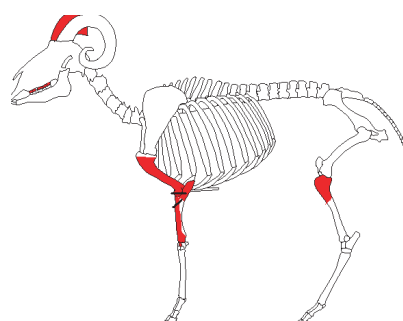
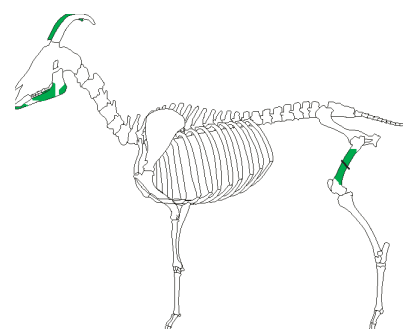


The remains of fauna from Burials 1 to 27 of the Middle Bronze Age, unearthed in the 2001 season of excavations, have already been published (Vila 2004 a and b). The remains of fauna here considered were recovered from Burials 28 to 55 during the 2002–2005 seasons of excavation. These remains were found in eight Jar Burials, three Simple Inhumations and three Inhumations in Constructed Graves (cf. appendix: Table of the Remains of Fauna Recovered from the Burials at Sidon).

Jar Burials: Burials 29, 30, 34, 39, 41, 43, 45, 49



Those jar burials that contained remains of fauna were, according to the results of anthropological examination, inhumations of children. Remains of fauna in the jar burials were scant, generally fewer than about ten bone fragments per burial, and these difficult to identify positively. In most cases they consisted of a mixed assemblage of remains of ovi-caprines (ovis or capra) and bovines (Bos). Parts of both the cranial and the post cranial skeleton are present. There was no evidence of articulation between any of the skeletal remains. There are cutmarks on the surface of some bones: a fragment of the mandible of a caprine in Jar 24, a metacarpal of a goat in Jar 43 and a rib of a caprine in Jar 45. Two jars (Jars 45 and 49) each contained a fish vertebra. Jar 29 – in which, moreover, the remains of several children were found – also had the largest number of remains of fauna, about fifty bones and bone fragments of caprines, bovines and fish.



Simple Inhumations: Burials 28, 32 and 40

1 *Sus Domes-*
ticus, Burial 32
Anatomical parts pre-
sent cutmarks.

2 *O v i s*
aries, Burial 36
Anatomical parts pre-
sent cutmarks.

3 *Capra hir-*
cus, Burial 37
Anatomical parts pre-
sent cutmarks.

Simple Inhumations 28 and 40 contained few remains of fauna. Those that were recovered consist, just as do those from the Jar Burials, of mixed assemblages of skeletal remains – none articulated – of various parts of the skeleton, cranial or post cranial, of ovi-caprines and bovines. Only one Simple Inhumation, number 32, contained numerous skeletal remains of fauna. This burial, of a woman according to the results of anthropological examination, was covered with a slab of stone. The burial contained the skull of an ovi-caprine with cutmarks on a fragment of its frontal bone, remains of the vertebral column of the same animal as well as other skeletal remains: a carpal bone, a patella and a sesamoid. The burial also contained remains of a young pig (fig. 1): bones of the left forelimb (humerus

and radius with cutmarks), a vertebra, a tooth and a few phalanges. A fragment of a bovine tibia, the tibia of a small mustelid (*Martes foina*), the coracoid process of a pigeon, a fishbone and a gastropod, as well as the bone of a rodent – probably intrusive – complete the inventory. It is possible that the tibia of the stone marten is also intrusive.

Inhumations in Constructed Graves: Burials 36, 37 and 42

The graves constructed of bricks contained the most numerous skeletal remains of fauna.

