

## Inventory

**Skeleton A:** Only the skull, cervical vertebrae and a few bones and bone fragments of the upper right extremity, ribs and the right tibia (see chart) were recovered.

**Skull:** The cranium was almost complete, although very distorted and partially disarticulated; of the facial bones, the mandible was complete, but the remaining bones were fragmented.

**Cranium:** **Occiput:** the condylar and basilar portions were complete but small post mortem holes were found on the tabular portion near the foramen magnum.

**Parietal bones:** complete except for a post mortem crack across the right and part of the left sides.

**Frontal bone:** vertical portion complete, but the posterior part of the horizontal portion was missing.

**Petrous temporal bones:** complete except for small post mortem lytic lesions.

**Sphenoid:** the right side was separated and distorted; the pterygoid and styloid processes were broken.

**Ethmoid:** broken with the ala and part of the perpendicular plate separate also separate fragments.

**Facial bones:** very fragmented and many bones missing.

**Maxilla:** palatal processes of both sides with alveolar margins; 1 fragment posterior wall of right maxillary antrum and of left nasal process.

**Malar bones:** complete, but separate.

**Palatal bones:** anterior part of horizontal portion.

**Nasal bones:** slight damage to anterior margin, but otherwise complete.

**Vomer and inferior turbinated bones:** missing.

**Teeth:**

<u>8</u>	<u>7</u>	<u>6</u>	<u>5</u>	<u>4</u>				<u>I</u>			<u>4</u>	<u>6</u>	<u>7</u>	<u>8</u>		
8	7	6	5	4	3	2	1	I	1	2	3	4	5	6	7	8

Note: 7 6 5 4 I 4 6 7 were loose but fitted the sockets.  
5 4

The upper canines and incisors were probably lost post mortem, but damage to the alveolar margin prevented re-modelling of the margin showing.

**Measurements:** damage and distortion of the bones prevented useful cranial measurements being taken.

**Vertebrae:**

**Cervical:**

- 1st: spinous process damaged.
- 2nd: posterior neural arch damaged on outer left side.
- 3rd: spinous and left transverse processes damaged.
- 4th: spinous process damaged.
- 5th: tip of spinous process damaged and transverse foramina missing.
- 6th: transverse foramina damaged.
- 7th: anterior part of body damaged and superior articular facets and tip of spinous process damaged.

**Thoracic:**

- 1: mid-thoracic vertebra; body and transverse and spinous processes damaged.
  
- 2: posterior neural arches, each with part of spinous process, pedicles, superior and inferior articular facets, but damaged transverse processes.

**Thorax:**

**Right side:**

- 1st with chondral end missing
- 1 upper rib with damaged head, neck, tube shaft (with chondral end missing).
- 1 mid-rib - neck, part of tuberosity and of shaft, only.

**Ribs:**

**Left side:**

- 1st: complete.
- 1 mid-rib: neck, damaged tuberosity and fragment of shaft only.
- + 10 fragments of shaft and shaft wall.

**Scapula:**

- Right side only: glenoid fossa, coracoid and acromion processes with damaged tips, spine with vertebral end missing. The axillary border was separate (lower end missing).
- + 1 fragment of vertebral border
- 1 fragment of superior border
- 2 fragments of body.

**Measurements:**

- Max. length of glenoid fossa = 36.8 mm
- Max. breadth of glenoid fossa = 25 mm

**Upper extremity:**

**Clavicle:**

**Right side only:**

- shaft complete, but tips of both acromial and sternal ends damaged.

**Radius:**

**Right side:**

- shaft and tuberosity, but head and lower end damaged and missing.

**Metacarpals:**

**Right side:**

- 1st: shaft and distal end and 1 shaft.

**Lower extremity:**

**Tibia:**

**Right side only:**

- shaft and very damaged lower end.
- + 2 grammes powdered fragments of bone.



