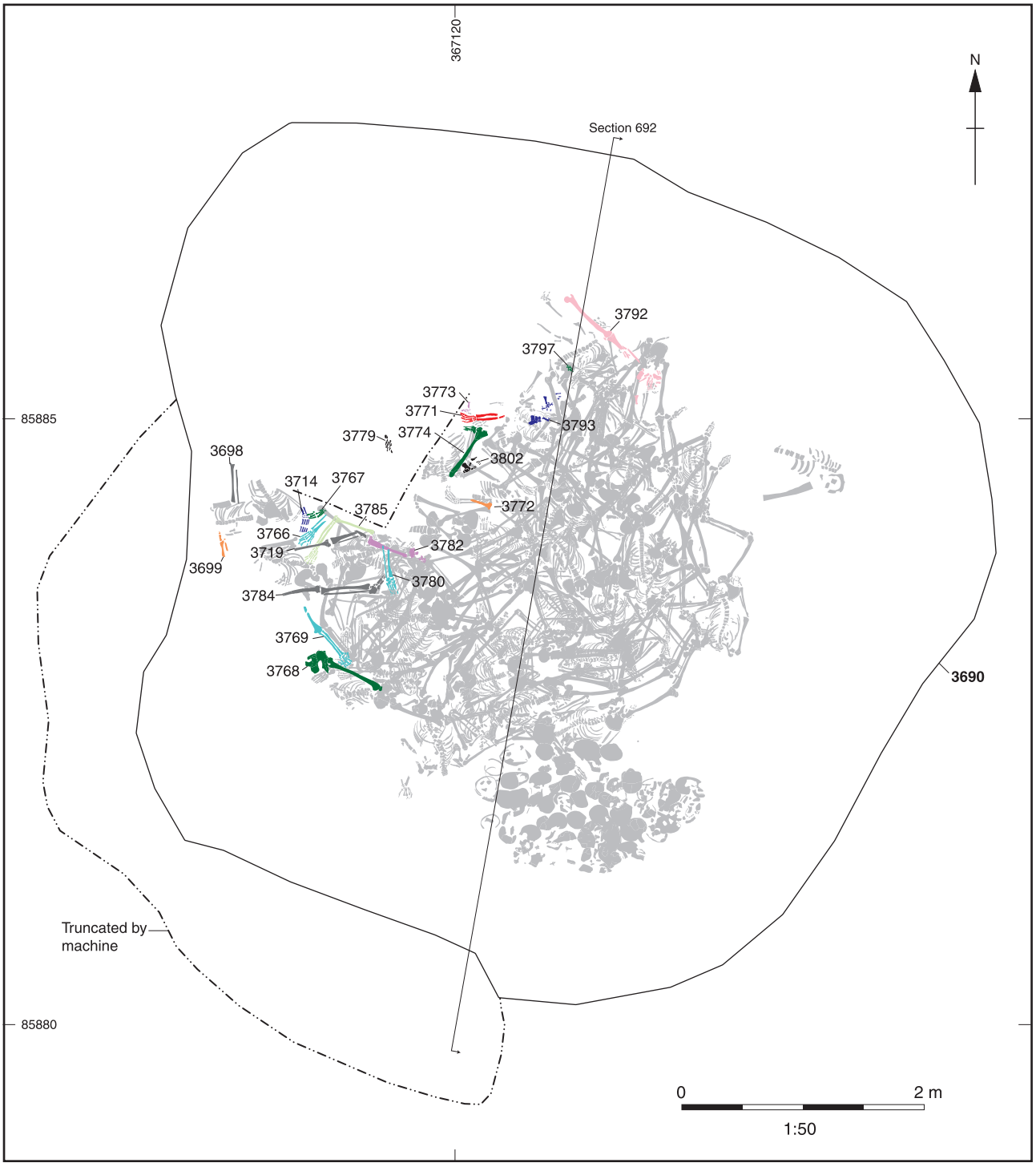


Fig. 2.10 Isolated limbs and extremities

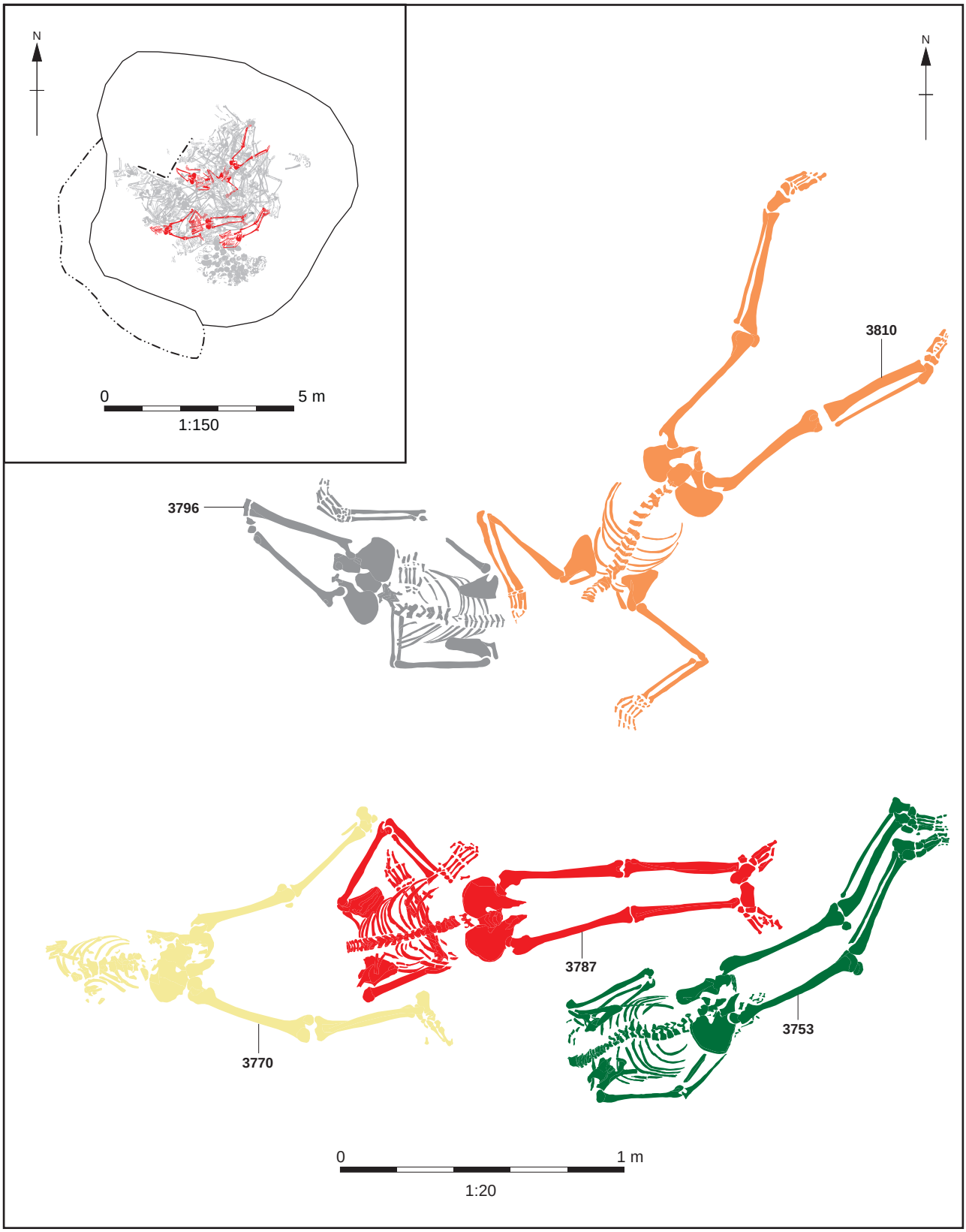


Fig. 2.11 Plan showing the possible earliest burials

Table 2.2 Body position and orientation of the infra-cranial skeletons

Skeleton no.	*Age category*	*Probable age range*	*Sex*	*Machine damage*	*Elements present*	*Body position*
3687	Older adult	>50 y	M	Yes	Torso, left femur	?Supine
3688	Adult unspec	>25 y	?	Yes	Torso	?Supine
3689	Prime adult	25-35 y	M	Yes	Upper body	Prone
3697	Young adult	18-23 y	M	Yes	Torso	Prone
3698	Adult unspec	>16 y	M	Yes	Lower right leg	Prone
3699	Adult unspec	>17 y	?	Yes	Lower left arm and hand	Supine
3700	Young adult	17-25 y	M	Yes	Upper body	Prone
3713	Adult unspec	>16.5 y	?	Yes	Right hand	?
3714	Adult unspec	>17 y	?	Yes	Lower left arm and hand	?
3715	Prime-mature adult	30-40 y	M	Yes	Missing lower legs	Supine
3716	Young adult	18-19 y	M	Yes	Missing left arm, left hand and left rib cage	Prone
3719	Adult unspec	>16 y	?	Yes	Left leg	?
3753	Young adult	18-20 y	M	No	Full skeleton	Prone
3754	Adolescent	C 14 y	M	Yes	Missing lower right arm and hand, left hand	Supine
3755	Young adult	20-25 y	M	No	Full skeleton	Supine
3756	Adolescent	15-16 y	M	Yes	Missing left torso and left arm	Prone
3762	Prime-mature adult	25-44 y	M	Yes	Missing most of left arm and hand	On right side
3763	Young adult	17-20 y	M	No	Full skeleton	On right side, semi-flexed
3764	Prime adult	25-35 y	M	Yes	Right arm and rib cage damaged	Prone
3766*	Adult unspec	>17 y	?	Yes	Right lower arm and hand	?
3767	Adult unspec	>16.5 y	?	Yes	Finger bones	?
3768	Older adult	45-59 y	M	Yes	Left femur and pelvis	?Supine
3769	Adult unspec	>17	?	Yes	Right arm	?
3770	Prime adult	30-35 y	M	Yes	Lower body and torso	Prone
3771	Adult unspec	>17 y	?	Yes	Right lower arm and hand	?
3772	Adult unspec	>16 y	?	Yes	Isolated humerus	?
3773	Adult unspec	>14 y	?	Yes	Isolated left foot	?
3774	Adult unspec	>16 y	?	Yes	Right leg	?
3775	Adolescent	16-17 y	M	No	Full skeleton	Supine
3777	Mature adult	35-44 y	M	No	Full skeleton	Prone
3778	Mature adult	35-45 y	M	Yes	Missing lower right leg and foot	Prone
3779	Adult unspec	>14 y	?	Yes	Right foot	?

* re-associated with sk. 3783 during osteological analysis

