

## **Animal Bone Assessment**

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The assemblage of animal bone recovered from Hagg Farm in Swaledale during the summer 2017 excavations contained 329 fragments of animal bone in total. The bones were all excavated by hand. The assemblage was made up of ninety elements from context (24) [F7], four elements from context (26) [F2], seventy-four elements from (11) [F10] and 161 elements that were labelled as unstratified. Of the 329 total fragments, only fifty-six fragments were identifiable, of which 38 were from the unstratified collection, two were from (24) [F7], one was from (26) [F2] and fifteen were from (11) [F10].

The elements were identified by eye using Hillson (1996) as a reference material. The bones were examined for element, species, fragmentation, preservation, taphonomy and completeness of fusion. The preservation was graded on a scale of poor, fair and good and the fusion was graded as either complete or incomplete.

Unfortunately, the assemblage was extremely fragmentary with only two of the elements within the entire assemblage being recorded as complete and many of the fragments measuring only a few millimetres. The level of preservation on the site is likely to have contributed to the highly fragmentary nature of the assemblage as many elements were so degraded that the periosteal layer of the bones was partially or completely lost. Only one of the elements was recorded as having a good level of preservation, and 60% of the whole assemblage being recorded as poor. Of the bones that were recorded as having fair preservation, only two were from context (24) [F7] whereas the entirety of context (11) [F10] was recorded as having fair preservation. The variety of preservation levels vary between contexts but the consistency within contexts implies that the preservation level is unlikely to be due to the soils pH level, but could rather be attributed to the date associated with the contexts, although without further information available this is conjecture. If an explanation is not made clear by the stratigraphy of the site, analysis of the pH level

of the soil and radio carbon dating of the bones could offer further insight into this. The single bone that was recorded as having good preservation was that of a rabbit femur and as it was the only bone identified as being a small rodent, it is likely to have died in situ after disturbing the ground at a later, likely post-medieval date, rather than being contemporary with the rest of the bones from that context.

Of the fifty-six identifiable fragments, the species and element could be identified in thirty-one fragments whereas only the element was identifiable in twenty-five of the fragments, this is again due to the fragmentation and preservation levels. The identifiable species present were common agricultural animals, namely cattle, sheep and pig, the majority of which was cattle. There were two additional species identified within the assemblage, the first is that of the previously mentioned rabbit femur (from the unstratified assemblage) and the second is a fragment of a dog mandible (from context (11) [F10]).

Taphonomic change and pathology were also identified and recorded throughout the assemblage. A total of twenty-two fragments were recorded as having been burnt due to the discoloration of the bone from the oxidisation process that takes place during burning. All but one of these fragments were from the unstratified assemblage, the one remaining fragment was from context (26) [F2]. Three fragments had possible cut marks present which could have been a sign of butchery, all three of these fragments were from the unstratified assemblage. Finally, three fragments from context (24) [F7] showed signs of a minor periosteal reaction which could have been an indicator of infection. However, the reaction did not seem severe so this is unlikely to have been significant, especially as it was present on such a small proportion of the assemblage. Due to the poor preservation level of the bones it is possible that further taphonomy or pathology was once present and is merely no longer identifiable.

In conclusion, due to the comparatively small sample size, the poor preservation level and the highly fragmentary nature of the assemblage the information that can be gained from the animal bones is limited. However, the common species that were identified and the presence of possible butchery marks indicates that the samples are likely the result of food production. The noticeable differences between the



