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FULL ANALYSIS OF HUMAN REMAINS FROM FIELD 175 OF THE A1 WIDENING SCHEME

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Introduction

During excavations in May 2016, two deposits were identified by Northern Archaeological Associates as potentially containing human remains in Field 175, Catterick, North Yorkshire. This document presents the objectives, methods and results of the analysis of these remains. Upon analysis, Context (31882), a topsoil deposit, contained a fragment of non-adult distal right femur and a fragment of a left ulna shaft. The second deposit (Context 6921), thought to be either a levelling deposit or period of inactivity, located in electricity pole Trench 1, contained fragments of animal bone and a small quantity (0.05g) of burnt bone, which could not be positively identified as human.

Objectives

The skeletal assessment aimed to determine age and sex, as well as any manifestations of disease from which the individuals may have suffered.

Methodology

The human remains were analysed in detail, assessing the preservation and completeness, as well as determining the age, sex and stature of the individual. All pathological lesions were recorded and described. A summary of the osteological and palaeopathological data for the disarticulated skeletal material is provided in the Appendix in Table 1.

Osteological Analysis

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition. Preservation of human remains is assessed subjectively, depending on the severity of bone surface erosion and post-mortem breaks, but disregarding completeness.

Surface preservation, concerning the condition of the bone cortex, of the inhumations, was assessed using the seven-category grading system defined by McKinley (2004), ranging from 0 (excellent) to 5+ (extremely poor). Excellent preservation implied no bone surface erosion and a clear surface morphology, whereas extremely poor preservation indicated heavy and penetrating erosion of the bone surface resulting in complete loss of surface morphology and

modification of the bone profile. The degree of fragmentation was recorded, using categories ranging from 'minimal' (little or no fragmentation of bones) to 'extreme' (extensive fragmentation with bones in multiple small fragments). Finally, the completeness of the skeletons was assessed and expressed as a percentage: the higher the percentage, the more complete the skeleton.

The disarticulated human bone was very well preserved (grade 1), with minimal loss of surface detail and represented between 30- 45% of the original skeletal elements.

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure during osteological assessments of inhumations in order to establish how many individuals were represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements, such as the hip joints and cranial elements. The disarticulated assemblage from Field 175 did not contain any duplicated skeletal elements; however, the femur belonged to a neonate or infant, while the ulna shaft appeared to belong to an adult. Therefore, the MNI recovered from (31882) in Field 175 was two.

Age is usually determined using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Cox (2000). Age estimation in adults relies on the presence of the pelvis and uses different stages of bone development and degeneration in order to calculate the age of an individual (Lovejoy et al 1985; Meindl and Lovejoy 1989). Age is split into a number of categories, from foetus (up to 40 weeks in *utero*), neonate (around the time of birth), infant (newborn to one year), juvenile (1-12 years), adolescent (13-17 years), young adult (*ya*; 18-25 years), young middle adult (*yma*; 26-35 years), old middle adult (*oma*; 36-45 years), mature adult (*ma*; 46+) to adult (an individual whose age could not be determined more accurately as over the age of seventeen). An unfused distal femur from Field 175 was believed to belong to either a neonate or infant, while the fragment of an ulna, due to its size and robusticity appeared to belong to an adult.

Sex determination is usually carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Assessment of sex in both males and females relies on the preservation of the skull and the pelvis and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood. It was not possible to identify the sex of the remains from Field 175.

Pathological Analysis

Pathological conditions (disease) can manifest themselves on the skeleton, especially when these are chronic conditions or the result of trauma to the bone. The bone elements to which

muscles attach can also provide information on muscle trauma and excessive use of muscles. All bones were examined macroscopically for evidence of pathological changes. No pathological alterations were observed in the skeletal remains from Field 175.

References

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Appendix

Table 1 Summary of cremated bone assemblages

Field No	Fill No	Feature Type	Period	Artefacts and Inclusions	Bone Colour	Preservation	Weight (g)	Percentage of Expected Quantity of Bone
175	6921	Levelling Deposit	-	-	White	Moderate	0.05g	Could not be positively identified as human bone

Table 2 Summary of disarticulated bone

Context	Bone Element	Detailed Description	Side	%	SP	No. Frags	Age	Sex	Other
31882	Femur	Distal half, unfused	R	45	1	1	N /I	-	-
31182	Ulna	Mid shaft	L	30	1	1	A	-	-