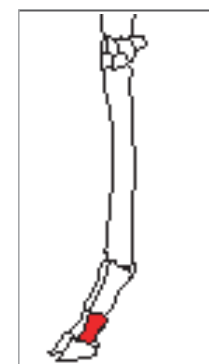
Burial 36, which represents the inhumation of a woman according to the results of anthropological examination, contained the skull, the remains of the left forelimb (scapula, humerus, radius, ulna), of the left hindlimb (innominate bone, femur, tibia, calcaneum, talus malleolus) and of some ribs of an ovine (fig. 2). The axial skeleton and the extremities of the limbs of this animal are not attested. The cutmarks on the distal part of the femur and the proximal part of the tibia, on the diaphysis of the radius as well as on some of the articular heads and ventral surfaces of the ribs indicate that disarticulation of the bones and possibly removal of the flesh had taken place. These skeletal remains attest to the deposit in Constructed Grave 36 of the head, the left fore- and hindquarter and ribs of mutton from a ewe fifteen to eighteen months old.

4 *O v i s*
aries, Burial 37,
Scapula.

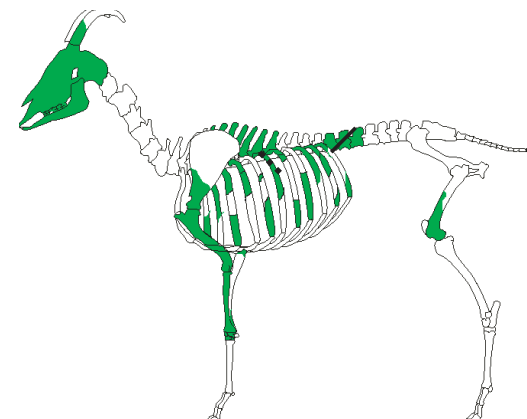
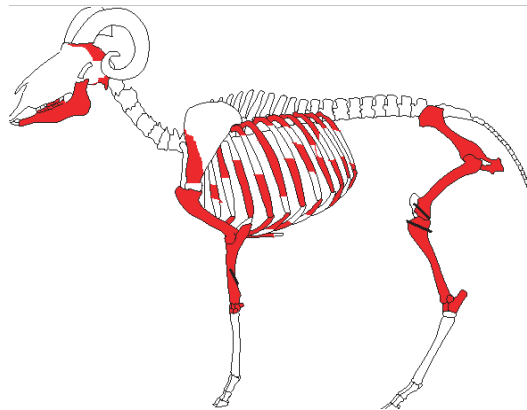
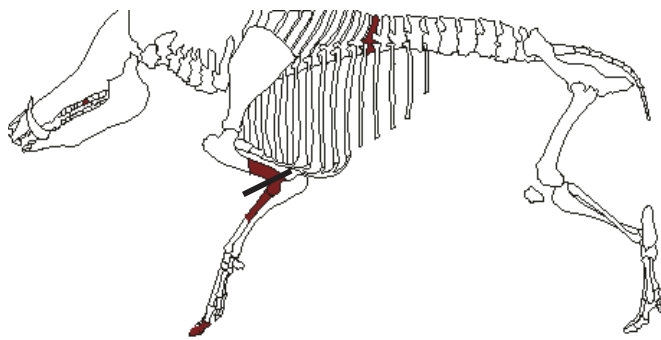
5 *O v i s*
aries, Burial 37,
Phalanx 3.



Burial 37, the inhumation of an adult, contained the remains of a caprine: the skull, the left and right scapula and humerus, the left radius and carpals, the left femur and part of the vertebral column with articulated ribs – one vertebra and several ribs bearing cutmarks. Another left scapula of an ovi-caprine, an ovine phalanx and a fragment of a mandible, probably of a bovine, as well as some fishbones were also found in this burial. The skeletal remains from Burial 37 attest to the deposit of part of the head, the shoulders, the haunch and a rack of ribs of a goat fifteen to 18 months old (figs. 3, 4 and 5).



Burial 42, the inhumation of at least two adults, contained the remains of three ovi-caprines (figs. 6, 7 and 8). Firstly, remains of the skull, and of parts of the left forelimb (humerus, radius and ulna), the right forelimb (radius), the left hindlimb (innominate bone, femur, tibia), the right hindlimb (tibia) and the vertical column of a ewe two to four years old. There are cutmarks on the left humerus, the left femur, the right tibia and a lumbar vertebra. Next, the skull and the remains of the right forelimb (humerus, radius, ulna) and probably a fragment (tibia) of the left hindlimb belong to another ovine, also two to four years old. Cutmarks on the distal end of the humerus and the proximal end of the radius attest to the disarticulation of the limb. Lastly, a frontal bone, a mandible and a left femur, which bear cutmarks, belong to a sub-adult goat six to twelve years old. In addition, some cranial and vertebral remains, and some remains of ribs and of the extremities of limbs – metatarsals and phalanges – that could not be individualized with certainty, but which could belong to one or other of the two ovines. A molar of a bovine, two molluscs and



6 Ovis aries, Burial 42. Anatomical parts present cutmarks.

7 Ovis aries, Burial 42. Anatomical parts present cutmarks.

8 Capra Hircus, Burial 42. Anatomical parts present cutmarks.

some fishbones were also recovered from the burial, as well as some remains of shrews and rodents, these last probably intrusive.

