Amarna
South Tombs Cemetery
(Upper site)

Fieldwork Season
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Excavation Report

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1 Introduction

1.1 Background

The 2009 season was the fourth season of excavation at the South Tombs Cemetery site. The site is located on the sloping banks of a large wadi that cuts down through a low plateau to the southwest of the main city site. The mouth of this wadi exits on to the plane in the vicinity of a group of rock cut tombs belonging to nobles of the Amarna Period - the so called South Tombs. In 2005 survey work found a considerable amount of human bone at the surface in and around the wadi. Excavation at the site commenced in 2006 when a 5m x 35m area was excavated on the eastern slope of the wadi. A series of disturbed burials were identified in the upper layers of deposit, but due to time constraints the base of the deposits were not reached in all the grid squares. It was clear from investigations during this season that the cemetery continued to the north and south beyond the excavated area. In 2007 another 5m x 35m strip was excavated directly to the north of the 2006 area. During this second season natural deposits were reached which had not been disturbed by later looting activity, allowing the burial pits which were cut into them to be identified and excavated. Several of these burials were excavated during the 2007 season though a significant number of probable burials remained un-investigated. It also became apparent that the base of the archaeological deposits had not been reached in much of the 2006 excavation area. During the 2008 season, the remaining lower deposits over the 35 x 10m area previously excavated were cleared down to the base of the archaeological remains. Many additional burials were identified, giving a full picture of burial activity in the area excavated so far. Excavation was begun in the strip of grid squares on the northern side of the 2006-8 excavations with the partial clearing of squares L53 and M53 in preparation for the excavation of this strip of squares in 2009.

1.2 Excavation Aims

The aims of the 2009 season were largely the same as those of the previous seasons; to supply information about the non-elite general populace of the city of Akhetaten and their burial practices. Prior to the excavations at the South Tombs cemetery very little was known about New Kingdom period burial practice at Amarna outside the elite sphere represented by rock cut tombs. The non-elite populace is generally under-represented in the recovered archaeology and the investigation of their burial practices provides an important source of information, not only about the ritual practice and material culture associated with burial, but also about many other aspects of life in Akhetaten through study of physical remains.

Building on the results from the previous seasons, the aim of the 2009 season was to excavate the strip of grid squares G53 to M53 down to the base level of the archaeological deposits, recording and collecting the archaeological and osteological material encountered. This material would then be added to the data obtained from the previous seasons in order to investigate the burial practices in evidence at the site. This included burial density, the orientation of the bodies, the treatment and containment of the bodies, and the inclusion of grave goods. Osteological analysis of the skeletal material provides an important source of information on a range of issues to do with the demographics, lifestyle, diet, health and physical characteristics of the ancient population. The temporal distribution of the burials and the time frame of their later disturbance will also be investigated. The ultimate aim is to build a picture of the cemetery, and the people buried in it, as part of the ancient community, city and landscape.

1.3 Site Description

The excavated portion of the site is located on the eastern slope of the large wadi at the more southerly end of the cemetery. Here the east bank of the wadi initially drops relatively sharply downwards from the plateau...
but at a distance of approximately 40-60m from the current wadi floor the degree of slope flattens out and a relatively gentle slope continues downwards. Approximately 2m from the floor of the wadi proper the surface again drops sharply to base level. As such the embankment provides a large open area, which would have served as a suitable space for a cemetery of significant size. The question of to what degree the current topography varies from that of the Amarna period is not easily answered. Excavation undertaken to this stage does seem to point to a series of depositional and erosion phases. While the evidence is inconclusive deposition seems to be the greatest factor at work so that preserved Amarna Period archaeological deposits are buried beneath accumulated sand and gravel. The depth of this deposition varies significantly over the site. Excavation in a portion of grid square F52 during the 2008 season revealed the western limit of the wadi bank at the time of the cemeteries utilisation. This illustrated that the current limit of the eastern embankment varies only slightly from that of the Amarna period with a deposit of loose fine grained sand accumulated over the sloping end of the wadi bank. Based on survey findings, topography of the landscape and excavation results it is likely that the cemetery extends over much of this eastern side of the wadi. This year excavation was also begun in a small area on the eastern bank of the wadi close to the wadi mouth. The work here has shown that the cemetery extended to at least part of the eastern embankment. The east bank excavation is described in a separate report.

The area under excavation in 2009 is a previously unexcavated strip of grid squares. The strip runs from a natural outcrop of limestone, which marks the northern limit of the deposits into which the cemetery was dug, down the slope of the wadi side to the wadi floor at the southern end. The surface sloped gently and fairly evenly from north to south and was covered with a scatter of limestone chips and larger rock fragments.

1.4 Methodology

Excavation and recording of the burials was carried out by Prof. Barry Kemp, Mary Shepperson, and John Muir. Joe Lewis also worked at the upper site at the beginning of the season. All excavators worked over the whole area of the trench, taking on the next most pressing burial on finishing the previous one. The bulk of the material was removed by local workmen working by square in two teams of five men. The deposits were removed by transferring the sand to rubber buckets using a large trowel; all material was then passed through a hand sieve onto the spoil heaps with any archaeological material being collected by the workmen at the sieves. The process of excavating the site can be summarised as the removal in spits of the upper deposits which had been disturbed by water, wind and the activity of looters, down to the undisturbed natural layers through which the graves had been cut. The burial pits could at this point be identified and excavated in isolation. The skeletal remains were protected from the sun as much as possible during excavation and always left covered at the end of the day to reduce the damage caused by sunlight. The bones were put into plastic bags and stored on covered trays for transport back to the dig house. At the dig house the bones were briefly examined, sorted and packed for storage.

Each recognisably distinct deposit was assigned a unit number. Units were not continued across the grid square boundaries so that the same layer of material will be assigned a different unit number in each grid square it is excavated in. In addition, a new unit number was assigned whenever a significant cluster of archaeological material was found; so, for instance, the material in a grid square below a bone cluster will be given a separate number to that above the level of the cluster, even though the deposit has not visibly changed in composition. This allows an extra degree of stratigraphic control.

Recording and description of the site and the burials refer to orientation according to the site north which was determined in the 2006 season (Kemp 2006) for ease of reference. Site north refers to the direction looking up the wadi parallel with the short sides of the strip being excavated. When directions are described in this report they refer to site north except in the section where burial orientation is discussed and where otherwise stated.

In order to maintain consistency with methods utilised in previous seasons bone groups were assigned an Individual Number (no.) when at least 50% of a complete skeleton could be determined to be articulated or
clearly associated at the time of excavation. If a group of articulated and associated disarticulated bone was excavated from an original burial context, that is from within a discernable burial pit then less then 50% of an individual may still be identified by an Individual no. Skulls were also assigned separate skull numbers to help give an easy estimate for the minimum number of individuals represented. The sequence of numbering continued from the numbers reached at the end of the 2008 season.

Disarticulated bone that was clustered together but not contained within a burial pit was not assigned an individual number at the time of excavation. These bone clusters were given a distinct unit number to locate them in relation to any surrounding fill and burials. During post excavation analysis some of these clusters were found to contain bone of an identifiable skeletal age and sex but not always from a single person. In many cases only a relatively small percentage of the total skeleton was recovered. A number of the bones recovered from such clusters have been able to be associated with the burial of a formerly identified individual. The description and discussion of burials in this report is prior to the results of formal osteological analysis and may need to be amended in detail in light of the findings of the physical anthropology team.
2: Archaeological Findings
Results by grid square

Grid square G53

The square is the closest to the bottom of the wadi, the western edge sloping down to the wadi floor. The loose stony surface deposit (12701) was removed. This was a mix of fine yellow sand and limestone gravel, containing occasional small weathered sherds, two fragments of worked limestone and a single cylinder bead. The material below (12708), consisting of soft sand and gravel, held a rounded patch of more compacted, brown stained sand. This was on the south edge of the square, truncated by the previously excavated square G52; it probably represents the water-laid deposits at the bottom of a robber pit. Traces of a further pit (12718) were found in the next layer of sand and gravel (12717) associated with a few small bone fragments. Below a further layer of sand and gravel (12728) a small, isolated bone cluster (12730) was found consisting of a radius, a scapula and one rib. A further rib was recovered from the same area of the sandy layer below (12741) which showed areas of disturbed deposit along the southern edge of the square. This unit also contained an increased amount of archaeological material; sherds and fragments of fabric, matting, rope and two pieces of wood (39734), possibly pegs.

