APPENDIX F

FAUNAL DATA

PRE-INDUSTRIAL PERIOD OCCUPATION LEVELS AND DEPOSITS

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Area A, Excavation Unit 30N/110W (ER A16)

The bone assemblage from this unit was separated into 2 parts. Levels 1 to 5 (ERA 16A to E) were mixed fill deposits and will be considered separate from the lower topsoil deposits Level 10 (ER16 Z1 to Z3). The fill and topsoil deposits were divided into arbitrary levels, but each case will be considered here as a unit since there is little difference in their content.

The upper levels consisted of clay fill sediment which was composed of mixed, disturbed refuse. Since the origin of their material is uncertain, accurate dating is difficult and the assemblage will be considered in less detail than the topsoil deposits.

The bone assemblage from the fill deposits was in poor physical condition. This material was broken into small fragments consisting mostly of large mammal long bones and ribs. The majority of bone fragments were light tan in color and exhibited extensive surface peeling, fungus pitting, longitudinal cracking and splitting due to surface weathering, indicative of an open refuse deposit exposed for some time prior to sealed deposition. In addition, the edges of most bone fragments were abraded and worn due to weathering and soil creep. Evidence of scavenging by rodents and carnivores was absent. The surface weathering probably accounts for the high incidence of fractured bone in the assemblage.

Burnt and incinerated bone was missing from the entire assemblage. The assemblage consisted of 812 bone fragments. Shell remains were absent (Table 1). There were at least 14 types of animals represented. Forty percent of the total assemblage consisted of indeterminable large mammal bone fragments. As usual, large domestic mammal remains were most common and wild animal remains were rare (Table 1). Most wild materials were the remains of fish.

The entire assemblage was devoid of burnt and incinerated bone. The bones Bos tarus represented the most common large domestic mammal remains in the assemblage (63), consisting mostly of postcranial material. Common elements included fragments of thoracic and lumbar vertebrae, pelvic long bones and innominate bones which are associated with areas of high meat concentrations on the body, such as the "hind shank," "sirloin," "rump," and "short loin." Many of the cow bones were sawed, and cut bone was rare. Commonly sawed elements were vertebrae, ribs innominates and pelvic long bones. Symmetrically sawed sections were common, and are indicative of professional butchering. Sawed vertebrae sections have only occurred in bone refuse deposits dated to the late 1800's-early 1900's for the project area. Other vertebrae fragments were cut by a common splitting technique.

Sus scrofa was represented by 25 fragments (Table 1). This assemblage consisted of both cranial and postcranial remains. Common cranial elements were incisor and canine teeth and postcranial elements consisted of thoracic limb bones. Much of the remains came from immature individuals. Maturation date indicates death occurred between 1 and 2 years of age. However, one tibia fragment represented an individual less than 1 year old.

TABLE 1. Faunal Analysis: Area A, Excavation Unit 30N/110W (ERA16)

	Level:							Topsoil Level:			
	1	2	3	4	5A	5B	Total	10A	10B	10C	Total
Bos	3		15	6	14	25	63	70	33	6	109
Sus	3		4	6	6	6	25	47	12	10	69
Caprinae	1	3	10		22	16	52	74	8		82
Capra	1		1		1	3	6	3			3
Ovis						2	2	6	3		9
Canis								62	18		80
Rattus sp.	2		8		1	3	14	9	1		10
Felis dom.		4	15				19	1			1
On datra					2		2		1		1
Sylvilagus			*					5			5
Large bone fragments	6		45	11	18	76	156	301	51	20	372
Rib	5		33	15	55	40	148	242	47	20	309
Vertebrae	2			5		9	16	35	4		39
Skull						4	4				
Scapula										6	6
Gallus	5	2	7	5	7	31	57	28	4		32
Anser sp.			1		3		4				
Meleagris	1						1				
Bird sp.			18	23	22	9	72	33			33
Turtle						1	1	5			5
Aplodinutus			1				1				4
Ictalurus			1				1		4		
Fish sp.			8	24	98	37	167	49	6		55
	29	9	167	95	249	262	811	970	192	62	1224

Total Assemblage: 2035

*incomplete

Sus scrofa remains were not as fragmented compared to other species. Near complete cranial and limb bones (phalanges, metacarpals and metatarsals, etc.) were common. Long bones were also less fractured and consisted of complete shafts and/or distal or proximal halves broken at midshaft.

Cut pig bones were rare and sawing was absent. Only 1 innominate fragment exhibited evidence of cutting. This should not be surprising since bones associated with meat concentrations on the body are missing from the deposit.

Caprinae (sheep and goat) remains were common in the assemblage. Only a few specimens could be assigned specifically to Capra hirca or Ovis aries with certainty. Cranial material was rare. Common postcrannial element fragments included those of vertebrae, thoracic limbs, innominates and pelvic limbs. Cut caprinae elements were rare but sawed specimens were common. Most of these were sawed "sections", and all were pelvic and thoracic long bones and innominates which are associated with concentrations of meat on the body. Maturation data indicates that animals were butchered between 2 and 3 years of age.

Additional mammals recovered from the fill deposit were Rattus sp. (rat), Felis domesticus (cat), Ondatra zibethicus (river otter) and Syvilagus sp. (rabbit).

Felis domesticus (cat) was represented by an incomplete skeleton of one adult individual (Table 1). Cat remains are common in other assemblages from area A. It is uncertain if the cat represents the remains of a pet or a scavenger.

Rattus sp. (rat) remains were common and included cranial (teeth) and postcranial (thoracic and pelvic limb bones) material. Most elements were complete specimens and represented adult individuals. Although rats were present in the assemblage, evidence of scavenging was absent.

Two mandible fragments of Ondatra zibethicus (river otter) were recovered and matched with one from the uppermost deposit from the topsoil. This undoubtedly suggests mixed deposits, but is not surprising with burrowing animals, such as the rats represented in the assemblage.

Remains of Syvilagus sp. (rabbit) consisted of only 1 element.

Bird remains were common throughout the fill deposits. Of the total, Gallus gallus (chicken) was the most abundant species, consisting of 57 fragments from all levels (Table 1). Cranial elements were absent and common postcranial remains included thorarcic and pelvic long bones representing areas of meat concentrations on the chicken, such as the wing, thigh and leg. Long bones were snapped at midshaft or unbroken. Cut and saw marks were not apparent.

Other bird remains included Anser sp. (goose) and Meleagris gallopavo (turkey). Anser sp. remains consisted of several postcranial element fragments and Meleagris gallopavo, a single radius fragment. Evidence of bone modification due to food processing was not apparent.

One turtle plastron fragment was recorded, but was in very poor condition, making species determination impossible.

Fish remains were abundant, including the remains of two identified species, Aplodinotus sp. and Ictalurus sp., as well as 167 unidentified fish elements. Most of this material consisted of elements associated with the skull and caudal (tail) region, suggesting the heads and tail were discarded in the deposit after initial butchering.

Topsoil Deposits (ER A16Z)

The following discussion covers the bone assemblage recovered from the topsoil deposit of unit 30/110W. This assemblage represented a deposit dating from 1798 to 1814 (MCD's). The total assemblage consisted of 1225 bone specimens, representing one of the largest collections of faunal remains excavated from Area A. Shell material was not recovered from this deposit (Table 1).

There were 13 species of animals identified in the collection. Large mammal remains dominated the assemblage, constituting 82% of the total. Seventy-three percent were indeterminate large mammal fragments, mostly from long bones and ribs, illustrating the highly fragmented nature of the assemblages. Large domestic mammals were the most common identifiable species with wild animal remains contributing very little to the total (Table 1).

Generally, the bone material was in good physical condition and exhibited little deterioration due to weathering. The bone color was generally brown. Only a few pieces of bone exhibited scavenging. These data suggest the deposit was buried soon after initial deposition. As noted above, the material is highly fragmented due to either food processing or post-depositional fracturing.

In general, only specific types of bone elements were represented per species, suggesting the assemblages were food refuse deposited arbitrarily.

Burnt and incinerated bone was rare in the assemblage, indicating that the meat was prepared by methods other than direct exposure to fire. A discussion of individual species follows below.

Bos tarus (cow)

B. tarus remains were very common in the assemblage (109). Both cranial and postcranial bones were recovered. Most of the cranial elements were teeth. Common postcranial material included vertebrae, innominate and pelvic limb specimens. Bone shafts and ribs were fractured in small pieces, and articulation joints were reprsented mostly by fragments.

Sawed and cut bones were common in the assemblage. Vertebrae, mostly thoracic and lumbar, exhibited both sawing and cutting as well as rib specimens.

Many ribs were cut or sawed and snapped in two. Most innominate specimens were symmetrically sawed sections. The sawed sections represent elements associated with meat concentrations on the body, including "round," "rump" and "sirloin" portions.

There were 3 individuals (MNI) represented, including 2 subadults and 1 adult. Fragments of immature bone were common in the assemblage. The maturation data suggest the cows were between 2 and 4 years of age at death.

Other forms of bone modification such as burning, incineration and scavenging were not observed.

Sus scrofa (pig)

S. scrofa remains totalled 94 specimens. Both cranial and postcranial elements were represented. Cranial elements consisted mostly of unbroken teeth. Common postcranial remains included thoracic and pelvic limb elements. These bones are associated with areas of meat concentrations on the body and represent "picnic," "Boston butt" and "ham" portions.

The majority of postcranial pig specimens were distal or proximal fragments. Small bone fragments were rare. Half of the element was unbroken on many of the long bone specimens. This indicates that the bone was not fractured for marrow, etc., but possibly boiled or stewed. It also indicates minimal post-depositional deterioration of the bone.

As usual, evidence of cut and sawed pig bone was rare. Sawed elements included tibia, innominates and a scapula. Two innominates and a tibia were represented by symmetrically sawed sections, indications of professionally butchered meat. As noted above, these elements are associated with popular portions of meat from the pig.

Additional evidence of bone modification such as burning, incineration and scavenging was absent.

Caprinae (sheep and goat)

Caprinae remains totalled 94 specimens. Only a few (9) specimens were identified, specifically, as Ovis aries (sheep) or Capra hirca (goat) and are included here in a general discussion of caprinae (Table 1).

Cranial elements were rare in this assemblage. Common postcranial remains were fragments of thoracic and pelvic long bones, lumbar and thoracic vertebrae and innominate bones. Cervical vertebrae are usually removed with the head.

The assemblage yielded many cut and sawed bone specimens. In addition, many long bone specimens consisted of unbroken halves. The sawed elements were mostly symmetrical sections such as humeri, ilia, and femora. These bones

are associated with meat concentrations on the body, including the "shank," "loin" and "leg" portions. Cutting was observed on the vertebrae which exhibited longitudinal splitting, a common technique used to produce "rack-loin" portions. The unbroken distal and proximal halves of long bones suggest that these elements were not fractured for marrow.

There were at least 3 individuals (MNI) represented in this assemblage. Their ages at death were as follows: one was more than 3.5 years of age; one was between 3.0 and 3.5 years old; and one was less than 1.3 years old at death.

Burnt, incinerated or scavenged bones were rare in this assemblage.

Canis familiaris (dog)

A nearly complete skeleton of an immature dog was identified in the assemblage (Table 1). This material was excavated from the upper 2 arbitary levels of 10A (ER A1621) and 20B (ER A1622) indicating these deposits are contemporaneous. Most of the elements were complete, unmodified and unbroken, suggesting the dog was a pet or scavenger.

Data for epiphysis closure suggest the dog was less than 6 months old at death.

Felis domesticus (cat)

Only 1 cat bone was identified, and consisted of a right maxillary fragment with the second premolar and first molar. It was difficult to ascertain whether the animal was a household pet or scavenger.

Ondatra zibethicus (river otter)

One right mandible fragment of a river otter was identified. Considering the close proximity of the Christina River, the appearance of otter remains was not surprising. However, it was impossible to determine if the animal was eaten and/or trapped for fur.

Rattus sp. (rat)

Rattus remains consisted of only 6 fragments (Table 1). Evidence of rodent gnawing on bone was not observed in the assemblage. Rats were undoubtedly scavenging the refuse prior to final deposition.

Syvilagus sp. (rabbit)

Only one rabbit element was identified. Thus, it was difficult to ascertain if this material represented food refuse and/or was killed for its fur.

Gallus gallus (chicken)

The remains of chickens were common in the assemblage (Table 1), and consisted of 23 specimens. Common elements included thoracic long bones, especially radii. Many long bones were snapped at midshaft probably due to food processing. Most of the elements exhibited fused epiphyses, indicating adult individuals (5).

Turtle sp.

Turtle remains consisted of only 2 indeterminable carapace fragments.

Ictalurus sp. (fish)

Fish remains consisted of elements. Four elements were identified as *Ictalurus sp.* (catfish) and the rest were indeterminable. Nearly all the fish remains consisted of cranial or caudal elements, indicating that fish heads and tails were discarded in the refuse.

Area A, Excavation Unit 0 North/100W (ER A18)

Of specific interest were the faunal remains of topsoil deposits from this unit (Level 10 ER A18Z). The topsoil deposit was dated ca. 1806 to 1816 (MCD's). This deposit was excavated in 2 arbitrary levels considered here collectively since the assemblage from each was undifferentiated.

The faunal remains (Table 2) from the topsoil deposit were in good physical condition. However, many specimens exhibit abraded edges due to post-depositional soil creep. The assemblage was very fragmented, and most fragments were of large mammal long bones and ribs. The color of the bone was generally tan. The evidence suggests the assemblage was not exposed to surface weathering and complete deposition occurred rapidly.

Burnt and incinerated bone was rare in the assemblage. Evidence of rodent and carnivore scavenging was absent.

The total topsoil faunal assemblage from this unit consisted of 251 specimens. Most of this material (88%) represented large mammals (220). Of this total, 173 or 69% represented indeterminable small fragments of large mammals. Large domestic mammal remains were the most commonly identified species in the assemblage, representing 19% of the total.

Bos taurus (cow)

The remains of B. tarus consisted of 32 fragments. All these specimens were of postcranial elements. Cranial remains were absent. The most common elements represented were thoracic and pelvic limbs and innominates. Fragments were from limb extremities (phalanges, etc.) and long bones. Bone remains exhibited cutting and sawing. Evidence of cutting was observed on vertebrae only. Here, as usual, the thoracic and lumbar vertebrae were split longitudinally. Sawed speciments consisted of long bones and innominates. Symmetrically sawed sections were common, including nearly all the innominate remains. One sawed scapula section was also recorded. This material is indicative of professional butchering. The sawed and cut specimens mentioned above are associated with areas of meat concentrations on the body, including "round," "hind shank," "rump," "sirloin," "short sirloin," "force shank," and "square-cut chuck" portions.

Other evidence of food processing included fractured limb extremities. These elements represent dense bone and are rarely broken naturally. Breakage was probably the result of bone marrow procurement activities or possibly stewing, etc.

Two individuals were represented in the assemblage (MNI). Maturation data suggest the cows were less than 2 years old at death.

TABLE 2. Faunal Analysis: Area A, Excavation Unit 0 North/100W (ERA18)

	Level:							Topsoil Level:			
	1	2	3	4	5A	5B	Total	10A	10B	10C	Total
Bos								22	10		32
Sus			1				1	2	4		6
Caprinae	1						1	7	1		8
Ovis								1			1
Large mammal Long bone fragment	3	1	2				6	75	38		113
Rib fragment		5					5	32	16		48
Vertebrae fragment		1					1	9	3		12
Rattus								2	1		3
Small mammal Long bone fragment									5		5
Gallus								8			8
Bird sp.								12	2		14
Fish								1			1
Total	4	7	3				14	171	80		251

Total Assemblage: 265

Sus scrofa (pig)

S. scrofa remains were scarce in the assemblage (6). Nearly all the specimens were cranial elements consisting mostly of incisors. Evidence of food processing was absent.

Caprinae (sheep and goat)

Caprinae remains totalled nine specimens. Only one element was specifically identified as Ovis aris (sheep) and will be included here in the general discussion. Cranial remains were absent. Common postcranial material included thoracic long bones. Other postcranial elements such as vertebrae, ribs, innominates and pelvic limb bones were absent or rare.

Cut bone was not observed in the assemblage, but sawing was common. Thoracic long bones were symmetrically sawed and one sawed section of humerus was recorded. The sheep was represented by a completed ulna specimen. The remains were all associated with areas of meat concentrations on the body including "shoulder," "shank" and "leg" portions. Maturation data suggest the sheep was at least 3.5 years of age at death.

Smaller mammals were represented by three Rattus fragments and several indeterminable long bone fragments. The rat bones represented adult individuals and included cranial and postcranial elements. They undoubtedly are the remains of scavengers.

Bird remains are rare in the assemblage. They included eight specimens of Gallus gallus (chicken) and 22 indeterminable bone fragments. Common chicken remains included thoracic and pelvic long bone fragments. These specimens represented either shafts or halves of long bones snapped at midshaft. All the specimens are associated with areas of meat concentrations on the body.

Fish remains consisted of only one skull fragment.

Area A, Excavation Unit 20N/100W (ER A19)

In excavation unit 20N/100W, both fill and topsoil deposits were removed. Fill deposits, by definition, are mixed, disturbed material compared to the in situ topsoil deposits. As such, the bone remains from the fill deposits were considered separate from those from the topsoil (Table 3).

The fill deposits consisted of tan clay sediments associated with refuse material. Since the fill is mixed and disturbed and its origin is unknown, dating is impossible and its interpretive value is limited.

The fill assemblage was in poor physical condition, exhibiting extensive weathering including surface peeling, cracking, splitting and fungus pitting. These characteristics are indicative of an open deposit exposed to surface weathering prior to complete disposition. Rodent and carnivore scavenging was not apparent.

Other evidence of bone alteration such as burning and incineration was not observed.

The fill assemblage consisted of 88 bone fragments representing 10 types of animals (Table 3). Large mammals dominate the assemblage, representing 81% of the total. Shell material was absent. The majority of specimens in this assemblage were fragments of mammal long bones. Cut and sawed bone was common. Bos tarus vertebrae exhibited splitting as well as 1 astragalus. Sus scrofa bones were also cut. Only caprinae remains exhibited sawing. Most of these bones represented areas of meat concentrations on the body.

Topsoil Deposit, ER 19Z (Including 19Z1)

This assemblage was recovered from excavation unit 20N/100W. The topsoil was excavated in 3 arbitrary levels, but exhibited little variation in content and thus will be considered as a single assemblage (Table 3). The top level material was also associated with Feature 15, a shell trench excavated through unit 20N/100W.

The assemblage was in poor physical condition with fungus pitting, cracking, splitting, and surface peeling common on nearly all specimens. Bone color was dark brown to black with some specimens coated with debris which is indicative of watersoaking. These characteristics suggest an open refuse deposit on or near the surface for some time prior to final deposition with some water deterioration. The darker color on bone specimens is often associated with moist to wet post-depositional environments for all the features from the Wilmington project areas.

Although an unusual number of rat remains were recorded for the topsoil assemblage, evidence of scavenging was absent.

The assemblage was highly fragmented, which could be attributed to natural

TABLE 3. Faunal Analysis: Area A, Excavation Unit 20N/100W (ERA19)

	Level: 1	2	3	4	7	8	Total	Topsoil Level: 10A	10B	10C	Total
Bos			1		9			34	28	7	79
Sus					9	1		20	14	4	48
Caprinae					6	3		8	10	3	30
Capra					1			3			48
Ovis								9			9
Rattus					5			6			11
Sylvilagus					2			1			3
Sciurus						1					1
Small bone fragment								11	6		17
Large mammal Long bone fragment					42			162	159	20	383
Rib					3			43	40	16	102
Vertebrae								14	9	2	25
Clavicle											
Gallus					3			42			45
Ectopistes					1						1
Meleagris					1			2			3
Anser sp.									1		1
Bird sp.					3	1		10	8	1	23
Turtle								1	1		2
Fish sp.					5			2			7
			1		86	6		368	276	53	

Total Assemblage: 794

weathering of the bone and/or the fracturing of bone for marrow. Large mammal long bones were most common (361).

The total assemblage consisted of 697 bone fragments representing 12 varieties of animals (Table 3). Shell remains were absent. Domestic species dominated the assemblage and wild species were rare. Large mammal remains were most common, representing 87% of the total. Large domestic mammals constituted 20% of the total assemblage and 65% of the identifiable large mammal material.

When the total bones per species in the assemblage are compared to the total possible number of skeletal elements per species based on MNI, it is apparent that only a small sample of the original number of skeletal elements was deposited in the deposit. This suggests food refuse was randomly dumped in the deposit, and the other skeletal elements were deposited elsewhere.

Burnt and incinerated bone was nearly absent, suggesting meat was prepared by means other than direct exposure to heat.

Bos tarus (cow)

The remains of B. tarus (69) were the most common for any species in the assemblage. Of the determinable large mammal remains, B. tarus constituted 32% of the total. Both cranial and postcranial remains were recovered. Cranial elements were mostly teeth, especially molars. Postcrannial remains were more common and included vertebrae, pelvic long bone and rib fragments. This material was so badly fragmented that articulation joints were rare.

At least two individuals were represented, one adult and one subadult. Very few bones of these individuals were represented in the deposit. These individuals were between the ages of 3 and 4 years of age at death.

Many cow specimens were cut and sawed. Numerous vertebrae exhibited splitting along the centrum, longitudinally. They were the only cut elements, the rest were sawed. Ribs were frequently sawed and exhibited a distinct saw and snap technique, where the rib was partially sawed, then snapped in two. Many long bone and innominate specimens were symmetrically sawed sections and suggested professional butchering. The sections represent bones associated with high meat concentrations on the body.

Sus scrofa (pig)

Sus scrofa remains accounted for 18% of the total determinable large mammal material. Both cranial and postcranial bones were recorded. Cranial material was rare, consisting of teeth elements. Postcranial remains were very abundant ard common elements included thoracic long bone, innominate and pelvic limb bone fragments. These are elements associated with meat concentrations on the body, such as the "picnic shoulder," "loin," and "ham" regions. Ribs, vertebrae and limb extremities (phalanges, metapodials, etc.) were rare.

The pig remains represented at least two individuals (MNI), one adult and one subadult. Since only a few bones of the original skeletons were represented, it is apparent this deposit represents selected food refuse. Data for epiphyses closure indicates the age at butchering was between .8 and 2 years.

Most bones were extensively fragmented due to either marrow extraction or natural weathering. Evidence of burning or incineration was absent.

Only two S. scrofa fragments exhibited cut or saw modification. However, many elements that usually show butchering marks were either fragments or missing from the assemblage, and thus the data on butchering is inconclusive.

Caprinae (sheep and goat)

Caprinae remains constituted 15% of the determinable large mammal bone and consisted of only 33 fragments. A few specimens were identified, specially, as either Capra hircus or Ovis aries and are discussed with caprinae.

Cranial remains were absent and common postcranial fragments included vertebrae, thoracic long bone and pelvic limb bone fragments. Ribs and innominates were especially rare.

Of the total assemblage, at least three individuals (MNI) are represented (1 adult, 2 subadults). Thus, the remains (33) constitute only a fraction of the total possible skeletal elements for these individuals. This supports the conclusion that the deposits represent selected food refuse. Most of the bone specimens are associated with meat concentrations on the body such as "shank," "shoulder" and "leg" portions. The age for these specimens was between 3-3.5 years and 1.3 to 2 years old at death.

Bone fracturing patterns were interesting. Certain elements such as humeri, ulnas, and tibias, were broken in two at or near midshaft. This indicates that many thoracic and pelvic long bones were not fractured for marrow and also indicates differential fracturing of bones in the assemblage since Bos and Sus long bones exhibited a much higher degree of breakage. Excluding the fact that Bos and Sus limb bones are larger and thicker, the data suggests that caprinae remains exhibit a different pattern of butchering and food processing.