- 1st: right condylar facet and transverse process broken.
- 2nd: missing.
- 3rd: pedicles, posterior neural arch and spinous process, only.
- 4th: missing.
- 5th: missing.
- 6th: right transverse foramen broken.
- 7th: inferior surface of the body damaged and transverse foramina rudimentary.

**Thoracic:**

- 1st: anterior half of body and tip of spinous process missing.
- 2nd: complete except for tip of spine.
- 3rd: right anterior margin of body and tip of right transverse process missing and spinous process damaged.
- 4th: right anterior part of body damaged and spinous process reconstructed.
- 5th: transverse process and spinous process missing.
- 6th: left transverse process and spinous process missing.
- 7th: spinous process missing.
- 8th: complete.
- 9th: complete.
- 10th: transverse process damaged
- 11th: complete except for tip of spinous process.
  - + tip of one spinous process.

**Lumbar:**

- 1st: right side of body damaged and tip of spinous process missing.
- 2nd: slight damage to the right superior margin of the body and transverse process and tip of spine.
- 3rd: slight damage to the anterior margin of body and tip of left transverse process.
- 4th: missing.
- 5th: missing.

**Sacrum:** missing.

**Thorax:**

**Ribs:**

**Right side:**

- 1st: reconstructed from 2 fragments, but complete. head broken and only
- 2nd: part shaft present.
- 3rd: reconstructed from 2 fragments, but complete.
- 4th: complete.
- 5th: reconstructed from 3 fragments, but complete.
- 6th: reconstructed from 2 fragments, but complete.
- 7th: reconstructed from 3 fragments, but part of head missing.
- 8th: reconstructed, but head and chondral end missing.
- 9th: reconstructed, but head and chondral end missing.
- 10th: reconstructed, but anterior end missing.
- 11th: anterior end missing.
- 12th: anterior end damaged.

**Left side:**

- 1st: head missing, part of shaft reconstructed from 2 fragments and chondral end separate.
- 2nd: reconstructed from 2 fragments, but chondral end missing.
- 3rd: head damaged and only 1/2 shaft present and chondral end missing.

- 4th: head damaged and chondral end missing.
- 5th: reconstructed from 2 fragments, but head and chondral end damaged
- 6th: head damaged, otherwise complete.
- 7th: head damaged, otherwise complete.
- 8th: complete.
- 9th: complete.
- 10th: complete.
- 11th: anterior edge damaged.
- 12th: complete.
  - + 3 fragments of shaft with chondral ends.
  - 4 fragments of shaft.
  - 4 small fragments of shaft walls.

**Scapulae:** **Right side:** piriform glenoid fossa, acromion process, coracoid process, axillary border and inferior angle with prominent Teres process

**Measurements:**

Max. length of glenoid fossa 39.0 mm  
 Max. breadth of glenoid fossa broken.

**Left side:** piriform glenoid fossa, acromion process, coracoid process, axillary border and inferior angle with prominent Teres process.

**Measurements:**

Max. length of glenoid fossa 39.1 mm  
 Max. breadth of glenoid fossa 24.8 mm

**Clavicle:** **Right side:** sternal end and half shaft, only.

**Left side:** complete except for damage to posterior portion of acromial end.

**Measurements:**

Max. length = 137.3 mm  
 Circumference at middle of shaft = 29.0 mm  
 Robustness =  $\frac{29 \times 100}{137.3}$   
 = 21

**Humerus:** **Right side:** The lower end and 2/3rds shaft were complete, but part of the head, neck and upper shaft were reconstructed.

**Measurements:**

Max. length 293.0 mm  
 Max. diam. at midshaft 20.0 mm  
 Min. diam. at midshaft 16.2 mm  
 Max. diam. of head -----  
 Least circumference of shaft 51.0mm  
 Robusticity index  $\frac{51 \times 100}{293}$   
 =17.4

**Left side:** lower end and shaft complete, but only medial side of neck and part of head present. Tuberosities missing.

