

8. THE ECOFACT EVIDENCE: NEW STREET GASWORKS

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8.1 The animal bone

8.1.1 Introduction

Excavations at the New Street Gasworks site recovered a limited quantity and range of animal bone remains (3.28kg). The majority of the assemblage (2.3kg) came from test pits excavated in the northern area of the Gasworks footprint.

8.1.2 Methodology

The assemblage was identified to element and species with the aid of skeletal atlases (Schmid 1972; Hillson 1986) and the reference collection stored at AOC Archaeology Group (Edinburgh). Where an element could not be identified to species, it was instead described as large mammal (horse/cattle/deer), medium mammal (sheep/goat/pig) or small mammal (dog/cat/rodent). When analysing the assemblage, the following criteria were recorded: phase, context, feature, element, species, side, fusion, age, fragmentation, size, and evidence of staining on the bone surface.

Epiphyseal fusion, tooth eruption and wear were examined to assess the age of the individual (Silver 1969; Payne 1973; Grant 1982; Payne 1987). The proximal, distal and shaft areas of each fragment were recorded to determine the level of fragmentation within the assemblage (Dobney & Rielly 1988).

8.1.3 Results

The bone assemblage was small: 324 fragments (2.98kg) were recovered by hand from 28 contexts across the excavated area. A further 654 fragments (298.1g) from bulk soil samples were also recovered but none was larger than 50mm and preservation was noticeably poorer when compared to the hand-retrieved material. The domestic animal species identified were cattle (34), sheep/goat (41) and pig (3). The remaining fragments were large mammal (159), medium mammal (78), small mammal (6) and indeterminate mammal (654). There was also domestic fowl (3) and fish (8). The fish remains were

a mix of vertebrae and ribs and are not mentioned further in this report. Preservation of this assemblage widely ranged from mostly poor to excellent. Poor preservation was due to soil conditions, weathering and prolonged exposure to the elements. These remains were scattered across the site with no evidence of selective or purposeful disposal.

8.1.4 Discussion

Thirty-four fragments of cattle bone included a mix of teeth, horn core fragments, long bone and foot bones, and were recovered from 19 contexts. The bones represented a minimum of four individuals. The youngest individual died before the age of 10 months, whereas the eldest expired between the ages of 3.5 and 4 years.

A total of 41 bones were identified as sheep/goat from 19 contexts, with a notable concentration in deposit (N0105). The skeletal elements were identified as loose teeth, pelvis fragments, long bones and foot bones, which represented a minimum of eight individuals. One individual was noted in context (K0000) and was found to be older than 18 months. The remaining individuals were older than 10 months in age, the oldest being one from deposit (N0105) which expired between the ages of 13 and 24 months. Further bones, identifiable only as large mammal and small mammal, were also present.

Pig remains were scarce, although a single burnt canine and an unstratified radius and femur from an animal aged between 1 and 3.5 years at the time of death were recognised. Small poorly preserved bones of at least one domestic fowl were also noted but the state of preservation prevented close identification.

Butchery marks were observed on 20 bones identified as either cattle or pig, large and medium mammal, including four cattle phalanges which displayed evidence of marrow cracking and chop marks, while a large mammal mandible had four shallow skinning marks on the surface. Evidence of chopping, sawing and cracking of bones can be related to initial butchery marks, while the shallow knife cuts noted are likely to be the result of de-fleshing during skinning. None of these skeletal elements displayed any obvious evidence of pathologies or trauma, but gnawing marks, probably by rodents, were noted on two bones from deposit (K0000).

8.1.5 Conclusions

The animal bone assemblage, while small, is similar to other post-medieval sites in Edinburgh such as Advocate's Close (Robertson 2017). The animal bone from this site had accumulated through the haphazard disposal of domestic food and butchery waste. Beef, lamb, mutton, pork and chicken all had a role within the diet of the urban population living in this part of Edinburgh.

8.2 The macroplant remains

8.2.1 Introduction

A total of 67 macroplant remains were recovered from eight contexts. In addition, seven poorly preserved cereal caryopses were recovered from soils collected during test pitting in the northern area of the New Street Gasworks. These plant species were preserved through carbonisation and mineralisation. Preservation of the assemblage ranged from poor to good.

8.2.2 Results

The carbonised macroplant remains consisted of 27 charred cereal caryopses identified as barley (*Hordeum* sp), hulled barley (*Hordeum vulgare* L), bread/club wheat (*Triticum aestivum/compactum* L) and oat (*Avena* sp). Most of these were in a poor state of preservation; some were oxidised and displayed surface abrasions due to the polluted and corrosive composition of the sediment. The cereal caryopses were found as a light scatter, infiltrating various negative features across the excavated area; no concentrations were recognised that would suggest selective or deliberate disposal.

Also present were the mineralised remains of 47 fruit seeds identified as grape (*Vitis vinifera* L), fig (*Ficus carica* L) and raspberry (*Rubus idaeus* L). These seeds were concentrated within deposit (N0105), while a single grape seed was noted in drain (K0174).

8.2.3 Discussion

The cereal assemblage is broadly similar to other post-medieval and modern sites in Edinburgh in terms of the species represented, the quality of their preservation and the quantity of material recovered.

This includes assemblages from Advocate's Close (Robertson 2017) and Jeffrey Street (Haston quoted in Masser et al 2014: 46). Such small quantities of cereal grains are indicative of post-medieval and later urban assemblages where the population was typically consuming products produced from pre-milled flour rather than stockpiling grains for grinding on site.

The mineralisation of the grape, fig and raspberry seeds implies that they were components of faecal matter. The grape and fig are exotic imported food items, whereas raspberry was grown locally. Grape has previously been recorded at Jeffrey Street (Haston quoted in Masser et al 2014: 46).

This small assemblage indicates that the people living in the vicinity of New Street had access to cultivated cereals, a limited range of exotic imported foodstuffs and locally available fruits.

8.3 The shell

A small assemblage of marine shell was recovered from possible medieval/early post-medieval backland soils as well as structures, drains and other features related to the 19th-century Gasworks. A total of 178.1g of shell was found in the northern area of the excavation while 127.2g came from the Caltongate South New Street Gasworks excavations. Full details of the methodology used to identify and record the assemblage are outlined in the specialist report presented in the site archive.

A total of 14 shell fragments were recorded from Test Pits 1, 2, 4, 5 and 7 across the north of the Gasworks, while 33 fragments came from contexts (K0316) and (N0105). The assemblage was dominated by the common oyster (*Ostrea edulis* L) and common periwinkle (*Littorina littorea* L), but small quantities of common mussel (*Mytilus edulis* L), common limpet (*Patella vulgata* L) and common cockle (*Cerastoderma edule* L) were also recognised. Preservation of these finds ranged from adequate to mostly good. All the shell species identified are edible and are typically found around the Edinburgh coastline (Hayward et al 1996).

The shells either derive from domestic food waste discarded as general rubbish within midden deposits or were utilised as a building component.