Caprinae remains exhibited only cut marks. Sawed bone was completely absent. Cut elements included only vertebrae which were longitudinally split across the centrum. As previously noted, burnt and incinerated bone was absent.

Rattus sp. (rat)

A few Rattus bones (6) were represented but evidence of rodent scavenging was not observed on any bone specimens. Most of the remains were of immature individuals.

Syvilagus sp. (rabbit)

A single rabbit bone was identified, consisting of a complete left metatarsal. Whether the rabbit was part of the food refuse or was deposited accidentally is difficult to determine.

Gallus gallus (chicken)

The remains of G. gallus were relatively common in the assemblage, consisting of 42 bone fragments. This material, compared to the rest of the assemblage, was in good physical condition deposite the more delicate structure of most bird bone elements. Cranial elements were absent. Common postcranial remains consisted of humeri and radii, accounting for 50% of the assemblage. Most ot the elements were long bones assòciated with concentrations of meat on the body, such as "wing," "thigh" and "leg" portions.

Chicken bones did not exhibit significant fracturing and 34 or 42 bones were either broken halves or complete specimens. Nearly all radii and humeri were distal or proximal halves which were snapped in two or at near midshaft. All specimens represented adult individuals (6).

Chicken bones did not exhibit saw or cut marks. Burnt and incinerated bone was also absent.

Pathologically, a distal half of a right radius exhibited a healed break.

Meleagris gallopavo (turkey)

Only two fragments were identified for this species. One element was also assigned to Anser sp. (goose). The significance of the two species is uncertain due to the small number of bones.

Turtle and fish were also recorded, but in small quantities, and thus the significance of the remains is uncertain. Turtle bone consisted of two carapace fragments. Fish bones included two opercular elements which are located on the head, suggesting the fish head was removed and discarded in the deposit.

Area B, Excavation Unit 83S/124E (ER B9)

Excavation unit 83S/124E (ER B9) was located on lower excavation terrace of Area B. ER B9 was the southern unit of the lower excavation terrace. The deposits from ER B9 were excavated in arbitrary levels including the upper Levels 3 to 8 and, below this, the topsoil Levels 10A and 10B (ER B9Z1 and Z2). The following discussion will cover, first, the upper levels and then the topsoil levels.

Topsoil deposits were also excavated from unit 73S/124E (ER B8) representing the northern excavation unit adjacent to 83S/124E (ER B9) on the lower excavation terrace. The topsoil levels from unit ER B9 and ER B8 were the same stratigraphically, and will be discussed concurrently, following a discussion of the upper levels.

Levels 3 to 8

The assemblage (Table 4) from the upper levels from ER B9 dated from late eighteenth to early nineteenth centuries. The Levels were divided into separate analytical units based on sediment composition. Specifically, the upper 3 levels were composed of red-brown sandy clay and were somewhat distinct from the lower 3 levels composed of red-orange sand with gravel. It should be noted that Level 5 represented on interface Level between 4 and 6, with mixing of some refuse from both levels. Likewise, Level 8, overlying the topsoil deposit, constituted the stratigraphic interface between the upper topsoil and Level 7 and probably consisted of some mixed refuse from those levels.

Based on the compositional stratigraphic distinctions mentioned above, Levels 3 to 5 are discussed separate from Levels 6 to 8 (Table 4).

Levels 3 to 5

The bone remains from Levels 3 to 5 were in poor physical condition. The bone was tan in color, and was characterized by longitudinal splitting and cracking, and edge abrasion. The majority of specimens exhibited peeling of the compact bone surfaces with some sediment coating indicative of post-depositional waterlogging. The evidence indicates the bones were exposed to surface weathering for some time prior to final deposition. These characteristics are indicative of open refuse deposits which afford little protection to the faunal assemblages from external weather conditions. The assemblage was highly fragmented. Most of the fragments were from large mammal ribs and long bones. The breakage was probably due mostly to post-depositional deterioration. Unfortunately, in most cases, it was difficult to determine if the breakage was the result of food processing.

The total assemblage from Levels 3 to 5 was 586 bone specimens (Table 4). Shell material was absent. The majority of this assemblage consisted of

TABLE 4. Faunal Analysis: Area B, Excavation Unit 83S/124E (ERB9)

	Level: 3	4	5	6	7	8	Total	Topsoil Level: 10A	10B	10C	Total
Bos	16	12	5	11	4	10	58				
Sus	7	34	1	8	5		55				
Caprinae	2	13	15	5	5	12	52				
Capra	2	1		1		1	5				
Ovis	2	13	10	6		2	33				
Long bone fragment	53	167		25	7	10	262				
Ribs	26	73	11	38			148				
Vertebrae	5			1			6				
Sciurus sp.			1	1			2				
Syvilagus		1					1				
Bat sp.					2		2				
Small mammal bone	2	40	2				44				
Gallus	5	15	3	2	1		26				
Meleagris		1					1				
Bird sp.	7	30	1	8			46				
Turtle		1					1				
Fish sp.		8	1								
	127	409	50	106	24	35					

Total Assemblage: 751

large mammal bones representing 80% (468) of the total. The remains of large domestic mammals were most common constituting 23% (133) of the total assemblage and 40% of the large mammal remains. Indeterminable large mammal bone fragments represented 57% (335) of the assemblage, and attests to the fragmented nature of the collection. These remains probably represent large domestic mammals, but could not be identified with certainty due to their poor physical condition and fragmentary nature.

Evidence of burnt, incinerated and scavenged bone was rare.

Overall, the evidence indicates the assemblage represents a food refuse deposit. The material is discussed below in detail.

Bos tarus (cow)

The Bos remains from Levels 3 to 5 totaled 33 specimens. Cranial elements were absent, and common post-cranial material included rib and pelvic long bone fragments. Rib fragments were small and mostly shaft portions. Pelvic long bone specimens were from tibia and femora. Vertebrae were only thoracic and lumbar fragments. Thoracic limb bones, innominates and long bone extremeties (phalanges, etc.) were rare.

Bos remains exhibited cut (2) and saw (5) modification. One vertebrae was split longitudnially. Rib fragments showed cut and saw marks. Most were practically sawed and snapped in two. This technique is often used when preparing "short plate" and "rib" portions of meat. Innominates were represented by 1 symmetrically sawed ishial section. Likewise, 2 symmetrically sawed femora sections were recorded. The sawed sections are indicative of professionally butchered meat. The innominate section represents the "rump" or "sirloin" portion. The femora sections were probably "round" steak or roast portions.

The maturation data were limited but indicated an age of less than 2.5 years at death.

Sus scrofa (pig)

Sus remains totaled 42 specimens (Table 4). Cranial elements were common consisting of mostly incisor teeth and skull fragments. Common post-cranial elements were vertebrae (13), thoracic and pelvic limb fragments (19). Ribs and innominate bones were absent. Many of the pig elements were limb extremeties (12) including phalange and metapodial fragments. Much of this material was from immature individuals.

Cut and sawed bone were rare in the assemblage. One split vertebrae and a phalange were recorded. Sawed material included only one long bone fragment.

The thoracic and pelvic long bone fragments represent areas of meat concentrations on the pig consisting of "Boston butt" and "picnic shoulder" portions of meat. Vertebrae represented the "loin" portion of meat.

Limited maturation data suggest the age at death for two individuals (MNI) was less than 2 years (1) and more than 2 years (1).

Caprinae (sheep and goat)

The remains of caprinae consisted of 58 specimens (Table 4). Of this total, three specimens were identified as Capra hirca (goat) and 25 as Ovis aries (sheep). They will be considered, here, in the general Caprinae discussion. Cranial material was absent. Common post-cranial remains for the general Caprinae material were vertebrae and ribs. These are usually not specifically identifiable as either sheep or goat because they exhibit few morphological distinguishing characteristics. It is not surprising, then, that vertebrae and ribs were absent in the Capra and Ovis assemblages. Capra remains were mimimal but common Ovis elements included thoracic and pelvic limb bone fragments. These elements are associated with meat concentrations on the body including "leg," "shank" and "shoulder" portions of meat. Limb extremeties were abundant (11) consisting of phalanges, calcanea and astragali.

Bone modifications included only cutting. The most commonly cut elements were vertebrae which were split longitudinally. This butchering technique severs the vertebrae along the centrum cleaving the animal in two portions.

The long bone specimens of Capra (goat) and Ovis (sheep) were less fragmented compared to the other species consisting of unfractured articulation joints with quarter and half sections of the shafts intact. This obviously indicates the long bones were not fractured in smaller pieces for marrow and probably represent "roast" portions of the "shoulder", "shank" and "leg".

The maturation data for Capra indicates an age of at least 3.5 years at death. The data for two Ovis individuals indicated an age between 3 and 3.5 years (1) and less than 1 year (1) at death.

Sciurus carolinensis (Gray squirrel)

Squirrel remains included only one right mature femur (Table 4).

Syvilagus sp. (rabbit)

Rabbit remains consisted of only one immature femur fragment (Table 4).

Gallus gallus (chicken)

G. gallus material totaled 23 specimens, and most of the remains consisted of thoracic and pelvic long bone fragments (Table 4). Several of the long bone specimens were snapped at midshaft, a food processing technique often used to produce smaller portions of the chicken. It is also possible that the breakage was due to post-depositional deterioration. Nevertheless, the long bones constitute areas of meat concentrations on the chicken including "wing", "thigh" and "leg" portions. Many of the specimens were shaft fragments without either articulation joint. This indicates immature elements where the soft epiphyses have completely decomposed.

Meleagries gallopavo (turkey)

Only one fragment of turkey was identified (Table 4).

Turtle sp.

Turtle remains consisted of one carapace fragment that was too deteriorated to identify specifically (Table 4).

Fish sp.

Fish remains consisted of nine skull and caudal ray elements indicating that the heads and tails were discarded in the refuse (Table 4).

Levels 6 to 8

The faunal assemblage from Levels 6-8 was in poor physical condition. The bone was a tan color, and was characterized by longitudinal splitting, cracking and edge abrasion. The majority of specimens exhibited pealing along the compact bone surfaces with occasional sediment coatings indicative of post-depositional waterlogging. The data indicate the faunal remains were exposed to surface weathering prior to final deposition, and are characteristic of open refuse deposits which are usually poorly protected from deterioration. In addition, the assemblage was highly fragmented, and most of the breakage was apparently due to post-depositional deterioration. The majority of the fragments were from large mammal ribs and long bones. It was difficult to determine if any of the breakage was the result of food processing.

The total assemblage from Levels 6 to 8 included 185 speciments (Table 4). The most common bones were large mammals representing 82% (151) of the total. Large domestic mammal specimens accounted for 30% of the total. Indeterminable large mammal remains represented 44% of the total. This material

probably represented large domestic mammals, but was too deteriorated for accurate identification. The indeterminable remains consisted mostly of rib and long bone fragments. Wild animal remains were rare in the assemblage (11), and included small mammals and birds. Compared to the upper levels there was less variety of small animal remains, but the distribution and proportions of large domestic mammal remains were very similar. Unlike the upper levels, sawed bone was not observed in the assemblage from the lower levels.

Evidence of burnt, incinerated and scavenged bone was absent.

Overall, the assemblage from Levels 6 to 8 represent food refuse. A detailed discussion of this material follows below. However, in most cases the assemblages were small, and thus have limited interpretive value.

Bos tarus (cow)

Bos remains consisted of 25 fragments (Table 4). Cranial elements were rare, and post-cranial elements were evenly distributed. Vertebrae were represented by small fragments, and ribs were mostly broken short, shaft sections. Three fragments exhibited modification. One cervical vertebrae was split, and two rib shaft fragments were cut. Sawing was absent. Maturation data was limited, but the individuals were more than 3.5 years old (1) and less than 2 years old (1) at death.

Sus scrofa (pig)

S. scrofa material totaled only 14 specimens (Table 4). The remains were equally distributed among vertebrae, thoracic and pelvic long bone and innominate fragments. Ribs and limb extremeties were absent. One specimen, a femur shaft, exhibited cutting. Most of the remains represented one immature individual. The maturation data suggest the individual was less than 1 year old at death.

Caprinae (sheep and goat)

The remains of Caprinae included 32 fragments (Table 4). Of the total, two specimens were identified as Capra hirca (goat) and eight as Ovis aries (sheep) which will be included, here, in the general Caprinae discussion.

Cranial remains were absent. The general caprinae post-cranial material consisted of mostly vertebrae and ribs, those elements which are difficult to specifically assign to either Capra (goat) or Ovis (sheep). As expected, Capra and Ovis remains were mostly thoracic and pelvic limb bone fragments since they are easier to identify because of their distinct morphology. Of course identification ultimately depends on the physical condition of the bones. Only four specimens were modified, and all were split vertebrae.

These represent "loin" portions of meat. The long bone fragment mentioned above constitute the "leg", "shoulder" and "shank portions. The maturation data for Capra remains indicates an age of less than 1.3 years (1) and more than 1.3 years (1) at death for two individuals.

Sciurus carolinensis (Gray squirrel)

Squirrel remains were rare in assemblages from the project area. Here, only one mature tibia was identified.

Bat sp.

Bat remains were also rare. Two humerus fragments were identified and probably represent accidental interrment in the refuse.

Gallus gallus (chicken)

G. gallus remains consisted of only three elements including one radius, one femur and one tarsometatarsus. They were all complete specimens of mature individuals (Table 4).

ER B9Z, TOPSOIL DEPOSIT

The topsoil from excavation unit 83S/124E had MCD'S of 1747 and 1767. As such, the faunal material from this level represents some of the earliest bone remains from the entire project area. The topsoil was excavated in two arbitrary levels (ER B9Z1 and B9Z2), and will be discussed collectively since the material from each level was undifferentiated. The topsoil was composed of dark organic clay. Since the excavation of the topsoil was terminated because of contact with the water table, the faunal assemblage was small. The topsoil sediments have been described as the original marsh surface in Area B.

The bone assemblage from the topsoil deposits was in good physical condition. The bone was brown, and, generally, exhibited little evidence of deterioration due to weathering. Some specimens were coated with sediment indicative of waterlogging. In general, the assemblage consisted of larger bone fragments, and was not broken-up like the bone remains from the upper levels. The material was apparently covered over rapidly allowing minimal deterioration.

Although the topsoil assemblage was small (164), and thus had limited interpretive value, a number of important observations were made. The variety of species (9) was commensurate with other assemblages excavated from the project areas. The exception was the identification of several types of

TABLE 5. Faunal Analysis: Excavation Unit 83S/124E Topsoil Layer (ERB9Z)

	Level: 1	2	3	4	5A	5B	Total	Topsoil Level: 10A	10B	10C	Total
Bos	17	39					56				
Sus	1	28					29				
Caprinae	2	12					14				
Capra	2						2				
Ovis		4					4				
Long bone fragment	4	27					31				
Vertebrae	2	1					3				
Ribs	1	7					8				
Small mammal											
Felis		1					1				
Rattus	1						1				
Gallus		10					10				
Turtle											
Psudemys		2					2				
Trionyx		2					2				
Turtle sp.	2						2				
	32	133					165				

Total Assemblage: 165

turtles, which was not surprising considering the area once boardered a marsh environment (Table 5). Two of the turtles were aquatic varieties, including Pseudemys scripta (Pond slider) Trionyx spiniferus (soft shell turtle). Fish and shellfish remains were not observed in the assemblage. As ususal, the assemblage was dominated by large mammal remains representing 90% (147) of the total (164). Large domestic mammals remains constituted 64% (105) of the total assemblage (Table 5). Indeterminable large mammal remains were less common (42), due to the quality of bone preservation. Although the indeterminable large mammal material most likely represented large domestic mammals, the bones were too fragmented for specific indentification. Overall, wild animals remains were rare in the assemblage, accounting for less than 1% (6) of the total.

The bone remains exhibited no evidence of sawing, and cut bone was observed only on Bos tarus and Sus scrota remains. Evidence of burnt, incinerated or scavenged bone was absent.

Overall, the topsoil assemblage from ER B9 represents food refuse apparently dumped near or in a marsh area. A description of this material follows below.

Bos tarus (cow)

The remains of B. tarus included 56 specimens (Table 5). Cranial material consisted of skull and mandible fragments, and common post-cranial remains were fragments of vertebrae, ribs, and thoracic and pelvic limb bones.

Innominates were absent, otherwise there was a fairly even representation of skeletal elements. The distribution of elements suggest that much of the complete skeleton was discarded in the refuse, which is unusual compared to the evidence from other assemblages. Of the cranial remains, skull, horn, maniable and teeth were recorded. The post-cranial distribution consisted of a full range of vertebrae including axis, atlas, lower cervical. Thoracic and lumbar fragments; both metacarpal and metatarsal phalanges and a patella and calcanium. However, those elements associated with areas of greatest meat concentrations on the body such as humeri, scapula, femora, and innominates were rare or completely missing from the assemblage. Furthermore, the food process[illegible] data suggest the refuse represents the remains of the initial phases of butchering such as split axial and cervical vertebrae, and a split ul[illegible] head and a patella. These items were nearly absent in other assemblages. Here, not only were they recorded in the assemblage, but they also exhibit evidence of butchering. This, with the data presented below on butchering, indicates some of the elements from the assemblage represented the initial stages of the disarticulation and meat processing of Bos tarus.

In addition to the above, a wide range of cut fragments were recorded. As noted, cervical thoracic and lumbar vertebrae exhibited longitudinal splitting. This is the initial result of cleaning the vertebral column down the middle, producing 2 butchered halves of the animal. Then, the vertebrae sections are processed into smaller cuts including roasts or steaks from the "short loin", "flank", "rib" and "short plate" portions. Rib shaft fragments

were also cut and are associated with the rib portions just mentioned. One scapula and ulna also exhibited cutting and are associated with the "shank" and "square-cut chuck" portions of meat.

The maturation data for the two individuals identified in the assemblage indicates one was between 2 and 3.5 years of age and the other was more than 3.5 years of age at death.

Sus scrofa (pig)

S. scrofa remains included 29 fragments (Table 5). Over 55% of this material was cranial of which the majority included skull, maxillary and mandibular fragments. These elements, in combinations, were rare in any of the assemblages from the project area, and may represent initial butchering refuse after the brain and jowl meat portions were removed. Common post-cranial remains included thoracic and pelvic long bong fragments and innominates. Ribs, vertebrae and limb extremeties (phalanges, etc.) were rare or absent. The long bones and innominates represent areas of meat concentrations on the pig including the "ham" (butt and shank half), "loin", "Boston butt" and "picnic" portions of meat. Only one element was cut, a split thoracic vertebrae, which constitutes the "loin" portion. Smaller cuts from this portion include "rib" and "loin chop".

The maturation data for this assemblages indicates an age of less than 1 year at death.

Caprinae (sheep and goat)

Caprinae remains consisted of 20 specimens (Table 5). Of this, two were identified as Capra hirca (goat) and four as Ovis aries (sheep). Here, they will be included in the general Caprinae discussion. Cranial remains were absent and common post-cranial material for the total assemblage included thoracic and pelvic long bone and innominate fragments. Ribs and vertebrae were none or absent. Similar to Bos and Sus remains many of the long bone specimens consisted of proximal or distal fragments with articulation joints and 1/4 to 1/2 of the shaft intact. These elements are associated with areas of meat concentrations on the body including "leg of lamb" and "shoulder" portions. The innominates represent "loin" and "rack" portions.

Evidence of cut and sawed bone was absent. The maturation data suggests the Capra remains were more than 1.3 years old and that ovis was between 2 and 3.5 years old at death.

Felis domesticus (cat)

One cat elements was identified consisting of an immature right humerus shaft fragment. This individual was either a pet or scavenger (Table 5).

Rattus sp.

One rat element was recorded, but rodent scavenging marks were not observed in the assemblage.

Gallus gallus (chicken)

The remains of Gallus gallus consisted of 10 specimens, including nearly all long bone fragments (Table 5). Most of the specimens were associated with areas of meat concentrations on the body such as "legs", "thigh" and "wing."

Turtle

As noted previously, at least two varieties of turtle were recorded in the assemblage Psuedemys scripto (Pond slider) was represently by two carapace fragments and Trianyx spiniferus (soft-shell) by one plastron and one carapace fragments. Two specimens were indeterminable. These individuals probably represent scavengers or were accidentally interred in the refuse (Table 5).

ER B8Z "TOPSOIL"

Topsoil/Marsh Deposit in Excavation Unit 73S/116E (ER B8Z)

Excavation unit 73S/124E was the northern unit adjacent to 83S/124E (ER B9) on the lower excavation terrace in area B. As noted previously, the topsoil Levels from the two excavation units were the same stratigraphically. The topsoil deposit from ER B8 was excavated in 2 arbitrary levels ER B8Z 1 and ER B8Z 2 and will be discussed collectively since the faunal assemblages from each level were undifferentiated. Similar to that of ER-B9, the toposil assemblages from ER-B8 had MCD's of 1773 and 1787. The deposits were composed of dark organic clay, and were described as the original marsh surface in Area . As such, the deposits represent some of the earliest dated faunal remains from the entire project area. Since, the excavation of the topsoil deposit was curtailed due to contact with the water table, the bone assemblage is relatively small (329), but larger than the assemblage from the ER B9 topsoil (164).

The bone remains (Table 6) from the ER B8 topsoil deposit were in good physical condition and exhibited little evidence of weathering. The bone color was brown, and some specimens were coated with sediment and exhibited peeling on the compact bone surface which is characteristic of waterlogging. This assemblage had more fragments compared to the topsoil assemblage from ER B9, but of course the ER B8 assemblage was larger. Most of the fragments were from large mammal long bones and ribs. Nevertheless, the faunal material was not broken into small fragments compared to remains from the upper levels,

TABLE 6. Faunal Analysis: Excavation Unit 73S/124E (ERB8Z)

	Level: 1	2	3	4	5A	5B	Total	Topsoil Level: 10A	10B	10C	Total
Bos	39	26					65				
Sus	17	14					31				
Caprinae	17	5					22				
Capra	4	4					8				
Ovis	2	1					3				
Long bone fragment	65	23					88				
Ribs	26	18					44				
Vertebrae	14	2					16				
Felis	1						1				
Rattus	2						2				
Small mammal bone	2						2				
Gallus	18	2					20				
Bird sp.	15	3					18				
Turtle sp.	1						1				
Trionyx		1					1				
Fish	3	4					7				
	226	103									

Total Assemblage: 329

and consisted of many limb bones exhibiting unbroken distal or proximal articulation joints with one-fourth to one-half of the shaft intact.

The total assemblage from the topsoil of ER B8 consisted of 329 bone specimens. Shell material was absent. Nine varieties of animals were represented, including one specie of aquatic turtle which was also recorded for the ER-B9 topsoil assemblage. Fish remains were also recorded, although in small numbers. The occurence of these types of animals was not surprising considering that a marsh environment existed nearby. However, it was surprising that the remains of marsh adapted species did not occur in larger numbers. This evidence suggest that very little emphasis was placed on procuring animals from the marsh, or the data was biased due to the absence of a larger sample from the refuse deposits.

Overall, large mammal remains dominates the assemblage constiting 84% (277) of the total. Large domestic mammal remains were the most commonly identified material representing 39% (129) of the total assemblage. Indeterminable large mammal bones constituted 45% (148) of the total, and probably represented large domestic mammals, but were too fragmented to identify with certainty. As usual, wild animal remains were uncommon representing less than 10% of the total assemblage and all the speciments were from small animals.

Evidence of sawing was absent. Cut marks were only observed on the remains of large mammals. Evidence of burnt, incinerated or scavenged bone was rare.