**Measurements:**

Max. length	286.0 mm
Max. diam. at midshaft	17.8 mm
Min. diam. at midshaft	15.5 mm
Max diam. of head	-----
Least circumference of shaft	50.0 mm
Robusticity index	$\frac{50 \times 100}{286.0}$ =17.4

+ 2 fragments of humeral head and tuberosity, side unknown.

**Radius:** **Left side:** reconstructed, but complete.

**Measurements:**

Max. length = 210.0 mm

**Ulna:** **Left side:** complete.

**Measurements:**

Max. length	= 232.0 mm
Physiological length	= 210.0 mm
Least circumference of shaft	= 34.0 mm
Caliber index	$= \frac{34 \times 100}{210}$ = 16

**Carpal bones:** **Right side:** greater multangular, lesser multangular, capitate, hamate.

**Left side:** navicular, greater multangular, lesser multangular, triquetral.

**Metacarpal bones:** **Left side:** 1st, 2nd, 3rd, ---, ---.

**Phalanges:** **Left side:** 1st row; 1st, 2nd, 3rd, 4th, ---.  
2nd row; ///, 2nd, 3rd, ---, ---.

+ 73 very small fragments of bone.  
425 g. of soil and powdered bone.  
7 shells and fragments of shell.  
1 animal bone.



## Skeleton C

**Skull:** The skull was very fragmented and too distorted for more than partial reconstruction. With the exception of the mandible, most facial bones were missing.

**Cranium:** **Occiput:** basilar portion complete; both condyles were present, but lateral part of condylar portion missing; tabular portion in 5 fragments (reassembled), but part of right side missing; 9 possible ossicles.

**Parietal bones:** very fragmented but reassembled; right side almost complete (9 fragments), part of left side missing (9 fragments present also).

**Frontal bones:** 5 fragments of vertical portion, including both supraorbital margins and glabella. Horizontal portion: only small fragments of orbital plates present on either side of ethmoid notch.

### **Petrous-temporal bones:**

**Right side:** petrous portion and mastoid process complete; part of articular surface of squamous portion missing, but zygomatic process present.

**Left side:** Petrous portion and mastoid process complete; squamous process broken and parts missing; zygomatic process separate and broken.

**Sphenoid:** bone fragmented and separate.

**Right side:** large portion at greater wing with right side of body and sinuses; part of pterygoid process; part of lesser wing and olivari process.

**Left side:** part of greater wing and 1 small separate fragment; separate pterygoid process and small fragment of lesser wing with the optic foramen.

**Ethmoid:** missing.

**Facial Bones:** missing except for a few small fragments:

**Maxilla:** fragment of left nasal process with part of the infraorbital margin and possible fragment of the left malar process.

**Malar bones:** right frontal process with part of orbit, only.

**Nasal bones:** right side only.

**Mandible:** complete, but right ascending ramus reconstructed.

### **Measurements:**

Bicondylar breadth	106.1mm
Bigonial breadth	98.6mm
Height of ascending ramus	33.3mm
Height of mandibular symphysis	28.6mm

**Teeth:**

5	4	3		I		4	5	6	7	8				
8	7	6	5	4	3	2	1	I	3	4	5	6	7	8

(N.B. 

5	4	3		I		4	5	8
8	7	6	5	4	I	3	4	5

 were loose)

**Vertebrae:**

**Cervical:**

- 1st: anterior neural arch reconstructed, posterior arch missing.
- 2nd: complete.
- 3rd: complete except for slight damage to spinous process.
- 4th: body and fragments of neural arch.
- 5th: complete.
- 6th: complete.
- 7th: anterior surface of body damaged.

**Thoracic:**

- 1st: anterior surface of body damaged
- 2nd: complete.
- 3rd: complete.
- 4th: tip of spinous process missing.
- 5th: spinous process missing.
- 6th: complete.
- 7th: tip of spinous process missing.
- 8th: complete.
- 9th: complete.
- 10th: complete.
- 11th: complete.
- 12th: tip of spinous process missing.
- + 1 fragment of margin of body.

