



**Osteological Analysis of Human
Skeletal Remains from
Ardsallagh Site 1 (A008/035),
M3 Clonee to North of Kells
Motorway**

Report prepared for Archaeological Consultancy Services Ltd.

DRAFT

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Technical Summary

Minimum Number of Individuals

30

Burial Type

Inhumation (*n* 30)

Disposition

Extended supine burials primarily oriented with head to the West.
 One example of partial flexion.

Single or Multiple Burials

Single (*n* 27)

Double (*n* 3)

General Preservation & Condition of Remains

Poor. Skeletal decomposition well established. Extensive surface erosion and weathering. Much of the bone falling apart *in situ* with skeletal morphology unrecoverable.

Age Division

Infants 0%

Juvenile (1 to 12 years) 17%

Adolescent (13 to 20 years) 17%

Adult (20+) 66%

Minimum Age Represented

Juvenile 2.4 to 3.2 years

Maximum Age Represented

Mature adult (>50 years)

Sex Division

Male 25%

Female 55%

Unknown sex 20%

Adult Stature Estimate

Male mean 175.1 cm

Female mean 159.3 cm

Summary of Dental Pathologies

Enamel hypoplasia, dental calculus, dental caries, abscess formation, periodontitis, dental crowding

Summary of Skeletal Pathologies

Spinal degenerative joint disease, congenital abnormality (probable congenital syphilis), cribra orbitalia, button osteoma, periostitis

1. Introduction

This report contains the results of osteological analysis undertaken on human skeletal remains recovered from the site of Ardsallagh 1, Ardsallagh Townland, Co. Meath. Excavations were undertaken by Archaeological Consultancy Services (ACS) Ltd. as part of the M3 Clonee to North of Kells motorway development. During testing the site was found to comprise a ring-ditch with associated inhumations and numerous other pits, ditches (linear and curved) and activity features which may be contemporary or later.

Human remains¹ were recovered from 30 inhumation deposits within and around the enclosure. A suite of radiocarbon dates suggests several hundred years of human activity at the site, from the early 1st Century BC to the early 7th Century AD. Three direct AMS radiocarbon dates were derived from human bone yielding dates from the early 5th to early 7th Century AD (420 to 610 CAL AD; 370 to 650 CAL AD 2σ range).

Inhumation was the primary burial rite at the site, with supine extended disposition the norm. Three double burials were recovered; in each instance these represented the simultaneous inhumation of a juvenile with that of an adult. The majority of burials were aligned roughly around the West-East axis, with only a single double-inhumation being aligned in a more northerly direction; in all instances the bodies were deposited with the head to the western end of the grave. No evidence of the use of coffins or other burial capsule was recovered. In the main the grave forms were simple, with only five cases of crude stone lining (edge delineation). Grave goods were almost conspicuously absent, with exception of a copper alloy necklace (burial 20) and copper alloy ring (burial 29).

¹ In accordance with Ministerial directions the site topsoil was removed by hand over the burials. The preservation of skeletal remains was found to be extremely poor. The local subsoil consisted of heavy impermeable clay which encouraged waterlogging of archaeological features. An initial assessment was undertaken by osteoarchaeologist Linda Fibiger, and the skeletal remains determined to be too saturated to excavate or lift at that time. The skeletal material was stabilized and covered until such time as ground water levels were lower; excavation works recommenced some six months later. At this stage osteoarchaeologist Jennie Coughlan undertook site assessment. Though drier, the skeletal material was generally found to be in exceptionally poor condition, having suffered severe decomposition, sub-surface weathering and erosion; Coughlan supervised the recording, lifting and washing of the burials.

2. Methodological Approaches

The skeletal material was analysed in accordance with the standards recommended by the British Association for Biological Anthropology and Osteoarchaeology in conjunction with the Institute of Field Archaeologists (Brickley and McKinley, 2004), and the Institute of Archaeologists of Ireland (Buckley *et al.*, 2004).

Osteological recording was carried out using the reporting procedures published in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker, 1994), which has become the industry standard for human osteological and forensic recording purposes. The material was analysed macroscopically and, where necessary, with the aid of reflective microscopy (x50) for identification purposes.

2.1 Reasons for Analysis and Scope of Reporting

Osteological analysis was carried out to ascertain:

- Bones present including dentition.
- The minimum number of individuals present.
- Age at death assessment.
- Assessment of biological sex.
- Assessment of normal variation and estimation of adult stature.
- Skeletal pathology and anomalies.
- Taphonomic effects and biases.

2.2 Age Assessment

Assessing the skeletal age at death (SAD) is an essential task in osteoarchaeological analysis. Age studies have been used in a variety of situations including: (1) identification of individuals as part of forensic cases; (2) studying the adequacy of the growth of children in a population as an index of overall community health; (3) understanding age-related social status milestones in life; and (4) the construction of demographic profiles (Chamberlain, 2006). SAD should not be viewed as equivalent

to chronological age at death in that it reflects the natural growth and development of the body in response to diet, environment and activity, rather than an absolute calendrical age. During the developmental phase of growth SAD determination is based upon: (1) well-understood and predictable rates for the formation and eruption of the dentition, and growth and ossification of the skeleton which are used to age infants (Scheuer and Black, 2000 & 2004); (2) in juveniles and sub-adults the unification or fusion of the bones of the post-cranial skeleton provides a reliable marker within relatively tight statistical margins (*ibid*). However, once growth has ended and adulthood is reached, age determination becomes more difficult as many of the criteria used are reflections of skeletal deterioration; as such they are highly variable in expression, and contextually mediated (Molleson and Cox, 1993; İşcan and Loth, 1989; Klepinger, 2006). Age classifications from analyses² are broken into the following broad categories:

- **Infant** – Pre-birth to around 1 year of age.
- **Juvenile** – Childhood period from around 1 year to the start of puberty c.12 years. Sub-groups (Juvenile I to III) are defined in 4-year age brackets.
- **Adolescent** – from 13 to 20 years. Includes the adolescent growth spurt.
- **Adult** – Onset of suture closure from 20 years onwards.

Ages derived from adult skeletons are quoted here as young adult (roughly 20-34 years)³, middle adult (35-49 years), or mature adult (>50 years) using standard techniques (Buikstra and Ubelaker, 1994).

² This analysis uses the following established models:

- Dental development and eruption (Liversidge *et al.*, 1998; Haaviko, 1970; Scheuer and Black, 2000 & 2004; Sperber, 1989).
- Predictable patterns of skeletal ossification and fusion (e.g. Albert and Maples, 1995; Fazekas and Kosa, 1978; Hoffman, 1979; Krogman and İşcan, 1986; Scheuer and Black, 2000 & 2004).
- Degeneration of the pubic symphysis and auricular surface (Brooks and Suchey, 1990; Katz and Suchey, 1985; Lovejoy *et al.*, 1985; Suchey *et al.*, 1986).
- Degenerative change in the sternal ends of the ribs (İşcan and Loth, 1986; Krogman and İşcan, 1986).
- Dental attrition and occlusal erosion (Brothwell, 1989; Smith, 1984). This technique has been shown to exhibit wide variation in expression and to be highly population specific, reducing the value of the technique as an age estimator. However, it has been shown to be useful when used in conjunction with other age-related degenerative criteria (Buikstra and Ubelaker, 1994).

³ The young adult bracket may be sub-divided into young adult I (18 to 26 years) and young adult II (27 to 34 years) depending on the techniques of age-estimation that may be applied to a specific assemblage given sufficient quality of morphological preservation.

2.3 Sex Assessment

Humans display a discrete pattern of morphological differentiation between males and females, termed sexual dimorphism (SD). Some of these differences are associated with primary sexual characteristics of the reproductive system which includes pelvic morphology, whilst others present a host of morphological, physiological, and behavioural features that become manifest at puberty. These are referred to as secondary sexual features. Sex assessment of adult⁴ skeletal remains is primarily based on a combination of size and shape differences between males and females. In general these are most pronounced in the form of the bony pelvis, the cranial vault, and the mandible. Cranial characteristics, such as larger brow ridges, pneumatized sinuses, rugose muscle entheses, and larger cheek bones and nasal apertures, are male characteristics linked to an extended facial growth period, and the interaction between pituitary growth hormones and sex androgens (Quinney and Collard, 1997). Shape-related, sexually dimorphic features of the pelvis, such as the larger, more rectangular female pubic bone, and the position of the acetabulum, result from differences between female and male growth patterns during adolescence.

This analysis uses established criteria (see St. Hoyme and İşcan, 1989; Klepinger, 2006; White and Folkens, 2000) for sexing adults on the basis of cranial and postcranial characters. These include:

- Differentiation in cranial characters – the expression of the nuchal crest, mastoid process, supra-orbital margin and ridge, and mental trigone.
- Differentiation in pelvic morphology – greater sciatic notch, ventral arch, sub-pubic concavity, pre-auricular sulcus, and sacro-iliac articulation.
- Differentiation in overall size including ratios of humeral and femoral head size, clavicle length, and joint surfaces.

⁴ As sexually dimorphic features are established during the adolescent growth spurt at puberty sub-adults must be sexed with extreme caution; infants, juveniles, and adolescents cannot be readily or accurately sexed on morphological grounds alone (Holcomb and Konigsberg, 1995; Hunt, 1990; Scheuer and Black, 2000) as primary and secondary sexual characters are yet to be established. Whilst some success has been reported in the recognition of sex-discriminant characters in juvenile skeletons (i.e. Bulygina *et al.*, 2006; Ridley, 2002; Schutkowski, 1993) these have yet to be widely accepted for use on archaeological samples; as such the techniques are not utilised in this study.

2.4 Adult Stature

The reconstruction of stature and overall body size is routinely used to investigate secular change in archaeological populations through time. Changes in stature tend to covary with changes in diet and calorific intake, and are therefore potential indicators of periods of environmental or dietary stress, or conversely, of amelioration and excess. Depending on the pattern of expression, these changes may also reflect differential resource acquisition and utilisation by sex or social group.

Calculation of adult height from skeletal remains is based on the fact that overall stature can be correlated with long bone length (assuming equality of body proportions) allowing the reconstruction of an individual's stature by regressing the lengths of individual limb segments. The elements that are used to reconstruct individual stature include the femur, tibia, fibula, humerus, radius, and ulna; the bones of the lower limb (particularly the femur and fibula) are generally more accurate in estimating stature than those of the upper limb. The equations utilised here are derived from Trotter (1970) and Jantz, (1992). Stature estimation is based on femoral length unless stated otherwise.

2.5 Taphonomic Processes and Biases

A variety of perimortem events and postmortem processes can be inferred from the study of bone colour, surface modification, and shape. This investigation is generally referred to as taphonomy (Lyman, 1994). When applied to archaeological bone assemblages taphonomic analysis proceeds from an assessment of surface modification. In general, these are divided into three areas: modification by physical agents, modification by non-human biological agents, and modification by humans.

In recording skeletal material condition a distinction must be made between 'surface condition' (i.e. the state of the outer bony cortex or skin of individual bones) and 'skeletal quality' (i.e. the general status of the bone as a whole, in particular the degree of porosity and overall structural integrity). The reasons for this are logical - bone may be heavily weathered and eroded but still maintain structural integrity, and the converse may also be true; each extreme provides valuable information with

regards to localised burial conditions and any formational biases that may be operating on the bone assemblage. It also removes the over simplistic reliance on “poor”, “moderate”, and “good” as descriptors of skeletal preservation. To this end the overall surface condition of the bone was assessed macroscopically and recorded according to the categories defined by McKinley (2004), which provides a seven-point grade system for recording the degree of surface modification of individual bones by erosional or weathering vectors. Structural integrity of the bone was assessed according to a modified form of Behrensmeyer’s (1978) recording system. This provides a seven-point system for recording degree of structural integrity. Resulting data is contained in the appended summary (Appendix 1)

<i>Grade</i>	<i>Condition</i>
0	Surface morphology clearly visible with fresh appearance to bone and no modifications
1	Slight and patchy surface erosion
2	More extensive surface erosion than grade 1 with deeper surface penetration
3	Most of bone surface affected by some degree of erosion; general morphology maintained but detail of parts of surface masked by erosive action
4	All of bone surface affected by erosive action; general profile maintained and depth of modification not uniform across whole surface
5	Heavy erosion across whole surface, completely masking normal surface morphology, with some modification of profile
5+	As grade 5 but with extensive penetrating erosion resulting in modification of profile

Table 1. Grades for recording erosion/abrasion to human bone (from McKinley, 2004:16).

<i>Grade</i>	<i>Condition</i>
0	Surface morphology clearly visible with fresh appearance to bone. No cracking or flaking observed
1	Cracking parallel to fibre structure (longitudinal)
2	Flaking of outer surface (exfoliation), cracks present, crack edge is angular
3	Rough homogenously altered compact bone resulting in fibrous texture
4	Coarsely fibrous and rough surface; splinters of bone may be loose on surface, with weathering penetrating inner cavities; open cracks
5	Bone falling apart <i>in situ</i> ; large cracks present, bone material very fragile
5+	Macro and micro cracks extend throughout bone structure, bone soft and putty-like, physical integrity compromised; bone readily disaggregates into the supporting matrix.

Table 2. Grades for recording structural quality of human bone (modified from Behrensmeyer, 1978).

3. The Ardsallagh Burial Ground: Results and Analysis

3.1 Quantification

The Ardsallagh 1 burial ground was comprised of 27 primary inhumation events, of which 24 represented the interment of single individuals and 3 were double burials. Only one inhumation (burial 4) evidenced truncation with the loss of skeletal material, in this case removal of much of the lower appendicular skeleton from mid-femur. In all remaining cases the inhumations displayed very little physical disturbance, with the individual elements constrained within respective burial cuts. A minimum number of 30 individuals (**MNI = 30**) are indicated for the site.

3.2 Taphonomic Processes and Biases

A variety of taphonomic processes can be inferred from the study of bone condition, surface modification, and shape (Lyman, 1994). In particular qualitative assessment of bone condition is an aid in the identification of bio-stratigraphic factors which may affect the preservation and thus bias interpretation of a skeletal individual or assemblage. To this end the overall condition of the bone was assessed macroscopically and recorded according to the categories defined in Table 1 for the degree of surface modification by erosional vectors, and Table 2 for the degree of structural quality assessed in the bone assemblage.

The burials were generally in an exceptionally poor state (Figure 1 and Appendix 1), with all recovered inhumations incomplete and highly fragmented. Little of the axial skeletons survived, and appendicular elements were incomplete and highly fragmented with decomposition of the diaphyseal and epiphyseal interfaces. The bone was generally very light, de-mineralised and mottled on the surface, with the exosteal surfaces showing evidence of heavy abrasion and weathering scars. In the main these took the form of root tracery, overlaid with erosional pits and irregular scars, suggesting initial erosion by plant roots, later expanded upon by aqueous sub-surface weathering.