Grave cut <12756>; fill (12757)

Fig 1: Plan of grave cut <12756>

Only the lowest level of burial cut <12756> was found in the south-east corner of the grid square. The northern end of the cut was very poorly preserved and could not be clearly defined. Preservation at the southern end of the cut was much better retaining a clearly defined shape with steep sides to a depth of about 20cm. The grave contents were assigned the fill number (12757). A scapula, a rib and a finger were
scattered within the cut and a fully articulated hand lay at the northern end next to the edge of the cut. At the southern end of the cut two worked pieces of plant stem were found (obj. 39733 and 39407); they were unusually large and had a carefully cut end below which two notches had been cut in their sides. It is unclear whether these were part of the construction of the coffin matting or some kind of grave goods. At the southern end of the cut an area of plant stem matting (12762) was preserved in situ bound with traces of thin string. On top of the matting were patches of organic material with traces of fabric which had helped to hold the matting in position. The position of the articulated hand is clearly not in situ meaning it must have fallen away from the body while there was still significant tissue preserved, i.e. when the grave was robbed. The destruction of the cut and the coffin matting at the north end of the burial suggests that the grave robbers accessed the burial at this end, dragging out the burial during which process the hand and a few bones were left behind. From their position, it seems likely that the bones of bone cluster (12730) found higher up originated in this burial.

The next spit of loose sand and stones (12765) contained little except a circular wad of dried grass and sticks (12768) which was probably a rodent nest, and a circular patch of discoloured sand (12793) of about 50cm diameter. Below this was a layer of fine compacted yellow sand and fine gravel which was undisturbed and represents natural wind and water-laid deposits below the level of the burials.

**Grid square H53**

The loose surface material (12700) was a mixture of fine wind blown sand, course limestone gravel and some larger limestone fragments. A few weathered sherds were also scattered across the square. More sherds were found in the layers below (12711, 12729 and 12732) along with some small fragments of plant stems from coffin matting and rope. Below this level a grave cut <12749> was identified in the north-east part of the grid square.

**Burial of individual 85 (12760) in grave Cut <12749>; fill (12759)**

![Fig 2: Plan of grave cut 12749](image)
Grave cut <12749> is an irregular, fairly well defined cut running north-west to south-east, with near vertical sides. The cut is not preserved to a great depth and has collapsed somewhat at the south-east end. The fill (12759) of the cut contained a lot of stones and fine gravel, especially towards the top of the cut; probably surface material which slumped into the pit left by the robbers. An incomplete and highly disturbed burial (12760) occupied the centre of the cut and was totally disarticulated. No skull was found although a mandible was recovered from the middle of the heap of bones.

Fig 3: Cut <12749> containing disturbed burial (12760). View facing NE

A large, flat oval bead, 39419, inscribed with the name of Amenhotep III was found in the fill along with a worn faience pendant, 39413, showing a figure of Hathor. Units (12750) and (12770) represent increasingly compacted layers of sand and fine gravel below the level of the top of cut <12749>, containing pot sherds and a few bone fragments. Below these units a small rectangular grave cut was identified in the northern part of the grid square.

Grave cut <12878>; fill (12879)

Fig 4: Cut <12878> with fragmented child skull at NE end
Burial cut <12878> is a small but fairly deep cut, reaching a depth of almost 40cm. The near-vertical sides are well preserved, forming a rectangular cut with quite sharp corners. The break of slope is sharp at both the top and bottom of the cut, although the top of the cut has probably been truncated. The base of the grave is slightly concave and lined with fine gravel. The fill of the cut (12879) consisted of sand and fine gravel, and near the top of the fill was found the fragmented skull of a child at the north-east end of the cut. Towards the bottom of the fill the sand and gravel was found to be stained brown in places from decayed organic material, although no actual coffin material was found. The small size of the grave cut indicates that this is a child burial meaning that the skull fragments are almost certainly from the principle burial in this cut. The cut seems unnecessarily wide for a single child when compared to single child burials from elsewhere in the site (e.g. <12784>). This suggests cut <12878> may well have originally held more than one child.

No further burials were found below <12878> and the undisturbed natural deposit (12925) of compacted sand and gravel marks the base of the excavation of square H53.

**Grid square I53**

The surface material (12702) of square I53 consisted of loose sand and gravel with a scatter of limestone rocks. The deposit sloped gently from east to west towards the floor of the wadi and had four weathered sherds lying at the surface. The layer below this (12719) was slightly more compacted and contained a large amount of pottery fragments along with traces of charcoal, matting and rope material. Skull 112 was found isolated near the northern edge of the square below (12719). On removal, the brain tissue was found to be still within the skull. A large pot sherd was found very close to the skull.

Further layers of sand and gravel (12735) and (12737) were removed during which a large number of blue faience disk beads were found through the sieving of the deposits. A small faience bes pendant was also found in unit (12735). Below these layers a grave cut was identified in the north-east corner of the square.

**Burial of Individual 86 in cut <12767>; fill (12746)**

The grave cut <12767> is a medium sized grave oriented north-west to south-east. The lower sides of the cut are clear, steep and well defined but become irregular and defuse higher up. This is probably due to disturbance by robbers when the burial was rifled from above. The burial was probably disturbed from the north-west end as the cut at this end is not preserved to as greater depth. The slope of the cut is sharp on the east side but more gentle along the west side, the bottom of the cut is slightly concave through both sections.
Cut <12767> contained a badly disturbed burial (12746) of an adolescent. Mixed with the bones were fragments of plant stem matting, some of it in situ, and also mud brick fragments, string, organic material and a large quantity of textile. The skull was assigned as 114; it was found at the north-west end of the cut, broken and lying on its right side. Most of the bones were in very poor condition being brittle and friable, indicating they may have been exposed at the surface for some time after the grave was robbed. The exception to this is the bones of the lower legs which appear to have remained in situ at the bottom of the cut and were in good condition.
The position of the lower legs at the south-east end of the cut, combined with the skull being found at the opposite end, makes it clear that the body was laid with its head to the north-west. When the bones were examined the skeletal remains were found to be 90% present with only the phalanges and a few feet and hand bones missing; the burial was therefore assigned as Individual 86. After the removal of the bones, the bottom of the grave cut was found to be lined with a layer of in situ plant stem coffin matting (12774) which extended some way up the western side of the cut. The coffin material lay in the deepest part of the cut which retained the original cut shape. The upper surface of the plant stem matting was coated in tissue and organic deposits from contact with the burial.

At the same level that the top of cut <12767> was identified, a large bone cluster was found just to the south. At first it was thought to be a jumble of bones dumped during the activity of the robbers but further investigation showed it to be a badly disturbed burial.

**Burial of Individual 84 (12747)**

The lower part of the burial, from the waist down, was found in situ in a wide irregular pit. The bones of the upper body lay across the top of the pelvis and femurs in an attitude suggesting the body had been roughly folded over at the waist while there was still sufficient tissue preserved to retain its general integrity. This must have occurred when the grave was robbed and strongly suggests that this occurred not long after burial. The bones of the upper body were more fragmentary and less well preserved than those of the lower body, presumably partly due to rough handling when the grave was robbed and partly due to the likely exposure at the surface which followed. Decayed matting, textile, wood and rope fragments, and several small pottery sherds were also found mixed with the bones. A large wad of plaited hair, 20cm long, was recovered but no skull was found for the remains of individual 84. A skull (skull 118) was found at a low level in the fill to the south-east of the main bone cluster, associated with a few ribs and vertebrae but this skull was from a much younger individual than Individual 84. Two halves of a pelvis from a further individual were also found, one half on either side of individual 84; the pit created by the robbers to access this burial seems to have been used as a dump for other disturbed material. The action of the robbers also seems to have obliterated the burial cut which could not be clearly defined.
The material (12755) below the level of the top of the burials of individuals 84 and 86 held a considerable quantity of pottery fragments and nine more blue faience disk beads. Considering the uniformity and concentration of these beads, it seems probable that they represent a single necklace or bracelet which has become disbursed over the square through the activity of the robbers and then wind and water action. No central point of origin for these beads could be identified.
**Individual 87; cut <12782>, fill (12779)**

The scattered remains of a badly disturbed child burial were found below (12755). These bones were spread over a defuse area and were poorly preserved suggesting they had been exposed at the surface after the burial was disturbed. On removing the upper level bone fragments and excavating deeper, better preserved bone along with the partial outline of a cut was found.