Overall, the data indicates the faunal assemblage from the ER B8 topsoil deposit constituted food refuse apparently dumped near or in a marsh area. The material was in good physical condition, suggesting the refuse was covered over rapidly allowing for minimal deterioration excluding water saturation. The assemblage is discussed below in detail, followed by a comparison with the topsoil material from ER B9.

Bos tarus (cow)

B. tarus remains included 65 fragments. Cranial remains were rare (3) and a wide variety of post-cranial remains were represented in the assemblage, including vertebrae, thoracic and pelvic limb bone, rib and innominate fragments. This material consisted of mature and immature elements. Vertebrae fragments were especially numerous including cervical, thoracic and lumbar specimens. There were a number of unusual elements represented compared to other assemblages in Area B (except in the ER-B9 topsoil assemblage). These included a cervical vertebrae, a sternum fragment, a calcanium and an astragalus. These fragments, plus the variety of major skeletal elements noted above, are representative of near complete skeletons, and suggest the entire animal was probably being processed and consumed nearby. The evidence for butchering supports this hypothesis. Sawing was absent, but cut bones were common. The majority of cut bone specimens were split vertebrae fragments representing all types of vertebrae of the spine. Split vertebrae are the result of initially clearing the animal in two along the vertebral column from which smaller meat cuts are produced. Ribs also exhibited cutting, and

some specimens were cut and snapped in two. Other cut bone included two split pubis fragments. These material probably represents the result of the disarticulation of the pelvic region producing "round", "rump" and "sirloin" portions of meat. Furthermore, although long bone fragments did not exhibit cut marks they were very common and represented most of the bones associated with meat concentrations on the cow representing "round", "square-cut chuck" and "shank" portions of meat. In addition, the fragments of many limb extremeties (phalanges, metapodials, etc.) were recorded, suggesting again, that parts of the complete skeleton were represented in the refuse, and that the entire animal may have been processed and consumed nearby.

The maturation data for B. tarus suggests at least two individuals (MNI) were represented in the assemblages. One was between 2 and 3 years old and the other was more than 3.5 years old at death.

Sus scrofa (pig)

The remains of S. scrofa totalled 31 specimens, and consisted of both cranial and post-cranial remains. Cranial fragments included skull, mandible, and teeth. Common post-cranial materials included thoracic and pelvic limb bone fragments. Rare elements were ribs, vertebrae and innominates. The majority of pig remains represent areas of meat concentrations on the body including "picnic", portions. Only one element, a split cervical vertebrae, exhibited cutting. Sawed bone was absent. The split vertebrae represents the upper "loin" portion of meat.

Compared with B. tarus remains, the Sus assemblage consisted of a limited variety of bone elements, and only one was cut -- suggesting the remains represent food refuse with little direct evidence of butchering.

The maturation data for at least two individuals (MNI) indicates that one was less than 1 year old and the other was more than 3.5 years of age at death. This was some of the only evidence for a mature pig from the entire project area.

Caprinae (sheep and goat)

Caprinae remains included 33 specimens of which eight were identified as Capra hirca (goat) and three as Ovis aries (sheep). They will be discussed collectively with the general Caprinae material.

Cranial remains were rare. Post-cranial remains consisted mostly of thoracic and pelvic long bone, rib and vertebrae fragments. Limb extremeties and innominates were rare or absent. Also missing were femora and ulna. Most of the remains were fragments with few complete proximal or distal ends. Only two specimens exhibited cutting, a split cervical vertebrae and a scapula fragment. Overall, the majority of the Caprinae bones represented areas of meat concentrations on the body including "rack", "loin", "shoulder", "shank" and "leg" portions of meat.

The maturation data for Capra and Ovis was minimal due to the fragmenting of the remains.

Felis domesticus (cat)

Domestic cat was represented by one element consisting of the right metatarsal of a mature individual (Table 6). Cat remains were also recovered from the topsoil assemblage from ER B9, and probably represent the same individual.

Rattus sp. (rat)

Only two rat elements were recorded in the assemblage (Table 6) consisting of a complete humerus and femur. Evidence of rodent scavenging was rare in the assemblage.

Gallus gallus (chicken)

G. gallus remains were common in the collection (20), consisting mostly of thoracic and pelvic long bones. Several of the specimens were snapped at midshaft and the rest were either shaft or split shaft fragments. The long bone specimens represents areas of meat concentrations on the body including "wing", "thigh" and "leg". Cranial material was absent. One element, a humerus fragment, exhibited evidence of rodent gnawing.

Turtle

The turtle remains consisted of one element of Trianyx spiniferus (soft shell) and one indeterminable fragment. Both specimens were plastron fragments. Trianyx is an aquatic turtle and probably come from the local marsh. There was no evidence the turtle remains were food refuse.

Fish sp.

There were six fish elements identified in the assemblage, but they were too deteriorated for specific identification. Five of the specimens were skull fragments and one was a scale.

Comparison of Topsoil Assemblages from Excavation Units

73S/116E (ER B8Z) and 83S/124E (ER B9Z)

Since the topsoil assemblages were excavated from contiguous units and from the same stratigraphic level, a comparison of the remains is appropriate.

The remains from both assemblages were in the same good physical condition, and exhibited brown coloring. Many specimens from both collections were coated with sediments and were peeling from waterlogging.

The assemblages were dominated by large mammal remains and the most commonly identified remains were of large domestic mammals. In both, wild animal remains were rare, and all specimens were from small animals.

Burnt, incinerated, and scavenged bone was rare or absent in both assemblages. Sawed bone was completely absent and cut bone was common for Bos tarus only. Cut Sus or Caprinae bones were scarce in both collections.

Generally, in both assemblages, large domestic mammals remains, especially long bone specimens, exhibited unbroken distal or proximal articulation joints with much of the shaft intact, suggesting that the bones were not broken up completely during food processing. They probably represent the remains of large meat portions such as hams and roasts.

In both collections, B. tarus remains included a wide variety of major skeletal elements, and a variety of unusual elements rarely recovered in other assemblages. This evidence, plus the wide range of cut elements indicates that B. tarus was probably being butchered, processed and consumed nearby.

The maturation data was generally the same for B. tarus and Sus scrofa in both assemblages.

Both collections yielded cat remains which probably represent the same individual, and suggest the assemblages are the same deposit.

Aquatic turtle remains of the same species were recovered from both collections. Gallus gallus was common in both collections.

Overall the assemblages were very similar, and probably represent the same deposit.

Area B, Feature 5 (ER B11)

Feature 5, is a barrel-lined privy dated with an 1814 MCD. The bone assemblage from the privy was very small, consisting of only 12 fragments (Table 7). Shell remains were absent. As such, the assemblage has little interpretive value, but some general comments are warranted.

TABLE 7. Faunal Analysis: Area B, Feature 5 (ER B11)

	Level 1	2	3	Total
Sus			1	1
Caprinae		1		1
Capra	1			1
Long bone fragment	2			2
Ribs	7			7
Total	10	1	1	
Total Assemblage:	12			

The assemblage was in poor physical condition, exhibiting longitudinal cracks and splits, and abraded edges on most of the fragments. However, only a few fragments exhibited the peeling and sediment coatings common on the bone specimens from fill deposits uncovered in the excavation units in Area B. The bone color was dark brown to black.

The entire assemblage consisted of large mammal bone remains. Three specimens were identified specifically, and all were large domestic mammals. However, the rest of the assemblage probably represented large domestic mammals, but were indeterminable due to their deteriorated condition. Evidence of burnt, incinerated and scavenged bone was rare. Sawed specimens were absent.

Bos taurus remains were not recorded. Sus scrofa was represented by a radius fragment. Two Caprinae fragments were recorded. One was specifically identified as Capra hirca (goat). One Caprinae rib fragment was cut. The indeterminable remains consisted of rib and long bone fragments.

Area D, Excavation Unit 20S/545E (ER D1)

The deposits from ER D1 were excavated in arbitrary levels 1 to 6 (ER D1A to F) and underlying topsoil (ER D1Z). Levels 1 to 6 were mixed fill and demolition deposits. They have limited interpretive value, and will be considered only briefly below. Levels 5 and 6 consisted of yellow and brown mottled clay and were stratigraphically below Level 4 and above Level D1Z, the original topsoil. Levels 5 to 6 were fill deposits. A description of this material will follow that of Levels 1 to 4. Level D1Z was the original topsoil deposit in unit 20S/545E, and was composed of a grey-brown soil with abundant charcoal flecks. A more detailed discussion of the remains from the level will follow that of Levels 1 to 6. However, the topsoil assemblage (Table 8) and that from Level 5 to 6 were small. Thus only general conclusions are possible.

Levels 1 to 4

Levels 1 to 4 consisted of mixed fill and demolition deposits of unknown origin. The deposit dates anywhere from late 1800s to early 1900s.

The faunal assemblage from Levels 1 to 4 was in good physical condition, characterized by a light tan color, some surface splitting and cracking and fungus pitting. The remains were highly fragmented mostly from large mammal long bones and ribs (Table 8).

The assemblage consisted of 203 bone speciments. Shell material was absent. At least nine species were represented. The bulk of the remains were from large mammals accounting for 83% (169) of the total. The majority of the identified remains were from large domestic mammals. However, over 50% (107) of the assemblage consisted of large mammal bone fragments too small for specific identification, but probably from domestic animals. Wild animals remains were represented mostly by birds and smaller mammals, but were uncommon. Bos, Sus and Caprinae bones were common. Cranial specimens were rare and common post-crannial material included long bones and rib fragments. Bos and Caprinae remains exhibited sawing, especially of rib and long bone specimens. Several Bos vertebrae were split longitudinally. Sus remains were unmodified.

Other mammal remains included rabbit (1) and rat (5) elements. The rats undoubtedly represented scavengers.

Bird remains were common in the collection including Gallus gallus (7), Meleagris gallopavo (2), Anser sp. (1) and 18 indeterminable fragments. Nearly all this material represented long bone fragments associated with meat concentrations on the body.

Burnt, incinerated and scavenged bone was absent. This assemblage represents a small deposit of food refuse.

TABLE 8. Faunal Analysis: Area D, Excavation Unit 20S/545E (ERD1)

	Level:							Topsoil Level:			
	1	2	3	4	5	6	Total	1	10B	10C	Total
Bos		14	1	10	1			18			44
Sus		4	1	5		2		2			14
Caprinae		6		17		1		2			26
Large mammal miscellaneous											
Long bone fragment		34	4	19	2	1		7			60
Rib fragment	1	23	5	13	2	3		18			65
Vertebrae	1	4	7					7			19
Squilagus		1									1
Rattus		2	3								5
Gallus		2	2	3							7
Meleagris			2		1	1					4
Anser		1						1			2
Bird sp.	1	11		6							18
Fish sp.						1					1
	3	102	25	73	6	9		48			

Total Assemblage: 266

Levels 5 to 6

Levels 5 to 6 consisted of fill deposits and were undated. The total assemblage from these levels included only 15 fragments. The material was in good physical condition, exhibiting little deterioration and a tan color. Cut and sawed specimens were absent as well as burnt, incinerated and scavenged bone. Nearly all the remains were from large mammals (12). Bos (1), Sus (2) and Caprinae (1) were identified, specifically. Other remains included Meleagris gallopavo (2) and fish sp. (1). All the large domestic mammal remains consisted of limb extremities such as phalanges and metetarsals.

Level D1Z, Topsoil

The topsoil deposit had a MCD of 1806. As noted above, the topsoil was composed of gray-brown soil with abundant charcoal flecks. This level was considered the original occupation deposit.

The total assemblage included 48 specimens. The material was in good physical condition, characterized by tan colored bone, a high degree of fracturing and little splitting, cracking or other types of deterioration.

Evidence of burnt, incinerated and/or scavenged bone was absent.

The entire assemblage, excluding one Anser (goose) bone, consisted of large mammal bone fragments. Wild animal remains were not observed. Large domestic animals represented 46% (22) of the total. Indeterminable large mammals specimens were either ribs or vertebrae fragments and probably represented domestic animals.

Bos tarus (cow)

Bos remains were common (18), consisting mostly of post-cranial fragments (Table 8). Long bone and rib fragments were abundant. The material exhibited cutting and sawing. One vertebrae fragment was split longitudinally and a scapula specimen was symmetrically sawed across the glenoid fossa. Maturation data was not available.

Sus scrofa (pig)

Sus remains were scarce (2) represented by one skull and a femur fragment. Saw and cut modifications were absent.

Caprinae (sheep and goat)

Caprinae remains included one tibia shaft and the distal fourth of a tibia which may represent the same individual. Saw and cut modifications were absent. Maturation data suggests the animal was more than 1.3 years old at death.

Anser sp.

Goose was represented by a single radius fragment.

Overall, the assemblage from the topsoil deposits represented a small amount of food refuse.

Area D, Excavation Unit 30S/535E (ER D3)

The deposits from ER D3 were excavated in a series of stratigraphic levels and arbitrary levels within these strata. The faunal assemblages from each level were small, and they are described below.

Level 1 (ER D3A), the uppermost unit, consisted of a brick pavement laid in a sand bed. This pavement covered the entire excavation area. Level 1 was undated, and the faunal assemblage from this level was small (6) and of little interpretive value (Table 9).

Level 2 (ER D3B), just below the Level 1 brick pavement consisted of fill deposits with brick rubble and other demolition debris. The faunal material from this level included only one bone fragment, and has little interpretive value (Table 9).

Level 3 (ER D3C) was composed of brown-orange mottled sandy clay with a coal-ash deposit in part of the excavation unit. The lower portion of the level rested on top of an earlier brick pavement. The refuse from this level was undated, and consisted of displaced refuse. The assemblage from Level 3 consisted of 47 bone fragments. The bone was a tan color. Shell material was absent. The assemblage was in poor physical condition. Cracks, splitting, peeling and abraded edges were common on bone specimens and indicative of surface weathering. Large domestic mammals remains were common (12). Indeterminable large mammal bones, which probably represent large domestic animals, consisted of 28 specimens of mostly rib and long bone fragments (Table 9). Only one wild animal bone was identified, consisting of an immature left femur of a rat.

Large domestic mammal remains from Level 3 included Bos tarus (8) and Caprinae (4). Sus (pig) remains were absent. Bos (cow) bones included only post-cranial fragments. This material was cut and sawed. A lumbar vertebrae fragment was split longitudinally, and one astrogalus was also split. An ilium and femur specimen were symmetrically sawed sections. The ilium section was a "sirloin roast" meat portion. The femur section probably representes the remains of a "round" or "sirloin" steak or roast from the "sirloin' or "round" portions and indicative of professionally butchered meat. Caprinae (sheep and goat) remains were represented by post-cranial remains, including twc limb extremety bones and sawed symmetrical sections from a femur and tibia. These sections represent steak or roast cuts from the "leg" portion of meat.

Other remains from Level 3 included only Gallus gallus (chicken) consisting of six specimens. These included a sternum, radius and four long bone fragments.

The Level 3 assemblage did not exhibit evidence of scavenging, and burnt and incinerated bone was absent. Overall, the assemblage represented a small food refuse deposit.

Level 4, (ER D3D) was possibly the sand bed for the lower brick pavement uncovered in the excavation unit. The fill from this deposit was undated,

TABLE 9. Faunal Analysis: Area D, Excavation Unit 30S/535E (ERD3)

	Level: 1	2	3A	3B	4	5	6A	6B	Topsoil Level: 7	10A	10B	Total
Bos			1	7	7			6		6		27
Sus		1			1						1	3
Caprinae			4		2					2		8
Ovis										1		1
Large mammal bone												
Long bone fragment			7	2	3		1	1	1	12	9	36
Rib	1		1	17	6	1					2	28
Vertebrae				1					1			2
Small mammal bone												
Ondatra	1											1
Rattus			1									1
Bird												
Gallus			6		3		1			1	3	14
Meleagris	1											1
Anser	1											1
Turtle												
Trionyx	1											1
Turtle	1											1
	6	1	20	27	22	1	2	7	2	22	15	

Total Assemblage: 125

and contained a small faunal assemblage (22). The material was in good condition, and tan in color. Most of this material was from domestic animals, including large mammals and birds (Table 8). Bos tarus remains included only post-cranial bone fragments, consisting of rib and long bone specimens. Two of the long bone fragments were sawed. Sus scrofa was represented by only one phalange fragment. This specimen exhibited rodent gnawing marks. Caprinae remains consisted of a rib fragment and a proximal end of a right metacarpal. Indeterminable large mammal bones (probably domestic) included rib and long bone fragments. The only other bone refuse from Level 4 included three fragments of Gallus gallus. The bones included a rib and sternum fragment and the proximal half of a tibio tarsus which was snapped at midshaft.

The assemblage from Level 4 exhibited no evidence of burnt or incinerated bone. Evidence of carnivore scavenging was absent. Overall, the assemblage consituted a small sample of food refuse.

Level 5 (ER D3E) represented material from a pipe trench. The refuse from this deposit was disturbed and of unknown origin. Only one bone element was recovered, which had little interpretive value.

Level 6 (ER D3F) was composed of mottled yellow clay fill situated below the lower brick pavement and above the original topsoil deposit. This deposit was undated and consisted of nine bone fragments. The remains were in good physical condition and were tan in color. As such, the assemblage has little interpretive value. Most of the material represented domestic animals. Wild animal remains were absent. Bos tarus (cow) bones included six specimens consisting of one molar fragment, two vertebrae, two ribs, and a metacarpal fragment. One lumbar vertebrae was split. The only other identified specimen was a sternum fragment of Gallus gallus (chicken). Evidence of burnt, incinerated and scavenged bone was absent. The Level 6 assemblage represented a very small amount of food refuse.

The bone remains from Level 7 (ER D3G) included only two specimens, and have limited interpretive values.

Level 10 (ER D3Z) represented the original topsoil deposit in the excavation unit 3. This assemblage has a MCD of 1810. The deposit was excavated in two arbitrary levels (ER DB21 and 22), and were composed of gray-brown sediments. The bone remains were in good physical condition and tan in color. The assemblage consisted of 37 specimens, and large domestic mammals were the most commonly identified remains. Indeterminable remains included mostly long bone fragments of large mammals which probably represent large domestic species. Wild animal remains were not identified in the collection.

Burnt, incinerated and scavenged bone was not observed. Bos tarus (cow) remains included six specimens consisting of one skull fragment, three vertebrae fragments and a tibia and metatarsal fragment. Two of the vertebrae were split and the tibia fragment was cut. Sus scrofa (pig) remains consisted of one specimen, a proximal rib fragment which was cut and snapped in two. Caprinae (sheep-goat) remains included one split vertebrae fragment and an ishium fragment. One Ovis aries (sheep) bone was idenified and consisted of a sawed proximal scapula fragment probably representing a "blade chop" cut

from the "square-cut shoulder" portion of meat. Gallus gallus (chicken) bones included thoracic and pelvic long bone fragments represents "wing" and "leg" meat portions. Overall, the assemblage has little interpretive value, and represented a small sample of food refuse.

Area D, Excavation Unit 30S/525E (ER D9)

The bottom of this excavation unit (D9Z) consisted of the original topsoil dating around 1797 (MCD). The deposit was composed of gray-brown sandy clay and contained secondary refuse. The topsoil was excavated in three arbitrary levels (ER D9Z1, Z2, Z3), which were considered collectively since the assemblages from each level were undifferentiated (Table 9).

The bone assemblage from the topsoil deposit was in good physical condition and bone color was light brown to tan. The bone exhibited little evidence of weathering, but was very fragmented -- consisting mostly of large mammal rib and long bone fragments.

The assemblage (Table 10) totaled 132 specimens, and all the identified remains were domesticated animals including large domestic mammals and birds. The indeterminable remains most likely represented large domestic mammals. Wild animal remains were not identified in the assemblage. Shell material was absent.

Evidence of burnt, incinerated or scavanged bone was absent. Cut bone was not observed. Overall, the assemblage represent a deposit of food refuse. A detailed description of the material follows below.

Bos tarus (cow)

B. tarus remains included 17 fragments consisting only of post-cranial bones. Common bones were vertebrae and pelvic limb bone fragments. Vertebrae included cervical and lumbar fragments of mature and immature individuals. Pelvic limb bones were mostly extremeties, including calcanius, tarsals and a metatarsal. Two femora fragments were also recorded. An ilium specimen consisted of a symmetrically sawed section representing the remains of either a "pin bone sirloin" steak or roast cut from the "sirloin" portion of meat. The femora fragments may represent "round" roast cuts. The maturation data indicated that one individual was more than 3 years old at death. However, there were two vertebrae epiphyses recorded in the assemblage which may represent a younger individual.

Sus scrofa (pig)

Sus remains were rare in the assemblage represented by only four specimens including a maxillary fragments, two radii and one femur fragment. Cut or sawed bone was absent.

TABLE 10. Faunal Analysis: Area D, Excavation Unit 30S/525E (ERD9)

	Topsoil Level: 1	2	3	4	5A	5B	Total	Topsoil Level: 10A	10B	10C	Total
Bos	13	2	2				17				
Sus	2	1	1				4				
Caprinae	2	10					12				
Large mammal Long bone fragment	28	13	6				47				
Rib	17	16	15				48				
Gallus	1						1				
Bird sp.	2		1				3				
	65	42	25								

Total Assemblage: 132

Caprinae (sheep and goat)

The remains of Caprinae consisted of 12 fragments representing post-craninal specimens. Cut or sawed bone was absent. Most of the specimens were rib shaft fragments (7). A radius shaft and two innominate bones were recorded as well as a femur and tibia fragment. These specimens are associated with areas of meat concentrations on the animal including the "shank", "sirloin" and "leg" portions.

Gallus gallus (chicken)

Chicken remains included only one sternum fragment. There were also three indeterminable bird specimens (Table 10).

Additional material included, as noted above, indeterminable large mammal bones consisting of long bone (47) and rib (48) fragments. One long bone fragment was sawed.

Area E, Excavation Unit 50N/515E (ERE2)

The unit was comparatively small, measuring 5' x 5' (most units were 10' x 10'), and thus the faunal sample was small as well (111). The deposits were excavated in stratigraphic layers and arbitrary levels within these layers. The upper levels were disturbed, displaced refuse and rubble deposits and were not included in the analysis. Level 3 (ERE2C) was the original topsoil level. Below Level 3, Levels 4 (ERE2D) 5 (ER E2E) were excavated. Each level is described in detail below. It should be stressed that the level assemblages were small and have only general interpretive value (Table 11).

Level 3

Level 3 constituted the original topsoil of the excavation unit. This deposit was recorded only in the north end of the excavation unit, and thus it is not surprising that the assemblage is small (64). The topsoil assemblage had a MCD of 1793 and may be mixed with some fill deposits from above.

The assemblage was in poor physical condition. The bone color was brown. The assemblage was highly fragmented with specimens exhibiting cracks, splitting and edge abrasions. Many fragments consisted of only the inner, spongy-looking, cancellous bone with the outer, dense compact bone completely or partially missing. This indicated extensive post-depositional deterioration due to weathering and soil creep.

The entire assemblage (64) consisted of large mammal remains. Due to the poor condition of the bone only one specie Bos tarus could be identified with certainty (Table 10). The indeterminable remains were mostly fragments of large mammal long bones and ribs, probably representing large domestic mammals. Wild animals remains were not identified in the assemblage. Bird remains, which were common in other assemblages were not recorded.

Evidence of burnt, incinerated or scavenged bone was absent. Cut and saw modifications on bones were not observed.

Overall, the assemblage represents a small sample of food refuse. This material is discussed below.

Bos tarus (cow)

The remains of Bos included six specimens consisting of cranial and post-cranial bone fragments. The cranial material consisted of one immature mandibular molar fragment. Post-cranial remains included fragments of one carpal, one rib (shaft), one left ilium and long bones. The bones were too fragmentary for a discussion of food processing (Table 11).