Conclusion

The osteological analysis of the animals from Burials 28 to 55 confirm the observations made during the study of the fauna from the first series of inhumations excavated at Sidon. In the first place, the species that appear most frequently in these funerary contexts are caprines and bovines, while pigs appear very rarely although they are not quite absent. Secondly, the study of the fauna demonstrates the existence of different funerary practices in each of the three types of burial. The inhumations of children in jars as well as the simple inhumations contained only sparse remains of caprines and bovines, perhaps the remains of food offerings. The only simple inhumation (Burial 32) that bears evidence of more consistent deposits, however, differs slightly from the other simple inhumations in having a well-made stone cover. It is, moreover, the only burial in which there were any remains of pig bones.

The constructed graves contained the richest deposits, in which complete heads and quarters of sheep and goats are attested. In Burial 36, the head, left shoulder and left haunch as well as the rack of mutton of a ewe were deposited. In Burial 37, the head and three quarters of a goat – both shoulders and the left haunch – are present. This deposit is reminiscent of Burial 5 at Sidon, where the same three quarters and the head of an adult goat were also found, while the right hindlimb was also missing. In Burial 42, the heads and seven incomplete quarters of two ovines and a caprine, as well as parts of axial skeleton were deposited. This significant number of quarters, attesting to the sacrifice of several animals, is comparable to the contents of Burial 4 at Sidon, in which the quarters of four ovi-caprines, skeletal remains from two bovines and one pig were identified, and to the contents of Burial 27, where the deposit of part of a caprine and skeletal remains of an ovine, a bovine and a pig are attested.

As to the identified bones, the observed cutmarks and their positioning, the hypothesis of a removal of the flesh, formulated at the time of the analysis of the previous series of burials, appears to be reinforced by the new data. The reconstitution of the processes that preceded certain of the deposits remains difficult; nonetheless, some partial findings indicate that the extremities of the limbs of the ovi-caprines were probably

removed at the time they were slaughtered – at the beginning of the butchering process – then possibly the limbs were removed and some at least of the meat was no doubt removed before the quarters, articulated or not, were deposited. The heads of the sacrificed animals were also placed in Burials 32, 36, 37 and 42, a practice that had already appeared in Burials 4, 5, 12 and 27 at Sidon.

Burial 37: Constructed Grave - unbaked mud brick (adult)

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APPENDIX: TABLE OF THE REMAINS OF FAUNA RECOVERED FROM THE BURIALS OF SIDON
(Measurements follow Driesch 1976; NR= Number of Remains; R= Right, L= Left).

Burial 28: Simple Inhumation (child 6 to 7 years old)

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Vertebra	Fragment	1	
Capra/Ovis	Skull	L: Fragment of temporal bone	1	
Small ruminant	Lumbar vertebra	Fragment of apophysis	1	
Small ruminant	Long bone	Fragment of diaphysis	3	

Burial 29: Jar Burial (remains of several children)

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Metacarpal	L: Proximalextrémity	1	
Capra/Ovis	Scapula	L: Distal end fused	2	SLC: 17,8
Capra/Ovis	Vertebra	Thoracic	3	
Bos taur us	Metacarpal	L: Proximalextrémity	1	Bp: 52,7 Dp: 29,2 SD: 24,7
Bos taur us	Metapode	Distal fragment	4	
Bos taur us	Tooth	Molar 1 or 2, lower right, very worn	1	
Bos taur us	Mandible	Fragments, burnt	6	
Cf. Bos taur us	Rib	Fragment	1	
Small ruminant	Rib	Fragment	3	
Small ruminant	Skull	Fragment of temporal bone	2	
Small mammal	Long bone	Fragment of diaphysis	18	
Large mammal	Long bone	Fragment of diaphysis	5	
Fish		Fragment	2	
Unidentified		Fragment	2	