![Fig 11: Individual 87 Plan](image)

The grave cut of individual 87 <12782> was only preserved on two sides; the south-west and south-east. The other two sides were totally demolished to a smooth gentle slope up which the infant bones were scattered. The two preserved sides were smooth and nearly vertical forming a corner at roughly ninety degrees. The skull was broken into two halves; the upper half lying inverted at the north end of the grave cut with the lower half and mandible at the south end. One arm appears to have remained in situ lying on top of a few sticks of plant stem coffin matting running parallel with the grave cut. The radius, ulna, humerus, scapula and clavicle were articulated in an extended position with the shoulder joint at the southern end. This indicates that the head lay to the south-east end of the cut and that the lower half of the skull and the mandible are more or less in their original position. A semi articulated leg lay at the northern end of the bone scatter, though clearly out of situ. Pottery fragments were found in the centre of the burial, indicating that there was probably a pot included in the burial, which may have been similar in form to that of individual 88. When the bones were re-assembled they were found to be 90% present with only a few ankle, wrist, hand and foot bones missing.

**Individual 88; cut <12784>, fills (12785), (12790)**

The first indication of the presence of the grave of individual 88 was a complete rim of a pot found upright in loose sand. Cleaning around this a small grave cut <12784> was identified with the pot lying at an angle at the western end of the cut against the south edge. On removal of the upper fill (12785) of loose, stoney sand, a matting coffin (12787) of thin soft plant material was uncovered, bound with thin rope which was preserved in places. Fragments of skull protruded through the coffin material towards the west end. In addition to the complete jar lying at the head end of the grave, a medium sized sherd also lay to the west of the coffin; this had clearly been laid there deliberately as the grave was undisturbed. It possibly protected a burial deposit which has since decayed as nothing was found beneath it. The coffin material was removed to reveal an undisturbed infant burial lying on the right side in an extended position. Both arms were extended, with the right arm lying under the body and the left lying across the rib cage, bringing the hands together in front of the pelvis. The legs and feet were all extended in line with the body. The skull was slightly crushed, probably just by the weight of deposit above, and retained some short, fine hair. The body had been wrapped in fabric but this was badly preserved except around the neck area where it had been especially thick.
After the burial was removed, it was found that a single layer of stiff plant stem matting bound with string underlay the body inside the soft reed-like outer matting. It seems that this was to give the burial extra rigidity, helping it to remain in order up to and during the burial. This could be taken as an indication that the bodies were wrapped elsewhere before transportation; such reinforcement would not be necessary if the body was wrapped at the grave side. The grave cut was narrow but somewhat longer than necessary to accommodate the matting coffin, leaving a gap at either end. At the head (west) end of the cut a narrow shelf ran along the south side of the cut which supported the ceramic jar found near the head. Perhaps other unpreserved grave goods were placed along the rest of the length of the shelf but no traces were found. The north side of the cut was smooth and steep, curving down to a concave base, sloping up to at the sides in all directions. The slope down from the shelf on the south side was less steep, forming a smooth curve.

Fig 12: Individual 88, stages of excavation
Triple burial of individuals 90, 91 and 93; cut <12796>, burial fills (12804), (12808), (12809)
At the same level as the infant burial individual 88, a large rectangular cut <12796> oriented north-west to south-east was defined in the south of the square. When the loose top fill of the cut (12797) was removed, two sub-cuts <12820> and <12821> were found within <12796> each containing a plant stem matting coffin. An inverted shallow, broken ceramic bowl was placed on top of the coffin matting between the two cuts at about knee level of the adult burials.

**Individual 90**: The southern burial in cut <12820> was excavated first, starting with the recording and removal of plant stem matting coffin (12799). The sticks of the coffin were bound together with thin string, traces of which remained preserved. The coffin was less well preserved at the north-west end, exposing the head and shoulders of the burial below. The coffin matting was slightly wider than the narrow sub-cut <12820> and spread outwards over the top of it to accommodate the roll of matting (12800). When the upper layer of matting sticks were removed, a roll of fine, well made matting made of plant fibres, possibly reeds, was found covering the central part of the burial.
Fig 15: Matting roll (12800)

The roll of matting was not wrapped around the burial but was laid on top of it, the sides of the roll being tucked under more towards the feet end to make the shape of it thinner but bulkier. At least four layers of rolled mat could be seen, thin lengths of string were woven into the mat at regular intervals and the edges of the matting were secured by looping the plant fibres over on themselves and then tucking them in. When the rolled matting was removed an unusual burial (12804) was revealed. The skull (122) was tilted onto its right side, facing towards the south-east. The face was smashed, apparently recently, probably by workmen walking over the surface before the grave cut was defined. The skeleton was roughly articulated as far as the waist, lying on the right side with the articulated left arm lying across the torso, extended down towards the pelvis. However, the scapulae, ribs and vertebrae were disarticulated and mixed together in the area of the chest cavity. The irregular shape this created seems to have been packed with sherds and small fragments of mud brick in order to restore some shape to it. The pelvis was disarticulated and carefully positioned on top of the other bones in the area of the waist. When these bones were removed, the right arm the leg bones were found lying roughly articulated below them with the ankles at the south-east end. Most of the ankle bones were found here at the end of the tibias but the foot bones were scattered throughout the burial. The hand and finger bones were concentrated at the waist but some were found down by the ankles and some mixed with the rib bones around the chest. Several of the fingers were still articulated and fingernails were found attached to some of the phalanges. When reassembled the burial was found to be complete.

Fig 16: Burial of individual 90; reburied remains. View facing NE

Beneath the burial, the bottom layer of coffin (12799) was found showing that the burial was fully enclosed by the outer coffin. This burial appears to be an ancient reburial. Some parts of the body seem to have been
still partially held together by tissue so that elements remained articulated. The parts of the burial have been carefully put back together in rough order and piled on top of the legs, possibly to help keep the burial together while it was moved. Traces of textile suggest the burial was wrapped in cloth. The odd shape and shortened length of the body was then disguised using the roll of reed matting (12800) to make more of a normal shape before the remains were wrapped in the plant stem matting coffin (12799). How these remains came to be reburied is a matter open to speculation. Perhaps the individual died somewhere else and had to be transported back to Amarna for final burial. Perhaps this is a burial which was robbed during the use life of the cemetery and so was reburied with the other two individuals, possibly by family members. Many other scenarios can be imagined.

**Individual 91:** The presence of the burial (12808) of individual 91 was not detected until the plant stem outer coffin (12798) in sub-cut <12821> was removed. This was an undisturbed child burial laid over the legs of adult burial individual 93. The body was wrapped in a mat of soft plant fibre (12810) which lay parallel to the direction of the body and was held together by thin string at at least one point. Within this matting the body was laid on its left side in a fully extended position with the head to the south-east; the opposite way to the two adult burials which had their heads at the north-west end. Traces of thin textile show that the burial was wrapped in cloth. The skull (124), which was fragile and slightly crushed, lay on its left side facing south-westward. The arms were extended down the sides of the burial towards the pelvis where the hands lay extended and fully articulated on either side of the pubic bones.

![Fig 17: Individual 91; child burial on top of the legs of Individual 93. View facing SW](image)

On the removal of individual 91, the soft mat wrapping which enclosed the burial was found to have been laid directly onto the cloth wrapping of individual 93.