TABLE 11. Faunal Analysis: Area E, Excavation Unit 50N/515E (ERE2)

	Level: 3A	4	5B	5C	Total	Topsoil Level: 10A	10B	10C	Total
Bos	6	4	3		13				
Caprinae		1			1				
Large mammal bone									
Long bone fragment	28	3	11	6	48				
Rib	30		9		39				
Vertebrae		3	1		4				
Small mammal bone									
Felis			1	3	4				
Turtle				1	1				
Fish				1	1				
	64	11	25	11					

Total Assemblage: 111

Level 4 to 5

Levels 4 to 5 were situated below Level 3, and were composed of mottled tan clay and gray brown sandy clay. They were defined as a single unit and dated to the late eighteenth century.

The assemblage was in poor physical condition, and the bone color tan to brown. The bone specimens exhibited splitting, cracking, and peeling of the compact bone surface. The assemblage was highly fragmented with only a few large pieces of bone. These characteristics are indicative of bone material exposed to extensive post-depositional weathering. The assemblage was probably exposed on the surface for a period of time before final deposition (Table 11).

Evidence of burnt, incinerated or scavanged bone was absent. Sawed and cut bone was not recorded.

The assemblage consisted of 47 specimens of mostly large mammal remains. Due to the deteriorated and fractured condition of the bones, the majority of the assemblage consisted of indeterminable large mammal remains including mostly long bone and rib shaft fragments. These specimens probably represent the remains of large domestic animals which were common in the collection. Only two elements were identified as wild animal remains including a turtle and fish. Bird remains were absent. Shell material was not observed (Table 11).

Overall, the assemblage represented the remains of a small sample of food refuse. The material is discussed in detail below.

Bos tarus (cow)

B. tarus remains totaled only seven fragments including only post-cranial material. Most of the specimens were thoracic and pelvic limb bone fragments representing a scapula, ulna, femur and tibia. These bones and an ilium fragment are associated with meat concentrations on the body including the "round", "sirloin", "hind shank", and "square-cut chuck" meat portions. The limited maturation data indicated that one individual (MNI) was at least 3.5 years old at death.

Caprinae (sheep and goat)

Only one element, a rib shaft, was recognized as Caprinae.

Felis domesticus (cat)

Felis remains included four specimens consisting of right and left mandibular, a scapula fragment and a metatarsal fragment. The remains represented

an adult individual and constituted a pet and/or a scavenger.

Turtle sp.

Turtle remains consisted of one plastron fragment too deteriorated for specific identification. The fragment probably represents a box turtle.

Fish sp.

Only one fish bone, a vertebrae, was recovered.

Area E, Excavation Unit 60N/505E (ER E3)

This unit was small, measuring 5' x 5', and the corresponding formal assemblage was also small (72). Only Levels 2A (ER3B1) and 3A (ER 3C1) contained faunal remains. Each level is discussed below but it should be stressed that the assemblage from these levels were small, and have limited interpretive value.

Level 2

Level 2, consisted of fill deposits composed of tan-gray sandy clay sediments mixed with refuse and demolition debris. The deposit was undated.

The assemblage was in poor physical condition, and the bone specimens were cracked, split and pitted. The compact bone layer of many long bone fragments was peeling off in thin sheets. The assemblage was very fragmented with few large bone specimens (Table 12). These characteristics are indicative of an open depositional environment where bone refuse was unprotected, and exposed to considerable post-depositional weathering and decomposition prior to final deposition. The color of the bone was light brown to tan.

Evidence of burnt, incinerated or scavenged bone was absent. Sawed and cut bone also also absent.

The assemblage consisted of 31 specimens all of which were large mammal remains. Bos and Sus remains were indentified (4) but most of the assemblage consisted of indeterminable large mammal long bone, rib shaft and vertebrae fragments (27). That material probably represented large domestic mammals. Wild animal remains were not identified in the assemblage.

Overall, the assemblage apparently constitutes a small sample of food refuse. Bos tarus (cow) remains included three fragments from a humerus, ilium and calcanius. Sus scrofa was also identified but included only one mandibular premolar (Table 12).

TABLE 12. Faunal Analysis: Area E, Excavation Unit 60N/505E (ERE3)

	Level:			Topsoil Level:			
	2A	3A	Total	10A	10B	10C	Total
Bos	3		3				
Sus	1	3	4				
Caprinae		2	2				
Large mammal bone		1	1				
Long bone fragment		15	15				
Rib	25	13	38				
Vertebrae	2	1	3				
Bird		2	2				
Turtle		4	4				
	31	41					

Total Assemblage: 72

Level 3

Level 3, the original topsoil deposits was composed of gray-brown sandy clay. The deposit was excavated in two arbitrary levels but only 3A contained faunal material. Level 3A had a MCD of 1779.

The assemblage was in poor physical condition, characterized by split, cracked and pitted fragments. Much of the outer compact bone was peeling off many long bone fragments. The bone was colored tan or light brown and highly fragmented. Anticulation joints were rare on many of the specimens. Most of the fragments were from large mammal long bones, ribs and vertebrae. These attributes are indicative of bone refuse associated with an open depositional environment unprotected from post-deposition weathering prior to final deposition.

Evidence of burnt, incinerated and scavenged bone was rare. Cut and sawed bone was absent.

Level 3 was very different from Level 2 in the types of animals identified in the assemblage. Unlike Level 2, the remains in Level 3 included Caprinae, however, Bos was absent. Bird and turtle remains were also identified. (Table 12).

The most common material from Level 3 was large mammal remains (35). Large domestic mammal bones were common, including those of Sus and Caprinae. Most of the large mammal remains were indeterminable but probably represented large domestic animals. Wild animal remains included bird (2) and turtle (4) bones.

Overall, the assemblage represented a small (41) sample of mostly food refuse. Sus scrofa (pig) remains included three fragments of a mandible, a humerous shaft, and a left tibia diaphysics. Limited maturation data indicates one individual (MNI) was less than 2 years old at death. Caprinae bones included only a immature mandibular molar and a femur shaft fragment. Other material included two indeterminalbe bird bones and four turtle elements consisting of two plastron and two long bone fragments. The turtle remains were of the terrestrial variety, possibly suggesting that a forested area existed nearby.

Area E, Excavation Unit 60N/525E (ER E4)

Although this excavation unit was comparatively small (5' x 5') the bone assemblage was quite large (347) and possibly indicates a high bone density area compared to most other units in Area E. Two undisturbed levels were excavated including Levels 3 (ERE4C) and 4 (ERE4D). Level 3 represented the original topsoil deposit. Level 4 was excavated into the subsoil but apparently included one bone fragment from the topsol layer. This specimen was included with the faunal remains from the topsoil deposits. The deposits from Level 3 were excavated in two arbitrary Levels (3A and B, ERE4C1 and C2), and are considered separately below.

Level 3A

This unit represented the upper portion of the original topsoil deposit, and had a MCD of 1803.

The bone assemblage was in good physical condition, and exhibited little evidence of weathering. Even though the assemblage was fragmented, many large pieces of bone were observed. Many of the long bone specimens were missing distal and proximal epiphyses. Rib shaft fragments accounted for 53% of the total assemblage, but proximal articulation joints were rare which was common for assemblage throughout the entire project area.

Evidence of burnt, incinerated or scavenged bone was rare. Sawed bone was absent and cutting rare.

The total assemblage from Level 3A consisted of 208 bone fragments. Shell material was not observed. Nearly the entire assemblage consisted of large mammal bones. Large domestic mammals were common, accounting for over 15% of the total assemblage. Indeterminable large mammal bones represented 81% of the total and included fragments of rib shafts, long bones and vertebrae. This material was probably the remains of large domestic mammals but was too fragmented to identify with certainty (Table 13). Wild animal remains were rare in the assemblage, including only several specimens of indeterminable bird bone.

Overall, the assemblage from 3A represented the remains of food refuse. The material is discussed in detail below.

Bos tarus (cow)

Bos tarus remains consisted of 12 fragments (Table 12). Both cranial and post-cranial elements were represented. Cranial remains included maxillary molars (4) and a premolar. Post-cranial bones consisted of scapula (2), phalange (2) and rib fragments (2). One scapula fragment was cut. This scapula is associated with meat concentrations on the body, and represents the "square-cut shoulder" meat portion. Specialty meat cuts may have included "blade pot-roasts". Rib specimens consisting of proximal ends are usually associated with "rib" or "short loin" meat portions.

Sus scrofa (pig)

Sus scrofa bones included 10 specimens of mostly post-cranial remains. Common specimens were pelvic limb bone fragments (5) including tibia and a fibula. These elements are associated with meat concentrations on the body, including both the "shank" half "hams". Cut and sawed bone was absent. The limited maturation data availabe indicated one individual (MNI) was less than 2 years old at death.

Caprinae (sheep and goat)

The remains of Caprinae included 10 specimens and one element was identified specifically as Capra hirca (goat). The remains consisted of post-cranial fragments including mostly innominates and pelvic long bone specimens. These fragments were not cut or sawed. They are associated with meat concentrations on the body including the "loin" and "leg" meat portions. One complete radius was recorded representing the "shank" meat portion. The Capra specimen was a scapula fragment constituting the "shoulder" portion. The maturation data for Capranie was incomplete.

Gallus gallus (chicken)

G. gallus remains included the proximal half of right femur which was snapped at midshaft. Other bird remains consisted of indeterminable fragments.

Level 3B

Level 3B constituted the lower arbitrary level of the original topsoil. This deposit had a MCD of 1774 compared to 1803 for the upper level. Another difference between the assemblages was in the diversity of animal types identified. At least seven were recognized for Level 3B and only four in Level 3A.

The assemblage from Level 3B was in good physical condition, exhibiting little evidence of weathering. The bone color was brown. The assemblage consisted of many small fragments mostly of rib shafts and long bones. Shell remains were absent.

Burnt, incinerated and scavenged bone was not observed. Sawed bone was absent and cut specimens were rare.

The total assemblage from Level 3B consisted of 138 specimens representing at least seven species of animals. Large mammals remains dominated the assemblage accounting for 80% of the total. Large domestic mammals represented over 12% of the total (Table 13). Indeterminable large mammal remains accounted for 75% of the assemblage, and consisted of rib shafts (62), long bone (38) fragments and vertebrae (3). This material most likely represented large domestic mammals remains but was too fragmented for specific identification. Wild animal remains were rare, and included small mammal and bird bones.

Overall, the assemblage from Level 3B represented a sample of food processing refuse. This material is discussed below.

TABLE 13. Faunal Analysis: Area E, Excavation Unit 60N/525E (ERE4)

	Level: 3A	3B	4A	Total	Topsoil Level: 10A	10B	10C	Total
Bos	12	13	1	26				
Sus	10	3		13				
Caprinae	9	2		11				
Capra	1			1				
Large mammal bone								
Long bone fragment	57	38		95				
Vertebrae	3	3		6				
Rib	109	62		171				
Small mammal								
Felis		1		1				
Sciurus		1		1				
Bird								
Gallus	1	2		3				
Meleagris		3		3				
Anser		1		1				
Bird sp.	6	9		15				
	208	1387	1					

Total Assemblage: 347

Bos tarus (cow)

The remains of Bos tarus consisted of 14 post-cranial specimens. Common elements represented were vertebrae (6) and rib (4) fragments. Cranial and innominate remains were absent. Pelvic and thoracic limb fragments were rare. Three of the six vertebrae fragments were split. One specimen, an axis fragment, was cleaved widthwise. This resulted from the initial butchering of the animal when the head was removed. Thus both food and butchering refuse maybe represented in the assemblage. The vertebrae constitute the "rib" and "short loin" meat portions on the animal. Fragments of a scapula and humerus were also recorded. They represent the upper "shank" and " the square cut chuck" meat portions.

Sus scrofa (pig)

Sus remains were rare (3) and included a metacarpal, a calcanium and a tibula fragmented. The fibula represents the "shank half" of the "ham". The limited maturation data for Sus indicates one individual (MNI) that was less than 2 years old at death.

Caprinae (Sheep and Goat)

Caprinae bones included only two post-cranial specimens consisting of a vertebrae and ilium fragment. The ilium represents the "sirloin" roast area of the "leg" portion of meat.

Felis domesticus (cat)

Cat remains consisted of one maxillary canine. This individual was a pet and/or scavenger.

Sciurus carolinensis (Gray squirrel)

Sciurus remains included an adult left humerus. It was not possible to determine if the squirrel remains represented food refuse.

Gallus gallus (chicken)

The remains of G. gallus were rare, including two post-cranial specimens - a scapula and tibiatarsus fragment. The scapula was snapped at midshaft. These elements represent the "leg" and "back" meat portions.

Meleagris gallopavo (turkey)

There were three turkey post-cranial specimens recorded, including the proximal halves of a coracoid and scapula, and a tibia tarsus fragment. The coracoid and scapula were snapped at midshaft. The turkey remains constitute the "leg", "wing" and "back" meat portions.

Anser sp. (goose)

Goose remains included one humerus fragment snapped at midshaft. This specimen represents the "wing" meat portion.

Area E, Excavation Unit 60N/495E (ER E5)

The unit measuring 5' x 5', had a relatively small (66) faunal assemblage. Two levels, in the unit Levels 2 (ERE5B) and 3 (ER E5C) contained significant faunal material and are described below. It should be stressed that these assemblages were small and thus have limited interpretive value.

Level 2

Level 2 was a fill deposit overlying Level 3, the original topsoil. The fill represented refuse of unknown origin and was probably used to level-off the ground surface. This deposit was undated, and was composed of mottle gray-tan sandy sediments.

The assemblage was in poor physical condition characterized by cracked, split, and abraded bone fragments. The bone color was light tan. Many fragments exhibited pealing of the outer compact layer of bone. The assemblage was, also, very fragmented consisting of many small specimens. These characteristics are indicative of bone refuse from an open depositional environment, unprotected from extensive post-depositional weathering as well as water saturation.

Evidence of burnt, incinerated and scavenged bone was rare. Sawed and cut specimens were absent.

The total assemblage included only 15 specimens representing mostly large domestic mammals (12). Indeterminable large mammal remains included three rib shafts and two were incinerated. This material probably represented large domestic mammal remains (Table 14). Wild animal remains were not identified in the assemblage.

Overall, the assemblage represented a small sample of food refuse. The material is discussed below.

Bos tarus (cow)

B. tarus remains were the most common bones in the assemblage (10), and included cranial and post-cranial remains. Cranial elements included a mandibular molar and a maxillary fragment. Post-cranial specimens were mostly long bone fragments and a rib shaft. These specimens were unmodified.

Capra hirca (goat)

Capra remain were scarce, consisting of two post-cranial fragments, including an astragulus and long bone fragment.

TABLE 14. Faunal Analysis: Area E, Excavation Unit 60N/495E (ERE5)

	Level				
	2A	2B	3A	3B	Total
Bos	10		9	2	21
Sus			2	1	3
Caprinae			4		4
Capra		2			2
Ovis			1		1
Large mammal bone					
Long bone fragment			16	4	20
Rib	2	1	12	—	15
Total	12	3	44	7	

Total Assemblage: 66

Level 3

Level 3 represented the original topsoil deposits from ER E5, and had a MCD of 1771 (Level 3A). The deposit was composed of dark, mottled sandy soil.

The assemblage was in good physical condition, exhibiting little evidence of weathering. The bone color was brown. The quality of preservation probably resulted from rapid deposition, sealing-off the refuse from extensive weathering and decompositional deterioration. The assemblage was very fragmented, consisting mostly of large mammal rib shaft and long bone fragments.

Evidence of burnt, incinerated or scavenged bone was rare. Sawing was absent and cutting rare.

The entire assemblage consisted of large mammal remains (51). Large domestic mammals were common, representing 37% (19) of the total. Indeterminable large mammal remains consisted of ribs shafts and long bone fragments and probably represented large domestic mammals. Wild animal remains were completely absent (Table 14).

Overall, the collection represented a small sample of food processing refuse, discussed below in detail.

Bos tarus (cow)

Similar to Level 2, the remains of Bos were the most commonly identified in the Level 3 assemblage (11). Cranial remains included a mandibular incisor and molars. Post-cranial bones were limb extremeties such as carpals and phalanges, and a femur fragment. One phalange was split longitudinally. This was due either to meat processing or the initial butchering of the animal. The abundance of limb extremeties probably suggests that the remains were from initial butchering. The limited maturaion data suggested that at least one individual (MNI) was more than 2 years of age at death.

Sus scrofa (pig)

Unlike Level 2, Sus remains were identified in the Level 3 assemblage (3). Cranial remains consisted of two mandibular incisors. Post-cranial bones included only the distal half of an immature left femur, representing the "ham" meat portion.

Caprinae (sheep and goat)

Caprinae remains totaled five specimens including one identified specially as Ovis aries (sheep). Cranial remains included one mandibular molar fragment. Post- cranial specimens consisted of an ishium fragment and the distal half of an Ovis humerus. There elements are associated with meat concentrations on the body including the "loin" and "shoulder" meat portions.

Area E, Excavation Unit 60N/520E (ER E7)

This unit measuring 5' x 5', produced a relatively large (300) faunal assemblage, indicating a dense bone deposit. Levels 2 (ER E7B) and 3 (ER E7C) yielded significant faunal remains, but due to the small size of the assemblages and the high number of indeterminable fragments in each they have limited interpretive value. Each level is discussed below.

Level 2

Level 2 consisted of fill deposits of unknown origin and were probably used to level-off the ground surface. The deposits were undated. This level was excavated in two arbitrary levels but only 2A contained faunal remains.

The assemblage from 2A was in good physical condition, consisting of many large bone fragments and exhibiting little evidence of weathering. The bone was dark brown to black usually indicative of water stained refuse from a closed depositional environment such as a privy, cistern or well deposit.

Evidence of burnt, incinerated or scavenged bone was absent. Cut bone was not observed, but sawed specimens were common.

The assemblage totaled 67 specimens and all were from large mammals, except three bird bone fragments (Table 15). Large domestic mammals remains included 10 fragments. Indeterminable large mammal remains totaled 54 specimens, and were probably from large domestic mammals. Wild animal remains were rare, including only several bird specimens.

The assemblage apparently constitutes a small sample of food processing refuse. The material is discussed in detail below.

Bos tarus (cow)

The remains of Bos tarus totaled only three specimens and included one mandibular incisor, a scapula fragment and a left tarsal fragment. The scapula was symmetrically sawed consisting of only part of the neck and glenoid fossa. This type of symmetrical sawing is indicative of professionally butchered meat, and was uncharacteristic of the Area E fill or topsoil deposits. This information indicates the Level 2 assemblage probably dates later than any of the other assemblages from Area E.

Sus scrofa (pig)

Sus remains consisted of five specimens. Most of the remains were teeth, including a first and second mandibular incisor, a mandibular canine and molar. It should be noted that nearly every assemblage included pig teeth

remains. These elements are usually discarded after butchering, and indicated part of the assemblage probably resulted from initial butchering activities. Also included was the distal half of a femur.

TABLE 15. Faunal Analysis: Area E, Excavation Unit 60N/520E (ERE7)

	Level				
	2	3A	3B	3C	Total
Bos	3		14	1	18
Sus	5		2	2	9
Caprinae	2		2		4
Capra			2		2
Ovis			1		1
Large mammal bone					
Long bone fragment	41		47	20	108
Rib	2		85	24	111
Vertebrae	11		8	5	24
Small mammal					
Felis				1	1
Bird					
Gallus			2		2
Bird sp.	3		9	2	14
Fish			3		3
Shell			3		3
Total	67		178	55	

Total Assemblage: 300

Caprinae (sheep and goat)

Caprinae remains included only two specimens, a right humerus fragment and the distal half of an immature metatarsal. This element represents an individual that was less than 1.8 years old at death.

Bird remains consisted of the long bone fragments (3).

Level 3

The deposit from Level 3 represents the original topsoil from unit ERE7, and was composed of dark organic soil. The deposit was excavated in three arbitrary levels (3A, 3B, and 3C), but only Levels 3B(ER E7C2) and 3C (ER E7C3) contained faunal remains (Table 14). The assemblage from Level 3B was disturbed, and was probably mixed with refuse from Level 2 -- especially

since it contained a symmetrically sawed rib shaft similar to that recorded in the Level 2 assemblage. Although most of the Level 3B remains were probably from the topsoil deposit, the assemblage will be considered separately from the 3C material.

Arbitrary Level 3B

The Level 3B assemblage was in poor physical condition similar to the remains from Levels 3C. Like Level 3C, the bones from 3B were pitted from fungus activity, cracked, split and colored dark brown or black. The bone was highly fragmented with few large specimens. The dark color of most bone specimens was indicative of waterlogging. This conclusion was supported by the evidence for extensively waterlogged bone specimens from Level 3C. It was apparent that originally Levels 3B and 3C were the same deposit, but the Level 3B refuse was disturbed and mixed with Level 2 deposits prior to final redeposition.

Evidence of burnt, incinerated or scavenged bone was absent. Sawed and cut bone was rare.

The total assemblage from Level 3D included 178 bone specimens and three shell fragments. The assemblage consisted of at least seven different species compared to four in the Level 3C assemblage. As usual, large mammal remains were abundant, representing 90% (161) of the total assemblage. The bulk of this material consisted of indeterminable large mammal bones (79%/140) that most likely represented domestic mammals, but were too fragmentary to identify with certainty. Large domestic mammals remains were common, represented by four species. Wild animal remains were rare, but more common compared to other assemblages from Area E. They included birds, fish and shellfish representing small species.

Overall, the assemblage from Level 3B, represented the remains of food processing activities and food refuse. This material is described in detail below.

Bos tarus (cow)

The remains of Bos tarus (14) included cranial and post-cranial specimens. Cranial elements consisted of mostly teeth, including two mandible fragments (one with a second premolar), a maxillary and madibular premolar, and two first and two second mandibular molars. Although fragmented, a number of the individual teeth appeared to fit the mandible fragments described previously. A variety of post-cranial remains was recorded, including a rare sternum fragment and a tarsus fragment. The sternum specimen was the only element of this type found in the entire project area. It is noteworthy that the teeth, mandibles, tarsus and sturnum represent elements usually discarded after the initial butchering of animal, and thus they probably resulted from initial food processing activities. Other post-cranial remains included a scapula, an ulna and long bone fragments. The scapula fragment was broken off at the

neck just below the glenoid fossa. A split thoracic vertebrae fragment was also recorded, and represented the "loin" meat portion of the cow.

Sus scrofa (pig)

Sus scrofa remains consisted of only two elements, including a phalange and fibula fragments. Fibula fragments were uncommon compared to other assemblages, and were only recorded from Area E. The phalange and fibula represent areas of minimal meat concentrations on the body, and were probably refuse discarded after initial butchering.

Caprinae (sheep and goat)

The remains of Caprinae consisted of five specimens and two were identified specifically as Capra hirca (goat) and one as Ovis aris (sheep). This material will be collectively discussed below.

Capriane remains included only post-cranial specimens, and consisted of a rib shaft fragment and the distal half of a left humerus. The Capra and Ovis specimens consisted of limb extremeties including a calcanius and two astraguli. These elements are associated with little meat, and probably represent refuse discarded after initial butchering.

Indeterminable large mammal bones

One note of interest regarding this material was the abundance of rib shaft fragments. The rib shafts are associated with rib cuts such as "short ribs" or "spare ribs", and probably represented food refuse.

Gallus gallus (chicken)

G. gallus remains were rarely identified in the assemblages from Area E. Here, only two specimens were recorded, including a right scapula and an acetabulum fragment from the pelvis.

Fish sp.

Only three fish elements were recorded, consisting of a skull, rib, and ray fragment. Shellfish remains included three indeterminable fragments.