Burial 30: Jar Burial

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Tooth	Incisor 1 or 2, right	1	
Capra/Ovis	Rib	Fragment	3	

Burial 32: Simple Inhumation (woman)

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Skull	Fragments of frontal bone, of occipital bone and of maxilla. Cutmarks present on the frontal bone fragments	21	100
Capra/Ovis	Tooth	Fragment of incisor	1	
Capra/Ovis	Vertebra	Atlas	1	
		Axis: proximal fragment	1	
		Thoracic and caudal	3	
Capra/Ovis	Patella	Fragment	1	
Capra/Ovis	Carpal	Pisiform	1	
Capra/Ovis	Sesamoid	Fragment	3	
Large mammal	Vertebra	Caudal, fused	1	
Small mammal	Rib	Fragment	4	
Bos taurus	Tibia	R: Distal extremity	1	
Martes foina	Tibia	R: Fragment of diaphysis	1	
Sus domesticus	Carpal	Scaphoid	1	
	Radius	L: Proximal extremity. Cutmarks and traces of burning present	1	Dp: 17.8; Bp: 24.9
	Humerus	L: Distal fragment	1	
Sus domesticus	Tooth	M1 upper, burnt (germ)	1	
Sus domesticus	Vertebra	Thoracic/Lumbar, unfused	1	
	Phalanx	2 and 3, unfused	2	
Rodent	Femur		1	
Columba livia/oenas	Coracoid process	L	1	
Fish		Fragment	19	
Mollusc	Gastropod	Fragment	3	
Unidentified		Fragment, unfused	2	
Unidentified		Digested fragment	2	

Burial 34: Jar Burial (newborn infant)

Taxon	Part of skeleton	Description	NR	Measurements
Small ruminant	Long bone	Fragment of diaphysis	4	
Capra/Ovis	Mandible	Fragment, cutmarks present	1	

Burial 36: Constructed Grave - unbaked mud brick (woman)

Taxon	Part of skeleton	Description	NR	Measurements
Ovis aries	Maxilla	R: M1 and M2	2	101
		L: P2, P3, P4, M1, M2 and M3 stage of wear: about 18 months	6	
	Mandible	L: Complete. Dentition complete, stage of wear: about 18 months	1	7: 72,5; 12: 61,0; 3: 17,8; 13: 14,2; 5: 119,0; 6: 136,3; 15a: 36,5; 15c: 15,3
		R: Complete. Dentition complete, stage of wear: about 18 months	1	7: 73,4; 5: 120; 15a: 38,4; 15b: 20,7; 15c: 17,3
	Scapula	L: Distal fragment	1	GL: 170,2
	Humerus	L: Complete, distal fragment fused, proximal epiphysis unfused	25	Bd: 30; Dd: 25,2; Bt: 28,3; Ddmin: 13
	Radius	L: Complete (articulated to the carpal bones). Cutmarks on the medial diaphysis	1	GL: 151; Bp: 33; Bd: 28,2; SD: 15,2; BFp: 30; BFd: 24
	Ulna	L: Complete	3	LO: 38; DPA: 29; SDO: 20,8
	Carpal	L: Scaphoid, semilunar, pyramidal and pisiform	4	
	Coxal bone	L: complete, female	1	GL: 170,2; SB: 19,1
	Femur	L: Complete, proximal line of fusion visible. Cutmarks on the distal articular surface	1	GL: 160,9; Bd: 36; GLC: 160,5; Bp: 41,7; SD: 16,5
	Tibia	L: Complete, proximal line of fusion visible. Cutmarks on the proximal articular surface	1	GL: 200; Bd: 36; SD: 16,5; Bp: 39,1
	Calcaneum	L: Complete	1	GL: 54,6; Gb: 23,4
	Talus	L: Complete	1	GL1: 27,2; GLm: 26,2; D1: 15,2; BD: 17,5
	Malleolus	L: Complete	1	
	Skull	Fragments	11	
	Rib	Cutmarks on the anterior surfaces and on the articular heads of several ribs	50	
	Sternum	Fragments	17	

Burial 37: Constructed Grave-unbaked mud brick (adult)