**Lumber:**

- 1st: tip of spinous process and left transverse process missing.
- 2nd: tip of spinous process and left transverse process missing.
- 3rd: right side of body and tip of spinous process damaged.
- 4th: right side of body damaged.
- 5th: right side of body damaged.

**Sacrum:** complete, but anterior surface of the 3rd: segment abraded.

(N.B. 1 lumber vertebra found from a second individual of an older age group with osteophytes on the right lateral inferior margin of body).

**Thoracic Cage:**

**Sternum:**

Gladiolus or body with worn left border and xyphoid process present (manubrium missing).

**Ribs:**

**Right side:**

- 1st: complete.
- 2nd: complete.
- 3rd: complete, but reconstructed from 2 parts.
- 4th: complete.
- 5th: complete, but reconstructed from 3 parts.
- 6th: complete.
- 7th: complete.
- 8th: chondral end missing.

- 9th: chondral end missing.
- 10th: chondral end missing.
- 11th: anterior end worn.
- 12th: posterior surface eroded.

**Left side:**

- 1st: complete.
- 2nd: complete, but reconstructed from 2 parts.
- 3rd: complete.
- 4th: complete but chondral end worn
- 5th: chondral end missing.
- 6th: complete, but reconstructed from 2 parts (left margin worn).
- 7th: complete.
- 8th: complete, but reconstructed from 2 parts.
- 9th: complete, but reconstructed from 3 parts.
- 10th: complete, but reconstructed from 2 parts.
- 11th: anterior end missing and inferior margin abraded.
- 12th: complete.

**Scapulae:**

**Right side:** acromion process (lateral margin missing) and spine; coracoid process, piriform glenoid fossa and axillary border (inferior angle reconstructed, but no Teres border present) deep suprascapular notch.

**Measurements:**

- Max. length glenoid fossa = 39.4 mm
- Max. breadth glenoid fossa = 26.1 mm

**Left side:** acromion process and spine, coracoid process and piriform glenoid fossa and axillary border present. Inferior angle worn and no Teres border present. (Glenoid fossa too worn for measurements).  
+ 2 fragments of body, side unknown.

**Upper extremity:**

**Clavicles:**

Both sides complete except for missing sternal epiphyses.

**Humerus:**

**Left side only:** Shaft (reconstructed from 2 pieces) and lower end; 2 fragments of neck and tuberosities and epiphysis of head (worn).

**Radius:**

**Left side only:** complete, but reconstructed from 2 parts.

**Measurements:**

- Max. length = 240.0 mm

**Ulnae:**

**Right side:** head (olecranon process, sigmoid notches and coracoid process), neck and 1/3rd shaft.

**Left side:** head Colecranon process, sigmoid notches and coracoid process), neck and shaft (distal end missing).

**Carpal bones:**

**Left side only:** navicular and lesser multangular (worn).

**Metacarpals:**

2 shafts (1 with distal end) side unknown.

**Phalanges:**

1st row; 1 (side unknown).

2nd row; 2 (side unknown).

**Pelvic girdle:**

**Os innominatum:**

**Left side only:**

**Ilium:**

complete except for posterior portion of crest.

**Ischium:**

complete except for part of partially attached epiphysis of tuberosity.

**Os pubis:**

complete except for worn border of symphysis.

**Measurements:**

Max. length = 204.0 mm  
Max. breadth = 131.0 mm  
Ischio-pubic index =  $\frac{71 \times 100}{85}$   
83.5

**Femur:**

**Left side only:** reconstructed from 2 parts and complete except for damaged anterior and lateral surfaces of lateral condyle. Possible presence of third trochanter.