Right arm and hand	*Left arm and hand*	*Right leg and foot*	*Left leg and foot*	*Orientation*
?	?	?	?	E-W
?	?	?	?	W-E
?	?	?	?	NW-SE
?	?	?	?	W-E
?	?	?	?	?
?	?	?	?	?
Bent at elbow, beneath body, hand below left shoulder	?	?	?	SE-NW
?	?	?	?	?
?	?	?	?	?
Upper arm tight against body, lower arm bent over upper torso pointing towards left shoulder	Upper arm angles slightly away from body, lower arm bent at right angle away from body, palm upwards	Left femur at right angle away from pelvis, lower leg missing	?	E-W
?	Bent tightly at elbow, hand below chest	Extended, foot at right angle from ankle	Extended, foot at right angle from ankle	NNW-SSE
?	?	?	?	?
Upper arm tight against body, arm fully flexed, hand below shoulder	Extended, very slightly bent at elbow, part of lower arm and hand below left pelvis	Extended	Extended	SW-NE
Extended by side	Upper arm at 45º angle from body, semi-flexed	Extended, foot turned out at right angle to leg	Semi-flexed, foot turned in towards body	N-S
Extended, hand in pelvic cavity	Upper arm slightly away from body, bent at 45º angle with lower arm across waist, hand in pelvic cavity	Semi-flexed, foot at right angle	Extended, foot at right angle	S-N
Arm bent at 90º angle, hand by pelvis	?	Extended	Extended	Body bent at right angle at waist
Upper arm by side, bent at 90º angle, hand bent sharply at wrist, palm downwards	Upper arm at 45º angle from body, remainder machined	Extended	Extended	Body bent at right angle at waist
Extended	45º away from body, tightly flexed	Semi-flexed	Semi-flexed	S-N
Semi-flexed, hand splayed, palm downwards	Fully extended at 90º angle from shoulder, palm downwards	Extended	Extended	S-N
Palm downwards	?	?	?	?
?	?	?	?	?
?	?	?	?Extended	?
Extended, palm upwards	?	?	?	?
?	?	Extended, turned slightly outwards	Extended, turned slightly outwards	W-E
Palm upwards	?	?	?	?
?	?	?	?	?
?	?	?	?	?
?	?	Semi-flexed	?	?
Upper arm by body, bent at 90º angle away from body, palm upwards	Upper arm by body, bent at 90º angle, lower arm over body, hand over sacrum	Semi-flexed	Extended	SW-NE
Arm thrown above body, elbow bent at 90º, palm downwards	Arm thrown above body, elbow bent at 45º, palm downwards	Extended	Extended	W-E
Extended away from body, bent back at elbow, palm downwards	Extended upwards away from body	?	Extended	SW-NE
?	?	?	?	?