**Individual 93:** This was an undisturbed adult burial occupying the northern of the two sub-cuts <12821> of the triple burial. Along with the child burial, individual 91, individual 93 was enclosed in a rigid plant stem matting coffin (12798), the sticks of which were bound together with thin rope and then the whole coffin was tied up with thick rope, pieces of which are preserved. The removal of coffin (12798) and the burial (12808) of individual 91 exposed an extended adult burial (12809) lying on its back but tilted onto its right side with the head to the north-west end of the cut. The skull (125) was also tilted to the right, facing south-west, and had had its face crushed, probably recently. The body was wrapped in thick cloth which was well preserved, especially where it had been over-lain by the burial of individual 91. The body and its cloth wrapping had been tied up with thin rope which was well preserved around the pelvis and legs. The hands were laid in front of the pelvis and rope was wrapped around the body several times at this point to keep the hands and arms in place. At the feet the cloth had been bunched together, tied up with string and folded over on top of the feet, which were flexed and pointed upwards. Under the cloth a substantial amount of body tissue was preserved including skin, head hair, pubic hair, finger and toe nails. The bones were in very good condition.
Although it is difficult to define the precise sequence of deposition for this burial, it appears that the primary burial was that of individual 93 and the child individual 91 in cut <12821>. A second narrower, shorter cut <12820> was then dug beside it for the reburial of individual 90. It is not possible to know the length of time which separated the two phases of deposition.
Fig 19: Stages of excavation of the triple burial of Individuals 90, 91 and 93

Individuals 109, 110 and 111 in grave cut <12829>, fill (12830)
At the same level as the burials of individuals 88, 90, 91 and 93 a large rectangular grave cut was identified near the east side of the grid square. It was of a similar size and shape to that which contained the undisturbed triple burial of individuals 90, 91 and 93. The contents (12830), however, were very thoroughly disturbed and mixed through the fill of the cut. Several large pieces of un-worked limestone sat at the top of the fill. Although only one skull (129) was present in the grave, the mixed remains were found to belong to three individuals; one adult, one small child, and one older child. The articulated lower legs of the older child
were found at the bottom of the cut at the south-east end. This suggests that the bodies were laid with their heads towards the north-west, but as is illustrated by the undisturbed triple burial of individuals 90, 91 and 93, the bodies in a multiple burial are not always placed in a uniform direction. There were disturbed remains of matting from at least two matting coffins, one of which was of fine grass fibres.

Fig 20: Disturbed triple burial (12830) in cut <12829>, upper layer

At the bottom of the cut impressions and partly preserved remains of two rigid plant stem matting coffins were found side by side, the matting on the south-west side being made of smaller finer plan stems. The lower legs of the small child burial were found in situ embedded into the remains of the coffin matting. They were lying in the opposite direction to the articulated lower legs found on the other side of the cut and must have lain under the adult burial on the south-west side, which is the broader, deeper side. The cut <12829> was a large, well defined grave cut oriented north-west to south-east. The southern end of the cut had an irregular shape, possibly to accommodate two coffins of different sizes, and possibly indicating that a single grave was later enlarged for additional burials. The sides were smooth and vertical with two concave depressions at the bottom where the coffins lay.
Fig 21: Cut <12829> in plan and profile, showing the remains of two matting coffins

Double burial of Individuals 112 and 114 in grave cut <12838>
At the same level as the graves of individuals 88, 90, 91, 93, and the disturbed triple burial in cut <12829>, a long narrow grave cut was identified in the north-west corner of the square, slightly protruding into the adjacent square H53. The cut <12838> is clear and regular and oriented north-east to south-west, with clearly defined vertical sides preserved to a depth of about 60cm. At the north-east end, the lower level of the cut is extended beyond the higher cut to create a hollow under cutting the material above. The upper fill of the cut (12840), consisting of loose sand, limestone gravel and a few pot sherds, was removed to reveal an undisturbed infant burial (12839). The burial was wrapped in a plant stem matting coffin (12841) which was made of small, fine plant stems bound together with thin string. The coffin was slightly longer than the burial. The removal of the coffin revealed individual 112, a small child laid in a fully extended position on its right side. The head was towards the north-east end and the feet towards the south-west. The skull (133) was on its right side facing north-west with the chin depressed towards the chest. The arms were extended down each side of the body and the hands lay apart on the heads of the femurs. The left foot overlay the right and both feet were slightly flexed.
Fig 22: Individual 112, child burial in cut <12838>. View facing NW

The coffin matting (12841) of individual 112 was found to lie directly on top of the plant stem matting coffin (12847) of individual 114 (12848). The sticks of the coffin were bound together with string which was preserved in places and then the whole coffin was tied up with a single length of thicker rope, looped around the burial at least four times with the rope secured along the top side. The head end of the coffin was less well preserved and the skull was exposed at the south-west end; the opposite end to the head of individual 112, so as with the multiple burials of cuts <12829> and <12821>, the orientation of burials in the same cut is reversed. When the coffin matting was removed, individual 114 was found to be an adult female laid in an extended position face down in the cut. The skull (135) was tilted down towards the chest and had preserved hair in long plaits, one of which ran down the back between the shoulder blades. The right arm was extended with the fore-arm lying under the pelvis. The left arm lay extended down the south-east side of the cut and was remarkable for the shortness of the humerus which was slightly deformed in shape and only two thirds the length of the right humerus. The left hand lay palm up and extended with a glazed steatite cowroid bead (Obj. 39449) lying in the centre, the reverse side of which had an engraved design showing the eye of Horus. It would seem significant that the bead should have been placed in the hand of a very clearly deformed arm. It also seems very unusual that a body should be buried face down but this may well be simply a result of the process of wrapping the body which could easily make it impossible to see which way up the body lay, allowing it to be accidentally buried face down. There were pieces of preserved tissue in a few areas and some fragments or poorly preserved cloth which probably represents the remains of a textile wrapping.

Fig 23: Individual 114 (left) and detail of left hand holding steatite bead Obj. 39449

The base of the cut was found to have a concave base preserving traces of coffin matting. The south-west end of the cut had fairly square corners and there was a space of about 20cm between the edge of the cut and the skull at this end. At the other end the feet extended to the end of the under-cut hollow which was of a more rounded, irregular shape.
Burial cut <12870>; fill (12842)

Between the two triple burials in cuts <12829> and <12796>, a further grave cut at the same level was identified. Cut <12842> was a narrow grave with rounded ends oriented north-west to south-east. The sides were steep with a concave base, which sloped downwards from the north-west end towards the south-east where it extended beyond the upper cut to form a hollow under-cutting the natural sand above. The fill of the cut (12842) contained a very badly disturbed burial mixed with the remains of a plant stem matting coffin, small pieces of Nile mud and fragments of cloth. The bones were completely disarticulated and the skeleton was incomplete, however the concentration of leg bones at the north-west end and the presence of the mandible at the opposite end suggests that the head was probably towards the south-east. No skull was recovered.
Burial cut <12881>; fills (12872) and (12880)
Grave cut <12881> was found in the centre of the grid square at the same level as most of the rest of the burials in the square. The cut was quite narrow with smooth almost vertical sides, oriented north-east to south-west. The contents of the grave were excavated as two fills; the north-east end (12872) and the south-west end (12880). The burial had been badly disturbed and no bones remained clearly in situ. Two skulls were found; skull 139 was fragmentary and only part of it was preserved by the north-west side of the cut along with a mandible, skull 137 was a complete child skull found against the south-east side of the cut. The articulated skeleton of a child, almost complete except for the head and arms, was identified against the south-east side of the cut, and under it the legs of a smaller infant. The articulated child skeleton also lay over the complete skull 137. These remains are thought to have been stacked against the side of the cut by the grave robbers, probably to gain access to the bottom of the pit. Fragments of plant stem coffin matting and textile were also found.

![Fig 26: Plan of grave cut <12881>](image)

Individual 120 (12912) in grave cut <12901>
Grave cut <12901> was identified by the northern edge of the grid square and contained the undisturbed adult burial of individual 120. The burial pit was oblong in shape, oriented north-east to south-west, with a slight bulging outwards of the sides at the southern end. The sides were steep but not quite vertical, preserved to a depth of just over 40cm with a gently concave base. The cut, as the burial, was undisturbed by robbing activity. The upper grave fill (12882) of sand and gravel was removed to reveal a plant stem matting coffin, the sticks of which were bound together with traces of thin string. The whole coffin had been tied up with thicker rope which was preserved in places, particularly at the north-east end. The skull protruded through the coffin material at the south-west end, and towards the centre of the burial, around the chest area, a copper-bronze mirror was found lying flat on top of the burial along the central axis of the grave. The mirror (12911) was wrapped in fine cloth and was accompanied by a kohl stick, both of which were covered by a mass of elaborately braided hair, possibly a wig. The mirror, kohl stick and hair were removed as a single mass. The removal of the coffin material exposed an extended adult burial (12912) lying on its back with the skull turned to the left looking north-west. A substantial amount of braided hair was preserved on the skull. The arms were extended down the sides of the body with the hands coming together in the pubic area. The legs were extended and placed together but the feet seem to have been pushed up against the end of the cut so that the foot bones were compacted together and the feet were flexed upwards.
Fig 27: Stages of excavation of Individual 120 in grave cut <12901>

Fig 28: Copper-bronze mirror (12911), bones of left fore-arm visible. View facing SE

Grid square J53

The surface material (12704), which sloped gently from east to west towards the wadi base, consisted of loose sand and gravel with some larger limestone fragments and 210 pottery sherds, mostly small and weathered fragments. Directly below the surface material, an irregular cluster of disturbed bones (12705) was found. The bones were completely disarticulated and mixed with the remains of reed matting, cloth fragments and hair. One skull was found at the northern edge of the deposit and a mandible was also recovered. The remains represent more than one individual and were not occupying any definable cut. The
presence of this bone cluster so close to the surface suggests that these burials were dragged entirely out of their original burial cut to be looted on the surface by the grave robbers.