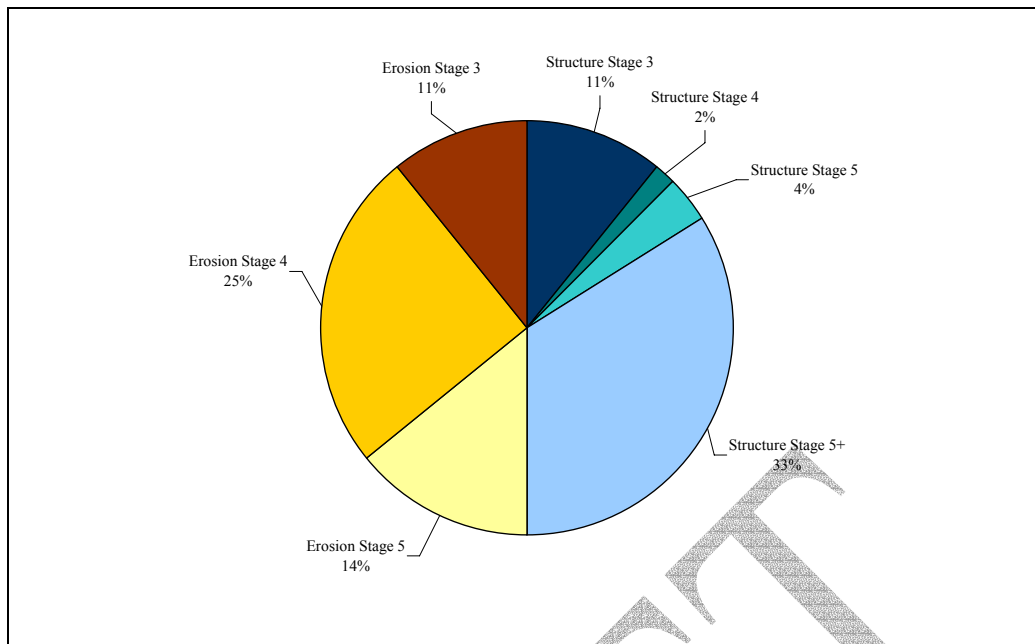


Figure 1. Pie chart showing relative bone preservation recorded within the Ardsallagh 1 assemblage. Slices indicate percentage of individuals displaying preservational stage (erosional stages from 3 to 5 left, structural stages from 3 to 5+ right).

The structural quality of the bone was exceptionally poor, with a fibrous surface, and a variety of open cracks present on the few large pieces that remained intact. The majority of burials displayed Stage 4 erosion (all of bone surface affected by erosive action) and Stage 5+ structural quality (cracks extending throughout bone structure, bone soft and putty-like). Reconstruction of elements was impossible in the main and very little macro morphology and surface detail was preserved; these factors placed strong limitations on further analyses. In particular morphological complexes detailing degenerative age change (i.e. the pubic symphysis, auricular surface, and sternal rib ends) did not survive. Teeth generally survived in good order.

3.3 Age at Death

The remains of 30 inhumations provided sufficient requisite skeletal material for assessment of Skeletal Age at Death (SAD) to be made. Juveniles and adolescents were aged on the basis of dental development and epiphyseal fusion, with few limitations being placed on assessment by taphonomic or preservational biases. The assessment of adult SAD was strongly limited by preservational biases, and

individuals were aged in the main on the basis of seriation of dental attrition levels between individuals (after Brothwell, 1989; Smith, 1984); the resulting ages were placed into age categories on the basis of attrition correlated with any surviving on-dental age markers. The age distribution of the assemblage is summarised in Table 3 and Figure 2.

Age Group	Years	N	%	Age Group	Years	N	%
Juvenile I	1-4	1	3.3	Adult	20+	1	3.3
Juvenile II	4-8	2	6.7	Young Adult	20-34	9	30.0
Juvenile III	8-12	2	6.7	Middle Adult	35-49	8	26.7
Adolescent I	13-20	5	16.7	Mature Adult	>50	2	6.7

Table 3. Age at death assessment of the Ardsallagh 1 assemblage divided into broad age groups.

The youngest SAD was attributed to isolated dental crowns derived from a heavily decomposed inhumation (**Burial 30**). This produced an age of 2.4 to 3.2 years on the basis of permanent M₁ crown development (after Liversidge and Molleson, 2004; Smith, 1991). The oldest individuals recovered (**Burials 6 and 11**) were placed in the mature adult category on the basis of very extreme dental attrition.

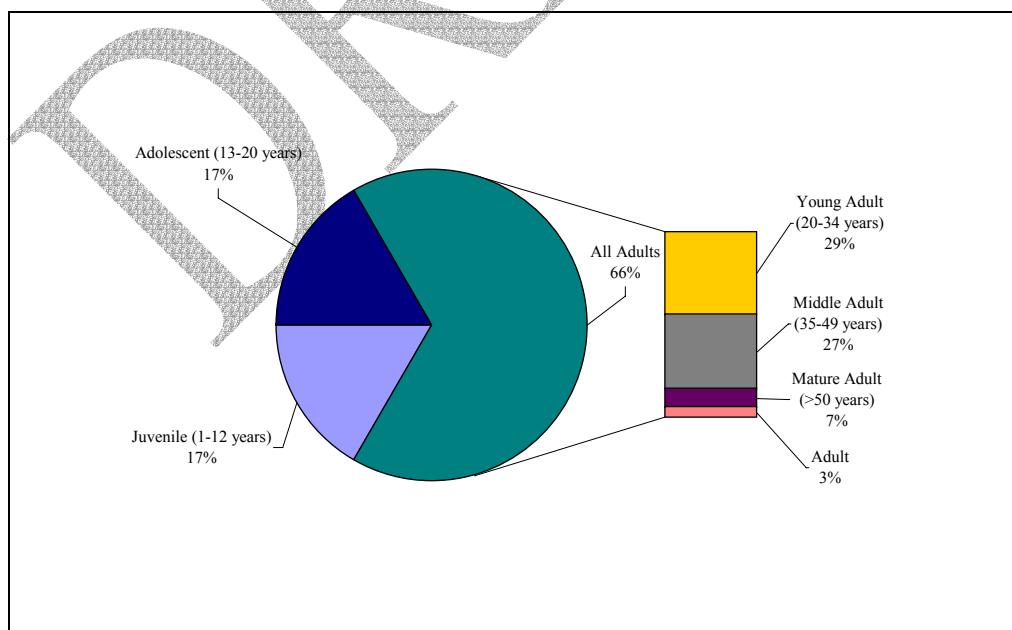


Figure 2. Pie chart showing the distribution of age groups within the Ardsallagh assemblage.

The assemblage was dominated by the burial of adults (20 individuals, 66% of total). Of these 9 individuals (30.0%) were aged between 20 and 34 years, 8 (26.7%) from 35 to 49 years, and 2 (6.7 %) aged 50 years and older; a single inhumation (3.3%) could only be broadly described as adult. Juveniles and adolescents were equally represented with 5 individuals each (17% of total). Appendix 1 presents individuated age assessments.

3.4 Biological Sex

The assessment of biological sex was limited by preservational biases, and individuals were assessed in the main on cranial characters and post-cranial metric measurements. Surviving pelvic morphology was limited to 7 cases where the pre-auricular area and greater sciatic notch survived; no pubic bones were recovered.

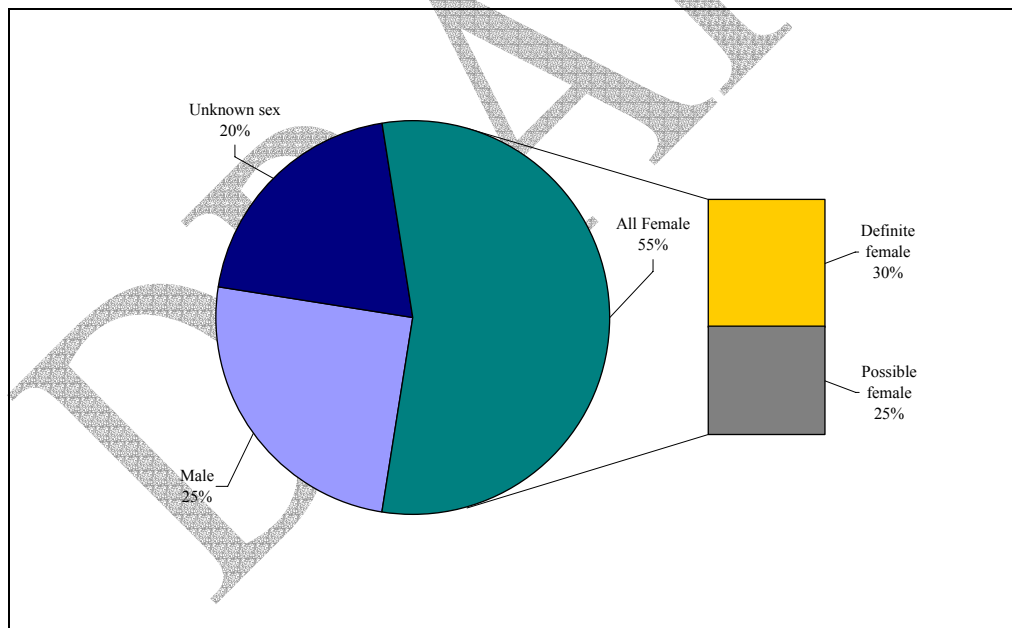


Figure 3. Pie chart showing the distribution of sex within the Ardsallagh 1 adult assemblage.

Of the 20 adult burials present, 11 were female (30%) or possibly female (25%), 5 were male (25%), and 4 could only be classified as adult of unknown sex (20%). This distribution shows a female to male ratio of 2.2:1. Figure 3 displays the relative distribution of sex.

3.5 Adult Stature

Assessment of adult stature was only possible in six out of 20 cases (burials 5, 9, 11, 12, 20 and 28). Measurements were derived from the post-excavation reconstruction of fragmentary femora, with the exception of burial 12 which was based on humeral measurements taken *in-situ*; no other metric measurements were undertaken during excavation and on-site recording. Table 5 records the pooled stature estimates of the Ardsallagh burials divided by sex. Results are derived from linear regression equations of Trotter (1970) and Jantz (1992). Figure 4 highlights the distribution of estimated adult statures.

	<i>N</i>	Mean	Se	Sd	Min	Max
Female	4	159.3	2.18	4.35	153.5	163.8
Male	2	175.1	0.55	0.78	174.5	175.6

Table 5. Descriptive statistics of reconstructed adult stature from Ardsallagh 1.

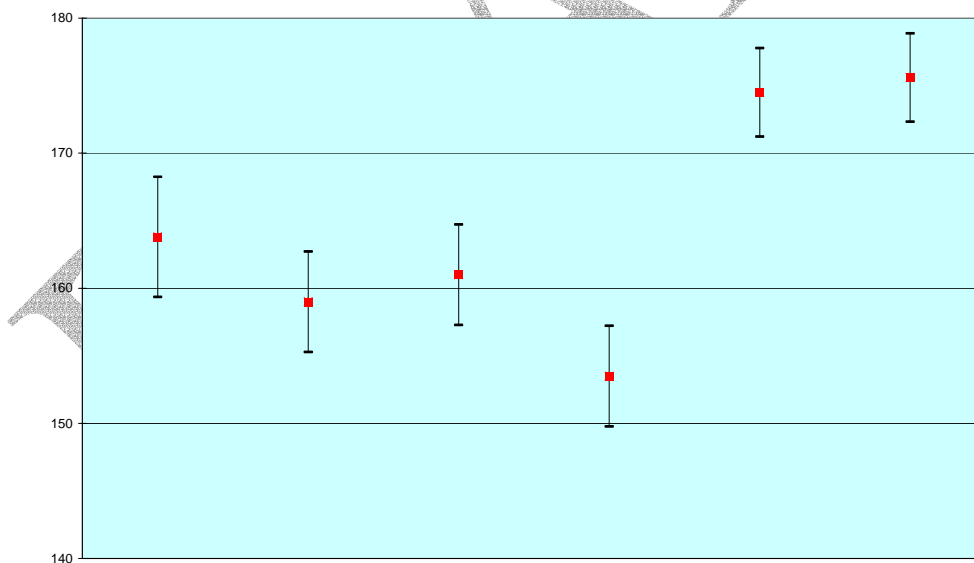


Figure 4. Adult stature estimates for six individuals (burials 5, 9, 11, 12, 20 and 2) showing the confidence intervals derived from the regression equation. Male individuals (*n* 2) are displayed upper far right corner.

The estimated statures of the Ardsallagh adults (albeit with very small sample size) are broadly in keeping with average stature measurements for contemporary early Christian period Irish populations - male stature 172 cm, female stature 161 cm – as published by Roberts and Cox (2003).

3.6 Pathology

The study of palaeopathology investigates the evolution and expression of ancient disease processes through time and how human societies adapted to them. In studying diseases in archaeological populations we are primarily looking at those disease vectors that leave characteristic changes or lesions on the bony skeleton. Understanding the expression of such changes and the clinical impact that they had on the individual is of vital importance in understanding how past societies understood their environment, how they adapted to it biologically, or failed to, and how they tried to overcome the impact of disease and sickness through cultural intervention or palliative care.

The range of diseases commonly encountered and investigated includes: trauma, congenital abnormalities, circulatory disorders, joint diseases, infectious disease, diseases of the viscera, metabolic disease, endocrine disorders, haematological disorders, skeletal dysplasias, neoplastic disease, and various diseases and malformations of the dentition (Aufderheide and Rodríguez-Martin, 1998; Roberts and Manchester, 1995). Some, such as traumatic lesions, are due to the application of external forces on bone. Expression can range from the effects of crushes, trips or falls, to the impact of edged weapons and blunt force trauma. Others, such as the metabolic disorders, arise through the deficiency of essential nutrients and vitamins or the surplus of toxins; understanding their expression provides good evidence of dietary deficiency or environmental stress.

Though the surviving skeletal tissue was highly fragmented and eroded ephemeral evidence remained of a number of pathological conditions within the Ardsallagh population:

3.6.1 Degenerative Joint Disease

Degenerative joint disease (DJD) is one of the most common pathological ailments observed in archaeo-skeletal assemblages, with the progressive degeneration of joint structures strongly correlated with advancing chronological age; thus DJD is seen in the majority of cases as a natural internal response of the body to “wear and tear”. The disease is commonly sub-classified as *primary* or *idiopathic* (80% of cases) in which

no cause other than neuromechanical age degeneration is implicated, and *secondary* when the joint has been altered by some other disease or event (Aufderheide and Rodríguez-Martin, 1998). Primary expression of the disease may be influenced and exacerbated by secondary factors, or secondary DJD may occur alone. The later may be due to physical alteration (trauma or dislocation), infectious disease (inflammatory), immune response, vascular defects, metabolic deficiency, or extra-articular causes such as obesity, occupational stress, congenital deformity or asymmetry (*ibid.*).