Table 2.2 (continued)

Skeleton no.	*Age category*	*Probable age range*	*Sex*	*Machine damage*	*Elements present*	*Body position*
3780	Adult unspec	>18 y	?	Yes	Lower right leg and foot	?
3781	Prime adult	26-30 y	m	No	Full skeleton	Prone
3782	Adult unspec	>18 y	?	Yes	Lower right leg and foot	?
3783*	Adult unspec	>21 y	M??	Yes	Upper body only	Prone
3784	Adult unspec	>18 y	M?	Yes	Right leg	?
3785	Adolescent	13-16 y	?	Yes	Right arm	?
3786	Adolescent	15-18 y	?	Yes	Missing right arm	Prone
3787	Young adult	18-25 y	M	No	Full skeleton	Prone
3788	Prime-older adult	35-55 y	?	Yes	Torso and right arm	Supine
3789	Adolescent	14-16 y	M	No	Full skeleton	Prone
3790	Young adult	20-25 y	M	No	Full skeleton	Prone
3791	Adolescent	11-17 y	?	Yes	Missing right arm	Supine
3792**	Adult unspec	>18 y	M?	Yes	Right leg	?
3793	Adult unspec	>18 y	?	Yes	Right foot	?
3794	Young-prime adult	20-30 y	M	No	Full skeleton	Supine
3795	Prime adult	26-34 y	M	Yes	Lower body only	Prone
3796	Adolescent	12-16 y	M?	Yes	Missing lower legs and feet	Prone
3797***	Adult unspec	>14 y	?	Yes	Left foot only	?
3798	Adolescent	13-15 y	M?	Yes	Missing part of torso and left arm	Supine
3799	Adult unspec	>17 y	M?	Yes	Upper body only	Supine
3800	Mature adult	35-45 y	M	No	Full skeleton	Prone
3801	Prime adult	25-35 y	M	Yes	Lower body only	Prone
3802	Adult unspec	>18 y	?	Yes	Left foot only	?
3803	Mature adult	40-45 y	M	No	Full skeleton	Prone
3804	Older adult	>50 y	M	No	Full skeleton	Prone
3805	Older adult	40-60 y	M	No?	Missing left leg	Supine
3806	Mature adult	40-45 y	M	No	Full skeleton	Prone
3807†				No?	Left femur only	?
3808†				No?	Left lower leg and foot	?
3809	Young adult	20-23 y	M	No	Full skeleton	On left side
3810	Young adult	17-20 y	M	No	Full skeleton	Prone
3811	Prime adult	25-35 y	M	Yes	Missing left hand	Prone
3812	Adult unspec	>14 y	?	No?	Left foot	?

* re-associated with sk. 3766 during osteological analysis ** re-associated with sk. 3797 during osteological analysis

Right arm and hand	*Left arm and hand*	*Right leg and foot*	*Left leg and foot*	*Orientation*
?	?	?	?	?
Arm above body, bent at 45º angle, palm downwards	Arm above body, bent at 90º angle, palm downwards	Extended	Extended	SW-NE
?	?	?	?	?
Bent at 45º away from body	Extended by side, hand by pelvis	?	?	W-E
?	?	?	?	?
Bent at elbow, palm downwards	?	?	?	?
?	Above body bent at 90º angle	Extended	Extended away from body	W-E
Extending away from body, bent at 45º angle, lower arm over torso, palm upwards	Semi-flexed, lower arm under body, palm upwards	Extended	Extended	W-E
Bent at 45º, away from body, palm downwards	?	?	?	S-N
Bent at 45º angle	Bent at 45º angle away from body	Very slightly flexed	Extended	W-E
Extended away from body at 45º angle	Bent at 45º angle, lower arm under torso	Extended	Semi-flexed	W-E
?	Left arm bent across chest	Extended	Extended, left over right	NE-SW
?	?	?	?	?
?	?	?	?	?
Upper arm extended, bent slightly at elbow, lower arm above body, palm upwards	Upper arm tight by body, elbow bent at 90º, palm upwards	Extended and splayed outwards, very slightly bent at knee	Extended and splayed outwards	S-N
?	?	Extended	Extended	N-S
Beneath torso, bent at elbow, palm downwards	Extended, palm downwards	Extended	Extended	E-W
?	?	?	?	?
Upper arm extended at 90º from shoulder, lower arm pointing towards feet, palm downwards	?	Bent at 90º from knee	Bent at right angle away from body (at hip), extended	NW-SE
Extended away from body, elbow bent	Extended away from body	?	?	E-W
Raised above shoulder, elbow bent at 90º	Extended outwards away from body, palm downwards	Extended	Extended	N-S
?	?	Extended	Extended	NW-SE
?	?	?	?	?
Beneath torso, elbow bent at 90 degrees	Raised above head	Extended	Extended	SW-NE
Extended above body, 45º angle from shoulder, palm downwards	Upper arm tight against body, elbow bent at 45º, palm downwards	Extended	Extended	SW-NE
Extended by side, elbow slightly bent, palm downwards	Bent at 90º, lower arm across torso	Semi-flexed	?	NW-SE
Extended above head, elbow at right angle, palm downwards	Extended above head, elbow at right angle, palm downwards	Extended, slightly bent at knee	Extended, slightly bent at knee	?
?	?	?	?	?
?	?	?	?	?
Bent at 90º, pointing in front of body	Bent at 90º, pointing in front of body	Slightly flexed	Slightly flexed	SE-NW
Above head, bent at 90º angle, palm downwards	Above head, bent at 90º angle, palm downwards	Extended and splayed outward	Extended and splayed outwards	S-N
Bent at 45º angle, palm downwards	Extended above head	Semi-flexed	Semi-flexed	N-S
?	?	?	?	?