Arbitrary Level 3C

The topsoil deposit from Level 3C had a MCD of 1762. The assemblage was in poor physical condition. As noted before, the material shares a number of characteristics with the assemblage from Level 3B, and probably represented the same deposit. The bones from Level 3C were pitted and discolored from fungus activity and many specimens were abraded. The bone color was primarily dark brown or black, but many specimens exhibited alternating dark and light areas. Many specimens were also coated with unknown material. The assemblage was highly fragmented, consisting mostly of long bone and rib fragments. These characteristics are similar to those of discolored waterlogged privy deposits or some feature associated with stagnant water. The deposits were apparently exposed to intermittent wet and dry conditions.

Evidence of burnt, incinerated, and scavenged bone was absent. Sawed specimens were absent, and cut material was rare.

The assemblage from Level 3C included 55 specimens, mostly from large mammals (52). The bulk of the assemblage consisted of indeterminable large mammal remains, including rib shaft (24), long bone (24), and vertebrae (5) fragments. This material probably represented domestic mammals. Large domestic mammal remains were from Bos tarus and Sus scrofa. Wild species specimens included only two indeterminable bird fragments.

Overall, the assemblage constituted a small sample of material from food processing activities and food refuse. Bos tarus (cow) remains included one split astragulus probably representing the debris from initial butchering activities. Sus scrofa (pig) remains consisted of a mandibular incisor fragment and the distal exiphysis of a right humerus. The only other identifiable specimen was a left adult tibia of Felis domesticus (cat) representing a pet and/or scavenger.

Area E, Excavation Unit 55N/510E (ER E12)

This unit, measuring five feet by five feet, contained a small faunal assemblage consisting of 77 specimens (Table 16). Two levels, Levels 2 (ER E12B) and 3 (ER 12C), yielded significant faunal deposits. They are described below in detail. It must be stressed that the assemblage from each level was small and thus has limited interpretive value.

Level 2

Level 2 represented a fill deposit from the unit consisting of refuse of unknown origin. The deposit was composed of mottled tan and white clay, and was undated.

The faunal assemblage from Level 2 was in poor physical condition with bone specimens exhibiting cracking, splitting, and peeling of the outer dense

compact bone layer. The bone color was mostly tan. The assemblage was very fragmented, exhibiting few large bone pieces or specimens with articulation joints. These characteristics are indicative of faunal remains associated with an open depositional environment that were exposed to surface weathering for some period prior to finial deposition. The pealing of compact bone is associated with waterlogging.

TABLE 16. Faunal Analysis: Area E, Excavation Unit 55N/510E (ERE12)

	Level				
	2	3A	3B	3C	Total
Bos	2	7	1		10
Sus		1			1
Caprinae	1	6	2		9
Ovis		1			1
Large mammal bone					
Long bone fragment	5	7	5		17
Rib	6	11	3	3	23
Vertebrae	1	4			5
Small mammal			1		1
Bird sp.		5	1		6
Fish		4			4
Total	15	46	13	3	

Total Assemblage: 77

Burnt, incinerated, and scavenged bone specimens were absent. Sawed bone was not observed and cutting was rare.

The total assemblage consisted of 15 specimens, all representing large mammal remains. Most of the specimens were indeterminable fragments of rib shafts and long bones, and probably represented large domestic mammals. Bos tarus was the only identified species. Wild species were not represented.

The assemblage represented the remains of food processing activities and food refuse. Bos tarus (cow) bones included a cut ulna shaft and a right astragulus. These elements are not associated with meat concentrations, and the limb extremities are often discarded after initial butchering. One Caprinae bone, a femur shaft, was recorded, and represented the "leg" portion of meat.

Level 3

This level is the original topsoil from ER E12, and was composed of a gray-brown sandy clay. One of the deposit's three arbitrary levels produced a MCD of 1770.

The assemblage from Level 3 was in good physical condition. A few specimens exhibited pitting from fungus activity. The bone color was light tan. The assemblage was very fragmented with few large bone specimens. Although the assemblage was associated with an open refuse deposit, the faunal material exhibits minimal evidence of external weathering and suggests that the refuse was covered over rapidly.

Evidence of burnt, incinerated or scavenged bone was not observed. Sawed specimens were absent, and cut bone was rare.

The assemblage consisted of 62 bone specimens. Large mammal remains were most common and represented 82 percent (51) of the total assemblage. Of the total, large domestic mammal remains constituted 29 percent (18), and were the most commonly identified species in the assemblage. Indeterminable large mammal bones constituted 53 percent (33) of the total, and, most likely, represented the remains of large domestic mammals. The remains of wild species were rare and included bird and fish bones.

The assemblage from Level 3 was a small sample of bones from food processing activities and food refuse. This material is discussed below in detail.

Bos tarus (cow)

Bos remains totaled eight post-cranial specimens, including vertebrae (3), ulna (1), rib shaft (1), innominate (1), and femur (1) fragments. One (1) complete carpal specimen was also recorded. Some of the bone specimens probably resulted from initial butchering activities. The cervical vertebrae are usually removed with the head and discarded. The carpal and ulna are associated with very little meat compared to other elements, and are often cleaned and discarded after butchering. It is interesting that ulnas have been recovered in many assemblages from Area E, but were extremely rare or absent in all the other project areas. The lumbar vertebrae, femur, and innominates are associated with areas of meat concentration on Bos tarus, including the "short loin", "sirloin", and "round" meat portions.

Sus scrofa (pig)

Only one fragment of Sus was recorded in the assemblage, consisting of a mandibular incisor fragment. Again, it is noteworthy that Sus teeth were very common in assemblages from Area E, and represent refuse usually discarded after the initial butchering of the animal.

Caprinae (sheep and goat)

Caprinae remains were very common, consisting of nine post-cranial specimens. One fragment was identified as Ovis aries (sheep). Rib shafts and long bone fragments were common. Two femur fragments were recorded, and one specimen

was cut. Femora represent an area of meat concentration on the body and include the "round" meat portion. One (1) radius shaft was observed and represents the "shank" portion of meat. The ovis specimen was a left calcanius, usually disgarded after initial butchering. The maturation data for the calcanius suggested the sheep was more than three years old at death.

Bird spp.

Two types of small birds were represented by long bone fragment, but were too deteriorated for specific identification.

Fish spp.

At least two fish species were represented, including deteriorated skull, operculum, and ray fragments.

Excavation Unit 55N/500S (ER E13)

This unit, measuring five feet by five feet, produced a relatively small assemblage consisting of 83 bone specimens (Table 17). Levels 2 (ER E13B) and 3 (ER E13C) in this unit yielded significant faunal material and are described below. It should be stressed that these assemblages were small, and thus have limited interpretive value.

Level 2

Level 2 consisted of fill composed of mottled tan clay sediments. This deposit was probably used to level off the ground surface. The fill thus represented displaced refuse of unknown origin and was undated.

The bone remains from Level 2 were in good physical condition, exhibiting some evidence of weathering including surface cracks and splitting. The bone color was brown and the assemblage was very fragmented with few large bone specimens. The quality of bone preservation was probably the result of the rapid deposition of the refuse, allowing only minimal post-depositional deterioration. The condition of the assemblage was not indicative of assemblages from other units in Area E.

Evidence of burnt, incinerated, and scavenged bone was rare. Cut and sawed bone was absent.

The entire assemblage (20) consisted of large mammal remains, except one indeterminable bird bone. Three fragments were identified as large domestic mammal. Indeterminable large mammal remains (16) included rib shaft and long

bone fragments, and probably represented large domestic mammals. Wild animal remains included one bird bone.

Overall, the assemblage constituted a small sample of food processing refuse. Bos remains were absent. Sus scrofa remains included only a mandibular premolar fragment. Caprinae specimens consisted of a rib shaft and a proximal tibia epiphysis fragment. Bird material included only a tibiotarsus fragment.

TABLE 17. Faunal Analysis: Area E, Excavation Unit 55N/500S (ERE13)

	Level 2A	2B	3A	Total
Bos			4	4
Sus		1	2	3
Caprinae		2		2
Large mammal bone				
Long bone fragment	4	6	16	26
Rib	6		34	40
Vertebrae			4	4
Small mammal bone				
Felis			1	1
Bird sp.	1		1	2
Turtle			1	1
Total	11	9	63	

Total Assemblage: 83

Level 3

Level 3 represented the original topsoil deposit and had an MCD of 1764. The deposit was composed of a gray-brown sandy clay.

The assemblage was in good physical condition, exhibiting little evidence of weathering. The bone color was brown and the assemblage was very fragmented with few large bone pieces. Evidence of burnt, incinerated, or scavenged bone was absent. Sawed and cut bone was not observed.

The most common remains in the assemblage were from large mammals (54), consisting mostly of indeterminable rib shaft and long bone fragments. This material, which most likely represented large domestic mammals, included six specimens. Wild animal remains included one bird and a turtle fragment.

Overall, the assemblage represented a small sample of mostly food processing refuse and is discussed below in detail.

Bos tarus (cow)

The remains of Bos tarus included four specimens, composed of one maxillary fragment and a phalange, a carpal, and a proximal rib fragment. It is interesting that limb extremities were abundant in this assemblage as well as other topsoil collections from Area E, and may be the refuse from initial butchering activities.

Sus scrofa (pig)

Sus remains included two mandibular incisors. Similar to other assemblages from Area E, Sus teeth were very common and represent remains usually discarded after the initial butchering of the animal.

Felis domesticus (cat)

Cat remains included the proximal half of an adult left ulna, and represented a pet and/or scavenger.

Bird sp.

Bird material consisted of one humerus shaft fragment.

Turtle sp.

Turtle bones included one indeterminable carapace fragment.

Large mammal sp.

The abundance of rib shaft fragments is noteworthy. Rib shaft fragments were abundant in all of the topsoil deposits, and probably represent "short rib" and "rib roast" cuts from the "rib" and "short plate" meat portions.

Area E, Excavation Unit 55N/530E (ER E14)

This excavation unit measured five feet by five feet and the corresponding assemblage was also small, totaling 193 specimens (Table 18). The assemblage was recovered from Level 3, which was excavated in four arbitrary levels. However, the deposits from Level 3A (ER E14C1), the uppermost arbitrary level, were dated much later than those from the lower levels. Consequently,

the assemblage from Level 3A will be considered separately. It should be noted that the assemblages from Levels 3A and 3B to D (ER E14C2 to C4) were small and thus have limited interpretive value. The assemblages are discussed below.

TABLE 18. Faunal Analysis: Area E, Excavation Unit 55N/530E (ERE14)

	Level				
	3A	3B	3C	3D	Total
Bos	1	2	2	16	21
Sus	2		1	2	5
Caprinae	2		1		3
Large mammal bone					
Long bone fragment	15	14	10	3	42
Rib	17	2	19	63	101
Vertebrae	3			17	20
Bird			1		1
Total	40	18	34	101	

Total Assemblage: 193

Level 3A

This level represented the uppermost portion of the original topsoil deposit in the excavation unit. The deposit had a MCD of 1808, somewhat later than Levels 3B to 3D (1775, 1764, and 1745).

The assemblage from Level 3A was in poor physical condition. The bone specimens were cracked, split, and abraded. Many specimens exhibited pealing of the dense, outer compact bone layer. The bone color was generally brown to dark brown with some lighter colored pieces. The assemblage was very fragmented with few large pieces of bone. Most specimens were rib shaft and long bone fragments from large mammals. These characteristics were indicative of refuse exposed to external weathering which was not surprising since the deposits were associated with an open depositional environment. The peeling and darker color of the bone also indicated waterlogging.

Burnt, incinerated, and scavenged bone was not recorded. Sawed specimens were absent and four specimens were cut.

The total assemblage consisted of 40 specimens, all from large mammals. Large domestic mammals were the only identified species including Bos, Sus, and Caprinae. Indeterminable large mammal bones represented the bulk of the assemblage (35). These included long bone (15), rib shaft (17), and

vertebrae (3) fragments, which most likely represented large domestic mammals. Wild species remains were not identified.

Overall, the Level 3A assemblage represented the remains of food processing activities and food refuse. Although dating later, the assemblage was not much different than that of Levels 3B to 3D except in the number of bone specimens (Table 18). Bos tarus remains included only one astragulus fragment, and probably represented refuse from initial butchering. Sus scrofa (pig) bones included one maxillary incisor and one phalange fragment. This material probably constitutes the remains of initial food processing. Caprinae (sheep and goat) specimens consisted of a split humerus and a rib shaft fragment. The humerus represents the "shoulder" meat portion.

Levels 3B to 3D

The bone remains from Levels 3B to 3D were undifferentiated and were considered as a single unit. The deposits were composed of gray-brown sandy clay with MCDs of 1772 (Level 3B) 1750 (Level 3C), and 1745 (Level 3D).

The assemblage was in poor physical condition. The bone specimens were cracked, split, and pitted from fungus activity. Many specimens exhibited peeling of the dense, outer compact bone layer. In addition, the fragmented bone consisted mostly of smaller rib shaft, long bone, and vertebrae specimens. The bone color was mostly brown to dark brown but many specimens from the lowest part of the deposit (Level 3D) were lighter colored. This material was probably leached by subsoil deposits. The preceding characteristics are indicative of refuse exposed, in open deposits, to external weathering for some time prior to final deposition. The dark bone color and peeling also suggested possible waterlogging.

Evidence of burnt, incinerated, and scavenged bone was rare. Sawed bone was absent but cut specimens were common.

The assemblage consisted of 153 bone specimens. Similar to Level 3A, the assemblage from Levels 3B to 3D included only large mammal remains, excluding one bird element. Large domestic mammals were common, representing 16 percent (24) of the total. Due to the fragmented condition of the remains, indeterminable large mammal bones constituted the bulk of the assemblages (84 percent), but probably represented large domestic mammals. Rib shaft fragments were especially common in this assemblage, representing 55 percent (84) of the totals. They probably represented food refuse from the "rib meat portions. As noted previously, the remains of wild species were not identified (Table 18).

Overall, the assemblage constituted the remains of food processing activities and food refuse. The remains are discussed below in detail.

Bos tarus (cow)

Bos tarus remains were abundant and consisted of 20 specimens. Cranial remains included one maxillary molar fragment. Common post-cranial specimens were vertebrae (12). All the vertebrae were split, the result of cleaving along the vertebral column producing two equal halves of the animal. A split tarsal and phalange were also recorded, and were probably used for stewing. A split femur fragment represents the "round" portion of meat. The proximal end of a rib and one distal fragment of a scapula exhibited cutting. They represented refuse from the initial disarticulation of the animal and/or "rib" and shoulder cuts of meat. The molar and a carpal were probably refuse from initial butchering.

Sus scrofa (pig)

The remains of Sus scrofa consisted of three post-cranial specimens including one scapula, one humerus, and one long bone fragment. The scapula and humerus are associated with meat concentrations including the "Boston butt" and "picnic" meat portions.

The maturation data for at least one individual (MNI) suggested an age of less than one year at death.

Caprinae (sheep and goat)

The remains of Caprinae included only the distal half of a right humerus, and is associated with the "shoulder" portion of meat.

Bird sp.

One bird fragment was recovered and probably represented a chicken, but was too deteriorated for specific identification.

Area E, Excavation Unit 55N/515E (ER E15)

This unit was comparatively small measuring five feet by five feet, but the associated assemblage was comparatively large consisting of 203 specimens (Table 19). The deposit was excavated in several natural and arbitrary levels. Levels 3, 4, and 5 (ER E15C, D, and E) contained significant faunal remains, and are considered below in detail. However, it is noteworthy that the assemblages from these levels were incomplete due to the previous looting of a double- barrel privy, leaving only a quarter of the original deposit in the unit to be excavated.

TABLE 19. Faunal Analysis: Area E, Excavation Unit 55N/515E (ERE15)

	Level: 3A	3B	4	5A	5B	5C	5D	5E	Total
Bos	1	6	1	4	2		9	7	30
Sus	6	3		2			1	1	13
Caprinae	5	1		1	3		2	3	15
Large mammal bone									
Long bone fragment	9	11		9	3	2	3	6	43
Rib	25	15	5	15	4			5	69
Vertebrae									
Small mammal bone									
Small mammal sp.		1	1					2	
Sciurus	6	1							7
Bird									
Gallus	1	1	3				2	3	10
Anser		1							1
Bird sp.	9	4							13
	62	43	9	32	13	2	17	24	

Total Assemblage: 203

Level 3

This strata represented the upper portion of the original topsoil, but was different than the Level 3 strata in other excavation units from Area E. In fact, none of the strata from this excavation unit correlated with the stratigraphy in other units from Area E. This was probably related to the construction and destruction of the barrel privy in the unit.

Level 3 was excavated in two arbitrary levels (ER 15C1 and 15C2) with MCDs of 1798 and 1795.

The assemblage from Level 3 was in good physical condition, exhibiting little evidence of weathering, such as cracking, splitting, or peeling. The bone color was brown. The assemblage was very fragmented consisting mostly of large mammal rib shaft and long bone fragments. The quality of bone preservation in the assemblage probably resulted from rapid covering and sealing of the refuse, eliminating extensive deterioration other than fracturing.

Burnt, incinerated, or scavenged bone was rare in the assemblage. Sawed bone was absent and cut bone was uncommon.

The assemblage consisted of 105 specimens and 78 percent (82) were large mammal remains. The most common identifiable remains were of large domestic mammals (21 percent). Indeterminable fragments constituted 61 percent (60) of the total, but probably represented large domestic mammals. The remains of wild species were more common in this level than any other in Area E, but represented only 12 percent of the total and only two species -- including squirrel and bird (Table 19).

Overall, the assemblage represented the remains of food processing activities and food refuse. The material is discussed below in detail.

Bos tarus (cow)

B. tarus remains consisted of seven post-cranial specimens including vertebrae (3), phalange (2), and rib shaft (2) fragments. The vertebrae included thoracic (2) and lumbar (1) and were split longitudinally. They represent the "rib" and "short loin" meat portions produced after the animal is cleaned along the vertebral column. The phalanges (toe bones) are not associated with large meat portions, and are usually discarded after butchering. However, these specimens, consisting of thick dense bone, were fractured in half, and may have been processed for cooking in liquid (e.g. stewing)

Sus scrofa (pig)

Sus scrofa remains consisted of cranial (1) and post-cranial (8) specimens. The cranial fragment was a piece of nasal bone. The post-cranial specimens included fragments of vertebrae (3), a metacarpal and phalange, and ribs (3).

The vertebrae consisted of one atlas fragment and two split thoracic specimens. The split vertebrae represent the "loin" portion of meat and result from initially cleaving the animal along the vertebral column. The atlas is usually removed with the head, and probably represents refuse from the initial disarticulation of the animal during butchering. Likewise, the metacarpal, phalange, and nasal bone are elements usually discarded after initial butchering, but they were fractured and may have been used for stewing. The rib fragments included two proximal halves with the articulation joint intact. The rib head is difficult to remove from the vertebrae, and they are usually processed as a unit representing a variety of meat cuts from the "loin" meat portion of the back.

Caprinae (sheep and goat)

Caprinae remains included six post-cranial specimens. They consisted of three vertebrae, one radius, and two rib shaft fragments. The radius is associated with the "shank" portion of meat.

Sciurus carolinensis (gray squirrel)

Sciurus remains consisted of seven specimens apparently representing only one individual. The material included cranial and post-cranial remains. It was difficult to determine, with certainty, if the remains represented food refuse.

Gallus gallus (chicken)

Chicken remains were rare or absent in all the assemblages from Area E. Here, only two fragments were identified, including a scapula and phalange.

Anser sp. (goose)

Goose remains included only one proximal femur fragment, and probably represented food refuse.

Levels 4 and 5

Levels 4 and 5 apparently represented fill deposits associated with a barrel privy constructed within the original topsoil deposit. The privy, as mentioned previously, was disturbed by bottle collectors. Thus, based on the evidence, Levels 4 and 5 were considered as a unit and were dated to ca. 1753 and 1804 (MCDs). The deposit was composed of tan-brown sandy clay.

The assemblage from Levels 4 and 5 was in good physical condition. Only a few specimens exhibited evidence of weathering such as cracking, splitting, or peeling of the compact bone. The bone color was brown to dark brown. Although the remains were fragmented, there were many large pieces of bone with either the proximal or distal articulation joints intact.

Evidence of burnt, incinerated, or scavenged bone was rare. Sawed bone was absent, and only one specimen was cut.

The assemblage from Levels 4 and 5 totaled 98 specimens, and large mammal remains represented 90 percent (88) of the total. Large domestic mammal remains were common and constituted 37 percent (36) of the total. Indeterminable large mammal bones constituted 53 percent (52) of the assemblage and most likely represented large domestic mammals. Wild species remains were rare, including only two small mammal fragments (Table 19).

Overall, the Levels 4 and 5 assemblage represented remains from food processing activities and of food refuse. The assemblage is described below in detail.

Bos tarus (cow)

The remains of Bos tarus totaled 23 specimens. Cranial elements include one mandibular premolar and molar fragment. Common post-cranial bones consisted of vertebrae (7) and tibia (4) fragments. The vertebrae were all cervicals located closest to the skull, including axis and atlas fragments. There were two individuals (MNI) represented by one complete atlas and another fragment. Tibia fragments included specimens with distal and proximal ends and at least a quarter of the shaft intact. The tibia remains represent "hind shank" portions of meat. A humerus and radius fragment constitute the "fore shank" and "arm" meat portions.

The teeth and cervical vertebrae probably represented elements removed and discarded during the initial disarticulation of the animal.

The maturation data for at least two individuals (MNI) indicated they were between 2.5 and 3.5 years of age at death.

Sus scrofa (pig)

Sus remains consisted of four specimens including one skull fragment, a complete phalange, and one metacarpal and femur fragment. The femur is associated with the "ham" meat portion. The other elements probably represented refuse from the initial disarticulation of the animal.

The limited maturation data for Sus remains indicated that at least one individual (MNI) was less than two years of age at death.

Caprinae (sheep and goat)

Caprinae remains consisted of nine specimens. Cranial material included one mandibular premolar. The majority of post-cranial remains were vertebrae including thoracic (1) and lumbar (4) fragments. One lumbar specimen was split. The vertebrae are associated with the "rack" and "loin" meat portions of the back. One distal diaphysis of a right femur was also recorded and represents the "fore leg" meat portion.

Gallus gallus (chicken)

G. gallus bones were comparatively common (8) in the assemblage compared to most others in Area E. Eight (8) specimens were identified, including thoracic and pelvic limb bones. Most of this material was unbroken and represents the "wing", "breast", and "leg" meat portions of the chicken.

Area E, Excavation Unit 50N/495E (ER E16)

This excavation unit was small, measuring five feet by five feet, but the assemblage was relatively large, consisting of 281 specimens (Table 20). This assemblage was recovered from Level 3 (ER 16C), representing the original topsoil in the unit. The data indicated a relatively dense bone concentration in Level 3. The assemblage, dated 1780 (MCD), was composed of gray brown sandy clay.

TABLE 20. Faunal Analysis: Area E, Excavation Unit 50N/495E (ERE16)

Bos	33
Sus	1
Caprinae	15
Ovis zind	2
Large mammal	
Long bone fragment	85
Rib	125
Small mammal	
Rattus	1
Bird	
Gallus	2
Meleagris	1
Bird sp.	14
Turtle	1
Fish	1
Total Assemblage: 281	

The assemblage was in good physical condition and the bone color was tan. The remains were highly fragmented due in part to natural deterioration, however, much of the assembalge exhibits recent fractures. Most of the fragments were from ribs and long bones of large mammals.

Evidence of burnt, incinerated, or scavenged bone was rare. Sawed bone was absent, and cut specimens were uncommon.

The total assemblage consisted of 281 specimens. Large mammal remains represented 93 percent (261) of the total assemblage. Large domestic mammals were common, constituting 18 percent (51) of the total. Due to the fractured condition of the specimens, indeterminable fragments were abundant consisting of 75 percent (210) of the total -- but probably represented large domestic mammals. Wild species remains were scarce, and represented smaller animals such as rats, birds, turtles, and fish.