Skeletal involvement in DJD usually consists of the covarying processes of bone formation and bone destruction, including: (1) degeneration of articular cartilage with exposure of the bone surface leading to progressive sclerotic osteoblastic response in the subchondral bone (erosive porosity); (2) bone remodelling which produces stabilizing focal nodules of new bone formation (*osteophyte*; process = *osteophytosis*) at joint margins or ligament/tendon insertions (*entheses*); (3) subchondral cysts or lytic cavities in cartilage-depleted areas; and, (4) *eburnation* produced by direct bone-on-bone abrasion, often leaving polished wear facets on the affected areas.

The clinical expression and differential diagnosis of these traits will depend on the area of the body and requisite joints affected, with accurate diagnosis of a particular joint disease, such as osteoarthritis or rheumatoid arthritis, requiring an evaluation of the morphology of articular lesions and their frequency and distribution in the body (Resnick and Niwayama, 1988). *Extra-spinal DJD* (ESDJD) may display any or all of the above symptomatic lesions and most commonly affects the large weight-bearing joint structures of the knee, hip, ankle and foot, and sacroiliac articulation, though lesser-supporting structures such as shoulder, elbow and wrist, hand, and temporomandibular joint (TMJ) are also commonly affected. *Spinal DJD* (SDJD) most commonly presents as osteophytosis and porosity of the vertebral centra (particularly the lower cervical, lower thoracic, and lower lumbar vertebrae), and/or degeneration of the apophyseal joints. In the latter case this leads to characteristic lesions such as subchondral sclerosis, porosity, eburnation, and marginal osteophytosis of the articular facets; DJD may also affect the costal articulations and transverse processes. In extreme cases the disease may lead to fusion (*ankylosis*) of the vertebral centra, apophyseal joints, or spinous processes.

Evidence of spinal DJD was noted in burials **5** and **28**:

- **Burial 5** (young adult female). The individual presented evidence of a single Schmorl's node on a fragment of lumbar centrum (superior surface). These defects are caused by vertebral disc herniation; in such cases the hernia protrudes through the vertebral surface and extends into the trabecular bone of the vertebral body, narrowing the disc space and permitting contact between two adjacent vertebrae. The exact aetiology of the nodes is unknown, but trauma is implicated as one of the major causes of this condition (Resnick and Niwayama, 1988).
- **Burial 28** (middle adult female). The individual expressed moderate SDJD of the thoracic and lumbar vertebrae. Though highly fragmented, osteophyte lipping of the superior surface of a lumbar body fragment, and several fragmented thoracic transverse processes and centra costal facets was noted, concomitant with moderate osteophytosis of the demifacets of four fragmented costal heads.

3.6.2 Dental Disease

Dental tissue can provide a wealth of evidence of dietary components, physiological adequacy of diet, food procurement, oral hygiene, and general health. Dental diseases and anomalies, with joint diseases, are the most commonly occurring pathological conditions reported for human archaeological populations. The dentition has a high intrinsic survival value (Lyman, 1994), often surviving decomposition and recovery when other skeletal tissues do not; such is the case at Ardsallagh, complemented by the fact that dental defects affect 24 out of 30 (80%) of the population, and thus the single largest class of pathological data available for this assemblage. This is summarised by defect type with occurrence and prevalence data in Tables 6 and 7:

Hypoplastic Enamel Defects: This defect was found to affect the dentition of 10 individuals (33.3%) within the Ardsallagh population, representing some 7.4% of observable teeth. These developmental anomalies occur as lines, grooves or pits on the enamel surface of a tooth, and are usually most noticeable on the labial surfaces of the anterior dentition. They arise as the result of body-wide metabolic insult and

record episodes of nutritional stress or pathological disturbance during development sufficient to disrupt ameloblast activity, and thus the morphology of the forming tooth crown. Crown formation of the permanent anterior dentition is completed by around four and a half years (Scheuer and Black, 2000), so these defects can only provide an indication of systemic disturbance or stress early childhood. This disturbance could be due to dietary stress such as periods of greatly reduced calorific intake (starvation) following weaning, deficiency disease such as rickets, or the impact of life-threatening disease (acute bacterial infection) such as congenital syphilis, tuberculosis, or brucellosis. A severe case of hypoplastic defect presented as a possible congenital (*intrauterine*) defect, consistent with an acute bacterial infection (see section 3.6.3 below), though no corroborating skeletal lesions were found to allow definitive differential diagnosis to be made in this case.

	<i>N</i> of affected teeth	% of total teeth	<i>N</i> of affected individuals	% of total individuals
Calculus	235	41.6	19	63.3
Caries	6	1.1	3	10.0
Abscess	5	0.9	3	10.0
Enamel hypoplasia	51	7.4	10	33.3
Peridontitis	N/A	N/A	4	13.3
AMTL	14	2.5	3	10.0
Congenital absence	4	0.7	3	10.0

Table 6. Incidence of dental pathology expressed as the number of teeth and individuals affected.

	<i>Juvenile</i>		<i>Adolescent</i>		<i>Adult</i>	
	<i>N</i> teeth	<i>N</i> indiv	<i>N</i> teeth	<i>N</i> indiv	<i>N</i> teeth	<i>N</i> indiv
Calculus	-	-	30	3	205	16
Caries	-	-	-	-	6	3
Abscess	-	-	-	-	5	3
Enamel hypoplasia	9	1	10	1	32	8
Peridontitis	-	-	-	-	N/A	4
AMTL	-	-	-	-	14	3
Congenital absence	-	-	-	-	4	3

Table 7. Incidence of dental pathology expressed by broad age group.

Calculus: This defect was found to affect 19 (63.3%) of the Ardsallagh population (16 adults and 3 adolescents), representing some 41.6% of observable teeth. Calculus is a cement-like deposit laid down on and around the cervix of tooth crowns. The deposit is made up of mineralized plaque (a matrix of oral bacteria and salivary proteins), which is deposited strongly when sucrose is present in the diet (Roberts and Manchester, 1995). The form of these deposits can range from small flecks to substantial excrescences.

Calculus develops most commonly at loci close to the salivary glands, and is thus more common along the lingual margins of the lower anterior teeth and buccal margins of the maxillary molars. Although the presence of calculus is generally painless for the affected individual, the presence of substantial deposits can contribute to the development of periodontal disease and infections, and generally indicates a lack of oral hygiene.

The deposit is more usually laid-down above the gum line (supragingival), where the presence of the deposit indicates chronic food retention (lack of dental cleaning). Retained food and micro-organisms stagnate in the sulci between teeth. This allows bacteria to attack the fibres of the periodontal ligament, allowing bacteria to invade deeply into the periodontal space where they begin to calcify, forming supragingival calculus; subgingival calculus may then form secondarily from this at the base of an existing periodontal pocket. In this context bacteria are provided with a site to initiate necrosis and caries formation; this eventually destroys the periodontal ligament and the alveolar bone, and the deposit is often associated with localised abscess formation and alveolar sequestration. The tooth may be evulsed at this stage.

Severe supragingival and subgingival calculus is seen on exposed tooth roots of **Burial 6**. In this case calculus is seen to affect 17 out of 19 surviving teeth, with 7 of those severely affected. Severe subgingival calculus completely covers the distal moiety and buccal roots of the left maxillary first molar, with periodontal reaction in the surrounding resorbing alveolar bone leading to full exposure of the buccal roots. Antemortem evulsion of both P₄-M₃ tooth rows was noted, and it is possible that the loss of these teeth was consequential to calculus formation in the lower jaw.

Caries: Dental caries is a multifactorial, multibacterial disease of dental tissue, characterised by local demineralisation of the inorganic portion of the tooth by acid-producing bacteria with subsequent destruction of the organic component by bacterial metabolic protease (Aufderheide and Rodríguez-Martin, 1998). Caries is a progressive disease in that a continuation of the same environmental conditions that caused the lesion will inevitably lead to tooth destruction and loss. Dental surfaces exposed to caries include the occlusal (chewing) surface, the smooth surfaces of the crown, the interproximal contact areas, and the tooth roots; crown lesions arise as a result of bacterial activity combined with the presence of dietary carbohydrate, and are particularly prevalent in and around the microenvironment created by plaque or calculus deposits, whereas caries of the tooth root occurs as the root is exposed to cariogenic bacteria by periodontal disease (Ortner, 2003).

Carious lesions were somewhat uncommon amongst the Ardsallagh population, occurring in 3 adults (10% of individuals) only, representing some 1.1% of observable teeth. One young adult (**Burial 17**) presented caries of the left mandibular P4, with a small distal interproximal lesion at the cementum enamel junction (CEJ). The remaining two cases (**Burial 6** mature adult female and **Burial 28** middle adult female) presented large occlusal, interproximal, and CEJ lesions, concomitant with severe molar attrition, calculus, periodontitis, and abscess formation.

Dental Abscesses: If tooth destruction from any carious lesion penetrates the pulp cavity infection of the supporting tissues is almost inevitable. This leads to bone destruction around the base of the tooth root with sclerosis around the infection in chronic cases, followed by tissue necrosis, suppuration, and eventual periapical abscess formation within the alveolar bone. This may allow bacteria to enter the bloodstream (septicaemia) initiating abscesses in locations such as the long bones, vertebrae, heart valves or brain, often with fatal consequences (Aufderheide and Rodríguez-Martin, 1998: 403). Alternatively the abscess may form a fistula or sinus, penetrating the alveolar cortical bone and allowing pus to drain into the oral cavity. Abscess was uncommon amongst the Ardsallagh population, occurring in 3 adults (10% of individuals) only, representing some 0.9% of observable tooth positions; incidence was correlated in two cases (**Burials 6 and 28**) with severe calculus and caries formation, and in the remaining case (**Burial 16**) with calculus only.

Periodontal Disease (Periodontitis): This condition is characterised by inflammation of the tissues surrounding and anchoring the teeth. The early stage is characterized by gingivitis, which affects the cervical or gingival margins of the tooth crowns. If periodontal disease continues the underlying bone is affected and may be increasingly destroyed or resorbed, often leading to the evulsion of the tooth, and suppuration of the underlying tissues. Only the latter stages of periodontitis can be identified in archaeological bone as the aetiology results in visible resorption of the alveolar process. Plaque, calculus deposits, abscesses and metabolic diseases can all contribute to the development of the condition, and the presence of the disease is generally seen as indicative of poor oral hygiene. Periodontitis occurred in 4 cases (13.3% of individuals) only.

3.6.3 Congenital Abnormalities

Congenital abnormalities are malformations produced by pathological changes during normal intrauterine development. Such defects affect less than 5% of newborns, and of these 90% are genetical or epigenetic in nature (Gilbert-Barness and Debich-Spicer, 2004). They can range in severity from minimal morphological variants with no obvious functional or structural consequences (these do not represent malformations *sensu stricto*), to very severe defects incompatible with life. From an archaeo-skeletal perspective only around 40% affect the skeleton directly (Aufderheide & Rodríguez-Martin, 1998; Roberts and Manchester, 1995), whilst the majority of life-incompatible fetal defects simply do not leave recognizable lesions or morphological changes on the skeleton.

One severe congenital defect was observed within the Ardsallagh population. **Burial 13** displayed severe developmental enamel defects of the developing permanent and occluded deciduous dentition. The role of hypoplastic enamel defects as indicators of nutritional or pathogenic stress during early childhood has been highlighted previously (see 3.6.2 above). The burial was that of a juvenile aged from 7 to 8 years, in a moderate state of preservation. The individual displayed severe enamel hypoplastic defects of the deciduous upper second molars, the permanent upper anterior teeth (incisors and canines) and the upper first permanent molars. Unlike the linear hypoplastic band defects noted elsewhere in the assemblage Burial 13 displayed

abnormal creasing and folding of the anterior teeth, notched incisal defects of the lower incisors, and widespread pitting of molar enamel surfaces with abnormal cusp form, particularly in the intercuspal basin of the permanent 1st molars. The upper lateral permanent incisors display creasing of the labial enamel surface close to the CEJ, with the right lateral displaying a fold defect of both the forming root and the enamel cingulum. The lower incisors display clear evidence of notched incisal edge defects, with the presence of a half-moon shaped edge on the labial aspect. The occlusal surfaces of the upper and lower deciduous second and permanent first molar teeth are irregularly formed, lobular, and interspersed with irregular pitting across an enlarged intercuspal basin. The hypocone (distolingual cusp) of both permanent M¹'s is reduced in height, with a pronounced “pit and hook” defect at the apex (Figure 6).



Figure 5. Burial 13 lower jaw, showing permanent right central and lateral incisor and left tooth row from I1 to dM2. Permanent mandibular incisors show clear evidence of incisal edge defect with pronounced half-moon labial surfaces (*Hutchinson's incisors*).

An understanding of the chronological age at which the stress insult affected this individual can be determined by the sequence of enamel formation. Mineralization of the second deciduous molar commences between 18 and 20 weeks of intrauterine life, with eruption of the completed crown commencing around 1.3 years of age (Scheuer and Black, 2004). The first permanent molar commences mineralization shortly

before or around the time of birth, with crown completion around 4.5 years, and eruption between 5 and 6 years (*ibid.*). The permanent anterior dentition commences mineralization within the first 6 months of life, with crown formation of the incisors at around 4 years, and eruption between 6 and 7 years. The chronological spread of enamel defects thus suggests a chronic infection (or series of infections) which infected the child during the intrauterine phase or the first year of life, and whose pathological effects were still evidenced in the final developmental stages of the permanent dental crowns some three to four years later.



Figure 6. Burial 13, close up of left dm^1 , dm^2 and M^1 tooth row. Mulberry molar defects clearly evidenced on occlusal surface of 1st permanent molar; note pit and hook fold defect at apex of hypocone.

Infectious diseases, primarily congenital syphilis and tuberculosis, as well as metabolic and endocrine disorders are known to affect the formation of dental tissue, with infiltration of the developing tooth germ by bacteria leading to a disruption of enamel formation (amelogenesis). In the case of Burial 13, however, the

developmental enamel defects displayed by the lower incisors and the deciduous and permanent molar teeth very closely resemble dental defects associated with congenital syphilis. The diagnostic patterns are termed *Hutchinson's incisor* and *mulberry molar* respectively (Ortner, 2003) and are indicative of maternal transmission of venereal syphilis to the unborn child.