**Fig 29: Plan of bone cluster (12705)**

The layer of sand and gravel (12713) below bone cluster (12705) held pot sherds and some flakes of metal (Obj. 39720). Skull 111 (12715) was also found at the level of (12713) in the north-east corner of the grid square. The skull was found lying face down, the bones were well preserved and the mandible was still articulated. Long braided hair was found adhering to the right side and back of the skull, and on removal of sand from the cranial cavity the brain tissue was found to be preserved. The hair became detached when the skull was moved.

**Fig 30: Skull 111**
In the layer of sand and gravel below (12739), two small bone clusters were found by the southern edge of the grid square in the sloping material between square J53 and the previously excavated J52. These were (12740); a clavicle and vertebrae near the south-west corner, and an isolated pelvis (12742) towards the south-east corner. Also in layer (12739) a small compact bone cluster (12748) was found in the south-east quarter of the grid square. It consisted of juvenile leg bones and pelvis along with a few ribs and vertebrae lying in a concentrated deposit. The bones were in poor condition and were mixed with traces of organic material and plant stem matting. Beneath two further layers of loose sand and gravel (12754) and (12763), another small bone cluster (12764) was found in the south-west quarter of the grid square. The deposit consisted of a pelvis, fragmentary ribs and some plant stem matting pieces. A wad of braided hair was found under the pelvis.

**Grave cut <12778>; fill (12771)**
A grave cut was identified near to the east side of the grid square. The upper fill (12771) contained small bone fragments and pieces of plant stem matting along with some patches of organic staining. The lower fill (12777) contained the remains and impression or a reed matting coffin and a few badly decayed infant bones. The cut was disturbed and difficult to define but could be outlined from a change in the compactness of the sand and from grey organic staining in the sand. The grave cut was small, indicating an infant burial, and oriented north-west to south-east.

![Fig 31: Plan of grave cut <12778>](image)

**Grave cut <12780>; fill (12776)**
Grave cut <12780> was found near to the south edge of the grid square and was oriented from north-west to south-east. The burial was badly disturbed with only the legs of the burial preserved, although these remained in situ. The remains of an outer coffin of rigid plant stems bound with thin rope was found above and below the bones, and in between there were fragments of an inner matting made from bundles of grass stems wrapped around the body. At the bottom of the cut, just above the outer coffin material, areas of textile were preserved indicating that the burial had a cloth wrapping.

![Fig 32: Grass matting in (12776), view facing SW](image)
A further spit of sand (12786) was removed, consisting of loose sand and gravel, a few pot sherds and some fragments of human bone. Two pieces of braided hair (12791) were found below in the south-west quarter of the square. They lay at the same level some distance apart and were not associated with any other remains.

**Fig 33: Upper and lower level plans of grave cut <12780>**
Grave cut <12817>; fill (12814)
Below layer (12786) a grave cut <12817> was identified just to the south of grave cut <12778> and running roughly parallel to it. The cut is oriented north-west to south-east, its shape is narrow with rounded ends, and the sides slope steeply, narrowing the cut towards the base. The eastern end of the cut is more irregular and appears to have been disturbed; the looting of the grave probably occurred from this end. The fill of the burial cut (12814) was loose and contained a scatter of bones (mostly phalanges), brown organic staining and fragments of decayed plant stem matting and rope. The debris was concentrated towards the western end of the cut. At the base of the cut the in situ remains of a plant stem matting coffin were found with traces of think rope bindings.

Fig 34: Plan of plant stem coffin traces in grave cut <12817>

Burial of individual 94 (12822) in grave cut <12819>; fill (12818)
At the same level as grave cut <12817>, a further burial cut <12819> was identified just to the west of <12817 and <12778>. This was a small, well defined cut running north-east to south-west, narrowing towards the northern end. The sides were steep but not vertical and reached a depth of 45cm below the level where the top of the cut was identified. The base was slightly concave with a rounded transition with the sides of the cut. The fill of the cut (12818) contained fragments of textile, plant stem matting, sherds and rope along with some infant bone pieces. Fragments of skull (128) were found near the base of the cut at the north-east end. At the bottom of the burial pit the legs, feet, and vertebrae of a child, individual 94, were found lying in situ on a layer of poorly preserved plant fibre matting. There were also patches of textile preserved indicating that the burial was wrapped in cloth. The position of the legs and vertebrae shows that the body was laid in an extended position on its back and that the head was laid at the north-east end of the cut with the feet to the south-west.

Fig 35: Burial of individual 94 in grave cut <12819>. View facing NW
Fig 36: Plan of the burial of individual 94 in grave cut <12819>

Burial of individual 107 (12831) in grave cut <12828>; fill (12827)
At the same level as the burials described above, burial cut <12828> was identified near the northern edge of the square. The cut was oriented north-east to south-west and the sides were clear and well-defined with rounded ends. The pit was preserved to a depth of about 20cm with a greater depth preserved at the southern end. The fill (12827) of the grave cut consisted of fine, loose sand and gravel, mixed with organic material, which surrounded a deposit of disarticulated bones concentrated at the northern end of the grave cut. These bones included skull 130 which was found towards the centre of the cut on lying on its left side, short fine hair was preserved on the scalp. The mandible was found close to the skull and this also had some hair preserved on its surface, suggesting that the individual may have had a short beard. The bones of this upper deposit were brittle, whitened and poorly preserved which may indicate that they were exposed at the surface for some time after the burial was robbed. These disarticulated bones were removed to expose the in situ remains below of an adult, individual 107 (12831). The burial was laid in an extended position on its back with the feet, legs, pelvis, vertebrae and ribs preserved in situ along with the right radius and the bones of the left fore-arm. The head end of the burial was towards the north-east. Beneath the body an extensive layer of preserved textile from a cloth wrapping was found on top of the remains of a poorly preserved plant stem matting coffin tied together with thin string.

Fig 37: Burial of individual 107 in grave cut <12828>. View facing NW
Fig 38: Plans of the burial of individual 107 from the upper to lower levels

Burial of individuals 118 and 119 in grave cut <12727>; fill (12913)
Grave cut <12727> was initially identified in grid squares J52 and K52 but also extends into squares J53 and K53. The division of this grave between four different grid squares resulted in it not being defined until only the lower layers remained. The cut is wide, roughly oval in shape, and oriented roughly north to south. At the lowest level of the cut, the upper part of the pit is undercut at the northern end to produce an irregular hollow, the shape of which suggests a double cut. This is supported by the shape of the base which shows two distinct side-by-side depressions along the length of the cut, suggesting two burials placed next to each other. The cut was much better preserved towards the northern end. The fill (12913) contained the incomplete and totally disarticulated remains of two individuals; a juvenile individual (118) and an adult individual (119). Both individuals were only represented in the grave by the scattered bones of their lower legs and feet, a single femur from individual 118 was also recovered. All bones were found out of situ, mixed with loose sand and gravel containing organic staining, and plant stem fragments from matting coffins. A red stone bead (Obj. 39452) was also found in this fill. The bones were in various states of preservation suggesting that some had been exposed at the surface after the grave had been disturbed. At the bottom of the pit were in situ remains of two coffins of plant stem matting (12914), preserved most fully at the northern end of the cut. At the south-east side of the cut an area of plant stem matting was preserved beneath an area of fibrous plant material, possibly palm fibre, which seems to have lined the inside of the east side coffin where textile wrapping is more usually found.
Fig 39: Upper and lower fills of grave cut <12727>, containing individuals 118 and 119

Grid square K53

The surface material (12703), which sloped gently from east to west towards the wadi, consisted of fine loose sand mixed with limestone gravel and larger fragments of limestone. It contained pottery sherds, mostly small and weathered, charcoal, fragments of plant stem matting and small scraps of textile. A cowroid bead (obj. 39367) impressed with a maat sign was also found in this surface deposit. The fragments of a child skull (12706) were found at the southern edge of the grid square at the top of the slope between square K53 and the previously excavated square K52. The sub-surface material (12725) and (12743) contained fewer finds and fewer of the larger limestone rocks.
A small bone cluster (12744) of juvenile bones was found within unit (12743) close to the western edge of the square. These included an articulated lower leg a line of degraded matting and a pot base. (12744) could represent a burial dragged up in one piece and then looted at the surface. However, the bones showed little of the degeneration seen in bones exposed at the surface, so it would seem more likely that this was a very shallow child burial which has been destroyed by later disturbance.