*** re-associated with sk. 3792 during osteological analysis † re-associated with sk. 3805 during osteological analysis

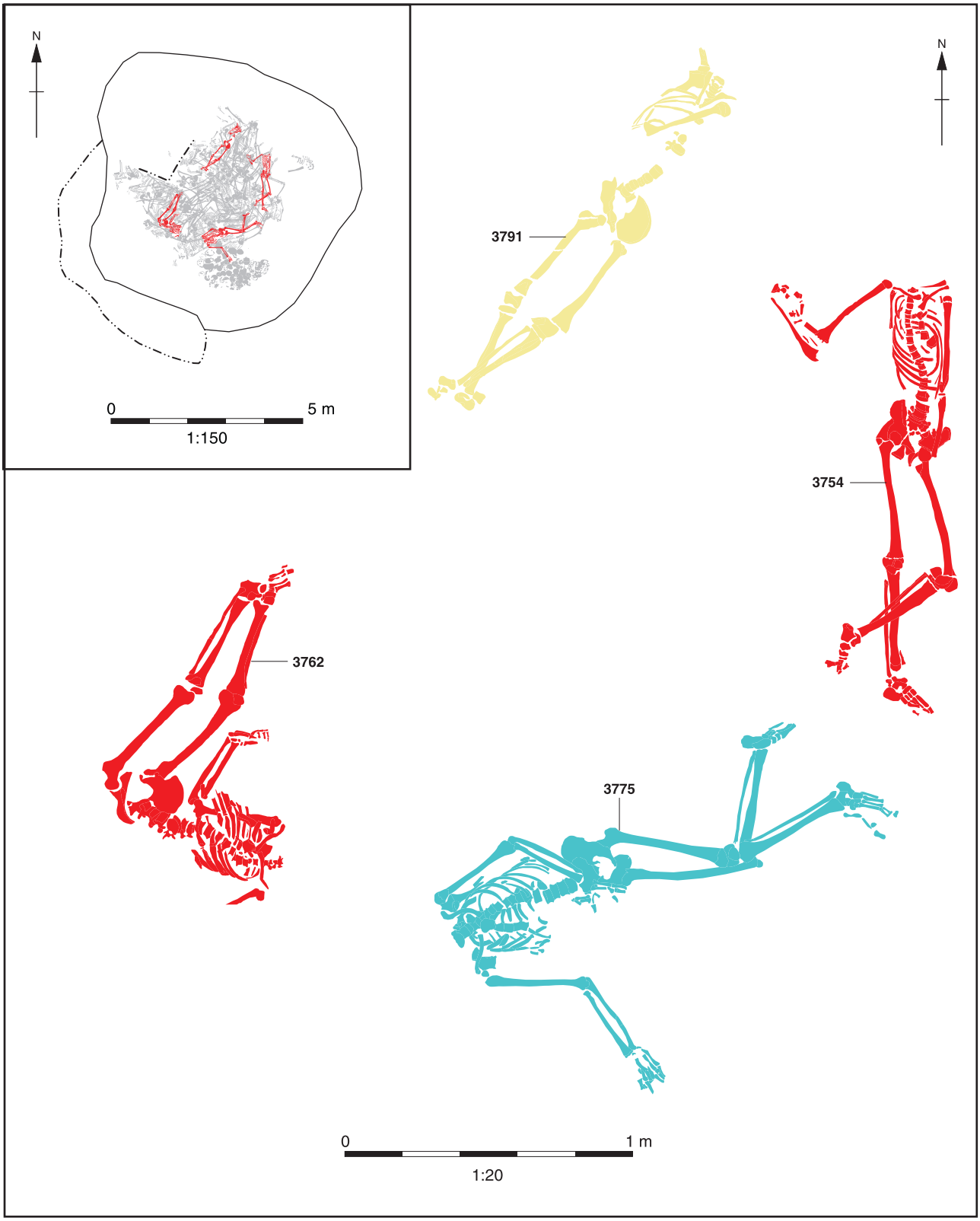


Fig. 2.12 Plan showing skeletons that were probably deposited late in the sequence

skeletons 3754, 3755, 3775 and 3790 and skulls 3761, 3747, 3748 and 3759.

Skeleton 3770 was located in the south-west quadrant. It was that of a prime adult male (30-35 years) and was orientated W–E. Both arms had been removed during the machine excavation. Both legs were extended and turned slightly outwards. This skeleton was overlain by 3768, 3762 and 3764.

Skeleton 3787 was located in the SW and SE quadrants. It was that of a young adult male (18-25 years) who was orientated W–E. The right arm was extended away from the body and was bent at a 45º angle with the lower arm over the torso, palm upwards. The left arm was semi-flexed with the lower arm under the body, palm upwards. The the right and left legs were extended. This skeleton was overlain by skeletons 3775, 3789 and 3763.

Skeleton 3796 was located in the NW quadrant. It was from an adolescent, probably male (12-16 years) and was orientated E–W. Machine damage had removed the lower legs and feet. The right arm was beneath the torso, bent at the elbow with the palm downwards. The left arm was extended with the palm facing downwards. This skeleton was overlain by skeletons 3786, 3781, 3778 and 3799.

Skeleton 3810 was that of a young adult male (17-20 years) and was located in the NE quadrant of the pit, orientated SW–NE. The right and left arms were above the head, bent at a 90º angle with the palms facing downwards. The right and left legs were extended and splayed outwards. The skeleton was overlain by skeletons 3791, 3794, 3800, 3803 and 3811.