A diagnosis of congenital syphilis is supported by evidence of symmetrical bilateral periosteal reactions affecting the bony surfaces of the elbow (distal humerus, proximal radius and ulna) and knee joints (distal femur, proximal tibia). Whilst other infective agents may be implicated in this diagnosis (e.g. tuberculosis or brucellosis) the balance of evidence supports a diagnosis of congenital syphilis. This however, implies maternal transmission of the venereal form for which no evidence of chronic expression has been recorded amongst adults in the assemblage. The venereal form is an acute or chronic treponematosis that has recently been the subject of much debate amongst palaeopathologists. Whilst early pre-Columbian presence of the disease in the Old World has traditionally been strongly contested (Roberts and Cox, 2003), evidential sources continue to accumulate placing venereal (and by extension congenital) syphilis in a pre-Columbian Old World context (von Hunnis *et al.*, 2006) including the recent recovery of skeletal remains from a 13th Century AD Irish context (Fibiger, 2004).

3.6.4 Neoplastic Disease

This disease category comprises tumours which arise in bone as the result of uncontrolled proliferation of one of the composite tissues of the skeletal system (bone, cartilage, fibrous tissue, or blood vessels). If growth consists of well-differentiated localised tissue then the tumour is considered benign. In contrast, malignant tumours are those consisting of undifferentiated disorganised tissue with an unchecked growth pattern, which often metastasise to affect other parts of the body through the vascular or lymphatic systems (Ortner, 2003).

One incidence of neoplastic disease was recorded in the Ardsallagh assemblage. **Burial 28** was that of a middle adult female. A single button osteoma 7.3 mm in diameter was recorded on left frontal boss. This class of neoplasm is a benign lesion

consisting of dense lamellar bone. Button osteomas occur almost exclusively in the skull, and present no secondary complications or discomfort to the affected individual.

3.6.5 Miscellaneous Conditions

Cribra Orbitalia: This condition is recognised as ranging from a small ($\leq 1\text{cm}^2$) patch of fine foramina affecting the roof of the orbit, to a large agglomeration of foramina of differing sizes with a tendency to cluster together. The condition can occur unilaterally or bilaterally, and has traditionally been regarded as symptomatic of iron-deficiency anemia (Roberts and Manchester, 1995). As a response the body attempts to increase iron-production which results in a thinning of the outer surfaces of the bone and corresponding expansion of the diploë, a condition characterised by the porous (porotic) appearance of the orbits or cranial vault. Factors that can contribute to iron anemia are numerous, however, and diet is only one of a group of potential causes also including physiological processes within the body causing inadequate iron absorption; it is now considered that a variety of conditions, including acquired *and* genetic anemia, bacterial infections, and vitamin deficiencies (e.g., scurvy and rickets) may also be implicated. Cribra orbitalia is probably best regarded as a stress indicator rather than as pathognomonic of a specific disease (Klepinger, 2006).

Two incidences of cribra orbitalia were noted in the assemblage. **Burial 6** and **burial 28** (mature and middle adult females) displayed a bilateral small cluster of foramina, with some sign of resorption indicating the disease was in the process of ameliorating at the time of death.

Periosteal Reactions: These are inflammatory reactions of the vascularised periosteal sheath which covers skeletal tissue. The inner layer of the periosteum retains the capacity to form new bone even after the termination of the growth phase. The periosteum also has the capacity to form abnormal woven bone in response to inflammation if assaulted by pathogens or localised trauma (Resnick and Niwayama, 1988). Two cases of slight periosteal reaction were noted within the Ardsallagh assemblage in addition to the periosteal responses to congenital syphilis noted in Burial 13 above.

Burial 15 (juvenile aged 10 to 11 years) displayed a slight periosteal reaction which affected the right proximal tibia. A small area of woven and vascularised bone was noted on the postero-lateral aspect of the tibia just inferior to the soleal line (a ridge of bone that descends obliquely from lateral to medial on the posterior surface of the tibia) possibly indicative of localised damage to the soleus muscle (*m. soleus*). **Burial 25** (young adult female) displayed an area of reactive bone formation on the greater tubercle of the right humerus, at the insertion of the rotator cuff muscles (*m. infraspinatus*, *m. supraspinatus*, and *m. teres minor*), suggesting local response to trauma or extreme loading of the shoulder rotator-cuff muscles.

4. Discussion

The Ardsallagh 1 burial assemblage presents a window onto the biological context of early Christian period Ireland. The burial ground records the skeletonised remains of 30 individuals spanning at least 190 radiocarbon years; an average mortality rate of 1 individual per 7 to 10 years allowing for the confidence intervals of the spread of C14 dates. The burial ground thus presents a relatively small statistical sample, and it is clear from the demographic distribution that the assemblage most likely represents a culturally-biased artefact rather than a reflection of population mortality.

The youngest individual died between 2.4 and 3.2 years of age, with the oldest well into mature adulthood (>50 years). Females are statistically over-represented (2.2:1) within the adult assemblage. The bulk of the assemblage was comprised of young and middle-aged adult (20 to 49 years), with a smaller proportion of adolescent (13 to 20 years) individuals. The skeletonised remains of fetal, neonatal or young infants (<1 year) are conspicuous by their absence. Infant mortality rates of between 10 and 30% are cited for early and later Mediaeval European populations (Scott, 1999), and even allowing for preservational biases the absence of infant remains is striking; segregated burial outside the social proscription of the burial ground is most likely - the outward continuation of a tradition which was firmly established in the Neolithic (Finlay, 2000) and which continued in the form of Ceallúnaigh until the early 20th Century AD (Dennehy, 2001).

Health markers such as adult stature and the prevalence of disease are within historically-reported parameters (Roberts and Cox, 2003) for the early mediaeval period. Dental disease (particularly calculus and plaque) predominates, suggesting overall poor levels of dental cleaning and hygiene, but with a diet that was carbohydrate rich and without refined sugars. The presence of a probable case of congenital syphilis is notable given the early radiometric dates.

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6. Appendix 1: Summary of Individual Burials

Key to dental inventory codes:

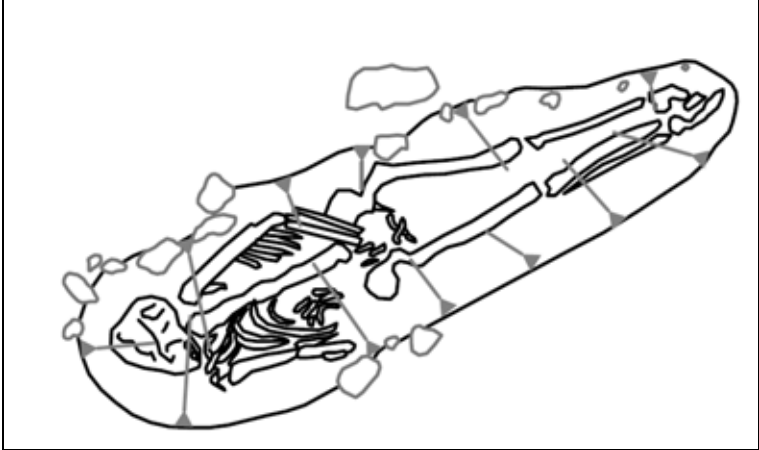
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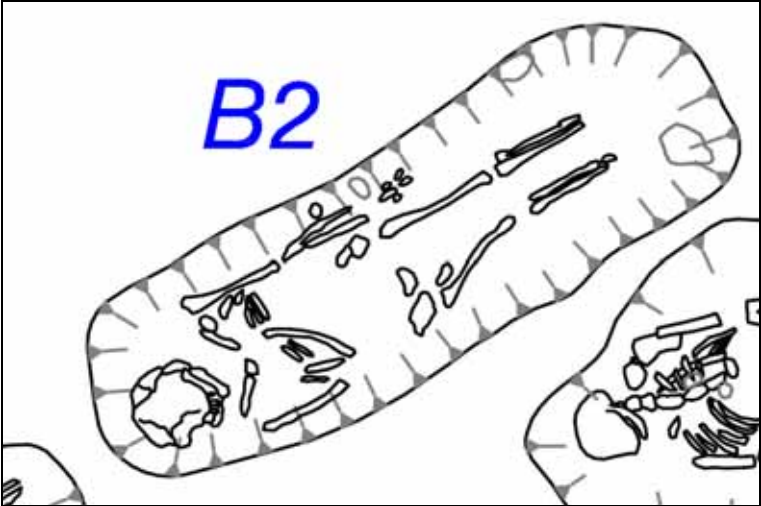
Upper right	M2	M1	C	I2	I1	I1	I2	C	M1	M2	Upper left
	51	52	53	54	55	56	57	58	59	60	
	70	69	68	67	66	65	64	63	62	61	
Lower right	M2	M1	C	I2	I1	I1	I2	C	M1	M2	Lower left

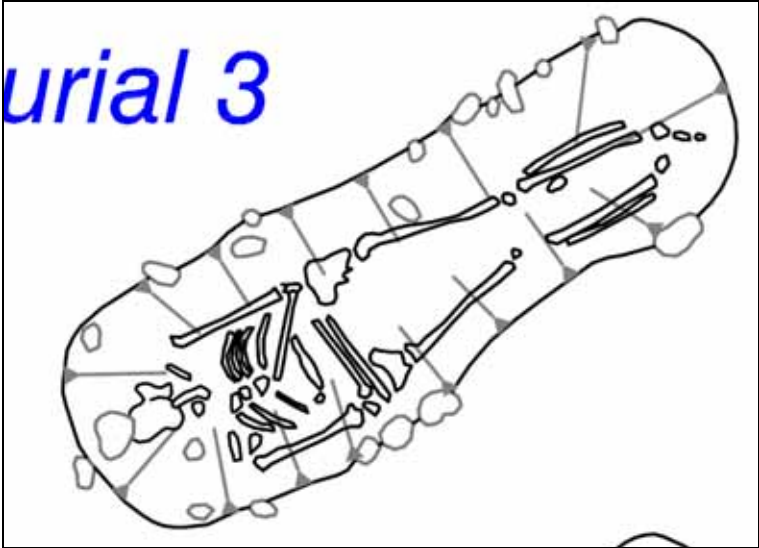
Permanent teeth

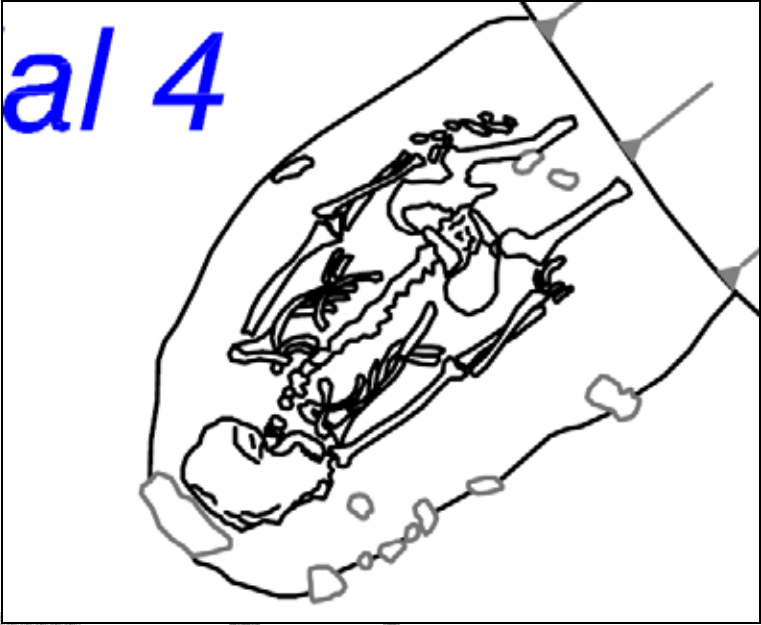
Upper right	M3	M2	M1	P4	P3	C	I2	I1	I1	I2	C	P3	P4	M1	M2	M3	Upper left
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
Lower right	M3	M2	M1	P4	P3	C	I2	I1	I1	I2	C	P3	P4	M1	M2	M3	Lower left


\	Tooth lost post mortem
-	Tooth present but socket missing
X	Tooth lost ante mortem
NP	Tooth not present
CA	Congenital absence
CR	Caries
C	Calculus
A	Abscess
E	Tooth erupting
U	Tooth unerupted

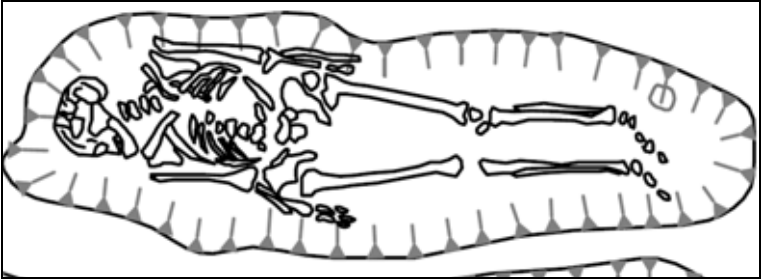
Burial 1																																																																
Type of deposit	Inhumation																																																															
Orientation	Southwest-Northeast (head to west)																																																															
Disposition	Extended supine																																																															
Burial capsule	No capsule. Possible stone lining																																																															
Burial layout & bones present																																																																
Percentage present	90%																																																															
MNI	1																																																															
Preservation	Poor (4/5+)																																																															
Age at death	Middle adult (dental attrition)																																																															
Sex	? ♀ (joint size)																																																															
Adult stature	No measurements possible																																																															
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>C</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>H</td><td>H</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>C</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>NP</td><td>NP</td> </tr> </tbody> </table>	C	C	NP	NP	NP	NP	H	H	NP	NP	NP	NP	C	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	C	C	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	C	NP	NP
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NP	C	C	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	C	NP	NP																																																	
Dental pathology	Calculus (slight 6/9), enamel hypoplasia (linear bands 2/9), slight to moderate dental attrition																																																															
Skeletal pathology	None observed																																																															
Commingle bone	None																																																															
Associated finds	None																																																															