**Measurements:**

Max. length = 420.0 mm  
Obi. Length = 415.0 mm  
Antero-post. diam. = 23.2 mm  
Medio-lat. diam. = 24.0 mm  
Max. diam. of head = 43.1 mm  
Circumference at midshaft = 78.0 mm  
Subtrochanteric Ant.-post. diam. = 23.1 mm  
Medio-lat. diam. = 32.4 mm  
Platymeric index =  $\frac{23.5 \times 100}{32.5}$   
= 71

**Stature:**

Using the formulae of Trotter and Gleser (198?)

from femur:  $(32 \times 42) + 65.53$  cm  
= 162.97 cm  
= 64.0 in = 5 ft 4 in

from radius:  $(3.79 \times 24) + 79.42$   
= 170.38 cm  
= 67.0 in = 5 ft 7 in

**Burial D**

There appeared to be bones from three skeletons retrieved from Burial D:

- ( i ) bones and bone fragments of a young adult of the same age as and which articulated with or fitted bones belonging to skeleton C.
- ( ii ) bones belonging to a fully adult skeleton which articulated with each other.
- ( iii ) a right femur and a patella belonging to a second fully adult femur.

In addition there were very worn bones from the lower extremity which could not be allocated to any of the identified groups.

**Bones belonging to skeleton C:** (marked by hatching on skeletal chart C).

**Skull:**

**Frontal bone:** left side of vertical, portion with coronal suture.

**Sphenoid:** part of right greater wing with pterygoid process.

**Maxilla:** palatal process with alveolar margins, right nasal process and anterior wall of the maxillary antrum.

**Vomer:** alae with small fragment of perpendicular plate.

**Upper extremity:**

**Humerus:** **Right side:** ununited epiphysis of head and tuberosities; complete shaft and lower end.

**Ulna:** **Right side:** lower end with shaft which fits the upper end of the right ulna of skeleton C.

**Metacarpal:** Shaft and diaphysis of 1st metacarpal (side unknown).

**Pelvis:** **Right side:** Os innominatum complete ilium, ischium and os pubis.

**Measurements:**

Max. height = 207.7 mm  
 Max. breadth = 136.3 mm  
 Isachio-pubic index =  $\frac{77 \times 100}{89.5}$   
 = 86

**Lower extremity:**

**Fibula:** **Right side:** very worn epiphysis of head with fragment of proximal diaphysis; lower 2/3rds of shaft with diaphysis.

**Skeleton D ( i )** All these bones articulate and are considered to be from the same skeleton:

**Spine:** **Lumbar:** 5th complete.

**Sacrum:** reconstructed 1st segment with whole of left ala and part of right; 1 fragment of posterior wall of a mid-segment (articulates with lumbar 5).

**Pelvic girdle:**

Os innominatum:

**Right side:** Ilium: complete except for damage to the posterior part of the crest.**Ischium:** acetabular portion only.**Os pubis:** acetabular portion and ascending ramus.**Left side:** Ilium: 3 fragments partially reconstructed; acetabular portion and part of body including auricular surface.**Ischium:** acetabular portion and small part of the tuberosity.**Os pubis:** ascending ramus only.

+ 2 small fragments - side unknown.

**Lower extremity:****Femur:**

(both sides articulate with the above pelvis).

**Right side:** proximal end partially reconstructed, but both trochanters damaged and parts missing; shaft and lower end present.**Measurements:**

Max. length	=	409.0 mm
Obi. length	=	405.0 mm
Antero-post. diam. at midshaft	=	25.0 mm
Medio-lat. diam at midshaft	=	24.2 mm
Max. diam. of head	=	41.4 mm
Circumference at midshaft	=	77.0 mm
Sub-trochanteric ant.-post diam.	=	23.5 mm
Subtrochanteric medio-lat diam.	=	29.1 mm
Platymeric index	=	$\frac{23.5 \times 100}{29.1}$

(i.e. platymeria present) 80.7

**Left side:** head and part neck separate; lesser trochanter and shaft; lower end (greater trochanter and anterior surface of lower end missing).**Measurements:**

Max. diam of head	=	40.9 mm
Subtrochanteric ant.-post. diam.	=	22.6 mm
Subtrochanteric medio.-lat. diam.	=	28.0 mm
Platymeric index	=	$\frac{22.6 \times 100}{28.0}$