A group of four skeletons (3754, 3762, 3775, 3791) are likely to be from individuals deposited late in the sequence (Fig. 2.12). All lay above a number of other skeletons. Skeleton 3754 was located on the eastern edge of the deposit in the NE quadrant and was from an adolescent male (*c* 14 years) who was buried supine and orientated N–S. Machine damage had removed part of the lower right arm and hand. The right arm was bent at the elbow and the left arm was extended with the hand in the pelvic cavity. The left leg was semi-flexed with the foot turned in towards the body; the right leg was extended with the foot turned out at a right angle to the leg. This skeleton overlay skeletons 3753, 3755, 3804, 3794 and 3795.

Skeleton 3762 was from a mature adult male (25-44 years) lying on his right side with his body bent at a right angle at the waist. The skeleton was located in the SW quadrant, but machine damage had removed most of the left arm and hand. The right upper arm was by the side of the torso, bent at a 90º angle, the hand bent sharply at the wrist, palm downwards; the left upper arm lay at a 45º angle from the body. Both legs were extended but the left femoral head was not fully articulated with the acetabulum when discovered. The left fibula, sternum and LV2 were also displaced. This skeleton lay over skeletons 3716, 3764, 3777, 3715 and 3778.

Skeleton 3775 was located on the southern edge of the main deposit. It was from an adolescent male (16-17 years) and was lying in a supine position, orientated SW–NE. The right upper arm lay next to the torso, bent at 90º angle away from it, palm upwards. The left upper arm lay by the torso, bent at 90º angle with the lower arm lying across the body and the hand over the sacrum. The right leg was semi-flexed and the left leg was extended. Skeleton 3775 overlay skeletons 3753, 3789, 3787 and 3763 and was overlain by skulls 3761, 3759 and 3751.

Skeleton 3791 was from an adolescent (11-17 years), of unknown sex, deposited in a supine position and orientated NE–SW in the NE and NW quadrants. The mechanical excavator had removed the right arm. The left arm was bent across the chest and both legs were extended, the left crossed over the right. Skeleton 3791 overlay skeletons 3756, 3801, 3788, 3799 and 3810.

It would appear that at least some of the headless corpses had been deposited in the grave before the heads, because skeletons 3753, 3763 and 3775 were all clearly lying below the skulls. Skeleton 3753 was overlain by skulls 3761, 3747, 3748 and 3759; skeleton 3763 by skulls 3761, 3760 and 3759 and skeleton 3775 by skulls 3761, 3759 and 3751.

BODY POSITION AND ORIENTATION

Orientations are approximate as most skeletons were contorted, with splayed limbs. It is similarly difficult to describe body position without reference to the individual limbs. A detailed summary appears in Table 2.2. Orientation refers to the alignment of each skeleton in relation to site north, with the head end location given first, followed by the foot end (see Fig. 2.13).

A total of 26 skeletons (40%) were prone, 14 (22%) were supine, 2 (3%) were lying on their right side and 1 (2%) on their left side. It was not possible to

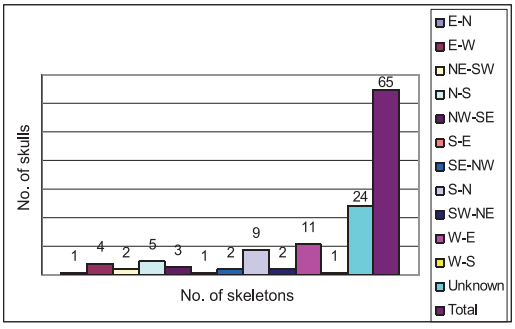


Fig. 2.13 Orientation of skeletons

Fig. 2.14 Skeleton 3777, example of prone position

Fig. 2.15 Skeleton 3794, example of supine position

determine the position of 22 skeletons (34%) (Figs 2.14–2.18).

The orientation of skeletons was also extremely variable (see Fig. 2.13). The most common were W–E (9; 14%) followed by SW–NE (7; 11%). Orientation of 25 skeletons (39%) could not be determined.

THE DISARTICULATED BONES (CONTEXTS 3681 AND 3685)

Disarticulated bone deposits had formed primarily for four reasons. First, and most significant, was disturbance to the grave when it was initially discovered during machine excavation. In addition to the fragmentation of bones, especially skulls, this had resulted in the separation and commingling of some elements from the north-western area of the grave. The second reason for the disarticulation of bones was the effect of a large number of intertwined bodies decomposing in the grave, which had resulted in some smaller fragments and elements settling within the surrounding skeletons of other individuals, as occurred at Towton (Novak 2000, 90). Further, and also in common with Towton, the traumatic assaults to the individuals had caused extensive fragmentation of some elements (particularly neck vertebrae), as well as the removal of whole sections of bone (ibid.). Finally, some disturbance to the deposit was also caused during initial hand cleaning, although this was minimal.

Fig. 2.16 Skeleton 3763, example of skeleton positioned on its right side

Fig. 2.17 Skeleton 3809, example of skeleton positioned on its left side

All of the spoil from the machine excavation was meticulously sifted by hand to achieve maximum retrieval of human remains and 2374 fragments of human bone were recovered (context 3681). A further 433 disturbed fragments were recovered during the initial hand cleaning of the feature (context 3685) and 148 fragments, which could not be definitively assigned to individual skeletons during the detailed excavation, were three-dimensionally recorded and recovered as small finds. The disarticulated bone is discussed further in Appendix 2.

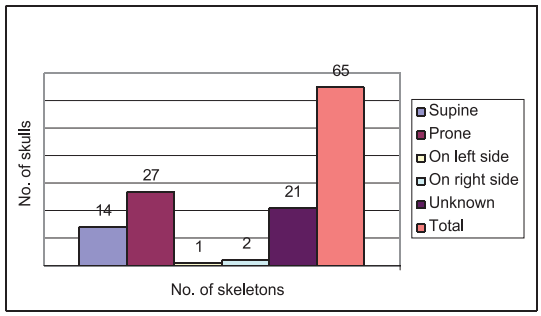


Fig. 2.18 Body position of skeletons

FINDS

A small assemblage of artefacts and animal bone was recovered from the fills of the pit and its later use as a mass grave. They include worked stone, metalwork and pottery, most or all of which predate the deposition of the human corpses.

Worked Stone *by Ruth Shaffrey*

Two small limestone balls (Fig. 2.19) measuring 21mm and 23mm diameter respectively were recovered from around the skeletons, within fill 3685. These weighed too little to have had a function as slingshots and, although natural in origin, may have been retained as personal possessions. They may have been used as marbles, but equally the possibility that the objects were accidental inclusions cannot be discounted.