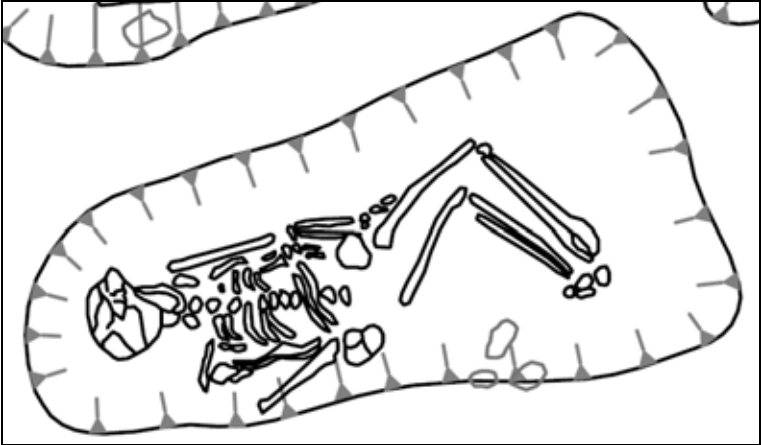
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Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	50%																																																																
MNI	1																																																																
Preservation	Poor (4/5+)																																																																
Age at death	Middle adult (dental attrition)																																																																
Sex	? ♀ (cranial morphology)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" data-bbox="549 1384 1321 1543"> <tbody> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>C</td><td>C</td><td>C</td><td>NP</td><td>CH</td><td>C</td><td>C</td><td>CH</td><td>NP</td><td>CH</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> </tbody> </table>	C	C	C	C	C	CH	CH	CH	CH	CH	CH	C	C	C	C	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	C	C	C	NP	CH	C	C	CH	NP	CH	C	C	C	C	C
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NP	C	C	C	NP	CH	C	C	CH	NP	CH	C	C	C	C	C																																																		
Dental pathology	Calculus (slight 19/29, moderate 10/29), enamel hypoplasia (linear bands 9/29), moderate dental attrition																																																																
Skeletal pathology	None observed																																																																
Commingle bone	None																																																																
Associated finds	None																																																																
C14 date	610 CAL AD (530 to 650 2σ range: Beta # 222014)																																																																

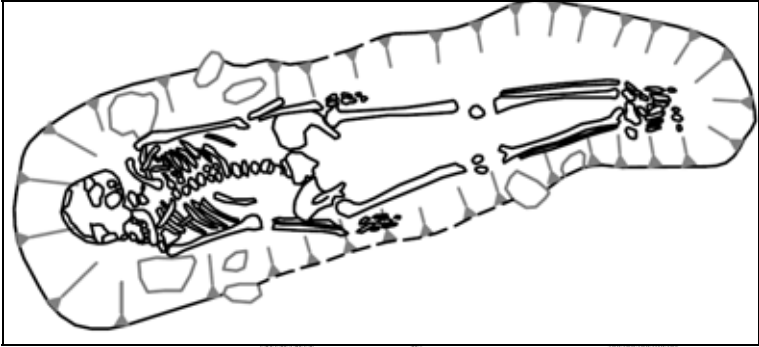
Burial 3																																																																					
Type of deposit	Inhumation																																																																				
Orientation	Southwest-Northeast (head to west)																																																																				
Disposition	Extended supine																																																																				
Burial capsule	No capsule. Stone lining																																																																				
Burial layout & bones present																																																																					
Percentage present	60%																																																																				
MNI	1																																																																				
Preservation	Poor (4/5+)																																																																				
Age at death	Middle adult (dental attrition)																																																																				
Sex	No observations possible																																																																				
Adult stature	No measurements possible																																																																				
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>CH</td> <td>CH</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td> <td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td></td> <td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> </table>	NP	NP	NP	NP	NP	NP	NP	NP	CH	CH	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25		24	23	22	21	20	19	18	17	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
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NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP																																																					
Dental pathology	Calculus (slight 2/2), enamel hypoplasia (linear bands 2/2), moderate dental attrition																																																																				
Skeletal pathology	None observed																																																																				
Commingle bone	None																																																																				
Associated finds	None																																																																				

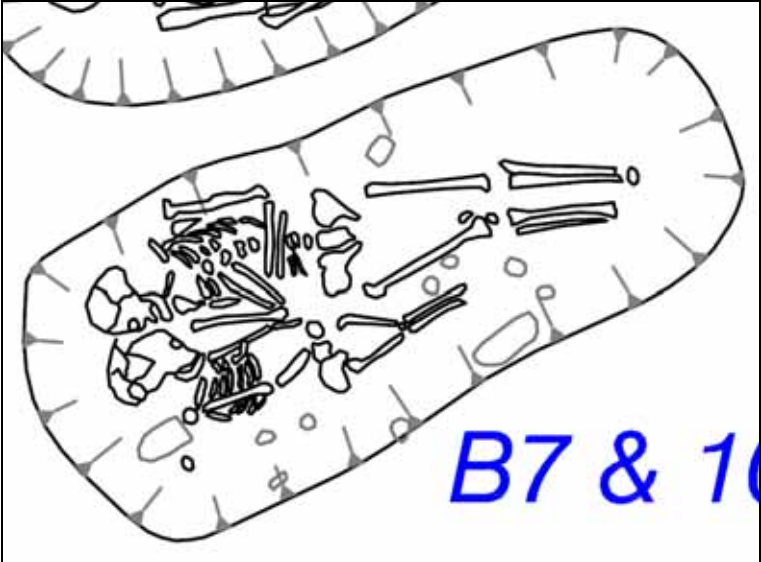
Burial 4																																																													
Type of deposit	Inhumation																																																												
Orientation	Southwest-Northeast (head to West)																																																												
Disposition	Extended supine																																																												
Burial capsule	No burial capsule. Possible stone lining																																																												
Burial layout & bones present																																																													
Percentage present	60%																																																												
MNI	1																																																												
Preservation	Poor (4/5+)																																																												
Age at death	Juvenile 14 - 16 years (dental development and epiphyseal fusion)																																																												
Sex	N/A																																																												
Adult stature	N/A																																																												
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">NP</th> <th colspan="6">NP NP NP NP</th> <th colspan="6">NP NP NP NP NP</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th> <th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td> <td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td colspan="7">E</td> <td colspan="3">C C C</td> <td colspan="3">C C C</td> <td>E</td> </tr> </tbody> </table>	NP		NP NP NP NP						NP NP NP NP NP						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	E							C C C			C C C			E
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E							C C C			C C C			E																																																
Dental pathology	Calculus (slight 5/23, moderate 1/23), very slight dental attrition																																																												
Skeletal pathology	None observed																																																												
Commingled bone	None																																																												
Associated finds	None																																																												
C14 date	420 CAL AD (370 to 540 2σ range: Beta # 222015)																																																												

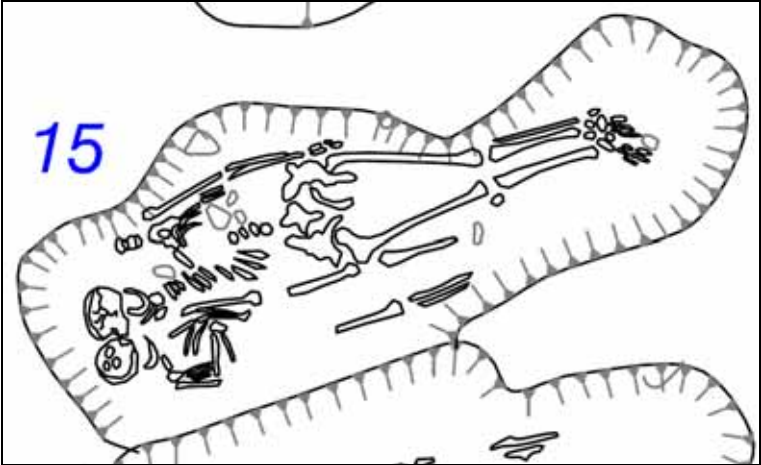
Burial 5																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Moderate (3/3)																																																																
Age at death	Young adult (auricular surface)																																																																
Sex	♀ (pelvic and cranial morphology, joint size)																																																																
Adult stature	159.0 ± 3.72 cm (femoral length)																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>NP</td><td>CH</td><td>CH</td><td>CH</td><td>C</td><td>C</td><td>C</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> </tbody> </table>	C	C	C	C	C	CH	CH	CH	CH	NP	CH	CH	CH	C	C	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
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C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																																																		
Dental pathology	Calculus (slight 31/31), enamel hypoplasia (linear bands only 3/31, pitting only 2/31, linear bands and pitting 2/31). Slight dental attrition (M3's unworn). Dental crowding with mesio-lingual rotation of R P ⁴																																																																
Skeletal pathology	Schmorl's node on superior surface of isolated LV centrum fragment																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

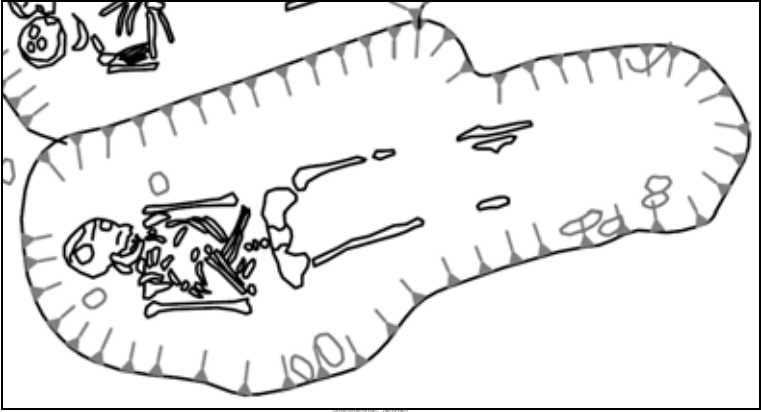
Burial 6																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	90%																																																																
MNI	1																																																																
Preservation	Poor (4/5)																																																																
Age at death	Mature adult (dental attrition)																																																																
Sex	♀ (pelvic and cranial morphology)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1"> <thead> <tr> <th>NP</th><th>NP</th><th>NP</th><th>CR</th><th>C</th><th>C</th><th>CH</th><th>CH</th><th>CH</th><th>CH</th><th>C</th><th>C</th><th>CCR</th><th>CCR</th><th>NP</th><th>NP</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>X</td><td>X</td><td>X</td><td>X</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>XA</td><td>X</td><td>X</td><td>X</td> </tr> </tbody> </table>	NP	NP	NP	CR	C	C	CH	CH	CH	CH	C	C	CCR	CCR	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	X	X	X	X	C	C	C	C	C	C	C	C	XA	X	X	X
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X	X	X	X	C	C	C	C	C	C	C	C	XA	X	X	X																																																		
Dental pathology	Calculus (slight 8/19, moderate 2/19, severe 7/19). Severe calculus present as continuous bar on lingual surface of mandibular anterior tooth row. Severe calculus affecting distal moiety and buccal roots of L M ¹ (calculus extends from occlusal surface to tip of disto-buccal root). Enamel hypoplasia (linear bands 4/19). Caries (occlusal and interproximal 2/19, CEJ 1/19). Abscess at L P ₄ locus. Moderate bilateral peridontitis with AM evulsion of both P ₄ -M ₃ tooth rows.																																																																
Skeletal pathology	Bilateral resorbing <i>cribra orbitalia</i> . R unilateral arachnoid foveae.																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

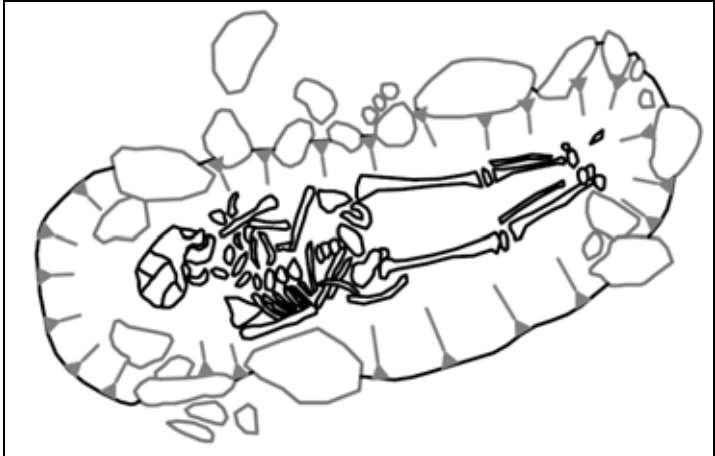
Burial 8																																																																					
Type of deposit	Inhumation																																																																				
Orientation	West-East (head to West)																																																																				
Disposition	Supine semi-crouched (with lower limb flexion)																																																																				
Burial capsule	None																																																																				
Burial layout & bones present																																																																					
Percentage present	70%																																																																				
MNI	1																																																																				
Preservation	Very poor (5/5+)																																																																				
Age at death	Adult (dental development)																																																																				
Sex	? ♀ (cranial morphology and joint size)																																																																				
Adult stature	No measurements possible																																																																				
Dental inventory	<table border="1" data-bbox="549 1326 1321 1482"> <tbody> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td></td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td></td> </tr> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td></td> </tr> </tbody> </table>	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17		NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	X	X	X	X	X	
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NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	X	X	X	X	X																																																						
Dental pathology	Moderate peridontitis L P ₃ -M ₃ tooth row. Teeth evulsed AM.																																																																				
Skeletal pathology	None observable																																																																				
Commingle bone	None																																																																				
Associated finds	None																																																																				

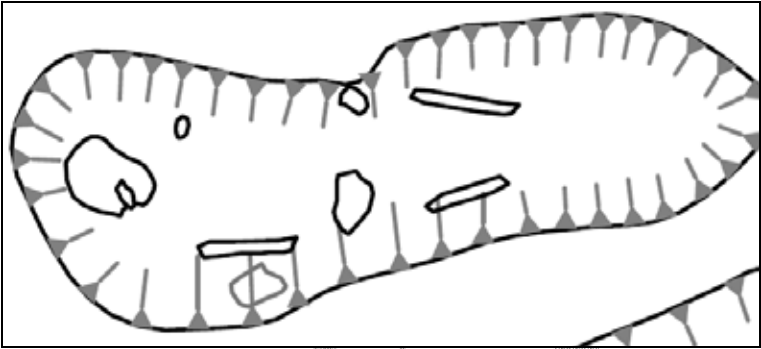
Burial 9																																																																	
Type of deposit	Inhumation																																																																
Orientation	Southwest-Northeast (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	90%																																																																
MNI	1																																																																
Preservation	Poor (5/4)																																																																
Age at death	Young adult (dental attrition)																																																																
Sex	♂ (pelvic and cranial morphology, joint size)																																																																
Adult stature	174.5 ± 3.27 cm (femoral length)																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td></td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> </tbody> </table>	C	C	C	C	C	C					C	C	C	C	C	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
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C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																																																		
Dental pathology	Calculus (slight 27/32, moderate 1/32). Slight and uniform dental attrition to maxillary and mandibular molar rows. Anterior lower dental crowding with disto-buccal rotation of both lower canines and overlap of lower incisors.																																																																
Skeletal pathology	None observed																																																																
Commingle bone	None																																																																
Associated finds	None																																																																