Overall, most of the remains in the assemblage were from food processing activities or food refuse. This material is discussed below in detail.

Bos tarus (cow)

B. tarus remains were abundant (33) including cranial (3) and post-cranial (30) specimens. Cranial elements were three mandibular incisors. Common post-cranial remains included vertebrae, thoracic limb bone, and rib fragments. The full range of vertebrae were recorded including cervical, thoracic, lumbar, and caudal specimens. Two of the specimens were split and three exhibited cut marks resulting from initial butchering. Some of the vertebrae such as thoracics and lumbars represented "rib" and "short loin" meat portions. Others, including the caudal and atlas, were probably refuse from initial butchering of the animal. An ulna and a scapula fragment were recorded and represent the "shank" and "square-cut chuck meat" portions. One carpal and a phalange fragment were also identified. These elements and the teeth were, also, probably discarded refuse from initial butchering. Other material included rib fragments representing "short plate" and "rib" meat portions.

Sus scrofa (pig)

Sus remains were scarce and included one mandibular incisor fragment.

Caprinae (sheep and goat)

Caprinae remains were relatively common, consisting of 17 specimens. Two of the bones were identified as Ovis aries. Cranial material was absent. Common post-cranial remains included vertebrae and long bone fragments. Vertebrae elements included cervicals and lumbar representing the "rack" and "loin" meat portions. An ulna and a radius fragment was recorded, and each

are associated with the "fore shank" portion of meat. Other long bones included two tibia fragments representing the rear "leg" meat portion. Two pubis fragments were recorded. These specimens constituted some of the only innominate remains recorded in all of Area E. They represent the "sirloin" portion of meat. In addition, a Caprinae phalange and two Ovis astragali were identified, and probably represented discarded refuse from initial butchering.

Rattus sp.

Only one rat bone was recorded, including the distal half of a right adult humerus. The specimen exhibited a pathological feature consisting of some type of growth distorting the distal articulation joint of the bone. This was the only rat specimen identified in the assemblages from Area E.

Gallus gallus (chicken)

Chicken remains were rarely identified in assemblages from Area E. Here, a femur and tibia tarsus were recorded. Both elements were snapped near midshaft and represent "leg" and "thigh" meat portions.

Meleagris gallopavo (turkey)

Turkey remains, rare throughout Area E, consisted of one radius fragment snapped near midshaft representing the "wing" meat portion.

Turtle sp.

Turtle remains were rare in Area E and were only recorded in the topsoil deposits. Here, one indeterminable carapace fragment was identified.

Fish sp.

Fish were also rare. Only one indeterminable vertebrae was recorded in the assemblage.

Area E, Excavation Unit 50N/505E (ER E18)

This unit was small, measuring five feet by five feet, and the recovered faunal assemblage was correspondingly small (40). The deposit was excavated in natural levels and arbitrary levels. The assemblages from all these

levels are discussed below, but it must be stressed that they were small in number and thus have limited interpretive value (Table 21).

TABLE 21. Faunal Analysis: Excavation Unit 50N/505E (ERE18)

	Level 3A	2A	2B	Total
Bos	2			2
Sus	2			3
Large mammal bone				
Long bone fragment	10	5	5	20
Vertebrae		3		3
Rib	7		2	9
Bird	2			2
Turtle	1			1
Total	24	8	8	

Total Assemblage: 40

Level 2 (ER E18B)

Level 2 consisted of fill deposits composed of mottled tan and yellow clay. The deposits were undated. The faunal material was in good physical condition, although very fragmented. Most bone fragments were a tan color and exhibited little evidence of weathering.

Evidence of burnt, incinerated, or scavenged bone was absent. Cut and sawed specimens were also not observed.

The entire assemblage from Level 2 consisted of only 16 fragments, and all the specimens were from large mammals. Most of this material was indeterminable long bone, rib shaft, and vertebrae fragments probably representing large domestic mammals. Only one species was identified (Sus scrofa), and included a second mandibular molar with extensive wear.

Level 3

Level 3 represented the original topsoil deposit from this excavation unit. The deposit had an MCD of 1770 and was composed of a grey-brown sandy clay.

The remains were in good physical condition exhibiting little evidence of weathering. The bone color was tan. The assemblage was fragmented, but several complete bone elements were recorded. The fragments were from either long bones or ribs.

The remains exhibited no evidence of burning, incineration, or scavenging. Sawed bone was absent, but one fragment was cut.

The assemblage from Level 3, although small (24), had a wide variety of animal types including bird, turtle, and two species of large domestic mammal.

The assemblage consisted mostly of large mammal remains. Both Bos tarus (cow) and Sus scrofa (pig) were identified in the collection. The indeterminable remains were from large mammals, and included long bone and mostly rib shaft fragments. This material probably represented large domestic mammals. Bos tarus remains included a carpal and a phalange. Sus scrofa bones consisted of a mandibular incisor and a split thoracic vertebrae fragment representing the rear "loin" meat portion. Bird and turtle remains, which included long bone fragments, were too deteriorated for specific identification.

Overall, the assemblage from Level 3 represented a small portion of food refuse.

PRE-INDUSTRIAL PERIOD FEATURES

Area A, Feature 27 (ER A48)

Feature 27 is a barrel privy uncovered in unit 30N/110W adjacent to Feature 28. Feature 27 was somewhat smaller than Feature 28, and measured 2.33 feet wide and 1.67 feet deep. Feature 27 dates to ca. 1812. The fill consisted of fecal material and secondary refuse. Stratigraphically, the privy was constructed within the topsoil (ER A16Z) of unit 30N/110W. Specifically, the privy was originally dug through the topsoil Level 10B (ER A16Z2) and 10C (ER A16Z3), and later covered over by more topsoil, Level 10A (ER A16Z1). The privy contents were excavated in arbitrary levels which were interpreted collectively since the assemblages from each were small and undifferentiated.

The faunal assemblage from Feature 27 was in poor physical condition. Bone specimens exhibited peeling, longitudinal splitting, fungus pitting and cracking. Many pieces were coated with sediments due to waterlogging, and several fragments exhibited carnivore scavenging marks. The evidence indicates the privy fill was exposed to natural weathering for a considerable time prior to final deposition. The bone color was brown.

The assemblage was highly fragmented, but it was difficult to ascertain if this breakage was due to natural deterioration or food processing. Incinerated or burnt bone was not recorded in the assemblage.

A discussion of the assemblage by species follows below. Due to its small size, (Table 22) detailed interpretations were impossible.

TABLE 22. Faunal Analysis: Area A, Feature 27 (ERA48)

	Level				
	1	2	3	4	Total
Bos	1	5		1	7
Sus					4
Caprinae	5			3	8
Large mammal bone	16	1			17
Bird sp.	1	1			2
Ictalurus sp.		1			1
Fish sp.		1			1
Total	27	9		4	

Total Assemblage: 40

The total assemblage from Feature 27 consisted of 40 bone fragments (Table 22). Shell remains were absent. As usual, most of the material represented large mammals. Nearly all the identified bone specimens were of large

domestic animals. They included Bos tarus (7), Sus scrofa (4), and caprinae 6). Other remains consisted of Bird sp. (2) and Fish (2).

The remains of B. tarus (cow) were nearly all postcranial fragments. One element (rib) was sawed. Most of the fragments were from pelvic limbs. Maturation data suggests at least 3 years of age at death. S. scrofa (pig) remains were cranial (1) and postcranial fragments. All the postcranial elements were thoracic limb extremities, including phalanges and metacarpal fragments. Evidence of food processing was absent. Caprinae remains consisted of mostly postcranial fragments. The most common elements represented were vertebrae and long bones. The only other animal specifically identified was Ictalurus sp. (catfish), including only a spine element.

AREA D, FEATURE 1 (ERD2)

Feature 1 in Area D was a brick cistern after used as a privy. The deposits from the cistern were excavated in a series of arbitrary levels within several distinct stratigraphic units. The upper part of the cistern deposit consisted of fill and the lower part was fecal material.

The uppermost level, 1 (ERD2A), consisted of brick rubble and associated demolition debris. Below this was Level 2 (ERD2B), excavated in three arbitrary units and composed of brown soil with rubble and debris. Levels 1 and 2 are considered here as a single unit, since the faunal assemblages and the associated rubble and debris were similar in both deposits.

Level 3 (ERD2C) consisted of fill from a pipe trench excavation which cut through the upper portion of the brick-lined cistern. The pipe trench fill represented mixed refuse, rubble, and demolition deposits from Levels 1 and 2 of the cistern fill. The pipe trench was excavated in the early twentieth century. Since the pipe trench cut through Levels 1 and 2 and the assemblages from 1 to 3 exhibited few distinctions, they will be discussed together below.

The bottom deposits of the cistern fill included Levels 5 and 6 (ERD2E and ERD2F). They were composed of brown and tan silty clay. The faunal remains, although small in number, exhibited some distinctions from that of Levels 1 to 3, and will be considered separately below. Levels 5 to 6 were undated.

Levels 7 and 8 (ERD2G, ERD2H, and ERD2I) represented the sealed, undisturbed fecal material from the lower part of the brick-lined cistern. This deposit pre-dates the demolition and fill from the upper part of the cistern. The assemblage from Levels 7 and 8 had an MCD of 1800, and will be discussed in detail following a general description of the remains from Levels 1 to 6.

LEVELS 1 to 3

Since the remains from Levels 1 to 3 are of unknown origin, they have limited interpretive value and will be discussed, generally, below.

The bone assemblage from Levels 1 to 3 totaled 345 specimens (Table 23). Shell material consisted of four specimens. The assemblage was in very good physical condition, undoubtedly due to the closed, protected environment of the brick-lined cistern. The bone exhibited a light tan color and minimal deterioration due to weathering. The assemblage was highly fragmented, consisting mostly of large mammal long bone and rib fragments. In this case, long bone fragments far outnumbered rib fragments. One interesting characteristic was the comparatively high incidence of rodent gnawed bone, which was not surprising considering the comparatively high number of rat bones identified in this assemblage (44). Interestingly enough, the lower fecal levels also have a comparatively high number of rodent gnawed bones, suggesting that throughout its deposition, the cistern must have represented a prime environment for rodent activities. The majority of gnawed bones were

TABLE 23. Faunal Analysis: Area D, Feature 1 (ERD2)

	Level: 1	2A	2B	2C	Total	3	5	6	Total	7	8 & 9	Total
Bos	1	4	5	1	23	3			3	7	30	37
Sus	9	8			17		1		1	5	29	34
Caprinae	12	5	2	3	22	2	3		5	4	51	55
Capra											3	3
Ovis										9	8	17
Large mammal bone												
Long bone fragment	48	14	12	3	77	17	2	4	23	9	11	20
Rib	8	13	1		22			3	3		4	4
Vertebrae	4				4		1		1			
Small mammal bone												
Felis	1				1		1		1	6	11	17
Rattus	28	9	2		39	5	2		7		16	16
Ondatra	1				1							
Mus sp.											1	1
Small mammal miscellaneous bone	7				7					1	2	3
Bird												
Gallus	11	6		2	19		3	3	6	4	29	33
Meleagris	5	3			8						1	1
Anser											5	5
Bird sp.	56	8	4		68	3			3	4	24	28
Turtle						1			1		1	1
Fish	1	4		1	6		1		1	8	567	575
Ictalurus											236	236
	204	74	26	10	314	31	14	6	55	61	1029	1090
Crassostrea		3								1	19	20
Merceneria		1									6	6

Total Assemblage: 1459

rib, limb bone, and vertebrae fragments from large mammals and birds. Evidence of carnivore scavenging and burnt or incinerated bone was absent.

Although the material was of unknown origin and consisted of rubble and demolition deposits, the assemblage from Levels 1 to 3 represented the remains of food refuse.

The most common remains were from large mammals (54 percent). Large domestic mammal bones represented 20 percent of the total. Indeterminable large mammal bones represented 34 percent of the assemblage, and were probably from large domestic mammals. There were 53 small mammal bones represented in the assemblage mostly from rats. Bird remains were common (99) but mostly indeterminable fragments. Overall, wild animal remains were less common than domestic animal remains, and represented by smaller animals including scavengers (Table 23).

Large domestic mammal remains included Bos tarus (26), Sus scrofa (17), and Caprinae (24). Bos material was nearly all post-cranial, including mostly rib and vertebrae fragments. Much of the material was sawed. Cutting was absent. Sawed remains included ribs, vertebrae, and innominates. Vertebrae and innominate specimens were symmetrically sawed sections representing "steak" cuts, "pin bone sirloin", and "rump" portions of meat. Three elements were gnawed, including a vertebrae, rib, and a long bone shaft. Sus scrofa remains were post-cranial, including mostly pelvic limb bones. Two of the elements were gnawed. Three specimens were sawed, including two femora and a tibia fragment representing both "butt half" and "shank half" ham portions of meat. Maturation data for two individuals (NMI) indicates one was less than one year old and the other was more than three years old at death. Caprinae remains consisted of post-cranial specimens includng mostly vertebrae, thoracic long bone, and rib fragments. Two vertebrae were split longitudinally, and sawed specimens consisted of symmetrically sawed sections of a scapula and two humeri. These specimens represented the remains of "blade" and "arm" chops of the "shoulder" portion of meat.

Other mammals identified in the assemblage included Felis domesticus (cat), Rattus sp. (rat), and Ondatra zibethicus (river otter). Cat remains included one immature scapula fragment, and represented either a pet or scavenger. River otter bones included only one right adult mandible fragment. Rattus remains were very common in the assemblage and, as noted before, a number of large mammal and bird bones exhibit rodent gnawing marks. There were 14 individuals (MNI) represented in the assemblage. Most of the specimens were unbroken and represented both adults and sub-adults. Both cranial and post-cranial elements were represented including most of the major bones of the skeleton. This indicated the animals originally died in the refuse deposit, and supported the hypothesis that the cistern constituted a prime habitat for the rodents.

Bird remains (93) were common. Gallus gallus (chicken) remains consisted of 19 fragments, mostly thoracic long bones associated with "wing" meat portions. Most of the bone specimens were fragments, but a few were proximal or distal halves which were snapped at midshaft. Meleagirs galloparo (turkey) remains included thoracic and pelvic limb bone fragments, and, of the total (8), four exhibited rodent gnawing.

Other animal remains included turtle (1), fish (6), Crassostrea virginica (oyster-3), and Mercenaria mercenaria (clam).

LEVELS 5 TO 6

Levels 5 to 6 were composed of brown-tan silty clay sediments. These deposits were undated and are considered separately from Levels 1 to 3 because of a few dissimilarities. The total assemblage consisted of only 20 bone fragments (Table 23). Shell remains were absent. The material was in good physical condition. Burnt and incinerated bone was absent.

Most of the assemblage consisted of large mammal remains, including Sus scrofa (1) and Caprinae (3). Bos remains were absent. Indeterminable large mammal remains were mostly rib and long bone fragments, and probably represented large domestic animals. Sus scrofa remains included one rodent gnawed scapula fragment. Caprinae remains included two ribs and one femar shaft fragment.

Other mammals included Felis domesticus (cat-1) and Rattus sp. (rat-2). Felis was either a pet or scavenger, and rat remains were from scavengers. Two rats were represented, including one adult and one sub-adult.

Bird material included six fragments of Gallus gallus (chicken) consisting mostly of thoracic long bone fragments. Several of the specimens were snapped at midshaft.

One fish cranial element was recorded in the assemblage.

One interesting feature of this assemblage was the total absence of cut or saw modifications on the bone.

LEVELS 7 AND 8

As noted previously, Levels 7 to 8 represented fecal material from the lower part of the brick-lined cistern. The assemblage from these levels had an 1802 MCD. The deposits from Levels 7 and 8 were mixed, and were analyzed as a single unit.

The bone assemblage was in very good physical condition. The bone color was mostly dark brown or black, and many specimens were coated with material and some exhibited peeling of the compact bone surface. These characteristics are indicative of water-saturated bone. The assemblage was not as fragmented as most others, and consisted in general of many nearly complete long bone specimens as well as larger sized fragments. As noted for the upper cistern deposits, many bone specimens exhibited rodent gnawing marks, and the deposit contains an unusually high number of rat bones compared to other collections. Evidence of carnivore scavenging and burnt or incinerated bone was absent.

The assemblage consisted of 1,090 specimens of bone and 26 shell fragments. One of the striking features of this assemblage was the high number of identifiable bone fragments. Due to their larger size and the quality of preservation, 45 percent of the total assemblage was identified to at least the genus level. There were 13 species recognized in the collection. Large mammal remains were common and unusually well-preserved (170). Due to the degree of preservation, 86 percent of these remains were identified as large domestic mammals, a high percentage compared to other assemblages. Thus, only a small number of large mammal specimens were indeterminable, although they most likely represented domestic mammals as well.

Another striking feature of this assemblage was the abundance of wild animal remains, especially fish. Fish elements accounted for 74 percent of the total assemblage. Shell fish remains were also comparatively abundant (26). The fish remains in this deposit constituted the highest percentage for any assemblage in the project area. However, it must be stressed that the fish, as well as other wild animal remains in the assemblage, represented smaller sized individuals and constituted much smaller quantities of food compared to that represented by the large domestic mammal remains.

Overall, the assemblage from the fecal deposits represented a comparatively large sample of food refuse. The faunal remains are discussed in detail below.

Bos tarus (cow)

B. tarus remains consisted of 37 specimens, including nearly all post-cranial fragments. Common elements represented were vertebrae and ribs. Other elements such as thoracic and pelvic limb bones and innominate specimens were rare. Vertebrae specimens consisted of seven cervical, thoracic, and lumbar fragments. Cervical vertebrae were rare or absent in most assemblages. Most of the vertebrae were split longitudinally, the results of initially clearing the body along the vertebral column producing two halves. One lumbar specimen was a symmetrically sawed section representing a steak or roast cut from the "short loin" portion of meat. The vertebrae represented both mature and immature individuals.

Ribs were also common, consisting mostly of shaft fragments. One shaft specimen exhibited rodent gnawing marks. Ten of the rib specimens were sawed. Most were sawed and then snapped in two. One shaft was cut. The sawed shafts represent "short rib" cuts from the "short plate" portion of meat. The proximal end rib fragments were probably from a rib roast or steak, since those cuts consist of the articulated rib and vertebrae section.

Other Bos remains included several limb bone fragments. A scapula fragment was sawed across the glenoid fossa and represented either the "shank knuckle" or "arm" pot roast or steak cuts from the "square-cut chuck" portion. One humerus fragment was split along the distal end, the consequence of either initial butchering or the processing of the "shank" and "square-cut chuck" portions. A symmetrically sawed section of a right femur represented a "round" steak or roast. One symmetrically sawed ilium section was also

recorded and constituted a "pin bone sirloin" steak or "rump" roast from the "rump" or "sirloin" portion of meat.

Overall, sawed and cut bone was very common in the Bos assemblage (76 percent). The sawed sections and ribs are indicative of professionally butchered meats.

Limited maturation data suggest an age of at least two years old at death.

Sus scrofa (Pig)

The remains of Sus scrofa included 34 specimens, consisting mostly of post-cranial fragments. Common specimens were thoracic and pelvic limb bones and rib and tibia fragments. Vertebrae and innominates were rare or absent. Limb extremities were abundant, representing 35 percent of the pig remains. Most of these specimens were complete, and represented both mature and immature individuals. This material constituted either discarded butchering refuse and/or the remains of "ham hocks" or "knuckle" portions of food. Several fragments of thoracic long bones were recorded, including the humerus and scapula. These items represent "Boston butt" and "picnic" meat portions.

Sus remains were cut and sawed. One vertebrae fragment was split longitudinally representing the "loin" meat portion. Several rib shaft fragments exhibited saw marks and one was cut. These probably represent "spare rib" portions. Proximal ends of the rib were rare. Tibia fragments also exhibited cut and saw modifications, and constituted the "shank half ham" portions.

The maturation data for Sus indicated the age of two individuals (MNI) was less than one year and between one and two years of age at death.

Caprinae (sheep and goat)

The remains of Caprinae totaled 75 specimens, and represented the most common domestic animal remains in the assemblage. Of the total, three fragments of Capra hirca (goat) and 17 specimens of Ovis aries (sheep) were specifically identified and will be discussed, separately, following a general description of the Caprinae remains.

Caprinae remains consisted of only post-cranial fragments. As noted previously, Caprinae material represents indeterminable sheep and goat remains.

The most common post-cranial fragments were from vertebrae, ribs, and thoracic and pelvic limb bones. Vertebrae included atlas, cervical, thoracic, and lumbar fragments. Both mature and immature specimens were recorded. Many vertebrae specimens were cut, with longitudinal splitting produced from the initial cleaning of the animal along the vertebral column producing two halves. Also, cuts could represent roasts associated with the "rack" or "loin" meat portions. As seen in other assemblages, rarely are Caprinae

vertebrae sawed, which is comparable to the evidence for Sus scrofa vertebrae remains.

Ribs consisted of shafts (12) and proximal end fragments (8). Two of the shaft specimens were sawed. The shaft fragments represent "ribletts" from the "breast" portion or "rib chop" or "roast" fragments from the "rack" or "loin" portions.

Limb extremities were common, especially metapodials. Cut or saw marks were not observed. One calcanius exhibited rodent gnawing marks. All specimens of metatarsals and metacarpals were broken in half at or near midshaft, producing either proximal or distal halves of the elements. These elements are associated with the lower "shank" and "leg" meat portions. Scapula and ulna specimens were also recorded. One scapula fragment was rodent gnawed. One scapula specimen was a symmetrically sawed section, representing the remains of a "blade chop" from the "square-cut shoulder" meat portion. A femur and a tibia fragment constituted the "leg" meat portion, including the "shank" and "butt" roast cuts. The femur specimen was sawed.

Capra hirca (goat)

Capra remains included only three specimens consisting of two humerii and one femur fragment. The bones were all broken in half at or near midshaft. Cut or saw marks were absent. The humerii represent "square-cut shoulder" portions, and the femur is associated with the "butt" cut of the "leg" portion of meat. This material represented two individuals, but maturation data were inconclusive.

Ovis aries (sheep)

Ovis remains consisted of 17 specimens representing post-cranial elements. Common specimens were thoracic and pelvic long bone fragments. The thoracic specimen included one humerus, two scapula, two ulna, and one radius fragment. The radius specimen was the only cut fragment in the Ovis assemblage. Sawed bone was absent. Three of the bones were broken at or near midshaft with either the distal or proximal half or fourth of the element intact. These elements represent the "shoulder" and "shank" meat portions. The pelvic long bones included femora (2) and tibia (2) fragments. This material represents the "butt" and "shank" cuts of the "leg" portion of meat. Two innominate fragments were recorded and represent the "sirloin roast" cut of the sirloin portion.

The maturation data for two individuals (MNI) indicated that one was less than five months old and the other was more than 3.5 years old at death.

Felis domesticus (cat)

Domestic cat remains were common in the assemblage (17), and included cranial and post-cranial material. Two immature individuals were represented, and nearly all the remains were complete, unbroken specimens. This material represented either scavengers and/or pets.

Rattus sp. (rat)

Rats were common throughout the cistern deposit. There were 16 rat elements recorded in the fecal deposits, including both mature and immature individuals. Most of the remains were complete specimens. As noted, rodent gnawed bones were common in the assemblage, and the cistern apparently represented an excellent habitat for the rats.

Mus sp. (mouse)

One left immature tibia-fibula fragment was identified as a mouse. Mouse remains were rare in the deposit.