Fig 40: Bone cluster (12744). View facing S

Below layer (12743) two isolated skulls (12751) were found near the southern edge of the square. The eastern skull was assigned skull 115 and the western skull, which was found with a single rib, was assigned as skull 116. Both showed signs of having been exposed at the surface at some point and neither was associated with a mandible. Below the skulls, a further layer of loose sand and gravel (12752) was removed and was found to contain a small complete ceramic cup. Beneath this was a more compacted deposit (12792) with lenses of fine compacted gravel in areas. It was in this level that grave cuts could be identified, firstly cut <12727> which is partially within four different grid squares and has been described above as part of square J53. The next to be defined was <12815>.

Burial of individual 92 in grave cut <12815>; fill (12816)
Grave cut <12815> was a narrow, regular cut with rounded ends found near the centre of the grid square. It was oriented north-west to south-east and only the lower level of the cut was preserved, showing steep sides and a concave base. Within the cut was the partially disturbed adult burial (12816) of individual 92. The arms, scapulae, legs and pelvis remained in situ and show the burial to have been laid in an extended position on its back with the arms down the sides of the body. However, the chest area and head had been badly disturbed leaving the ribs, vertebrae, sternum and clavicle bones in a jumbled mass. The skull (126) was in its original place at the south-east end of the grave cut by the shoulders but it was disarticulated and out of situ, being turned onto its face with the base of the skull facing away from the body. The skull had traces of short hair preserved on the scalp. Pieces of plant stem matting were found throughout the fill of the grave and towards the north-west end of the cut the coffin matting was found to be undisturbed where it covered the lower legs. Two separate layers of plant stem matting could be seen around the legs, one inside the other, and the outer layer showed traces of string tying the plant stems together and of thicker rope wrapped around the outside. When the burial was removed, traces of the underside of the plant stem coffin matting could be seen over the length of the grave cut with patches of organic matter preserved on the upper surface.
Fig 41: Plans showing the burial of individual 92 and the cut <12815> below

Grave cut <12835>; fill (12834)
A large rectangular grave cut <12835> was identified in the southern area of the grid square. The cut was oriented roughly east to west and was wide with sloping sides which formed a small step or shelf along the southern and western sides of the cut. The ends of the cut were fairly square and regular. The fill (12834) of the grave cut did not contain any bones but did contain some organic debris, three sherds and several pieces of thick rope, of the sort used elsewhere in the cemetery to tie around the outside of matting coffins. At the bottom of the cut traces of organic residue was found near the centre of the grave. This burial has
clearly been thoroughly robbed, probably by dragging the entire burial within its coffin out of the cut so it could be examined at the surface.

Fig 42: Plan of grave cut <12835>

Grave cut <12844>; fill (12843)
Cut <12844> was a small, well defined burial cut found in the north-west corner of the grid square, extending slightly over the western edge of the square into square J53. The cut was oriented north-west to south-east and was preserved to a depth of 37cm. The sides sloped steeply towards the slightly concave base with a somewhat less steep slope at the north-west end of the cut. The burial cut was only 1.25m in length; much smaller than the adult graves excavated in the cemetery, so this was probably the grave of a juvenile individual. As with cut <12835> described above, there were no human remains found in the fill (12843) of this cut. The loosely compacted sand and gravel was mixed with plant stem matting fragments and pieces of decayed rope clearly indicating that there had been a body deposited in the grave which has since been removed.
Fig 43: Plan and sections of burial pit <12844>

Burial of individuals 113 and 115 (12869) in grave cut <12868>

An area of compacted gravely surface (12849) was identified in the north-west corner of the grid square around cut <12844>. A grave cut <12868> was found to be cut through this surface. The cut was a defuse area of loose sand at its top level but resolved into a well defined burial pit at greater depth. The lower part of the cut was narrow and regular with smooth, almost vertical sides and rounded ends. It was oriented north-west to south-east with the north-west end being slightly deeper. The upper level of the cut seems to have been badly disturbed by robbers, especially at the north-west end where the upper part of the cut has been truncated by a robber pit. The upper fills of the cut, (12845) and (12850), contained an articulated hand and arm with the scapula and phalanges found loose in the fill. The upper fill also contained fragments of plant stem matting and textile. Under these upper fills the adult burial, individual 113 (12869), was found. The lower legs and feet of the burial were still surrounded by a plant stem matting coffin but the upper layer of this had been removed over the rest of the body to expose the burial. The legs, pelvis and lumbar vertebrae remained in situ but the torso and arms had been disturbed and were slightly jumbled. The left arm lay disarticulated under the torso, the ribs were disarticulated but still lay grouped to left and right, probably as a result of body tissue binding them together. No skull or mandible was present in the grave cut. Skin and tissue were very well preserved in this burial; large patches lay within the disturbed remains of the upper body and covered the whole of the lower body from the pelvis to the feet. This was natural sand-dried preservation and no traces of resin or other preservatives were found on the body. The body was wrapped in a length of cloth which is poorly preserved but could be seen in patches both on top of and under the body. On top of the cloth which lay between the upper legs of the burial, some foetal bones were identified and more were then found in the folds of the cloth in this area. Ribs, vertebrae, skull fragments and four long bones were recovered and the foetus was assigned as individual 115. The position of the foetus outside of the body indicates that it was delivered or miscarried before it was included in the adult burial. Underlying the burial, the base of the cut preserved the underside of the plant stem matting coffin, the sticks of which were bound together at intervals with thin rope.
Fig 44: Tissue preserved over the legs of individual 113. View facing NE
Fig 45: Plans of grave cut <12868> containing individuals 113 and 115
Grid square L53

The surface material (12733) of the square consisted of fine sand and limestone gravel with a scatter of larger limestone fragments at the surface. Near the southern edge was a small concentration of gravel containing a single large sherd. Below this concentration of gravel some poorly preserved pieces of wood (12736) were found (obj. 39759). These were extremely friable, and in places were no more than heavily stained sand, but they appear to represent planks, possibly from a coffin or box. The upper plank had patches of pale plaster (obj. 39730) preserved on its upper surface and more substantially along its south-east edge. On examination, the plaster was found to hold traces of textile impressions.

Fig 46: Preserved wooden planks (12736). Photo facing S

A faience pendant with a lily design (obj. 39399) was found in the layer of material (12745) below the surface deposit. The first burial cut was found below layer (12745).

Grave cut <12758>; fill (12753)
This was a shallow, poorly defined grave cut in the north-east quarter of the grid square. The cut was oriented north-west to south-east and its shape was discernable mostly through the staining and poorly preserved plant stem matting fragments which lined the base and sides. The fill (12753) contained a lot of gravel along with short pieces of plant stem and traces of organic remains. A cluster of a few disarticulated, poorly preserved bones were found around the centre of the cut. This was clearly a shallow grave disturbed both by looting and weathering.

Fig 47: Plan of poorly defined grave cut <12758>
Skull 119 (12769) was found in the south-west corner of the square below a further layer of loose sand and gravel (12761). It was face down and the bone was in very poor condition. The skull was associated with a fragment of mandible, one vertebra and a small amount of plant stem matting found just to the west of skull 119’s position. At the same level, an almost complete ceramic storage jar (12772) was found right at the western edge of the trench. It had some damage to the neck of the jar and a short length of rope lay beneath it. From the position of the jar, it seems highly likely that it is part of deposit (12788), the fill of burial cut <12789>. Also at the same level, near the southern edge of the trench a piece of decayed wood (12775) was found with traces of plaster and possibly paint on its surface (obj. 39422).