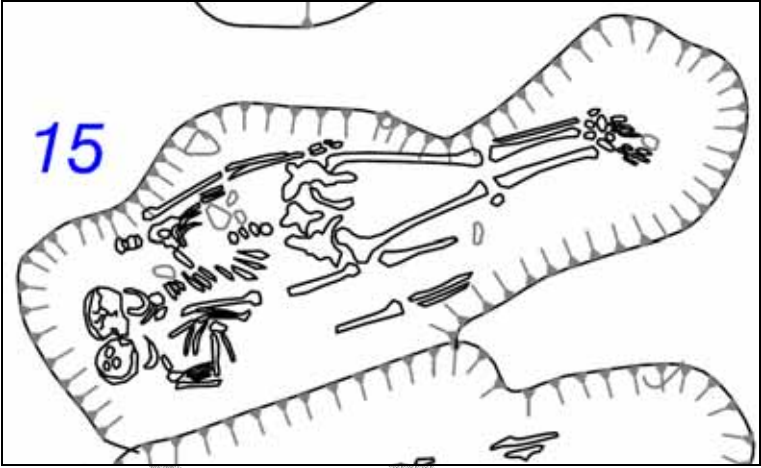
Burial 10																																																																
Type of deposit	Inhumation																																																															
Orientation	Southwest-Northeast (head to West)																																																															
Disposition	Extended supine. Double burial of adult (B10) and juvenile (B7)																																																															
Burial capsule	None																																																															
Burial layout & bones present																																																																
Percentage present	80%																																																															
MNI	1																																																															
Preservation	Poor (4/5+)																																																															
Age at death	Middle adult (dental attrition)																																																															
Sex	♀ (cranial morphology and joint size)																																																															
Adult stature	No measurements possible																																																															
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td></td><td>NP</td><td></td><td></td><td></td><td></td><td></td><td></td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td></td><td></td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>NP</td><td>B</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td></td><td></td> </tr> </tbody> </table>	NP	NP	NP				NP							NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17			C	C	C	C	C	NP	B	C	C	C	C	C		
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		C	C	C	C	C	NP	B	C	C	C	C	C																																																			
Dental pathology	Calculus (slight 3/25, moderate 7/25). Slight to severe dental attrition. Asymmetrical wear of buccal cusps of L maxillary P ³ -M ² tooth row.																																																															
Skeletal pathology	None observed																																																															
Commingled bone	None																																																															
Associated finds	None																																																															

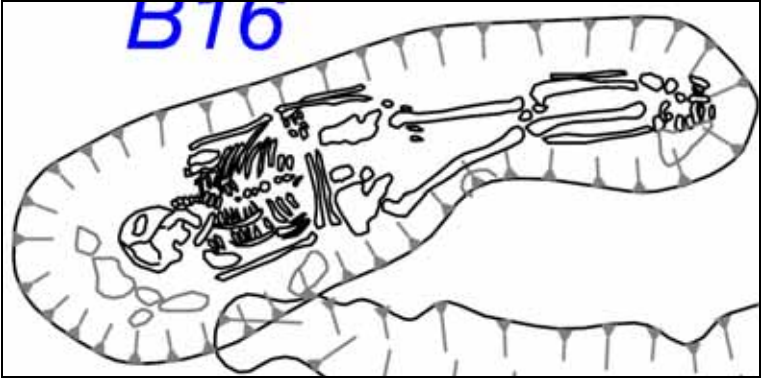
Burial 11																																																																					
Type of deposit	Inhumation																																																																				
Orientation	Southwest-Northeast (head to West)																																																																				
Disposition	Extended supine. Double burial of adult (B11) and juvenile (B15)																																																																				
Burial capsule	None																																																																				
Burial layout & bones present																																																																					
Percentage present	70%																																																																				
MNI	1																																																																				
Preservation	Poor (4/5+)																																																																				
Age at death	Mature adult (dental attrition)																																																																				
Sex	♂ (cranial morphology and joint size)																																																																				
Adult stature	175.6 ± 3.27 cm (femoral length)																																																																				
Dental inventory	<table border="1" data-bbox="549 1346 1321 1503"> <tbody> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td></td><td></td><td></td><td>B</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td></td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td></td> </tr> </tbody> </table>	C	C	C	C	C	C				B	C	C	C	C	C	C	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17								NP	NP	NP	NP	NP	NP	NP	NP			
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						NP	NP	NP	NP	NP	NP	NP	NP																																																								
Dental pathology	Calculus (slight 11/26). Moderate bilateral peridontitis with concomitant resorption of supporting and interproximal alveolus between both M ² and M ³ tooth rows; teeth close to AM evulsion. Severe uniform dental attrition across whole of maxillary arcade.																																																																				
Skeletal pathology	None observed																																																																				
Commingled bone	None																																																																				
Associated finds	Fragment of <i>Ovis</i> tooth																																																																				

Burial 12																																																																			
Type of deposit	Inhumation																																																																		
Orientation	West-East (head to West)																																																																		
Disposition	Extended supine																																																																		
Burial capsule	None																																																																		
Burial layout & bones present																																																																			
Percentage present	50%																																																																		
MNI	1																																																																		
Preservation	Very poor (5/5+)																																																																		
Age at death	Young adult (dental attrition)																																																																		
Sex	? ♀ (cranial morphology)																																																																		
Adult stature	163.8 ± 4.45 cm (humeral length)																																																																		
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>NP</td><td>NP</td><td>NP</td><td>B</td><td></td><td>NP</td><td>NP</td><td>NP</td><td></td><td>H</td><td>H</td><td></td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td></td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>CA</td><td>C</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>C</td><td>CA</td> </tr> </tbody> </table>	NP	NP	NP	B		NP	NP	NP		H	H		NP	NP	NP	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25		24	23	22	21	20	19	18	17	CA	C	C	NP	NP	NP	NP	NP		NP	NP	NP	NP	NP	C	C	CA
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CA	C	C	NP	NP	NP	NP	NP		NP	NP	NP	NP	NP	C	C	CA																																																			
Dental pathology	Calculus (slight 4/11). Hypoplasia (linear bands 2/11). Slight dental attrition. Bilateral congenital absence of mandibular M3.																																																																		
Skeletal pathology	None observed																																																																		
Commingle bone	None																																																																		
Associated finds	None																																																																		

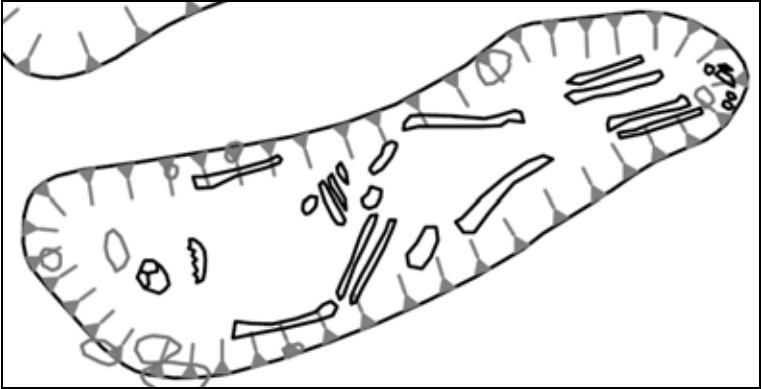
Burial 13																																																																																																													
Type of deposit	Inhumation																																																																																																												
Orientation	West-East (head to West)																																																																																																												
Disposition	Extended supine																																																																																																												
Burial capsule	No capsule. Stone lining.																																																																																																												
Burial layout & bones present																																																																																																													
Percentage present	90%																																																																																																												
MNI	1																																																																																																												
Preservation	Moderate (3/3)																																																																																																												
Age at death	Juvenile 7 - 8 years (dental development)																																																																																																												
Sex	N/A																																																																																																												
Adult stature	N/A																																																																																																												
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td></td> <td>HC</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>H</td> </tr> <tr> <td></td> <td>51</td> <td>52</td> <td>53</td> <td>54</td> <td>55</td> <td>56</td> <td>57</td> <td>58</td> <td>59</td> <td>60</td> </tr> <tr> <td></td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> </tr> <tr> <td></td> <td>HC</td> <td>-</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td></td> <td></td> <td>H</td> </tr> <tr> <td>NP</td> <td>U</td> <td>H</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>EH</td> <td>-H</td> <td>-H</td> <td>-H</td> <td>UH</td> <td>NP</td> <td>NP</td> <td>H</td> <td>U</td> <td>NP</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> </tr> <tr> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>NP</td> <td>U</td> <td></td> <td>NP</td> <td>NP</td> <td>NP</td> <td>H</td> <td>H</td> <td>H</td> <td>H</td> <td>-</td> <td>NP</td> <td>NP</td> <td></td> <td>U</td> <td>NP</td> </tr> </tbody> </table>		HC	NP	NP	NP	NP	NP	NP	NP	NP	H		51	52	53	54	55	56	57	58	59	60		70	69	68	67	66	65	64	63	62	61		HC	-	NP	NP	NP	NP	NP			H	NP	U	H	NP	NP	NP	EH	-H	-H	-H	UH	NP	NP	H	U	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	U		NP	NP	NP	H	H	H	H	-	NP	NP		U	NP
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NP	U		NP	NP	NP	H	H	H	H	-	NP	NP		U	NP																																																																																														
Dental pathology	Calculus (2/28). Enamel hypoplastic defects of dM ² 's, and permanent upper & lower anterior teeth and M ¹ 's. Upper incisors display banding and defects of the cingulum and CEJ. Lower incisors display Hutchinson's defects. Occlusal enamel of dM2 and M1 molar teeth is irregularly formed, lobular, and interspersed with irregular pitting.																																																																																																												
Skeletal pathology	Symmetrical bilateral periosteal reaction at elbow and knee joints																																																																																																												
Commingled bone	None																																																																																																												
Associated finds	None																																																																																																												

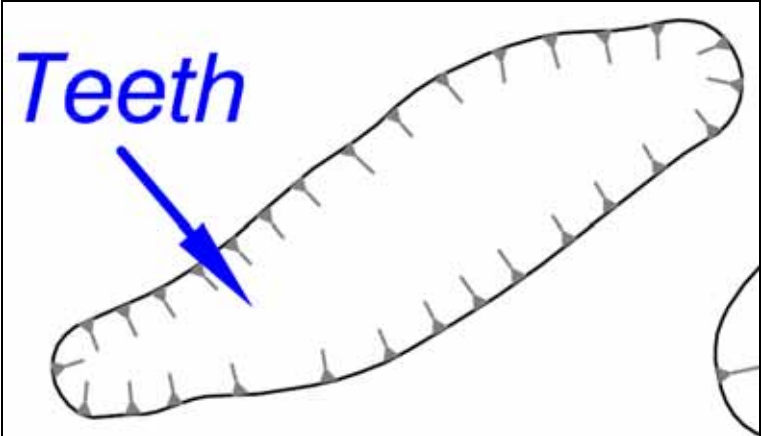
Burial 14																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	15%																																																																
MNI	1																																																																
Preservation	Very poor (5/5+)																																																																
Age at death	Juvenile 13 - 17 years (dental development and epiphyseal fusion)																																																																
Sex	No observations possible																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>NP</td><td>C</td><td>NP</td><td>B</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>C</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>B</td><td>NP</td> </tr> </tbody> </table>	NP	C	NP	B	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	C	C	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	C	B	NP
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NP	C	C	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	C	B	NP																																																		
Dental pathology	Calculus (slight 4/8). Slight dental attrition. Maxillary and mandibular M2's slightly worn and in occlusion, with no evidence of distal interproximal facets.																																																																
Skeletal pathology	None observed																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

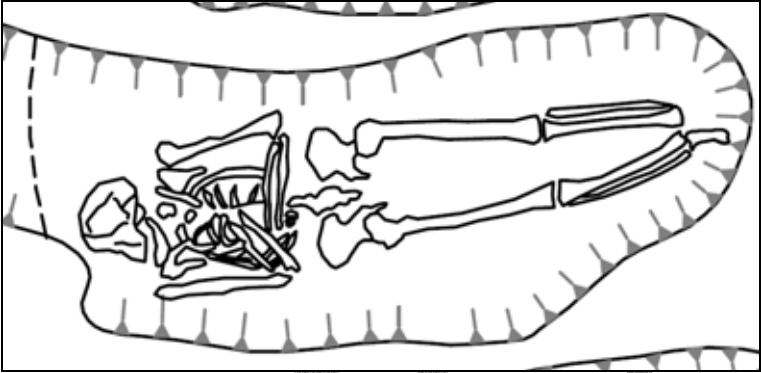
Burial 15																																																																																																																									
Type of deposit	Inhumation																																																																																																																								
Orientation	Southwest-Northeast (head to West)																																																																																																																								
Disposition	Extended supine. Double burial of adult (B11) and juvenile (B15)																																																																																																																								
Burial capsule	None																																																																																																																								
Burial layout & bones present																																																																																																																									
Percentage present	40%																																																																																																																								
MNI	1																																																																																																																								
Preservation	Poor (4/5+)																																																																																																																								
Age at death	Juvenile 10 to 11 years (dental development)																																																																																																																								
Sex	N/A																																																																																																																								
Adult stature	N/A																																																																																																																								
Dental inventory	<table border="1"> <tbody> <tr> <td></td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> </tr> <tr> <td></td> <td>51</td> <td>52</td> <td>53</td> <td>54</td> <td>55</td> <td>56</td> <td>57</td> <td>58</td> <td>59</td> <td>60</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>NP</td> <td>NP</td> <td></td> <td>NP</td> <td></td> <td>NP</td> <td></td> <td>B</td> <td>NP</td> <td>NP</td> <td></td> <td>NP</td> <td>NP</td> <td>NP</td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> </tr> <tr> <td></td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> </tr> <tr> <td></td> <td>NP</td> <td>NP</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NP</td> <td></td> <td>NP</td> <td>NP</td> </tr> </tbody> </table>		NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP		51	52	53	54	55	56	57	58	59	60							70	69	68	67	66	65	64	63	62	61							NP	NP	NP	NP	NP	NP	NP	NP						NP	NP		NP		NP		B	NP	NP		NP	NP	NP		1	2	3	4	5	6	7	8	9	10	11	12	13	14		32	31	30	29	28	27	26	25	24	23	22	21	20	19		NP	NP									NP		NP	NP
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Dental pathology	None observed																																																																																																																								
Skeletal pathology	Slight periosteal reaction affecting R proximal tibia (posterior-lateral aspect inferior to soleal line)																																																																																																																								
Commingled bone	None																																																																																																																								
Associated finds	None																																																																																																																								