Add.	Tooth	Indet.	N/A	Indet.	Enamel fragment	Poor	
Add.	Premolar	Pig	N/A	Indet.	Almost complete	Fair	
Add.	Premolar	Pig	N/A	Indet.	Almost complete	Fair	
Add.	Tooth	Indet.	N/A	Indet.	Enamel fragment	Poor	
Add.	Rib	Indet.	Indet.	Indet.	Fragment of body	Fair	
Add.	Tibia	Sheep	Indet.	Indet.	Fragment of epiphyseal end of bone	Poor	
Add.	Tibia	Sheep	Indet.	Indet.	Fragment of epiphyseal end of bone	Poor	
(11)[F10]	Skull	Indet.	Indet.	Indet.	Fragment of sinus	Fair	
(11)[F10]	Radius/Ulna	Cattle	Complete	Adult	Distal fragment	Fair	
(11)[F10]	Innominate	Pig?	Indet.	Indet.	Fragment of neck	Fair	
(11)[F10]	Innominate	Sheep?	Indet.	Indet.	Fragment of neck	Fair	
(11)[F10]	Innominate	Sheep?	Indet.	Indet.	Fragment of neck	Fair	
(11)[F10]	Tooth	Cattle	N/A	Indet.	Almost complete	Fair	
(11)[F10]	Mandible	Dog	Indet.	Indet.	Fragment	Fair	
(11)[F10]	Scapula?	Cattle?	Indet.	Indet.	Fragment of spine	Fair	
(11)[F10]	Proximal phalanx (x2 frags of same bone)	Cattle	Complete	Adult	Fragment of proximal articulation surface & diaphysis	Fair	
(11)[F10]	Femur	Indet.	Indet.	Indet.	Fragment of head	Fair	
(11)[F10]	Femur	Indet.	Indet.	Indet.	Fragment of head	Fair	
(11)[F10]	Femur	Indet.	Indet.	Indet.	Fragment of head	Fair	
(11)[F10]	Femur?	Indet.	Indet.	Indet.	Fragment of round articulation surface, likely to be femur	Fair	
(11)[F10]	Femur?	Cattle?	Indet.	Indet.	Diaphyseal fragment	Fair	
Add.	Molar	Cattle	N/A	Adult	Almost complete	Fair	
Add.	Molar	Cattle	N/A	Adult	Almost complete	Fair	
Add.	Tooth	Cattle	N/A	Adult	Almost	Fair	

					complete		
Add.	Tooth	Indet.	N/A	Adult	Fragment	Fair	
Add.	Premolar	Cattle	N/A	Adult	Almost complete	Fair	
Add.	Tooth	Cattle	N/A	Juvenile	Almost complete	Fair	
Add.	Tooth	Cattle	N/A	Juvenile	Almost complete	Fair	
Add.	Scapula?	Indet.	Complete	Adult	Fragment of glenoid cavity	Fair	Burnt
Add.	Tooth	Indet.	Indet.	Indet.	Fragment of tooth with fragment of mandible attached	Poor	
Add.	Femur	Rabbit	Complete	Adult	Distal fragment	Good	
Add.	Rib	Cattle?	Indet.	Indet.	Fragment of body	Poor	Possible cut marks
Add.	Phalanx	Cattle	Complete	Adult	Proximal fragment	Poor	
Add.	Metacarpal	Cattle	Complete	Adult	Proximal fragment	Fair	

Table 2: Catalogue of indeterminate fragments

<u>Context</u>	<u>Element</u>	<u>Quantity of Fragments</u>	<u>Preservation</u>	<u>Taphonomy</u>
(24) [F7]	Long bone	87	Poor	3 frags with periosteal reaction
(24) [F7]	Irregular bone	1	Poor	
(26) [F2]	Long bone	2	Poor	
(26) [F2]	Long bone	1	Fair	Burnt
(11) [F10]	Long bone	3	Fair	
(11) [F10]	Irregular bone	2	Fair	
(11) [F10]	Indeterminate fragment	54	Fair	
Add.	Flat bone	1	Fair	
Add.	Irregular bone	16	Poor	
Add.	Irregular bone	3	Fair	2 frags were burnt
Add.	Long bone	72	Poor	5 frags were burnt and one has possible cut marks
Add.	Long bone	31	Fair	13 frags were burnt, one had possible cut marks