Metalwork *by Ian Scott*

Five pieces of iron were recovered from fill 3685 around the human remains, comprising two small unidentified fragments which are little more than crumbs (sf 10409), two nail stem fragments (sfs 10402 and 10429) and a small socket or ferrule (sf 10328), none of which are datable. The last may be a socket from a small spearhead, but could be a

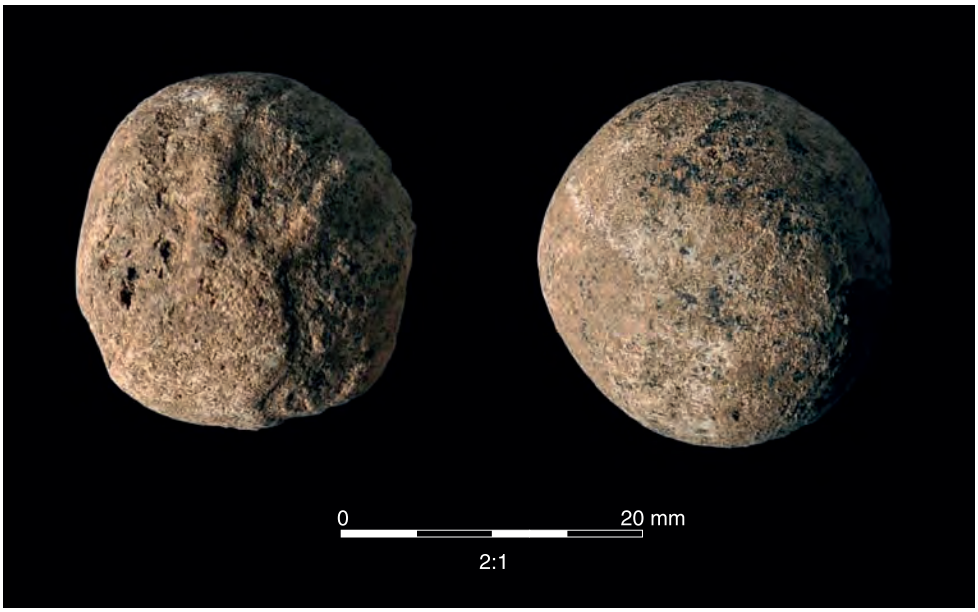


Fig. 2.19 Limestone balls recovered from the grave (context 3685)

simple ferrule. The socket, which appears to be split, is small (L: 53mm) and may be incomplete. It is encrusted with corrosion products and there is no suggestion on the radiograph of a nail to secure the socket.

Later Prehistoric and Roman Pottery
by Edward Biddulph

In total 41 sherds, weighing 209g, were recovered (Table 2.3). The assemblage almost entirely comprised small body or base sherds, as indicated by the mean sherd weight of only 5g. The material was dominated by black-burnished ware (B11). Just one small rim (0.03 EVE) was encountered, a bowl or dish with a small bead rim defined largely by a groove below the rim, which was assigned to context 3685 (the main fill of the pit). Three base sherds, again from context 3685, may also have belonged to dishes. Fabric O20, the oxidised version of fabric B11, was collected from contexts 3681, 3685 and 3691. No forms were recognised. A base sherd from a New Forest parchment ware bowl (W15) and a body sherd from a decorated South Gaulish samian bowl (S20), probably Drag. 29, were also collected from context 3685.

In terms of chronology, the assemblage is of mixed date. The earliest piece appears to be a sherd of a sandy fabric that may belong to the Iron Age. The samian ware dates to the second half of the 1st century AD or very beginning of the 2nd century. Black-burnished ware originated in Dorset in the later Iron Age, with production continuing throughout the Roman period. The date of the black-burnished ware dish or bowl rim is uncertain. If identified as a bowl, then an early Roman date is likely; if a dish, then a date from the 2nd century onwards is more appropriate. A late 3rd or 4th century date can be assigned to the New Forest bowl (Fulford 1975).

The mixed chronology and small sherd size suggests that the pottery was redeposited, being incorporated accidentally into the pit within soils disturbed during the excavation and backfilling of

Table 2.3 Roman pottery – quantification of fabrics

Ware	*Sherds*	*Weight (g)*	*Context No.*
B11 – Black-burnished ware	27	117	3681, 3683, 3685
O – Unidentified oxidised fabric	1	4	3685
O20 – Sandy oxidised ware	10	21	3681, 3685, 3691
S20 – South Gaulish samian ware	1	7	3685
SAND – Iron Age sandy fabric	1	2	3685
W15 – New Forest parchment ware	1	58	3685
Total	41	209	

the pit and the later re-use as a mass grave. The range of pottery present, comprising standard regional types, shows no evidence of deliberate selection, in contrast to Roman groups from earlier Anglo-Saxon settlements (for example West Stow, Suffolk, or Mucking, Essex), where red-surfaced finewares were favoured for deposition (Plouviez 1985, 84; Going 1993, 72).

Flint *by Mike Donnelly*

A total of 111 worked flints were recovered from four fills of the quarry pit/mass grave. Tables 2.4 and 2.5 show the distribution by context and a fuller report is available in the archive. The assemblage is dominated by waste flakes, although fine knapping debitage is absent, and there are significant numbers of scrapers and notches along with cores, narrow-blade forms and a possible microburin, suggestive of a mixed assemblage spanning the late Mesolithic to late Neolithic/early Bronze Age.

In general, the flint is in a lightly to moderately damaged condition and is heavily patinated or corticated. There are a few heavily damaged/rolled examples (7.2% of the assemblage), but very few fresh examples (1.8% of the assemblage). Although this makes identification of the raw material difficult, from fresh breaks and occasional fresher pieces it would appear as if a variety of raw materials had been utilised, but a significant proportion of the assemblage (11.7%) is Portland chert.