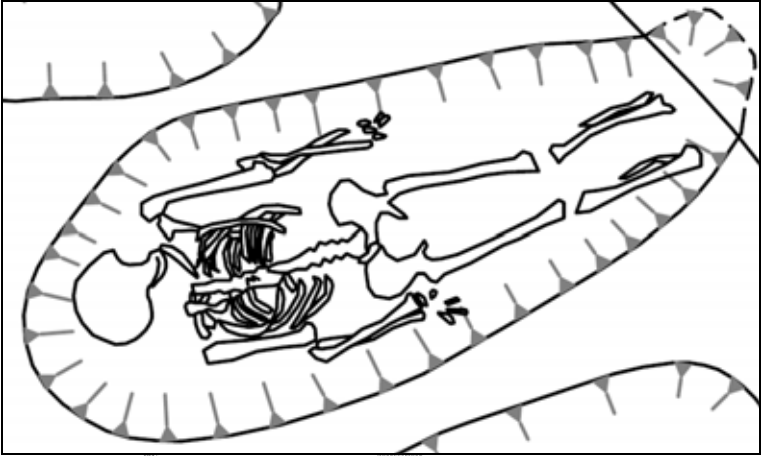
Burial 16																																																																	
Type of deposit	Inhumation																																																																
Orientation	Southwest-Northeast (head to west)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	90%																																																																
MNI	1																																																																
Preservation	Moderate (3/3)																																																																
Age at death	Middle adult (dental attrition)																																																																
Sex	♂ (cranial morphology and joint size)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" data-bbox="549 1256 1321 1415"> <thead> <tr> <th>C</th><th>C</th><th>A</th><th>A</th><th colspan="4"></th><th colspan="4">NP</th><th colspan="4">C</th></tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr> <td></td><td></td><td></td><td>NP</td><td>NP</td><td></td><td>NP</td><td></td><td></td><td></td><td>NP</td><td></td><td></td><td></td><td></td><td>C</td></tr> </tbody> </table>	C	C	A	A					NP				C				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16									24	23	22	21	20	19	18	17				NP	NP		NP				NP					C
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			NP	NP		NP				NP					C																																																		
Dental pathology	<p>Calculus (slight 5/27). Moderate to severe dental attrition. Mild periodontitis on buccal and lingual alveoli of anterior maxillary tooth row, and in conjunction with interproximal abscess formed between R P⁴ and M¹; abscess exposed bucco-mesial root of M¹ almost to apex. Healing apparent.</p>																																																																
Skeletal pathology	None observed																																																																
Commingle bone	None																																																																
Associated finds	None																																																																
C14 date	530 CAL AD (410 to 600 2σ range: Beta # 222016)																																																																

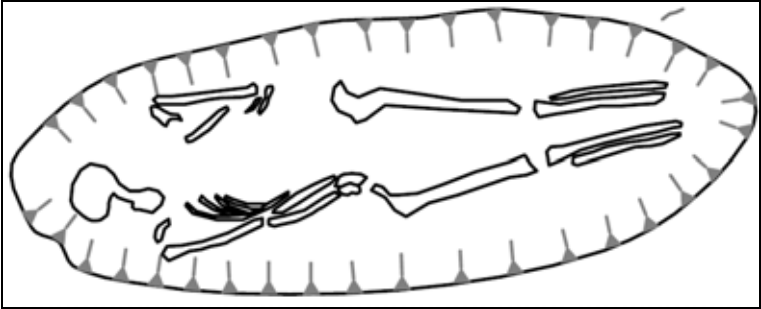
Burial 17																																																																	
Type of deposit	Inhumation																																																																
Orientation	Southwest-Northeast (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	60%																																																																
MNI	1																																																																
Preservation	Very poor (5/5+)																																																																
Age at death	Young adult (dental attrition)																																																																
Sex	No observations possible																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1"> <tbody> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>C</td><td>C</td><td>C</td><td>NP</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>CCR</td><td>NP</td><td>NP</td> </tr> </tbody> </table>	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	NP	C	NP	NP	NP	NP	NP	NP	NP	C	CCR	NP	NP
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C	C	C	NP	C	NP	NP	NP	NP	NP	NP	NP	C	CCR	NP	NP																																																		
Dental pathology	Calculus (slight 6/7). Caries (interproximal and CEJ 1/7). Slight dental attrition																																																																
Skeletal pathology	None observed																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

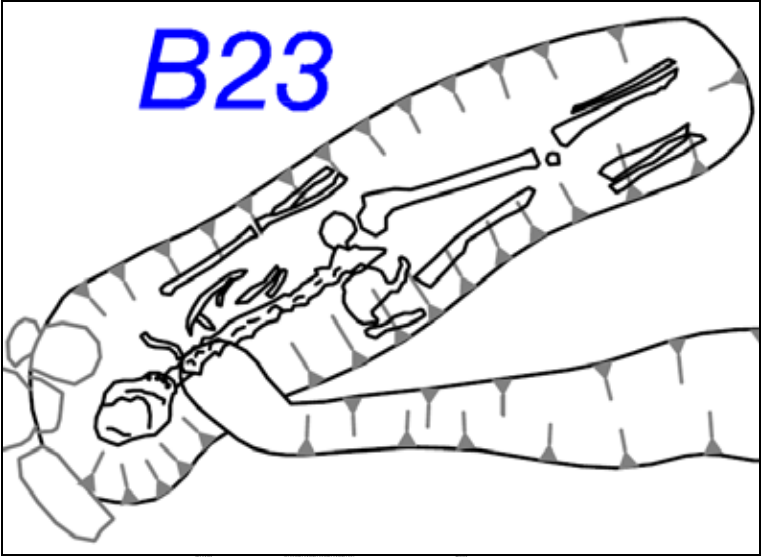
Burial 18																																																									
Type of deposit	Inhumation																																																								
Orientation	Southwest-Northeast (head to West)																																																								
Disposition	Extended supine																																																								
Burial capsule	None																																																								
Burial layout & bones present																																																									
Percentage present	40%																																																								
MNI	1																																																								
Preservation	Very poor (5/5+)																																																								
Age at death	Young adult (dental attrition)																																																								
Sex	No observations possible																																																								
Adult stature	No measurements possible																																																								
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>NP</td><td colspan="2">NP</td><td colspan="2">NP</td><td colspan="2">B</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>	NP	NP		NP		B		NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17						NP	NP	NP	NP	NP	NP					
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					NP	NP	NP	NP	NP	NP																																															
Dental pathology	Slight dental attrition																																																								
Skeletal pathology	None observed																																																								
Commingle bone	None																																																								
Associated finds	None																																																								

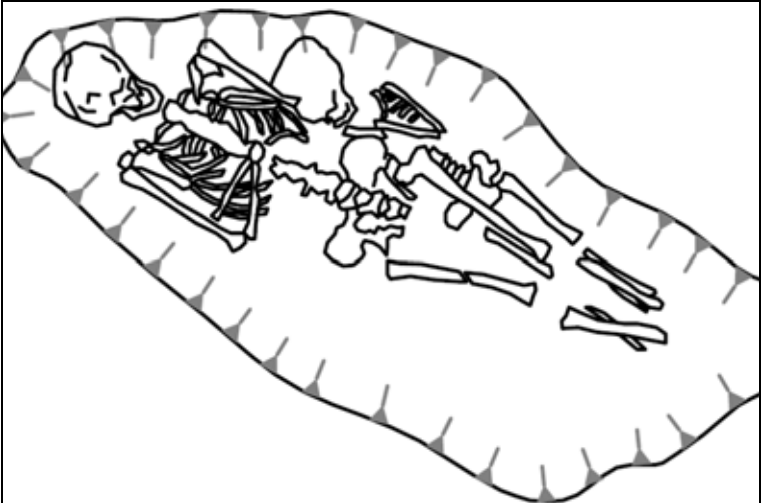
Burial 19																																																																
Type of deposit	Inhumation																																																															
Orientation	Grave cut aligned Southwest-Northeast (head to West?)																																																															
Disposition	N/A																																																															
Burial capsule	None																																																															
Burial layout & bones present																																																																
Percentage present	<5%																																																															
MNI	1																																																															
Preservation	Exceptionally poor (dental remains only survived)																																																															
Age at death	Juvenile 12 to 18 years (dental development)																																																															
Sex	N/A																																																															
Adult stature	N/A																																																															
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>B</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> </table>	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	B	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
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NP	B	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP																																																	
Dental pathology	Slight dental attrition. No distal interproximal facets noted																																																															
Skeletal pathology	N/A																																																															
Commingled bone	None																																																															
Associated finds	None																																																															

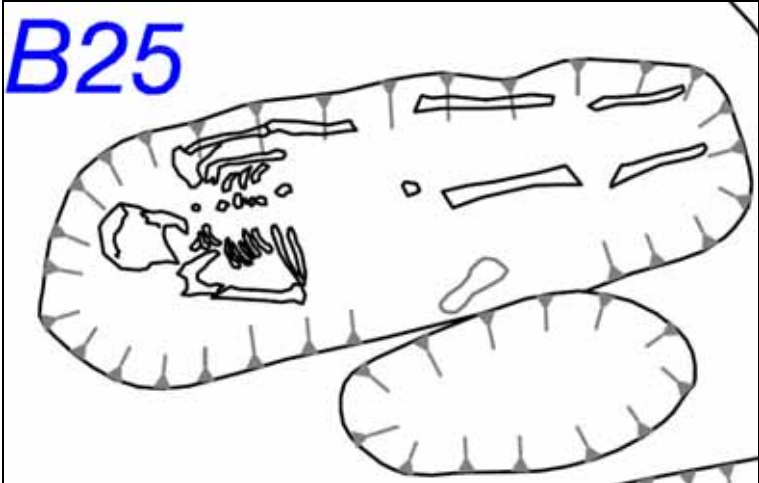
Burial 20																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Poor (4/5+)																																																																
Age at death	Middle adult (auricular surface)																																																																
Sex	♀ (pelvic and cranial morphology, joint size)																																																																
Adult stature	161.0 ± 3.72 cm (femoral length)																																																																
Dental inventory	<table border="1" data-bbox="549 1249 1321 1411"> <tbody> <tr> <td>C</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>C</td><td>NP</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>C</td><td>C</td><td>C</td><td>NP</td><td>NP</td><td>C</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> </tbody> </table>	C	C	NP	NP	NP	C	NP	C	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	NP	NP	C	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
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Dental pathology	Calculus (slight R unilateral 8/15). Moderate dental attrition																																																																
Skeletal pathology	None observed																																																																
Commingle bone	None																																																																
Associated finds	Copper-alloy possible necklace (A008:035:148:1-4)																																																																

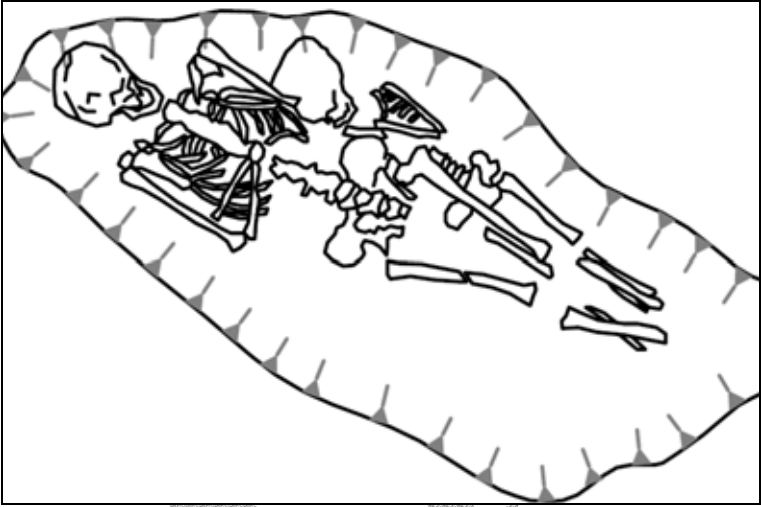
Burial 21																																																																	
Type of deposit	Inhumation																																																																
Orientation	Southwest-Northeast (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Poor (4/5+)																																																																
Age at death	Middle adult (auricular surface)																																																																
Sex	♂ (pelvic and cranial morphology, joint size)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>C</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> </tbody> </table>	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
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NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP																																																		
Dental pathology	Slight calculus (1/1). Slight dental attrition																																																																
Skeletal pathology	None observed																																																																
Commingled bone	None																																																																
Associated finds	None																																																																


Burial 22																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	50%																																																																
MNI	1																																																																
Preservation	Very poor (5/5+)																																																																
Age at death	Young adult (dental attrition)																																																																
Sex	? ♀ (cranial morphology)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" data-bbox="550 1189 1321 1346"> <tbody> <tr> <td>NP</td><td>NP</td><td></td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>CA</td><td></td><td></td><td></td><td>NP</td><td></td><td>B</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td> </tr> </tbody> </table>	NP	NP				NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	CA				NP		B	NP	NP	NP	NP			NP	NP	NP
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CA				NP		B	NP	NP	NP	NP			NP	NP	NP																																																		
Dental pathology	Congenital absence R M ₃ . Slight dental attrition																																																																
Skeletal pathology	None observed																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

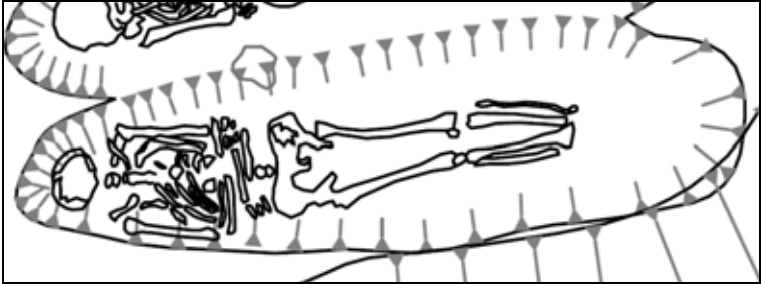
Burial 23																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	No capsule. Possible stone lining																																																																
Burial layout & bones present																																																																	
Percentage present	70%																																																																
MNI	1																																																																
Preservation	Very poor (5/5+)																																																																
Age at death	Adolescent >16 years (dental development and epiphyseal fusion)																																																																
Sex	No observations possible																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>NP</td><td></td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td></td><td></td><td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td>NP</td><td></td><td></td><td>NP</td> </tr> </table>	NP		NP	NP	NP			NP	NP	NP	NP	NP	NP	NP	NP	NP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	NP			NP			NP	NP	NP	NP			NP			NP
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NP			NP			NP	NP	NP	NP			NP			NP																																																		
Dental pathology	Slight dental attrition. No distal M2 interproximal facts noted																																																																
Skeletal pathology	None observed																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