Taxon	Part of skeleton	Description	NR	Measurements
Capra hircus	Skull	Fragments of the orbit, the frontal bone, the temporal bone and the premaxilla	50	
	Styloid process	Proximal, medial fragment	5	102
	Mandible	R: Fragmentary, dentition: P2, P3, P4 in state of eruption (D4 very worn) M1 and M2	1	
		L: P2- P4 in state of eruption (D2-D4 very worn), M1 and M2, stage of wear: about 18 months	1	
		Incisor	8	
	Maxilla	Dentition: P2, P3, P4 in state of eruption (D4 very worn) M1 and M2	1	
	Femur	L: Diaphysis and distal end. Epiphysis unfused	1	
	Scapula	L, R: Distal end fused (line of fusion visible)	2	GLP: 31,2; SLC: 18,0 BL: 20,0
	Humerus	L: distal end fused (line of fusion visible) Proximal epiphysis unfused	1	
		R: Complete, proximal extremely unfused and distal extremely fused (line of fusion visible)	1	
	Radius	L: Complete, distal end unfused	1	
	Ulna	L: Proximal and distal epiphyses unfused	1	
	Carpal	L: semilunar pisiform and pyramidal	3	
	Vertebra	Thoracic: fragments unfused	25	
		Lumbar: Fragments unfused. Cutmarks on the ventral surface of one vertebra	7	
	Rib	Fragments and head (19). Cutmark on the ventral surface of one rib	94	
Ovis aries	Phalanx 2	Fused	1	GL: 20,7 ; Bp: 11,8 Bd: 10,1 ; SD: 9,1
Cf. Bos taurus	Mandible	L: Base fragment	1	
Capra/Ovis	Scapula	L: Distal fragment (line of fusion visible)	1	
Fish		Fragments	25	

Burial 39: Jar Burial (child)

Taxon	Part of skeleton	Description	NR	Measurements
Ovis aries	Talus	R	1	GL1: 25,6 D1: 14,6; Bd: 17,0 GLm: 24, 0
Ovis aries	Metacarpal	L: Distal end unfused	1	
Capra/Ovis	Rib	Fragment	1	
Large mammal	Long bone	Fragment of diaphysis (1 burnt)	2	

Burial 40: Simple Inhumation (adult)

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Innominate bone	L: Fragment of ilium	1	
Capra/Ovis	Mandible	R: Fragment	1	
Cf. Bos taurus	Rib	Fragment	1	

Burial 41: Jar Burial

Taxon	Part of skeleton	Description	NR	Measurements
Large Mammal	Long bone	Fragment of diaphysis	1	
Bos taurus	Caudal vertebra	eroded	1	103

Burial 42: Constructed Grave (at least two adults)

Taxon	Part of skeleton	Description	NR	Measurements
Ovis aries	Styloid process	R: with fragment of frontal bone	1	
	Mandible	R: Complete. Dentition: P2, P3, P4, M1, M2 and M3, stage of wear: 2 to 4 years	1	7:78.3; 15c:15.2; 15a:42; 15b:27.4; 3: 55; 6:152.1
		L: Fragments (2). Dentition: P2, P3, P4 and M3	1	
	Innominate bone	L: Ilium female	1	
	Femur	L: Diaphysis and proximal epiphysis separated. Cutmarks present on the medial surface	1	
	Tibia	L: Diaphysis and proximal extremity unfused	1	
		R: Complete, line of fusion visible proximal extremity. Cutmarks present on the proximal epiphysis	1	Bp:36.4; Bd:23.4; SD: 13.9
	Humerus	L: Distal end fused. Cutmarks present on the distal lateral surface of the diaphysis	1	SD: 12.7 BT: 27.1 Bd: 29.1
	Radius	L: Complete, distal end unfused	1	GL:149.6; PL:146.5; SD:14.6
		R: Complete, distal end unfused	1	GL:149.9; PL:146.8; SD:147
	Ulna	L: Proximal diaphysis and proximal extremity unfused	1	
	Vertebra	Atlas fragment	1	
		Axis distally unfused	1	
		Cervical: fragments	2	
		Thoracic: fragments of body (unfused) and of spinous process	4	
		Lumbar: unfused fragments (7). Cutmarks present on the ventral surface of one vertebra	6	
		Sacrum	1	
		Caudal bones	3	
	Styloid process	R: with fragment of frontal bone	1	
	Tooth, upper	R: dentition complete	1	
		L: P2, P3, M1, M2 and M3, stage of wear: 2-4 years	3	
	Humerus	R: Complete, proximal epiphysis unfused. Cutmarks present on the distal epiphysis (trochlea: lateral epicondyle)	1	GL:160; Bd:29; GLC:140.6; SD:15.2; Bt:30.7
	Radius	R: Complete, distal epiphysis unfused. Cutmarks present on the proximal epiphysis and diaphysis	1	GL: 169 SD:15.5
	Ulna	R: Proximal fragment, line of fusion still visible	1	LO:44.1; DPA:28.4 SDO: 24.7
	Carpal	L: Capitulum	1	
	Tibia	L: Proximal end fused	1	
	Tibia	L: Distal end fused. Diaphysis diseased (tumour)	1	Bd: 23.5 SR: 14