Gallus gallus (chicken)

G. gallus remains included 33 specimens consisting mostly of thoracic and pelvic limb material. These specimens are associated with meat concentrations on the body, including the "wing", "thigh", and "leg" portions. Some of the long bones were broken at midshaft, but most were complete. Tibia tarsi and tarsometatarsi were especially common leg bones. One tarsometatarsus shaft fragment exhibited rodent gnawing marks. One right femor exhibited a healed fracture of the midshaft.

Meleagris gallopavo (turkey)

M. gallopavo remains included only one phalange, and probably represented food refuse.

Anser sp. (goose)

Goose remains were scarce, including five long bone fragments representing "leg" and "wing" meat portions. The remains represented food refuse.

Turtle sp.

Only one indeterminable turtle long bone fragment was recovered. It was not possible to determine if this specimen represented food refuse or accidental interment.

Fish sp.

Fish remains included 811 elements, constituting the largest assemblage of fish remains from the entire project area. Although many of the specimens were in poor condition, the majority of the remains represented scavenger type fish. Of the total, 236 were identified as Ictalurus sp. (catfish). The rest of the remains were too fragmentary or deteriorated to identify with certainty. The remains of "gamefish" were not identified. The great majority of the specimens were from smaller individuals weighing less than 1.5 pounds. The Ictalurus remains consisted of cranial elements (107) and rib and ray fragments (101). Only 27 vertebrae were recorded. The distribution of indeterminable remains was similar and consisted of 288 cranial elements, and 199 rib and ray specimens. Vertebrae included only 29 specimens. This suggests that head, fin, and tail portions were discarded in the privy deposit.

Crassostrea virginica (oyster)

Twenty oyster shell fragments were identified in the assemblage. There were 12 left and 8 right valve hinge plates identified. This assemblage represents one of the larger collections of shellfish remains in the project area. Apparently, oysters, like other wild animal resources, were not an important part of the diet of people occupying the area.

Mercenaria mercenaria (clam)

Only six shells, three right and three left valves, were recorded in the assemblage. Similar to oysters, clams were, evidently, eaten only occasionally.

INDUSTRIAL PERIOD
OCCUPATIONAL LEVELS AND DEPOSITS

Area A, Excavation Unit 20S/120W (ER A10)

The faunal assemblage from this unit is small due to the construction of a pipe trench through the unit. The mean ceramic dates from the topsoil deposits in this unit range from ca. 1816 to 1819.

The total assemblage from this unit was 32 bone fragments. Shell material was not recovered. The bone was very fragmented and in poor physical condition. The bones exhibited weathering cracks, breaks, pitting and flaking. Many speciments had "rolled" edges due to erosion and soil creep, indicating the deposits had moved around or were close to the surface for some period of time. The bone material was a light brown-tan color. All of the preceeding characteristics are indicative of open refuse deposits exposed on the surface prior to complete deposition.

Considering the small size of the assemblage, only general interpretive comments are possible. Of the total assemblage, 29 of the 32 elements were from large domestic mammals (Table 24): Bos tarus (cow), Sus scrofa (pig) and caprinae (sheep-goat). No fragments were of Gallus gallus (chicken). Other than Rattus sp. (rat), wild animal remains were absent.

TABLE 24. Faunal Analysis: Area A, Excavation Unit 20S/120W (ERA10)

	Topsoil Levels			
	A10Z1	A10Z2	A10Z3	Total
Bos	1	1	1	3
Sus		2		2
Caprinae		1	5	6
Large mammals				
Long bone fragment	2	7		9
Rib fragment		4	2	6
Vertebrae fragment		3		3
Rattus		1		1
Gallus		2		2
Total	3	21	8	

Total Assemblage: 32

Most of the assemblage consisted of postcranial elements. Common elements include rib and thoracic limb fragments. Bones may have been fractured for marrow procurement. Two specimens exhibited cut or saw modification. One caprinae radius was sawed, and one vertebrae exhibited the characteristic longitudinal splitting. One chicken femur was snapped at midshaft. Additional bone modification, such as burning, incineration, and scavenging was absent. Maturation data from one cow bone indicated the age at death was 3.5 years.

Overall, this assemblage probably represents the remains of food refuse. However, it is obvious that most of the bone elements of the represented animals were discarded elsewhere.

Excavation Unit 0 North/120W (ER A11)

The assemblage from this unit was recovered from an upper level of mottled clay fill (Level 1: ER A11A), mixed mottled clay fill from a disturbance due to a sewer pipe trench excavation (ER A28) and lower levels of "toposil" (Level 10: ER A11Z). The topsoil was excavated in 2 arbitrary levels which were considered as a single unit since the contents of each were undifferentiated.

Since the faunal assemblages from the upper deposits were disturbed and were considered mixed fill material, they are of limited interpretive value and thus are discussed only briefly. The topsoil deposits will be dealt with in more detail.

The assemblages from the fill deposits are considered collectively in the following discussion. These deposits and the associated faunal assemblages were stratigraphically above and therefore occurred later in time than the topsoil deposits. Exact dating is impossible due to the disturbed nature of the material.

The fill assemblage consisted of 95 bone specimens and 4 oyster shell fragments. There were 12 types of animals identified and large mammal remains represented 94% of the assemblage. Of the total, the remains of large domestic mammals were most common (Table 25).

The physical condition of the fill assemblage was generally good. Much of the bone was a light brown to tan color. Evidence of extensive weathering deterioration of bone was not observed but the assemblage was very fragmented. Indeterminable large mammal fragments represented 56% of the total assemblage. Evidence of scavenging, burning and incineration was absent. The high degree of preservation for the assemblage was probably due to the low porosity of the clay fill sediments, limited water saturation, and minimal surface exposure.

The most common species in the assemblages were Bos tarus (cow), Sus scrofa (pig) and caprinae (sheep and goat). B. tarus and caprinae remains consisted mostly of postcranial elements, including pelvic and thoracic long bones and innominates associated with meat concentrations on the body representing "round," "rump," shank" and "shoulder" portions. Sus remains consisted of cranial and postcranial elements. Nearly 50% were teeth.

Sawed elements were common, but cut bone was absent. Many innominate and long bone specimens consisted of sawed symmetrical sections associated with meat concentrations.

Other animals remains were Gallus gullus (3), turtle (1) and fish (1). Four Crassostrea virginica (oyster) shells were identified.

TABLE 25. Faunal Analysis: Area A, Excavation Unit 0 North/120W (ERA11)

	Level: (ERA28) 2	Level 1	Total	Topsoil Level: 10A	10B	Total
Bos	8	3	11	3	2	5
Sus	9	3	12	5		5
Caprinae	10	2	12			
Ovis aries		1	1			
Large mammal misc						
Long bone fragment	24	8	32	27	4	31
Rib fragment	4	9	13	30		30
Vertebrae fragment	5	3	8	3		3
Felis Domes.		1	1			
Rattus sp.				3		3
Gallus	3		3	3		3
Bird sp.				3	1	4
Turtle	1		1			
Fish	1		1	3		3
	65	30	95	80	7	87

Total Assemblage: 186

Topsoil Deposits (ER A11Z)

The assemblage from the topsoil deposits had MCDs of 1831 to 1833. The assemblage consisted of 82 bone elements. Shell remains were absent (Table 24). The bone was in good physical condition, but highly fragmented. The majority of small fragments were from large mammal long bones. The bones were light tan in color. The broken edges were naturally abraded from post-depositional sediment creep. The evidence indicates the deposits were not exposed to surface weathering and were sealed soon after initial deposition. Evidence of scavenging was absent.

The assemblage exhibited little evidence of burning or incineration. As noted above, the assemblage was highly fragmented. The majority of fragments (64) were from large mammal ribs, long bones and vertebrae. The remains of identified species were small.

B. tarus (5) and S. scrofa (5) remains were rare (Table 24). B. tarus material exhibited sawed and cut elements including split vertebrae and 2 symmetrically sawed sections indicative of professionally butchered meat. S. scrofa remains exhibited no evidence of cutting or sawing. Most pig remains were teeth.

Rattus bones were also identified and probably represented scavengers. Gallus gallus (chicken) and fish were also identified but in insignificant numbers.

Overall, the limited number of elements represented suggests that the deposit represents food refuse deposited arbitrarily.

Area A, Excavation Unit 10N/120W (ER A12)

The bone assemblage from this unit was recovered from topsoil excavated to expose Feature 25, a barrel privy, and Feature 15, an associated trash deposit. Thus, the faunal remains represented an open refuse deposit. A mean ceramic date obtained for the assemblage was 1835.

This bone assemblage was in poor physical condition, exhibiting cracking, splitting, flaking, fungus pitting, dry rotting and some evidence of carnivorous scavenging. The bone was a light brown or tan color. Some fragments exhibited edge rounding due to erosion or soil creep. In addition, the material was very fragmented due to either surface weathering, trampling, etc., or the extraction of marrow.

The assemblage from ER A12 was very small and thus has limited interpretive value (Table 26). Only 33 fragments were recovered from the topsoil deposits. (Scattered and mixed fill deposits in level 3 are not considered due to their disturbed nature). Nearly all of the determinable remains were from domestic animals and, excluding Rattus sp. (rat), wild animal bone was absent. Twenty-one (21) long bone fragments were from indeterminable large mammal. The variety of animals included Bos tarus (cow), Sus scrofa (pig)

and caprinae (sheep-goat). Most of the bone represented postcranial elements, especially limb bone fragments. Only one fragment exhibited enough structure to compute maturation data. The distal end of a pig humerus indicated at least 1 year of age at death. This element fragment was also the only specimen that exhibited cutting. Sawed, burnt and incinerated bone was absent.

This assemblage represents a small deposit of food refuse. The condition of the bone indicates that the deposit was exposed on the surface for some period of time prior to final deposition.

TABLE 26. Faunal Analysis: Area A, Excavation Unit 10N/120W (ERA12)

	Level 3	Topsoil Level ARZ1A
Bos		29
Sus	1	3
Caprinae	2	
Rattus		1
Bird	1	
Total Assemblage:	33	

INDUSTRIAL PERIOD FEATURES

Area A, Feature 15 (ER A36)

Feature 15 was a "shell filled" trench uncovered in unit 20N/100W. The mean ceramic date for this feature is ca. 1849. Feature 15 was associated with several other features excavated in unit 20N/100W, as well as part of the topsoil deposit (ER A19 Z1). These include Feature 25, a barrel privy, and Feature 17, a trash deposit, all associated with Joseph Dowdall's occupation of the study lot.

Feature 15 yielded 309 bone fragments and 19 shells. The bone assemblage was in excellent physical condition, exhibiting little deterioration. The bone was a brown color and showed only minimal weathering. The quality of bone preservation was probably due to the fact that the refuse was associated with a closed protected feature (trench). The protection afforded by the trench may have also accounted for the low incidence of partial halves and quarter sections of bones, and a relatively low number of indeterminable bone fragments (103).

Evidence of rodent or carnivore scaveging was absent, and suggests the refuse was covered soon after deposition. This conclusion is supported by the identification of only 1 rat bone in the assemblage.

Burnt and incinerated bones were absent, indication that meat preparation was accomplished by methods other than exposure to direct heat.

At least 10 types of animals were represented in the assemblage. The most common species were large domesticated mammals (Table 27). Wild animals remains were rare and represented only 6% of the total assemblage.

Bos tarus (cow)

B. tarus remains were the most common in the assemblage, representing 32% of the total. Cranial elements were absent, and postcranial elements were evenly distributed in the assemblage. Common vertebrae included lumbar and thoracic fragments. Most innominates were ilium sections. Other common elements were both thoracic and pelvic long bone fragments. Most of these were distal or proximal halves, and did not exhibit the extensive fracturing seen in other assemblages.

One of the most striking features of this assemblage was the high incidence of sawed and cut bone. Overall, 59 of the 103 B. tarus fragments were sawed or cut. Most of the cut bones were vertebrae which were split longitudinally through the centrum. Other cut elements included ribs, which exhibited "cut and snap" technology. Over 50% of the thoracic and pelvic long bone elements were sawed including scapulas. All femora consisted of proximal halves or quarters of the element. Most of the innominate elements were symmetrically sawed sections.

The preceeding evidence suggests that the assemblage from Feature 15 represents systematically sawed and cut bone indicative of professional

butchering. Certain butchering techniques were associated with specific parts of the animal's body. Vertebrae were split and cut. The ribs were cut or sawed and then snapped in two. The larger thoracic and pelvic long bones and innominates were consistently sawed in symmetrical sections. These butchered remains are associated with high meat concentrations on the body including "round," "rump," "sirloin," "short loin," "shank" and "square-cut chuck" portions.

Other forms of bone modification such as burning and incineration were not observed.

Two individuals (MNI) were represented in the assemblage and most of the remains were immature. The age range was less than 3 years and more than 3 years at age of death.

Sus scrofa (pig)

S. scrofa remains were less common than B. tarus, and totalled 34 specimens. Both cranial and postcranial elements were represented. Cranial elements consisted of skull and mandible fragments (13) and teeth (3). Common postcranial material included innominate (8) and pelvic limb (6) bones. The majority of postcranial elements represent areas of meat concentrations on the body including "ham" and "loin" portions.

Although two individuals (MNI) were recorded, the assemblage (34) represented only a fraction of the total possible skeletal remains for this number of pigs. This suggests the assemblage constitutes food refuse deposited arbitrarily. The maturation data suggests the animals were between 1 and 3.5 years old at death.

Pig long bone elements were highly fragmented, suggesting the removal of bone marrow.

Sawed bone was common in this assemblage including femora and innomiates. One femur specimen was represented by a symmetrically sawed section. It should be noted that sawed pig bone was usually rare in the excavated areas, and this indicates professionally butchered meat. This was the only assemblage where both cow and pig remains exhibited symmetrical sawed elements.

Other types of bone modification such as burning, incineration and scavenging were absent.

Caprinae (sheep-goat)

Indeterminable sheep-goat remains consisted of 21 fragments. Cranial material was absent, and common postcranial remains included pelvic limbs, especially femora and tibia, and thoracic long bones. The majority of these bones represented areas of high meat concentrations on the body, including

"leg," "shoulder" and "shank" portions. Bone elements with less meat, such as ribs, vertebrae, phalanges, metapodials, and skull, were rare.

Cut bone was rare but sawed bone was very common in the assemblage, consisting mostly of symmetrically sawed long bone sections of humeri and femora.

Evidence of burnt or incinerated bone was absent.

Capra hircus (goat) and Ovis aries (sheep)

This assemblage was relatively small (14), and will be considered as a unit below. Due to the small number of specimens, only a few general comments are possible.

Cranial material was rare, and most postcranial specimens consisted of thoracic and pelvic long bones. Most long bones were distal halves or quarter sections complete with articulation joint.

O. aries was represented by four individuals (MNI) based on four right humeri with the distal one-fourth of the element complete. Obviously, the assemblage represents only a fraction of the total skeletal elements of four individuals and indicates the assemblage constitutes food refuse deposited arbitrarily. C. hircus was represented by one individual.

Maturation data for Ovis was inconclusive since the distal epiphyses of the humeri fuse at about 4 months of age. The data for Capra suggests the individual was at least 3.5 years of age at death.

Excluding one element, Capra and Ovis remains exhibited no cut or saw marks. The fracturing pattern of long bones does not suggest marrow extraction. This material showed no evidence of burning or incineration.

Rattus sp. (rat)

The only other mammals identified in the assemblage was rat, consisting of only one bone fragment. The probably indicates the refuse was covered soon after deposition.

Gallus gallus (chicken)

Bird remains were rare in the assemblage and chicken was represented by only two long bone fragments. Both were snapped at or near midshaft. Neither element was burned, incinerated, sawed or cut.

Anser sp. (goose)

Only one goose element was identified, consisting of the distal half of a left femur which was snapped at midshaft.

Turtle sp.

Two turtle long bone fragments were recovered, but were too deteriorated for identification.

Fish

Fish remains were rare in the assemblage (8), and were too fragmented for identification. Most of the remains were skull or caudal ray fragments, suggesting the tails and heads were removed and discarded in the deposit.

Callenectes americana (oyster)

There were 18 shell fragments identified from the Feature 15 assemblage. This material was in poor physical condition. Shell modifications such as burning, incineration or cutting were not observed. This was one of the only assemblages that yielded shell remains in any quantity, suggesting that either shellfish was not important in the diet of occupants on other lots, or the bulk of their shell refuse was deposited elsewhere. The 18 shell fragments from Feature 15 represent a small sample of what was present in the feature. The vast majority of the shell was discarded in the field.

Area A, Feature 17 (ER A38)

Feature 17 was an open trash deposit uncovered in unit 10N/120W. The trash feature was associated with a barrel privy (Feature 25), a "shell refuse" trench (Feature 15) and part of the topsoil deposit (ER A19Z1) excavated in or near unit 10N/129W. The trash deposit contained bottle glass and marble chips probably representing the same mineral water bottling business associated with the barrel privy trench. The Feature 17 trash deposit was excavated in a series of arbitrary levels, but the faunal remains were considered collectively since the assemblages were undifferentiated.

The bone assemblage from Feature 17 consisted of 44 specimens (Table 28). Oyster (55) and clams (5) were also recovered. The total assemblage was in poor physical condition. Bones remains exhibited cracking, pitting, peeling and abraded edges due principally to weathering. The bone material was generally a light tan color. These characteristics are indicative of open refuse deposits which are exposed on the surface for some time prior to final

deposition. The shell material was mostly broken into smaller pieces. The bone remains were likewise highly fragmented due either to post-depositional deterioration or food processing.

TABLE 28. Faunal Analysis: Area A, Feature 17 (ERA38)

	Level				Total
	1	2	3	4	
Bos	2	1		1	4
Sus		1	1	1	3
Caprinae			1		1
Rattus				1	1
Long bone fragment	9	3	5	4	21
Ribs	2	5	2	1	10
Gallus		1			1
Bird sp.	3				3
Total	16	11	9	8	44
Crassostrea	33	22			55
Mercenaria	2	3			5

Total Assemblage: 104

Since the assemblage is small, its interpretive value is limited. However, some general comments are appropriate.

Large mammal remains constituted the bulk of the bone assemblage, representing 39 of 44 total bone elements. Wild animal bone remains were rare. Large domestic mammals were the most common species identified (8). Other bone remains indentified included rattus (1) and gallus (1).

Nearly all the large mammal remains consisted of short, small fragments from postcranial elements including long bones and ribs. The remains of B. tarus (4), Sus scrofa (3) and caprinae (1) consisted mostly of thoracic limb bone fragments. This material exhibited cut marks but sawing was rare. Cutting was observed on a pig scapula and a cow rib. One fragment of a symmetrically sawed section was recorded from an indeterminable large mammal.

Maturation data was available only for pig remains. The evidence, representing one individual, indicates that pig was more than a year old at death.

The bone remains exhibited little evidence of scavenging, burning or incineration.

Shell remains included Crassostrea virginica (55-oyster) and Mercenaria mercenaria (5-clam). The shell consisted of small fragments and modification

due to food processing was not observed. This assemblage constitutes the largest concentration of shell remains from Area A. The consistency of the material recovered supports the claim that these three features were contemporaneous.

Area A, Feature 25 (ER A46)

Feature 25 was a barrel privy excavated from a balk within unit 10N/120W. In addition to the faunal material, bottle glass and marble fragments were common in the deposit. The fill consisted of ash and cinders covering a fecal deposit. This assemblage is associated with the Dowdall mineral water bottling business.

The faunal assemblage from Feature 25 is small, and totals only 14 bone elements representing three mammal species (Table 29). The shell remains consist of 13 fragments representing two species. As such, this assemblage has little interpretive value.

TABLE 29. Faunal Analysis: Area A, Feature 25 (ERA46)

	Level 1
Bos	1
Sus	1
Long bone fragment	8
Rib fragment	3
Rattus	1
Total Assemblage: 14	

The assemblage was in relatively poor physical condition, characterized by flaking of the compact bone, concretions on the surface of the bones, pitting and dark brown color. All these characteristics are usually indicative of water saturated bone associated with sediments of closed features such as privies and wells. Evidence of additional alteration of the bone remains, such as scavenging, was not apparent.

Identified animals included Bos tarus, Sus scrofa and Rattus sp. Each type was represented by one element fragment, and the remaining assemblage consisted of indeterminable large mammal bone fragments. All the remains were postcranial fragments. Bos tarus was represented by the distal end of a radius and age at death was at least 3.5 years.

One element was sawed but other modifications resulting from food processing such as cutting, burning and incineration were absent.

Shell material consisted of 10 Crassostrea virginica (oyster) and three Mercenaria mercenaria (clam) fragments. It is interesting that shell remains are only recovered from the features and deposits associated with the mineral water bottling business.

Overall, this assemblage represents a small amount of food refuse which was probably deposited in a short period time.

Area H, Feature 2 (ERH11)

Feature 2 was a barrel privy located in excavation unit 34S/636W, and adjacent to a second barrel privy, Feature 1 (ER H4). The mean ceramic date for Feature 2 was ca. 1855. The privy fill was excavated in three arbitrary levels, 2A (H11B1), 2B (H11B2), and 2C (H11B3), and consisted of fecal material, secondary refuse, ash, and some rubble. The fecal deposit was capped by a deposit composed of mottled tan and grey clay with coal and wood ash. This clay deposit was excavated in two arbitrary levels, and yielded a small collection of bones in poor condition (Table 30). This included the remains of Bos tarus (1), Gallus gallus (2), Meleagris gallopaso (1), and seven large mammal rib fragments. The Bos specimen was a split vertebrae. Two (2) of the rib fragments were sawed. A discussion of the fecal deposit follows below.

TABLE 30. Faunal Analysis: Area H, Feature 2

	Level				
	1B	2A	2B	2C	Total
Bos	1	2	18	19	40
Sus		6	7	6	19
Caprinae		5	4	11	20
Ovis			2		2
Large mammal bone					
Long bone fragment	7	5	18	19	49
Rib		3	4	18	25
Vertebrae				7	7
Small mammal bone					
Rattus		3		16	19
Gallus	2	4	12	8	26
Heleagris	1		2	1	4
Bird sp.		2	2	9	13
Turtle				10	10
Fish Ictalumus		2			2
Fish sp.		5		4	9
Egg shell			241	121	362
Total	11	37	310	249	

Total Assemblage: 607

The assemblage from Feature 2 (Levels 2A to 2C) was in poor physical condition. The bones were a dark brown or black color. The specimens were coated with mineral deposits and many exhibited a reddish-orange discoloration as well as deterioration from rusting debris. The dense outer compact bone was peeling off in layers on most bone fragments. The evidence indicated the

faunal remains were extensively waterlogged, accounting for most of their deteriorated condition. The assemblage was highly fragmented, exhibiting few complete bone elements and much of the material included rib and long bone fragments.

Evidence of burnt, incinerated and scavenged bone was absent. Sawed and cut specimens were common.

The feature's assemblage totaled 702 specimens, but 362 of these were very small egg or exoskeleton fragments. The bone and larger shellfish specimens totaled 349 fragments. Of this total, large mammal remains were very common accounting for 45% (154) of the assemblage, and large domestic mammals represented 24% (80) of the total (340). Indeterminable large mammal remains constituted 22% (74) of the assemblages, consisting mostly of ribs and long bone fragments. This material probably represented large domestic mammals. The remains of wild species were abundant, accounting for 44% (148) of the total (340). Similar to the assemblage from Feature 1, a wide variety of wild species (9) were represented, but included only small animals. They consisted of edible species such as fish and shellfish, potential edible species such as turtle and bird, and scavengers including rats. The evidence suggested the wild species, especially aquatic animals, represented an important secondary food resource (Table 30).

Overall, the assemblage from the privy consisted mostly of food refuse, and is discussed below in detail.