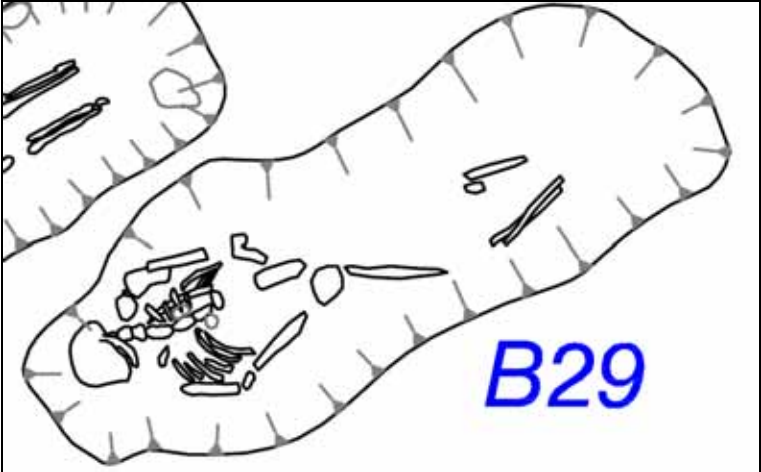
Burial 24																																																																	
Type of deposit	Inhumation																																																																
Orientation	Northwest-Southeast (head to West)																																																																
Disposition	Extended supine. Double inhumation adult (B24) and juvenile (B26)																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Moderate (3/3)																																																																
Age at death	Young adult (dental attrition)																																																																
Sex	♂ (pelvic and cranial morphology, joint size)																																																																
Adult stature	No measurements possible																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="6"></th> <th>H</th> <th>H</th> <th colspan="6"></th> <th>H</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td> <td>7</td><td>8</td> <td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td> <td>26</td><td>25</td> <td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td></td> <td></td><td></td> <td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td> </tr> </tbody> </table>							H	H							H	H	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	C	C							C	C	C	C	C
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C	C	C	C	C							C	C	C	C	C																																																		
Dental pathology	Calculus (slight 10/32). Hypoplasia (linear bands 4/32). Slight bilaterally uniform dental attrition. 90° bucco-distal rotation of L P ₄																																																																
Skeletal pathology	None observed																																																																
Commingle bone	None																																																																
Associated finds	Fragments of <i>Ovis</i> tooth																																																																

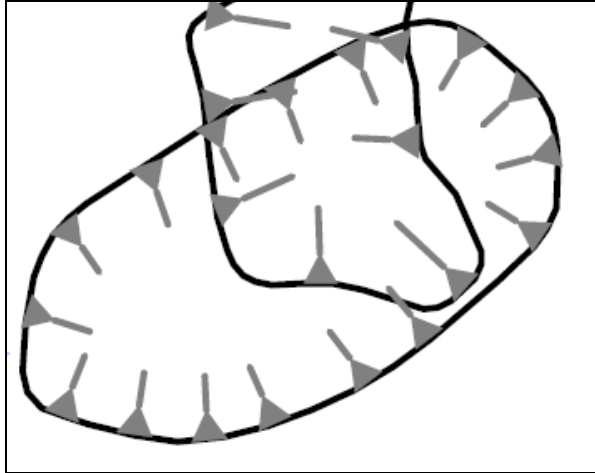
Burial 25																																																																					
Type of deposit	Inhumation																																																																				
Orientation	West-East (head to West)																																																																				
Disposition	Extended supine																																																																				
Burial capsule	None																																																																				
Burial layout & bones present																																																																					
Percentage present	40%																																																																				
MNI	1																																																																				
Preservation	Poor (4/5+)																																																																				
Age at death	Young adult (dental development and epiphyseal fusion)																																																																				
Sex	♀ (cranial morphology and joint size)																																																																				
Adult stature	No measurements possible																																																																				
Dental inventory	<table border="1" data-bbox="547 1361 1326 1523"> <tbody> <tr> <td>NP</td><td></td><td></td><td></td><td></td><td>NP</td><td>NP</td><td></td><td></td><td>B</td><td>NP</td><td>NP</td><td></td><td></td><td>C</td><td>C</td><td>E</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td></td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>CA</td><td>C</td><td>C</td><td>C</td><td></td><td>NP</td><td>C</td><td>C</td><td></td><td>C</td><td>C</td><td>C</td><td></td><td>C</td><td>C</td><td>C</td><td>NP</td> </tr> </tbody> </table>	NP					NP	NP			B	NP	NP			C	C	E	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25		24	23	22	21	20	19	18	17	CA	C	C	C		NP	C	C		C	C	C		C	C	C	NP
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CA	C	C	C		NP	C	C		C	C	C		C	C	C	NP																																																					
Dental pathology	Calculus (slight 13/24). Congenital absence of R M ₃ . L M ³ almost occluded. Slight dental attrition																																																																				
Skeletal pathology	Macroporosity and proliferative bone formation on greater tubercle of R humerus (rotator cuff insertion)																																																																				
Commingled bone	None																																																																				
Associated finds	None																																																																				

Burial 26																																																																																																																																																																																																																																																																																																		
Type of deposit	Inhumation																																																																																																																																																																																																																																																																																																	
Orientation	Northwest-Southeast (head to West)																																																																																																																																																																																																																																																																																																	
Disposition	Extended supine. Double inhumation adult (B24) and juvenile (B26)																																																																																																																																																																																																																																																																																																	
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Percentage present	60%																																																																																																																																																																																																																																																																																																	
MNI	1																																																																																																																																																																																																																																																																																																	
Preservation	Poor (4/5)																																																																																																																																																																																																																																																																																																	
Age at death	Juvenile 7 to 10 years (dental development)																																																																																																																																																																																																																																																																																																	
Sex	N/A																																																																																																																																																																																																																																																																																																	
Adult stature	N/A																																																																																																																																																																																																																																																																																																	
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td colspan="5">\</td> <td colspan="5">NP</td> <td colspan="5">\</td> <td colspan="5">NP</td> </tr> <tr> <td colspan="5">51</td> <td colspan="5">52</td> <td colspan="5">53</td> <td colspan="5">54</td> <td colspan="5">55</td> <td colspan="5">56</td> <td colspan="5">57</td> <td colspan="5">58</td> <td colspan="5">59</td> <td colspan="5">60</td> </tr> <tr> <td colspan="5">70</td> <td colspan="5">69</td> <td colspan="5">68</td> <td colspan="5">67</td> <td colspan="5">66</td> <td colspan="5">65</td> <td colspan="5">64</td> <td colspan="5">63</td> <td colspan="5">62</td> <td colspan="5">61</td> </tr> <tr> <td colspan="5">NP</td> <td colspan="5">\</td> <td colspan="5">\</td> <td colspan="5">\</td> <td colspan="5">\</td> <td colspan="5">\</td> <td colspan="5">\</td> <td colspan="5">NP</td> <td colspan="5">\</td> </tr> <tr> <td colspan="2">NP</td> <td colspan="2">E</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">E</td> <td colspan="2">NP</td> </tr> <tr> <td colspan="2">1</td> <td colspan="2">2</td> <td colspan="2">3</td> <td colspan="2">4</td> <td colspan="2">5</td> <td colspan="2">6</td> <td colspan="2">7</td> <td colspan="2">8</td> <td colspan="2">9</td> <td colspan="2">10</td> <td colspan="2">11</td> <td colspan="2">12</td> <td colspan="2">13</td> <td colspan="2">14</td> <td colspan="2">15</td> <td colspan="2">16</td> </tr> <tr> <td colspan="2">32</td> <td colspan="2">31</td> <td colspan="2">30</td> <td colspan="2">29</td> <td colspan="2">28</td> <td colspan="2">27</td> <td colspan="2">26</td> <td colspan="2">25</td> <td colspan="2">24</td> <td colspan="2">23</td> <td colspan="2">22</td> <td colspan="2">21</td> <td colspan="2">20</td> <td colspan="2">19</td> <td colspan="2">18</td> <td colspan="2">17</td> </tr> <tr> <td colspan="2">NP</td> <td colspan="2">E</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">NP</td> <td colspan="2">E</td> <td colspan="2">NP</td> </tr> </table>	\					NP					\					NP					51					52					53					54					55					56					57					58					59					60					70					69					68					67					66					65					64					63					62					61					NP					\					\					\					\					\					\					NP					\					NP		E		NP		NP		NP		NP		NP		NP		NP		NP		NP		NP		NP		E		NP		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		32		31		30		29		28		27		26		25		24		23		22		21		20		19		18		17		NP		E		NP		NP		NP		NP		NP		NP		NP		NP		NP		NP		NP		E		NP	
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Dental pathology	None observable																																																																																																																																																																																																																																																																																																	
Skeletal pathology	None observable																																																																																																																																																																																																																																																																																																	
Commingled bone	None																																																																																																																																																																																																																																																																																																	
Associated finds	None																																																																																																																																																																																																																																																																																																	

Burial 27																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Moderate (3/3)																																																																
Age at death	14 to 16 years (dental development and epiphyseal fusion)																																																																
Sex	N/A																																																																
Adult stature	N/A																																																																
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>U</td><td>C</td><td>C</td><td>C</td><td></td><td></td><td>H</td><td>H</td><td></td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>U</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>U</td><td>C</td><td>C</td><td>C</td><td>C</td><td>C</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>CH</td><td>C</td><td>C</td><td>C</td><td>U</td> </tr> </tbody> </table>	U	C	C	C			H	H					C	C	C	U	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	U	C	C	C	C	C	CH	CH	CH	CH	CH	CH	C	C	C	U
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U	C	C	C	C	C	CH	CH	CH	CH	CH	CH	C	C	C	U																																																		
Dental pathology	Calculus (slight 20/30). Hypoplasia (linear bands 10/30)																																																																
Skeletal pathology	None observable																																																																
Commingle bone	None																																																																
Associated finds	None																																																																

Burial 28																																																																	
Type of deposit	Inhumation																																																																
Orientation	West-East (head to West)																																																																
Disposition	Extended supine																																																																
Burial capsule	None																																																																
Burial layout & bones present																																																																	
Percentage present	80%																																																																
MNI	1																																																																
Preservation	Moderate (3/3)																																																																
Age at death	Middle adult (auricular surface)																																																																
Sex	♀ (pelvic and cranial morphology, joint size)																																																																
Adult stature	153.5 ± 3.72 cm (femoral length)																																																																
Dental inventory	<table border="1"> <thead> <tr> <th>CCR</th> <th>XA</th> <th>C</th> <th>CCR</th> <th>C</th> <th>C</th> <th>C</th> <th>NP</th> <th>C</th> <th>NP</th> <th>C</th> <th>C</th> <th>C</th> <th>AC</th> <th>C</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> </tr> <tr> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>NP</td> <td>NP</td> <td>CCR</td> <td>NP</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> <td>C</td> </tr> </tbody> </table>	CCR	XA	C	CCR	C	C	C	NP	C	NP	C	C	C	AC	C	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	C	C	C	C	NP	NP	CCR	NP	C	C	C	C	C	C	C	C
CCR	XA	C	CCR	C	C	C	NP	C	NP	C	C	C	AC	C	C																																																		
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C	C	C	C	NP	NP	CCR	NP	C	C	C	C	C	C	C	C																																																		
Dental pathology	Calculus (slight 18/26, moderate 5/26, severe 1/26). Moderate to severe dental attrition. Severe caries (interproximal 1/26, interproximal and CEJ 1/26). Bilateral periodontitis on buccal and lingual alveoli of P ⁴ to M ³ tooth rows with concomitant sub-lingual abscess formation (2/26) at R M ² and L M ¹ .																																																																
Skeletal pathology	Button osteoma (7.3 mm diameter) on left frontal boss. Bilateral resorbing <i>cribra orbitalia</i> . Moderate osteophytosis of fragmented TV transverse processes and costal facets, fragment of LV superior body, and 4 costal head fragments.																																																																
Commingled bone	None																																																																
Associated finds	None																																																																

Burial 29																																																																									
Type of deposit	Inhumation																																																																								
Orientation	Southwest-Northeast (head to West)																																																																								
Disposition	Extended supine																																																																								
Burial capsule	None																																																																								
Burial layout & bones present																																																																									
Percentage present	60%																																																																								
MNI	1																																																																								
Preservation	Poor (4/5+)																																																																								
Age at death	Young adult (dental attrition)																																																																								
Sex	Unknown. No observations possible																																																																								
Adult stature	No measurements possible																																																																								
Dental inventory	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>H</td><td>NP</td><td>NP</td><td>H</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td></td><td></td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td>NP</td><td></td><td></td><td></td><td></td><td></td><td>NP</td><td></td><td>NP</td><td>NP</td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>	NP			NP	NP	NP	H	NP	NP	H									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17						NP						NP		NP	NP					
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Dental pathology	Enamel hypoplasia (linear bands 2/22). Very slight dental attrition																																																																								
Skeletal pathology	None observed																																																																								
Commingle bone	None																																																																								
Associated finds	Copper-alloy ring																																																																								

Burial 30																																																																																																																																													
Type of deposit	Inhumation																																																																																																																																												
Orientation	Unknown																																																																																																																																												
Disposition	Unknown																																																																																																																																												
Burial capsule	None																																																																																																																																												
Burial layout & bones present																																																																																																																																													
Percentage present	<5%																																																																																																																																												
MNI	1																																																																																																																																												
Preservation	Exceptionally poor. Isolated teeth																																																																																																																																												
Age at death	2.4 to 3.2 years (dental development)																																																																																																																																												
Sex	N/A																																																																																																																																												
Adult stature	N/A																																																																																																																																												
Dental inventory	<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td></td><td></td><td></td><td></td><td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td></td><td>NP</td><td>NP</td><td></td><td>NP</td> </tr> <tr> <td></td><td></td><td></td><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td></td><td></td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td></td><td></td><td>65</td><td>64</td><td>63</td><td>62</td><td>61</td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td></td><td></td> </tr> <tr> <td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>U</td><td>NP</td><td>NP</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td></td><td></td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> <tr> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td></td><td></td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>NP</td><td>NP</td><td>U</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>NP</td><td>U</td><td>NP</td><td>NP</td> </tr> </tbody> </table>					NP			NP	NP	NP				NP	NP		NP				51	52	53	54	55			56	57	58	59	60						70	69	68	67	66			65	64	63	62	61						NP	NP	NP	NP	NP			NP	NP	NP	NP	NP			NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	U	NP	NP	1	2	3	4	5	6	7	8			9	10	11	12	13	14	15	16	32	31	30	29	28	27	26	25			24	23	22	21	20	19	18	17	NP	NP	U	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	U	NP	NP
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