Table 2.4 Identification and quantification of lithics

Description	*Total*
Primary waste	6
Secondary waste	39
Tertiary waste	23
Chips	0
Total waste flakes	68 (61.26%)
Cores	2
Core rejuvenation tablets	1
Total cores	3 (2.7%)
Narrow blades	2
Blade-like flakes and blade shatter	19
Microburin	1
Scrapers	8
Notches	4
Combination tool, scraper-piercer	1
Knife	1
Misc. retouched flakes	3
Burnt	1
Total	111

Overall the assemblage is entirely residual in nature; it is likely that the material became incorporated into the feature as backfill, but it must originate from nearby, either from the immediate vicinity of the feature or up-slope. The presence of Portland chert is unsurprising, given the site's proximity to the source. Many of the Portland chert artefacts are retouched, possibly indicating that it was valued, even this close to the source. End scrapers dominate the tool assemblage and are predominantly convex in form, on a range of flakes from most stages in the reduction process. One of the scrapers has a straight edge and another has two scraper edges at 90°, features more typical of Mesolithic assemblages, more closely resembling end truncated pieces than true scrapers. A single microburin appears to represent a miss-hit form and as such its identification must remain tentative. However, it and many of the narrower, finer blades were struck from Portland chert which was favoured in the Mesolithic period. Mesolithic material was found nearby, during the other Relief Road excavations on the Ridgeway (Brown *et al*. 2014), but in contrast to the flint assemblages from these excavations, cores and core-related pieces are rare. Both examples from the mass grave are multi-platformed flake examples, but both show levels of reduction and regularity of negative scar, indicative of Neolithic knapping; many of the removals are close to blade proportions. The single core rejuvenation tablet is also likely to date to the Neolithic, although a Mesolithic date cannot be ruled out.

Much of the assemblage can be accommodated within the Neolithic period. This includes the bulk of the tools, the cores and much of the flake debitage. The elongated end of blade/blade-like flake scrapers and much of the blade debitage may be of early Neolithic date, while significant proportions of the flake assemblage are quite long and narrow and display platform faceting and edge abrasion, more typical of late Neolithic/early Bronze Age knapping. Genuinely squat flakes with little or no platform preparation, typical of the mid-late Bronze Age, are rare, but many of the flakes display hard hammer characteristics (50 hard hammer, 30 indeterminate, 12 soft hammer).

Table 2.5 Distribution of flints by context

Context no.	*Context type*	*Number of flints*	*Percentage of the assemblage*
3681	Machine disturbance	28	25.2%
3683	Fill of pit above 3685	45	40.5%
3684	Fill of pit above 3685	3	2.7%
3685	Main fill around human remains	35	31.5%

The retouch-heavy nature of the assemblage requires some discussion. During the Relief Road excavations elsewhere on the Ridgeway (Brown *et al*. 2014), pits with significant flint assemblages were excavated in spits and heavily sampled, resulting in high percentages of fine debitage, such as chips, and many more thin trimming flakes which were almost never retouched. These fine waste products were absent from the mass grave feature, probably because the main fill (3685) was not extensively sieved. This would significantly increase the proportion of retouch in the recorded assemblage.

Given the context of discovery, the flint is clearly residual but can usefully be considered alongside the assemblage from the main excavation on Ridgeway Hill (Brown *et al*. 2014). Given the redeposited nature of the assemblage, there is little that can be said about the spatial distribution of material, except that Portland chert is much more common in context 3685 than elsewhere. It is likely that some foci of domestic activity dating to the Neolithic/early Bronze Age existed nearby and that many artefacts/tools had become incorporated into this later feature as it infilled.

Animal bone *by Rebecca Nicholson*

A small quantity of animal bone (57 fragments) was recovered from quarry pit/mass grave fill 3685 and machining spoil 3681 (Table 2.6). Most of the bones are in good condition, but a number have fresh breaks and not all conjoining fragments are present. A small number of bones have been gnawed by dogs or foxes and in one case by a rodent. No butchery marks are apparent. Although several complete bones were recovered, most have one or both epiphyses unfused, limiting the possibilities for biometrical analysis. Where measurements were taken, they follow von den Driesch (1976). Full details of the assemblage are available in the archive.

While most bones are from from cattle and sheep/goat, one mandible is almost certainly from a fox (although small dog cannot be entirely ruled out) and a caudal vertebra is cat-sized. A partial bird femur is probably from a domestic fowl and presence of medullary bone suggests a female, egg-laying bird.

Fusion evidence from limb bones indicates the slaughter of young adult or sub-adult cattle (less than 3.5-4 years old if based on Silver 1963) and sheep/goats of more than 24 and less than 36 months (ibid.), although the ages at which epiphyses fuse, at least for ovicaprines, is very variable and likely to be affected by taxon, sex and nutritional status (Zeder 2006). The age of the domesticates is consistent with refuse from animals slaughtered for meat.

The mixed nature of the assemblage, together with its small size and absence of butchery marks, makes interpretation difficult. Since the bone is relatively well preserved, it is unlikely to have been redeposited, although gnawing on several bones

Table 2.6 Animal bones by taxon and anatomical element (NISP)

Element	*Cattle*	*Pig*	*Sheep/ goat*	*Fox*	*Large mammal*	*Medium mammal*	*Small mammal*	*Mammal indet.*	*Bird indet.*	*Total*
Mandible			1	1				1		3
Scapula			1							1
Humerus	2									2
Radius	1					1				2
Caudal vertebra							1			1
Cervical vertebra					1					1
Vertebrae indet.						3				3
Pelvis	1									1
Femur	1		1						1	3
Tibia			1							1
Rib						5				5
Metacarpal						1				1
Metatarsal			2							2
Metatarsal II		1								1
Metapodial indet.						1				1
Phalange 1	1		1							2
Phalange 2			1							1
Indeterminate fragments								26		26
Total	6	1	8	1	1	11	1	27	1	57

demonstrates that some were lying above ground at least for a short time.

ORGANIC RESIDUE ANALYSIS OF SOILS FROM THE GRAVE *by Matthew Pickering, Carol Lang, Maria Raimonda Usai, Brendan Keely and Don Brothwell*

During excavation soil samples were collected from several key areas around the skeletons to test for signatures of the bodies and any materials buried with them (see Appendix 1, Figs A1.1-A1.6). The full report is provided as an appendix in this volume; a summary of the main findings is provided here.