Capra hircus	Styloid process	R: with fragment of frontal bone	1	104
	Mandible	L: Fragmentary Dentition: M1 and M2 in state of eruption, stage of wear: 6 to 12 months	1	
	Femur	L: Diaphysis. Cutmarks present	1	
Capra/Ovis	Skull	Fragments of frontal bone, of occipital bone and of orbit. NMI: 3	24	
Capra/Ovis	Skull	Fragments of maxilla and of mandible	23	
Capra/Ovis	Teeth	R: Upper P3 or P4, M1, M2 and M3	4	
Capra/Ovis	Rib	Fragments. Cutmarks present on the anterior surfaces (4)	37	
Capra/Ovis	Patella		1	
Capra/Ovis	Vertebra	Atlas dorsal fragment	1	
Capra/Ovis	Metatarsal	Proximal fragment	1	
Ovis aries	Phalanx 2	Distal fragment fused	1	
Capra hircus	Phalanx 1	Fused	1	SD: 9.4; GL: 34.6 BD: 11.2
Small ruminant	Sternum	Fragments	4	
Small ruminant	Hyoid bone	R, L	2	
Bos taurus	Tooth	Molar	1	
Rodent	Skull	Fragments of frontal bone, occipital bone and maxilla (9)	9	
Shrew	Mandible		19	
	Long bone		50	
	Skull	Fragment of frontal bone, occipital bone and maxilla	60	
Mollusc	Mandible	R, L	80	
	Long bone		100	
			2	
Fish		Fragments	34	
Unidentified		Fragments of diaphysis (3 burnt)	6	
Unidentified		Small fragments	100	

Burial 43: Jar Burial (child)

Taxon	Part of skeleton	Description	NR	Measurements
Capra hircus	Metacarpal	R: Proximal end fused. Cutmarks present	1	Bp: 22,0; DD: 10,0 Dp: 15,9; SD: 13,4
Capra/Ovis	Rib	Fragment	4	
Capra/Ovis	Ulna	R: Fragment of diaphysis	1	
Cf. Bos taurus	Rib	Fragment	1	
Large mammal	Femur	L: Distal fragment, unfused	1	

Burial 45: Jar Burial (child)

Taxon	Part of skeleton	Description	NR	Measurements
Bos taurus	Metacarpal	R: Complete and fused	1	GL: 19,6; Bp: 53,5 Bd: 55,7; SD: 31,3
Bos taurus	Phalanx 2	R: Complete, posterior fused	1	GL: 40,0; GLPe: 41,6 Bp: 32,0; Bd: 27,0 SD: 25,0
Capra/Ovis?	Rib	Fragment. Cutmark present	2	
Small mammal	Long bone	Fragment of diaphysis	2	
Fish	Vertebra	Fragment	1	

Burial 49: Jar Burial

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Skull	Fragment of maxilla	1	
Capra/Ovis	Metatarsal	Fragment	3	
Capra/Ovis	Femur	Epiphysis unfused	1	105
Capra/Ovis	Innominate bone	Ischium unfused	1	
Fish	Vertebra	Fragment	1	
Unidentified	Long bone	Fragment	4	

Burial 55: Constructed Grave - unbaked mud brick (child)

Taxon	Part of skeleton	Description	NR	Measurements
Capra/Ovis	Skull	Fragment of temporal bone	1	
Capra/Ovis	Tibia	Fragment	1	
Capra/Ovis	Rib		3	
Small ruminants	Skull	Fragment	1	
Small ruminants	Long bone	Fragments	17	
Unidentified bird		Fragment	1	
Unidentified reptile		Fragment	1	