(i.e. platymeria present) = 80

**Patella:****Right side:** complete.**Measurements:**

Max. length	=	33.3 mm
Max. breadth	=	39.5 mm

**Left side:** slight damage to superior border.

**Measurement:**

Max. length = ----  
Max. breadth = 40.5 mm

**Femur ( D i i )**

**Right side:** complete except for damaged medial condyle.

**Measurements:**

Max. length = 419.0 mm  
Obi. length = 417.0 mm  
Antero-post. diam. at midshaft = 29.6 mm  
Medio-lat. diam at midshaft = 23.5 mm  
Circumference at midshaft = 76.0 mm  
Max. diam. of head = 44.0 mm  
Sub-trochanteric Antero-  
post.diam. = 23.0 mm  
Subtrochanteric medio-lat. diam. = 32.0 mm  
Platymeric index =  $\frac{23 \times 100}{32}$   
(i.e. platymeria is present) = 71.87

(N.B. there appears to be a slight flange on the lateral border of the femur).

**Patella ( i i )**

**Left side:** complete.

**Measurements:**

Max. length = 40.0 mm  
Breadth = 43.0 mm

**Unallocated bones**

**Spine:** Thoracic: 1 body.

**Ribs:** 3 fragments of shaft walls.

**Upper extremity:**

**Humerus:** 114mm mid-shaft - (side unknown and very worn).

**Radius:** **Right side:** Lower end and half shaft.

**Ulna:** 3 fragments (side unknown)

**Carpals:** **Right side:** navicular, capitate, lesser multangular, greater multangular and hamate.

**Metacarpals:** Metacarpals belonging to two skeletons - A. – small size and could belong to skeleton Di, B. - larger and could belong to skeleton Dii.

**A. Right side:** 1st, 2nd, 3rd, and 5th (articulate with carpals above).

**B. Right side:** 3rd, 4th (proximal end and ½ shaft), 5th (proximal end and fragment of shaft) + 1 shaft.

**Phalanges:** Also differentiated by size.

**A. Right side:** (1st row only): 1st, 2nd, 3rd, 4th, 5th.

**Left side:** (1st row only): ---, ---, 3rd, 4th, ---.

**B. Right side:** (1st row only): 1st, 2nd, 3rd, 4th, ---.

**Left side:** (1st row only); 1st, 2nd, ---, ---, ---.

**Lower extremity:** The tibiae, tarsals, metatarsals and phalanges were so worn that they could not be articulated, appeared to be about the same size and could not be allocated to a particular skeleton.

**Tibiae:** There were two very worn right and one left tibiae with broken extremities and the lower end of a second left tibia. There were also 8 fragments of proximal end of tibiae 9 side unknown).

**Fibula:** lower ends of worn right and left fibulae and three very worn fragments of shaft (side unknown).

**Tarsal bones:** **Right side:** calcaneus (worn lateral surface), talus, 1 very worn and abraded fragment of navicular, possible 1st cuneiform, very worn 2nd cuneiform.

**Left side:** calcaneus (worn posterior surface), talus, very worn cuboid, very worn 2nd cuneiform.

**Side unknown:** 5 possible calcaneal fragments; 2 fragments of possible navicular, 3 very worn 3rd cuneiforms.

**Metatarsals:** **Right side:** 1st, 2nd, 3rd, ---, 5th.

**Left side:** 1st, 3rd (lower end missing), ---, 5th (lower end missing).

+ shaft of 1st metatarsal side unknown and 5 shafts.

**Phalanges:** **Right side:** 1st row: 1st, 2nd, 3rd, 4th, 5th.  
Terminal row: 1st

**Left side:** 1st row: 1st, 2nd, 3rd, 4th, 5th.  
Terminal row: 1st

**Side unknown:** 1st row: 1st with worn head and 1 shaft.  
2nd row: 1 phalanx.

+ 1 very worn terminal phalanx possibly 1st or 2nd.  
169 very small bone fragments.  
39 long bone fragments.  
510g powdered bone and soil.  
and 2 animal bone fragments, 2 shells and shell fragments.