Samples of soil were subjected to chemical and micromorphological analyses which found that those associated with the skeletal remains generally exhibited a greater proportion of cholesterol than the control samples (which were taken from the spoil heap of material removed from the grave from an undisturbed section beyond the western edge of the feature, above the level of the skeletons), and that the cholesterol probably derived from the degradation of the body tissues. In addition, samples collected the centre of the grave and from the pelvic region of some of the skeletons, where the lower intestines and bowel would have been, contained coprostanol, a marker for human faecal material. In the case of the samples from the centre of the grave this is most likely to indicate a mixed signal deriving from the pooling of organic matter from several individuals. The occurrence of coprostanol in pelvic samples probably indicates the presence of faecal material deriving from the digestive tract. Examination of the sterol distributions in the pelvic samples with the strongest faecal signals suggests that these individuals may have consumed a diet of plant and animal origin, comprising significant quantities of the latter, within 48 hours prior to death. This interpretation should be viewed with caution however, because while dietary information has been obtained from coprolites, soils are much more dynamic systems susceptible to external influence.

Blood-derived heme derivatives could not be detected in the samples and this could be the result of them having leached away or degraded. An alternative interesting explanation is that the bodies were exsanguinated before they were placed into the grave. Signatures for clothing in the soil samples were also not detected, but again this does not necessarily mean that it was not present in the burial and could equally result from a lack of preservation.

RADIOCARBON DATING

Three samples were selected for radiocarbon dating and these were submitted to the Scottish Universities Environmental Research Centre (SUERC) for AMS radiocarbon dating in 2009 and 2010. The selected skeletons were chosen because the bones appeared to be in good condition and were from different areas within the mass grave, covering

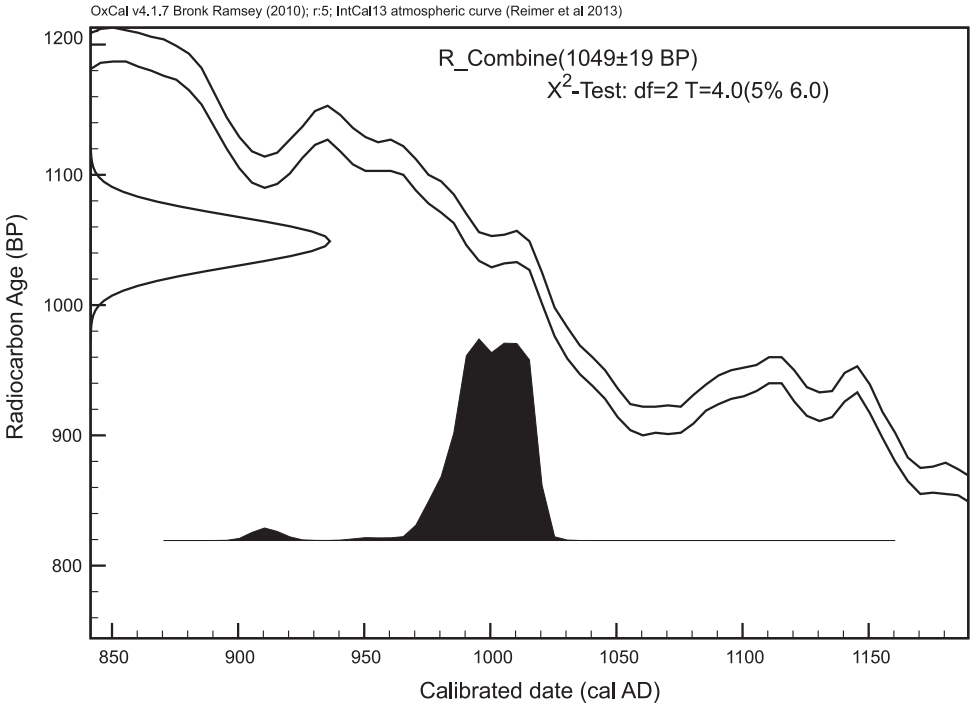


Fig. 2.20 Combined radiocarbon dates from skeletons 3698, 3804 and 3763

more or less the top, middle and bottom of the bone deposit. Skeleton 3698 was one of the first skeletons to be excavated, while skeleton 3763 was taken from roughly the middle of the skeletons and skeleton 3804 was from one of the first bodies to be deposited. The results are conventional radiocarbon ages (Stuiver and Polach 1977), quoted according to the international standard known as the Trondheim convention (Stuiver and Kra 1986). The calibrated date ranges were determined from the University of Oxford Radiocarbon Accelerator Unit calibration program OxCal. 4.1 (Bronk Ramsey 1995; 1998; 2001; 2005; 2009) using atmospheric data from Reimer *et al*. 2013 and are cited at 95.4% probability.

A right tibia from a partial skeleton (3698) produced a date of cal AD 890-1020 (SUERC-24206; 1055+/-40 BP). The tibia was that of a young adult aged 18-20 years based on epiphyseal fusion (epiphysis largely fused but fusion lines still clearly visible). A midshaft of left fibula (skeleton 3804) produced a date of cal AD 970-1160 (SUERC-27335; 1005+/-30 BP). A second midshaft of left fibula (skeleton 3763) produced a date of cal AD 890-1040 (SUERC-27339; 1090 +/-30 BP). The dates for all three skeletons are combined in Figure 2.20.

The three radiocarbon measurements are statistically consistent (T'=4.0; T'(5%)=6.0; df=2; Ward and Wilson 1978). As it is certain that all three individuals were buried as a single event a weighted mean of the three measurements can be taken (1045+/-19 BP), which calibrates to cal AD 970-1025. It is highly unlikely that further radiocarbon determinations will provide more precise dating. Further samples could (theoretically) reduce the error on the weighted mean, but it is probably as low as it is scientifically valid to go already (there is a point where you meet irreducible error). For this reason no further radiocarbon dates were obtained, although this is something that future research may wish to target.

Isotope analysis suggests that the individuals had significant, although not large amounts of marine protein in their diets (see pp. 128–9 and Appendix 3). High marine diets have the potential to make radiocarbon dates too old. However, the consistency of the radiocarbon results argues that this was not a significant issue for the Ridgeway Hill skeletons since the stable isotope analyses indicate that these individuals are unlikely to have consumed the same diet for the last 20 years of their lives (see Appendix 3).