Fig 48: Jar (12772), view facing E, and wood fragment (12775), view facing W

Grave cut <12789>; Individual 89; fill (12788)
The small grave cut <12789> was identified close to the western edge of the grid square oriented roughly from west to east. Only the very base of the cut was preserved along with the in situ remains of the bottom layer of plant stem coffin matting. The coffin remains were best preserved at the western end, which is likely to have been the foot end as tarsal bones were found here and a fragment of rib towards the eastern end. Pieces of string from the coffin binding and lengths of thicker rope were also recovered. The deposit (12788) is almost certainly the contents of grave cut <12789> due to its proximity and preserved rope which trails from the deposit to the grave cut. The deposit consisted of disarticulated adult bones (individual 89), textile fragments and pieces of rope. The almost complete storage jar (12772) is also likely to be from this deposit.

Fig 49: Plan of coffin material in grave <12789>

Grave cut <12807>; fills (12795) and (12806)
Grave cut <12807> was first seen as the defuse deposit (12795) in the south-east quarter of the grid square. (12795) consisted of loose gravel-rich fill mixed with decayed organic material, pieces of plant stem matting, textile, rope, and bone fragments. Under this upper fill, the grave cut <12807> could be clearly discerned. The cut was narrow and deep with near-vertical sides and was oriented roughly east to west. The ends were rounded and the base slightly concave. In the lower part of the cut a disturbed burial (12806) was found, which was well preserved at the western end where the legs remained in situ wrapped plant stem matting. At the eastern end of the cut the body was missing from the pelvis upwards, except for the partially articulated right hand which lay on top of the head of the right femur. It seems that the grave
was looted from the eastern end from where the upper body was dragged out, separating at the hips, leaving the legs in situ. The body appears to have been wrapped in multiple layers of cloth, a large piece of which was preserved at the base of the cut. A section of plant stem matting coffin was preserved up the south side of the cut.

Fig 50: Plans and sections of burial cut <12807> and burial (12806)

Burial (12803)
Near the south-west corner of the grid square, and over lapping slightly into the adjacent square K53, a small but concentrated cluster of adult bones was found associated with an area of plant stem coffin matting and fragments of textile. The bones formed a linear group which suggests that they were pushed up against the side of a cut which has since been destroyed, as no trace of a cut could be found. The bones recovered represented more 50% of an individual and include skull 123 which was found without a mandible, sitting on
its base at the eastern end of the bone cluster. This appears to be a very badly disturbed shallow adult burial.

Fig 51: Plan of (12803) and photo, view facing S

A further spit of sand and gravel (12805) was removed, within which was found a scrap of fine linen cloth (12812) discovered isolated in the sand.

Grave cut <12824>; fill (12823)
A narrow, poorly defined grave cut <12824> was found in the south of the grid square, on the boundary between squares L53 and K53, oriented roughly east to west. The shape was mostly found through tracing a looser sand deposit and from the shape and positions of organic residue. The western end of the cut is much more clearly defined than the eastern end, for which no satisfactory edge could be found. The fill (12823) of the grave consisted of loose sand and gravel mixed with bone fragments, pieces of plant stem matting, textile and rope.

Fig 52: Plan of grave cut <12824>

Burial of individual 108 in grave cut <12825>; fills (12811), (12813) and (12826)
The grave cut lay at the centre of the western edge of the grid square, slightly overlapping into square K53. It was oriented roughly east to west and was narrow with steep sides and rounded ends. The upper fill (12811) was an area of loose grey gravel approximately over the position of the grave. Below this was a layer (12813) of clean, soft sand. The removal of these upper fills revealed a partially preserved coffin (12826) of plant stem matting bound with thin rope covering the eastern end of the burial. Under this a complete burial of an adult woman, individual 108, was found oriented with the head at the eastern end of the burial. The body was laid on its back in an extended position with the arms at its sides and the skull
tilted slightly to the right. There was a large amount of tissue preserved, especially around the torso and skull, and the skull had a full head of long braided hair. There were also areas of textile preserved adhering to the bones, showing that the body was wrapped in cloth within the coffin, and a wooden peg (obj. 39450).

Fig 53: Plans of the coffin and burial of individual 108 in grave cut <12825>
Unexcavated probable burial cut <12915>
A small ovoid pit was found in the north-west corner, extending into the adjacent square, at the end of the season. The pit was covered with a cotton sheet and clean sand and will be excavated in the next season.

(12926) was a layer of underlying natural sand deposits into which the lowest levels of the grave pits were cut. This represents the base of the excavation.

Grid Square M53
Square M53 was partially excavated in the 2008 season, since which a considerable amount of wind blown sand had collected in the trench, especially on the north and west sides of the square. The accumulated sand had also covered (12262), a bone cluster identified in 2008 but left unexcavated covered with cloth and clean sand. The surface wind blown sand was removed as unit (12707). On the eastern side of the square the limestone bedrock of the wadi side reaches the surface, sloping down westward under the sandy deposits in M53. As the deposits were removed an increasing area of the square is taken up by the bedrock.

Bone cluster (12262)/(12709)
The bone cluster (12262) was re-numbered as (12709) and excavated. The fill (12710) of loose sand and gravel contained small bone fragments and traces of matting, textile and rope. The base of the deposit was marked by an area of in situ plant stem matting coffin (12712) with the remains of thin rope running underneath it. This appears to be a shallow, badly disturbed burial of which little remains.
Fig 55: Plans of the upper and lower levels of unit (12709)

The removal of a further layer of sand and gravel (12714) revealed an articulated arm (12716) lying with the humerus horizontal and the bones of the fore-arm pointing upwards at a high angle. The arm lay near the centre of the western edge of the grid square, the hand was missing but some textile and skin tissue adhered to the bones around the elbow joint. When the arm was removed and the deposit below examined, a grave cut <12720> was found, from which the arm almost certainly originates.

Burial cut <12720>; fill (12721)

The cut was small and shallow due to the proximity of the underlying bedrock, but was particularly visible as it was cut through the layer of gravel and limestone fragments (12724) overlying the limestone base. The cut is oriented diagonally from north-west to south-east and overlaps slightly into square L53. The fill of the cut (12721) contained some preserved organic material and a clear spread of stained sand. A piece of textile was also preserved with the organic remains. It seems likely that the material found represents only the eastern end of the original cut, the rest having been destroyed. Except for the arm (12716), no further bones were found.
Units from grid squares outside the main area of excavation:

Grid Square F36

South of the main area of excavation, three fragments of a limestone slab (12766) (obj. 39426) were found by chance at the surface. All three fit together and have smooth, worked faces and an edge. One of the fragments bears two lightly incised lines on its surface.

Grid Square J52

A feature (11705) at the northern edge of square J52 was found in 2007 and left covered with cloth and clean sand. In 2007 it was thought to be a grave cut but on excavation (as (12731)) in 2009 this feature was found to be just a shallow lens of sand, possibly blown into a depression left by the looters.

Grid Square K52

Burial of individual 83 (12738) in cut <12722>

In 2007 a cut was identified on the northern edge of square K53 but not excavated. On investigation this was found to be a well defined narrow cut assigned <12722> containing an undisturbed adult burial. The cut was oriented east to west and had smooth near-vertical sides and a concave base. The sandy upper fill (12723) was removed to reveal a plant stem matting coffin bound up with a length of thick rope looped around itself along the top of the coffin and tied with a preserved knot near the centre. Inside the matting coffin was individual 83; an adult female laid on her back in an extended position tilted slightly towards the right. The arms were placed by the sides with the right hand lying over the pubic area and the left fore-arm lying on the left side of the pelvis. The face of the skull (117) was broken but retained a full head of braided hair covering the scalp.
Fig 57: Plan of the burial of individual 83 in cut <12722>

Fig 58: Individual 83 after the removal of the coffin. View facing N
3. Discussion of Archaeological Findings

*Fig 59: All burial pits excavated 2006-9*
Burial Density and Distribution

As can be seen in figure 59, the grid squares excavated in 2009 show a similar distribution of burials to the area excavated in the 2006-8 seasons. Burials are most densely pack in the central squares I, J and K with fewer graves in the outer squares G, H and L, M. This reflects the varying conditions for burial down the sloping side of the wadi. Burial in L and M squares are restricted by the underlying limestone bedrock which slopes under the sandy deposits, reaching the surface at the edge of the M squares. This means that the depth of deposit into which the burials can be cut becomes less over squares L and M to the point where burials would become uneasily shallow. This area consequently shows less burial activity due to the risk that bed rock would be reached before a sufficient depth had been dug for a grave. Similarly, the deposits in G and H squares approach the wadi floor and shelve steeply to the bed of the wadi at the edge of the G squares. Burials approaching the bottom of the wadi would have been at increasing risk of water damage, or even being washed away after particularly heavy rain. The result is a concentration of burials in a central strip along the wadi embankment in the I, J and K squares; high enough up the side of the wadi to be safe from all but the most extreme flood, but where there is still a sufficient depth of deposit to allow a deep grave to be dug.

The concentration of graves in the comparably narrow strip where the conditions were best resulted in a congestion of graves well illustrated by square I53 excavated in 2009. It seems that there were some attempts to mark the position of burials in the cemetery which will have helped to prevent new burials disturbing the older ones. In 2006 two small limestone stelae were found which were presumably grave markers and other fragments of worked stone have been found on the surface. In general the grave cuts do not seem to have encroached on each other and are fairly evenly spaced, indicating that the marking of graves was fairly successful. One example of where this may not have been the case was excavated in 2009 in square I 53; the badly disturbed child burial of individual 87 (cut <12782>) was placed directly over the earlier triple burial of individuals 90, 91 and 93 (cut <12796>). In effect, the burial of individual 87 seems to have protected the triple burial below and the adjacent child burial individual 88, which were all left undisturbed below the debris from the looting of individual 87. The relative levels of the triple burial and the overlying burial of individual 87 shows that the later burial was placed just on top of the coffin material covering individuals 91 and 93, although clearly in a separate later cut. This is either an example of a poorly marked grave being accidentally disturbed by a later burial, or the deliberate addition of another infant to a known, and probably well marked grave. Of the two possibilities, the second seems more likely due to the earlier and later burials having exactly the same orientation, and the burial of individual 87 being positioned centrally over the primary burial of individual 93. There was also no disturbance of the underlying burial which would have been likely to occur if the burial had been encountered unexpectedly. Just as with the reburied individual 90, which appears to have been added later to the burial of individuals 91 and 93, individual 87 seems to have been a deliberate addition to this grave. The addition of later burials to an existing one suggests that the positions and identities of the graves in the cemetery were known for at least some period of time after deposition.

As was found in previous seasons, the number of individuals excavated in 2009 exceeds the number of graves. This due to many of the burial pits containing more than one individual. Of the 29 burial pits excavated in 2009, seven represented burials of more than one individual. These range from an adult buried with a delivered foetus (individuals 113 and 115) to the burial pit <12796> in I53 which eventually held two adults and two children. It is possible that some of the other grave cuts originally held more than one body but that the evidence has been destroyed by later disturbance. As discussed in the 2008 season report, the ongoing discrepancy between the number of individuals identified compared to a smaller number of pits suggests that multiple burials may have been more common in the cemetery than the number which can be identified as such with certainty.
Burial Orientation

As has been noted for the previous seasons, there is no clearly adhered to orientation to the graves excavated in the 2009 season, although there is a slight preference towards an east – west orientation. This can be simply illustrated by plotting the orientations of the burial cuts relative to magnetic north:

![Diagram showing burial orientations](image)

**Fig 60: Orientations of burials excavated in 2009. Burials where the orientation of the head is known are shown in one direction in bold with a cut number, those for which the head end is not known are shown by a thinner line crossing the centre point. North is magnetic north on this figure.**

As the diagram shows, there is a small tendency towards the east – west axis but this is not a very marked trend and there is a very wide range of orientations displayed. Concentrating on the burials for which the direction of the head is known (those numbered and shown with a bolder line), it can be seen than within this sample there is no preference for placing the head at a particular end of the grave. Even where an east – west orientation is adhered to there are a roughly equal number with their heads to the west as there are with heads to the east. The overall plan (fig. 59) suggests that the burials seem to be most effected by patterns of local alignment; conforming to the orientation of immediately adjacent graves or fitting into gaps left between them.

Within the grave cuts there does appear to be an interesting feature of orientation for the 2009 burials: In the two in situ burials where there are children buried with adults in a multiple cut, the orientation of the child is the reverse of that of the adult burial. This can be seen in the triple burial of individuals 90, 91 and 93, and in the burial of individuals 112 and 114. In the first, the two adults, individual 90 and individual 93, are oriented roughly east-west with their heads at the west end but the child, individual 91, is laid on top of individual 93’s legs with the head at the east end. Similarly, the adult, individual 114 is oriented roughly north-south with the head at the south end while the child, individual 112, is laid the opposite way over the legs of the adult with the head to the north. Both of these burials also illustrate a tendency for adult individuals in a multiple burial to be buried side by side while infants and juveniles are placed on top of adult individuals.
Preparation of the body

Most of the bodies are associated with the remains of matting coffins made of rigid plant stems bound together at intervals with thin rope or string. In some of the undisturbed cases these coffins were found to have been tied up with thick rope looped around the coffin and secured along the top of the burial (Individuals 83 and 114). This must have helped to reinforce the rather fragile plant stem matting. No wooden coffins were found during the 2009 season, although wooden coffins were recovered from the cemetery in all three previous seasons. Some fragments of decayed wood (12736, 12775) were found disassociated from burial which may have been part of coffins. Other matting made from smaller fibres was also used to wrap the bodies (in cuts <12727>, <12780>, <12778>, <12829>), although generally in association with plant stem matting rather than as a substitute. The reburial of individual 90 was covered, probably to disguise its jumbled form, with a roll of reed matting (12800) which was well preserved in situ. The reed fibres were woven together with lengths of thin string at regular intervals. The ends were looped over and secured along the edges of the matting.

Within the outer coffin, most of the burials show traces of having been wrapped in cloth. Where larger areas are preserved, such as beneath the body, the wrapping appears to be one or two layers thick. Several bodies have thicker, better preserved textile fragments around the neck area suggesting that the cloth was particularly bunched here or secured by being wrapped around the neck. Individual 93 has a large amount of textile preserved around it including at the feet end where the cloth had been bunched together and then folded back over the feet. Individual 93 also shows the body to have been secured with thin rope tied over the textile layer.

The bodies themselves show no evidence of having been specially prepared or preserved with resin or any other substance. There is no evidence for mumification practices; brain tissue, for instance, was frequently found within the skulls. The degree of bone and tissue preservation varies greatly from burial to burial. Disturbed burials generally have poorer preservation and the bones often show degradation from exposure to the sun. Some burials had extremely good preservation, probably the highest degree of preservation being found on the in situ pelvis and legs of individual 113.

Grave Goods

From the quantity of sherds found in the disturbed upper and surface deposits, pottery vessels must have been a fairly common inclusion within the burials. Of the burials excavated in 2009, two of the undisturbed burials were accompanied by a vessel. Child burial individual 88 had a complete pottery jar placed beside the head, and a shallow bowl broken in two had been placed inverted over the coffin of individual 93 at about the level of the knees. Jewellery was the other most common sort of grave goods. The large number of blue faience disk beads found loose in the disturbed deposits of square I53 probably represents a necklace or bracelet broken and scattered during the looting of a grave. A large inscribed cowroid bead (obj. 39367) was also found in the disturbed surface deposits of K53 not clearly associated with a burial. A similar, more elaborate steatite cowroid bead (obj. 39449) was found in situ in the hand of individual 114, possibly as an amulet of some kind associated with the individuals deformed left arm. A red stone bead and a faience lily pendant were also found. A number of plant stem ‘pegs’ (obj. 39733, 39407) were found in the burials; these may represent part of the construction of the matting coffins or possibly another more symbolic kind of object. Their function may become clearer if more examples can be found in situ. Flakes of metal (obj. 39720) found loose in the disturbed layer suggest that metalwork was also included in some of the graves.