Bos tarus (cow)

The remains of B. tarus consisted of 39 post-cranial specimens. Common bones included fragments of vertebrae (8), thoracic (4), and pelvic long bones (5), ribs (17) and innominates (6). Thirty-three (33) of the 39 Bos remains were sawed (28) or cut (5). Four (4) of the lumbar and thoracic vertebrae were split from the initial cleaving of the vertebrae column producing 2 equal halves of the animal. One vertebrae transverse process was sawed, and represents a steak or roast from the "rib" or "short loin" meat portions. All the thoracic long bone specimens were sawed. Symmetrically sawed sections represented two scapulas and one humerus. These specimens are associated with areas of meat concentrations, and represent "blade" steak or pot-roast and "arm" pot-roast or steak, both from the "square-cut chuck" meat portion. A symmetrically sawed proximal half of an ulna was also recorded and represents the "fore shank" meat portion. The ribs included 13 sawed and 1 cut proximal end, and 1 sawed distal half of the shaft. The sawed shafts represent "short-rib" or related cuts from the "short-plate" meat portion. The cut proximal end probably constitutes a cut form the "rib" or "short-loin meat portion, since the articualtion end is usually processed as a unit with the vertebrae. The innominates represented all symmetrically sawed sections, including 5 iliums, 1 ishium and 1 across the acetabulum. These specimens represent "pin bone sirloin" steak or roast cuts from the sirloin meat portion. Two (2) symmetrically sawed femora sections constituting "round steak" or "roast" cuts from the "round" meat portion were recorded. Two (2) symmetrically sawed tibia sections were also identified, and represented the "hind shank"

cut from the "round" portion of meat. Overall, the sawed specimens mentioned above, represented a high proportion of professionally butchered meat and a variety of cuts.

Sus scrofa (pig)

The remains of Sus scrofa consisted of 19 post-cranial specimens. The bulk of the material included thoracic limb extremeties and femora and tibia fragments. The limb extremeties included one phalange, two metacarpal fragments and one carpal. This material represented either food refuse and/or butchering debris. Many elements were symmetrically sawed, which is unusual for Sus remains but, perhaps, not surprising since by the 1850's, professionally butchered meat was apparently more common. One sawed radius section was recorded and represents a "fore shank" steak or roast cut. One sawed ilium section was identified representing a "loin chop" or roast from the "loin" portion of meat. Symmetrically sawed sections also included one femur and one tibia speciment representing "roast" or "slice" cuts from the "butt" and "shank hams". In addition, one tibia and a femur fragment were sawed. Also, two rib fragments exhibited sawing, and represented cuts from the "spare rib" and "loin" meat portions. One split vertebrae was observed. One rare patella was also recovered, and probably represented refuse from initial butchering.

The limited maturation data for Sus remains indicated an age between 1 and 2 years at death (MNI =1).

Caprinae (sheep and goat)

Caprinae remains consisted of 22 post-cranial specimens and two were identified as Ovis aries (sheep). Common remains included vertebrae (6) and pelvic limb fragments (8). Four of the vertebrae were split resulting from the initial cleaning of the animal producing 2 equal meat halves. Four specimens were symmetrically sawed sections including two humeri, one femur and one tibia section. The humeri constitute "arm chops" from the "square cut shoulder" meat portion. The femur and tibia sections represent "chop" or "roast" cuts from the "leg" portion. A few limb extremety elements were recorded and included one phalange and two calcanea (Ovis aries). These elements probably represented refuse from initial butchering.

The limited maturation data for two individuals (MNI) from the Ovis aries remains indicated they were less than 3 years old at death.

Rattus sp. (rat)

Rattus remains consisted of 19 specimens representing four individuals (MNI). Most of the remains were from adult individuals and common specimens were pelvic limb bones. The majority of the elements were complete specimens.

Although rat remains were relatively common, evidence of gnawed bone was absent. The rat remains undoubtedly represented scavengers in the deposit.

Gallus gallus (chicken)

G. gallus material consisted of 24 post-crainal specimens including mostly thoracic and pelvic long bone remains. Half of the long bone specimens were complete and the others were snapped at or near midshaft. The remains represented "back", "wing" and "leg" meat portions.

Meleagris gallpavo (turkey)

Turkey remains included three post-cranial specimens consisting of a tibia tarsus shaft, the distal quarter of a right tarsometa tarsus and a left pelvic limb phalange. This material probably represented food refuse. Similar to assemblages from other areas, turkey remains were rare or absent.

Turtle spp.

The remains of turtles consisted of 10 post-cranial specimens including two plastron, four carapace and four long bone fragments. The material was too deteriorated to identify with certainty, and it was difficult to determine if the material represented food refuse.

Fish spp.

Ictalurs sp. (catfish) remains included two specimens, a vertebrae and vertebrae spine. The rest of the assemblage was too fragmented for specific identification. This material included skull (1), opercular (1) and vertebrae (7) specimens representing cranial and post-cranial elements. This indicated that portions of the entire body were discarded in the refuse.

Crassostrea americana (oyster)

Similar to the assemblage from the adjacent privy (Feature 1) oyster remains were not as common as clam. Oyster material included 26 specimens, but left-right value counts as well as shell morphology and seasonality data were unrecorded since the shell refuse was discarded at the field laboratory.

Mercenaria mercenaria (clam)

Clam shell specimens were common in the assemblage and consisted of 69 specimens. Like the oyster assemblage, the clam shell refuse was discarded at the field laboratory, and thus other important data were unrecorded. It was apparent that oyster and clams were an important secondary food resource.

Eggshell sp.

The remains of eggshells (and possibly some exoskeleton fragments from crabs) consisted of 362 small fragments. This constitutes the largest concentration of eggshell remains from assemblages in the project area. This material probably represented food refuse.

Area H, Feature 11 (ER H17)

Feature 11 was a barrel privy located in excavation unit 44S/646W. The privy (H17B) was dated to ca. 1859 and consisted of fecal matter and secondary refuse. The privy deposit was composed of dark brown loam and clay and was excavated in 2 halves. The two assemblages were undifferentiated and are considered as a unit below.

The assemblage from the privy (Table 30) was in fair physical condition, including many complete and large fragments of elements. Overall, the number of fragments was comparatively small. However, many specimens exhibited peeling of the dense, outer compact bone and were coated with minerals indicative of extensively waterlogged bone. The bone color was dark brown or black.

Evidence of burnt, incinerated and scavenged bone was absent. Sawed and cut specimens were rare.

The total assemblage consisted of 310 specimens. Sus scrofa (pig) remains accounted for 28% (86) of the total. Indeterminable large mammal remains were scarce consituting only 9% (29) of the total. Similar to the other privy assemblages from Area H, wild species remains were very common consisting of eight species, and accounting for 51% 9157) of the total assemblage. However, the remains represented only small animals (Table 31), and thus the bone counts and percentages can be misleading, and should not be overemphasized. However, the data indicated the importance of wild species, especially aquatic animals, as secondary food resources.

Overall, the assemblage represented the remains of food refuse, and some material from food processing activities. The assemblage is discussed below in detail.

TABLE 31. Faunal Analysis: Area H, Feature 11 (ERH17)

Bos	1
Sus	86
Caprinae	6
Capra	1
Ovis	6
Homo sapiens	1
Long bone fragment	17
Rib	9
Vertebrae	3
Small mammal bone	
Leporidae	1
Rattus	11
Bat sp.	1
Long bone fragment	2
Bird	
Gallus	23
Bird sp.	4
Fish	2
Crab	14
Crassostrea	67
Mercenaria	55
Total Assemblage: 310	

Bos tarus (cow)

The remains of Bos were rare, and consisted of 1 sawed rib shaft representing the "short rib" cut of the "short plate" meat portion.

Sus scrofa (pig)

Sus scrofa material constituted the bulk of the large domestic mammal remains consisting of 86 post-cranial remains. This was the greatest concentration of Sus bones in the entire project area. Due to the quality of bone preservation, resulting from deposition in a closed protected feature, most of the remains consisted of unbroken elements. Nearly the entire assemblage included thoracic (33) and pelvic (44) limb bones. The majority of this material consisted of limb extremeties including phalanges (44), metapodials 914), tarsals (4), carpals (3), calcanea (2) and astragali (3).

The latter two elements were rare in assemblages from the project area. All of these elements represented the remains of specialty meat cuts (pig's feet,

ham hocks, etc.) and/or refuse from initial butchering. Femora (3) and tibia (3) were common. Two (2) femora specimens consisted of symmetrically sawed sections representing "ham" roast or slices from the "butt half ham" meat portion. As noted elsewhere, sawed pig remains were rare throughout the project area, but here several professinally butchered specimens were recorded. The tibia specimens (3) also included a sawed shaft. These elements represent "shank half ham" meat portions. Two (2) radii fragments were recorded representing the "fore shank" of the "picnic" meat portion. One scapula fragment was identified, and represented a "blade" cut from the "Boston butt" meat portion. Although a variety of skeletal elements were represented in the Sus assemblage, many elements were missing or rare, including vertebrae, innominates, ribs and cranial specimens.

The maturation data for two individuals (MNI) indicated they were less than 2 years old at death.

Also, one phalange exhibited a pathological abnormality consisting of an unusual bone growth on the proximal margin encircling the articulation joint.

Caprinae (sheep and goat)

Caprinae remains totaled 13 post-cranial specimens including one identified specifically as Capra hirca (goat), and six as Ovis aries (sheep). This material was in excellent condition, consisting of mostly completed and proximal or distal halves of elements. Caprinae remains included three rib fragments and a sawed symmetrical section of a femur. This section represents a "chop" or "roast" cut from the "let" meat portion. Capra remains consisted of the distal half of an adult left humerus representing the "shoulder" meat portion. Ovis material included thoracic (4) and pelvic limb (2) specimens. Three radii and one ulna fragment was recorded and represented the "shank" meat portion. A tibia fragment and 1 astragulus were also identified. The tibia represents the "leg" portion of meat, and the astragulus was probably refuse from initial butchering.

The limited maturation data for Ovis aries indicated that one individual (MNI) was more than 3.5 years old at death.

Homo sapiens sapiens

Human remains consisted of one immature mandibular molar. This was the only human bone specimen recorded in any assemblage from the project area.

Syvilagus sp. (rabbit)

Rabbit remains were rare, including right innominate bone. It was difficult to determine if the specimen represented food refuse.

Rattus sp. (rat)

Rattus remains were relatively common in the assemblage (11), even though gnawed bone specimens were not observed. The bulk of the assemblage included thoracic (4) and pelvic (3) long bones representing mostly complete specimens. The rat remains represented scavengers.

Bat sp.

One indeterminable bat element was recorded, and included a right humerus fragment. This specimen was probably drug in by scavengers or killed and dumped in the refuse.

Gallus gallus (chicken)

The remains of G. gallus were common, consisting of mostly post-cranial specimens (23). Most of this material included thoracic (8) and pelvic limb bone (10) specimens. Many of the long bone specimens were snapped at or near midshaft. They represented "wing", "back", "thigh", "breast" and "leg" meat portions.

Fish sp.

Fish remains were rare in the assemblage, consisting of two indeterminable vertebrae.

Callinectes virginica (Blue crab)

Crab remains were comparatively common, but consisted of only the claws. They included three right and three left lower claws, and two right and six left upper claws. The only other crab remains from the entire project area were from the Feature 1, Area H assemblage.

Crassostrea americana (oyster)

Oyster shells were common in the assemblage, consisting of 67 specimens. Important data, such as left-right value counts, shell morphology characteristics and seasonality, were not available since the shell refuse was discarded at the field laboratory after the initial specimen counts were recorded.

Mercenaria mercenaria (clam)

Clam shells (55) were almost as common as oysters (67). In the other two privy assemblages from Area H, clam shells far outnumbered oysters. As noted above, additional shell data was unavailable. However, it was apparent that clams and oysters were an important secondary food resouce.

Area A, Feature 19 (ER A40)

Feature 19 was a structure located in unit 10N/140W. The fill from this structure consisted of horse manure mixed with straw and cultural debris. The date for the refuse deposit was ca. 1900, which represents the latest excavated faunal assemblage from Area A. Originally the deposits were excavated in a series of arbitrary levels, but the analysis showed little difference between these levels except for the lowest levels (N and O). Thus, the assemblage from Feature 19 will be considered collectively except for the lowest levels.

The bone assemblage from Feature 19 was in poor physical condition. The bone remains exhibited longitudinal cracking, fungus pitting, and peeling and damage due to water saturation. In addition, a number of bone specimens exhibited rodent gnawing. The preceeding characteristics are all indicative of bone material from an open refuse deposit affected by external weathering. Also, the bone exhibited a black or dark brown color which is undoubtedly discoloration from exposure to the manure in the deposit. Much of the bone in the assemblage was highly fragmented. The degree of fracturing may be due to weathering, trampling or food processing.

The total assemblage consisted of 174 bone fragments representing at least nine types of animals (Table 32). Most of the bone material was recovered from the lowest levels, including N and O which represented 41% of the total assemblage. Large domestic animals remains dominated the assemblage and constituted 56% of the total. In the lowest levels (N,O) domestic animals represented 75% of the total. Wild animal remains contributed very little to the total assemblage.

Large domestic animal remains exhibited systematic sawing indicative of professionally butchered meat. The high degree of systematic sawing of bone elements, including vertebrae, is unprecedented, compared to all other assemblages from Area A.

Other types of bone modification such as burning and incineration were rare in the assemblage.

A discussion of the individual species follows below.

Bos tarus (cow)

The remains of B. tarus were the most common in the assemblage, and constituted 53% of the remains from the lowest levels, but were somewhat less common in the upper levels (Table 32). Cranial elements were completely absent and common post-cranial remains included vertebrae, ribs and pelvic limb bone fragments.

The assemblage was not very fragmented compared to other assemblages but cut and sawed bone was more common. Cow remains exhibited a high degree of sytematic sawing of many elements. In this assemblage, especially on the

TABLE 32. Faunal Analysis: Area A, Feature 19 (ERA40)

	Level N	Level O	Total
Bos	10	28	38
Sus	4	2	6
Caprinae	2	4	6
Capra		3	3
Miscellaneous bone			
Long bone fragment		5	5
Rib fragment			
Vertebrae fragment			
Felis dom.			
Rattus sp.	6		6
Bird bone			
Gallus	1	3	4
Coruus			
Bird sp.	4		4
Turtle			
Fish			
Ictalurus			
Fish sp.			
Total	27	45	72

lower levels, vertebrae were sawed in sections, a rare occurrence in the other assemblages from Area A. All thoracic limb elements were represented as sawed symmetrical sections, as were numerous pelvic long bone specimens. Ribs occurred as sawed shaft sections. Sawed sections of innominate bones were also common. Overall, the sawing technology described for this assemblage represents systematically sawed bone indicative of professionally butchered meat, which should not be surprising considering the late date (ca. 1900) assigned to the assemblage.

Generally, it appears that professionally butchered meat was more common during later occupations of Area A. Cut bone was also recorded, and consisted mostly of longitudinally split vertbrae, especially thoracic and lumbar. Overall, the sawed and cut bone elements represents areas of meat concentrations on the body including "round," "rump," "sirloin," "short loin," "rib," "shank" and "square-cut chuck" portions.

The "MNI" calculations were impossible to compute accurately due to the large number of arbitrary levels excavated. This caused a considerable problem in determining the stratigraphic relationship of the bone remains. However, it was clear that only selected elements of the cow skeleton were represented in the assemblage. Maturation data indicates that cows were killed between 2 and 3 years of age. This conclusion is based on at least two cows represented in the assemblage.

Sus scrofa (pig)

The remains of S. scrofa consisted of 26 fragments that come mostly from the lowest levels of the deposit (Table 32). Only one cranial element was recovered and common post-cranial remains were thoracic and pelvic limb fragments. Many of the thoracic bones were metatarsals and metacarpals from which three individuals (MNI) were determined. It is obvious that the assemblage represents very few of the total skeletal elements for these individuals. This indicated that the assemblage represented arbitrarily deposited food refuse. Maturation data indicate that the pig were less than 1.5 years old at death.

Similar to B. tarus, pig remains were not very fragmented, and consisted of either complete epiphyses, complete mature elements or sawed sections. Only three elements were sawed, and cut bone was not observed. Sawed pig bone is very rare in assemblages from Area A, but suggests professional butchering. The sawed elements are associated with meat concentrations on the body, including "picnic" and "loin" portions.

One element exhibited rodent gnawing, but other types of bone modification such as burning and incineration were absent. The pattern of rodent incisor gnaw marks matched very well with a Rattus skull and mandible from the assemblage.

Caprinae (sheep and goat)

Meat caprinae remains were recovered from the lowest levels of the deposit (Table 31), and included only 17 fragments. Of this total, nine specimens were specifically identified as Capra hirca (goat), and will be considered in the general discussion of caprinae remains. Such a small assemblage, obviously, prohibits detailed interpretation, but some general comments are appropriate.

Cranial remains were absent, and common post-cranial elements included thoracic and pelvic long bone fragments, especially radii and femora. These elements are associated with areas of high meat concentrations on the body representing "leg" and "shank" portions. The assemblage was not fragmented, and nearly all the remains were either proximal or distal articulation joints, completed shaft (diaphyses), or sawed sections of long bones. The limited maturation data for two individuals represented (MNI) indicate the age at death was between 1.8 and 3.5 years.

Bone modification due to food processing was common. Sawed bone was common for thoracic and pelvic long bones. Femora were represented by symmetrically sawed sections indicative of professionally butchered meat. Cut bone was absent.

Other bone modications included rodent gnawing. Rattus remains were common in the deposit, and the pattern of rat incisors from the assemblage matched the marks found on the gnawed specimens. The abundance of rat bones in the assemblage indicated an open deposit exposed long enough for rodent

scavenging prior to final deposition. This conclusion is supported by the generally poor physical condition of the bone.

Felis domesticus (cat)

Cat remains consisted of one adult ilium element.

Rattus sp. (rat)

As noted above, rat remains were common throughout the lowest deposit, and apparently accounted for some scavenging of the bone assemblage. Most of the elements (9) were of immature individuals.

Gallus gallus (chicken)

G. gallus remains were uncommon (10) in the assemblage. The material from the lowest levels consisted mostly of complete elements, nearly all post-cranial. Common bones were thoracic and pelvic limbs asssociated with meat concentrations on the body.

Other bird remains included Corvus sp. (crow) and some indeterminable fragments. The crow remains included only two elements, and probably represented a scavenger.

A single turtle carapace fragment was recovered, but was too fragmentary for indentification.

Fish were uncommon in the assemblage. Ictalurus sp. (catfish) remains consisted mostly of skull bones, suggesting that the heads were discarded in the refuse.

NON-ANALYTICAL/MIXED CONTEXTS

Area A, Feature 18 (ER A39)

Feature 18 is a barrel privy excavated in unit 20N/100W. This feature dates to ca. 1840, and was stratigraphically above Feature 15 from the same unit. The privy was excavated in aribitrary levels, and the fill consisted of general refuse. Refuse from the privy was not be representative of "activities which were taking place on the property. The ceramics from the privy were deteriorated, suggesting surface weathering prior to being deposited in the feature. This suggested the possibility that some of the deposit, if not all, was from an earlier refuse assemblage redeposited in the privy. The mean ceramic dates support this claim, since the privy ceramics date to ca. 1840 which is much too early for a feature stratigraphically above several features dating to ca. 1849.

The privy contents were interpreted collectively since the assemblages from each arbitrary level were small and undifferentiated.

The faunal assemblage from Feature 18 was in poor physical condition. The bone color was brown to tan. The remains were highly fragmented, and exhibited longitudinal dry cracking, splitting, compact bone peeling, and abraded edges. These characteristics are indicative of material exposed to surface weathering for some time prior to final deposition.

The total assemblage from Feature 18 consisted of 29 bone fragments and three shell elements (Table 33). The assemblage is a relatively small sample and

TABLE 33. Faunal Analysis: Area A, Feature 18 (ERA39)

	Level					
	3	6	7	8	10	Total
Bos		3		1		4
Caprinae		3	1		2	6
Misc. bone						
Long bone fragment	6	5				11
Rib fragment			3	1		4
Vertebrae				2		2
Gallus					1	1
Bird sp.	1					1
Total	7	11	4	4	3	29
Shell						
Crassostrea virginica	1					1
Mercenaria mercenaria	2					2

Total Assemblage: 32

has little interpretive value. Nearly all the bones were of large mammals (27). The majority of identified bones were from large domestic mammals. The only other material identified consisted of two bird elements. The large domestic animal remains included Bos tarus (4) and caprinae (6). Pig remains were absent. All of the bones were post-cranial fragments. Both Bos and caprinae remains exhibited saw marks, but cutting was absent. Only one cow element was sawed, but three of the six caprinae specimens were symmetrically sawed sections. Of special interest was one sawed thoracic vertebrae section. For Area A, symetrically sawed vertebrae sections were only found in bone assemblages dating to the late 1800's and early 1900's. This evidence, however, tends to support the claim that the deposits from Feature 18 were mixed and redeposited.

Overall, the remains of Bos and caprinae represented elements from areas of meat concentrations on the body.

Other remains from the privy included birds. Only one element, from gallus gallus, was identified. In addition, one fragment of Crassostrea virginica (oyster) and two of Mercenaria mercenaria (clam) were identified.

Overall, evidence for burning, incineration or scavenging of bone was absent.

Area A, Feature 28 (ERA49)

Feature 28 was a barrel privy excavated in unit 30N/110W, dating to ca. 1815. It was situated near another barrel privy, Feature 27, dating to ca. 1812. Feature 28 measured 3 feet wide and 2.73 feet deep, and the fill consisted of fecal material and secondary refuse. Stratigraphically, the privy was located within the topsoil (ER A16Z) of unit 30N/110W. It was originally dug through the lower portions of the topsoil (ER A16Z2 to Z3). The privy contents were excavated in arbitrary levels, which were interpreted collectively since the assemblages from each were small and undifferentiated.

The faunal assemblage from the privy (Table 34) was in good physical condition except bone from the uppermost levels (1 and 2). The bone remains from Levels 1 and 2 were very weathered, exhibiting longitudinal cracking, splitting, pitting from fungus activity and water saturation, and peeling of bone surfaces. This material was a light tan color. These characteristics are indicative of deposits exposed on the surface for a time prior to complete desposition. In contrast, the rest of the assemblage was in relatively good condition. The bones were dark brown to black and very fragmented, but did not exhibit extensive weathering.

The assemblage consisted of 192 bone and eight shell fragments (Table 34). At least eight types of animals were represented. Large mammal remains were most common, and accounted for 50% of the assemblage. Wild animal remains were less abundant. Bird bones accounted for 40% of the collection, but most were associated with a very fragmented goose skeleton (Table 34). As noted, the assemblage was very fragmented, consisting mostly of large mammal long bone and rib fragments.

TABLE 34. Faunal Analysis: Area A, Feature 28 (ERA49)

	Level						
	1	2	3	4	5	6	Total
Bos	6	4	3	3		1	17
Sus	3	2	2				7
Caprinae	3		1	3			7
Ovis			1				1
Misc. bone	39	12	12	1			64
Rattus sp.	2	2	8				12
Small mammal bone			1				1
Gallus			1				1
Anser sp.	1		60	9			70
Bird sp.		1	1	3			5
Fish	1		5		1		7
Total	55	21	95	19	1	1	
Crassostrea	1	1	5				7
Mercenaria	1						1

Total Assemblage: 200

Large domestic mammals were very common (32) compared to other identifiable species. Small mammals, birds and fish were also represented.

Evidence of rodent and carnivore scavenging was absent. Burnt and incinerated bone was not observed.

The faunal material from the barrel privy represent food refuse. A description of the individual species identified in the assemblages follows below.

Bos tarus (cow)

The remains B. tarus consisted of 17 fragments. Cranial elements (2) were rare, and common post-cranial remains were ribs and thoracic and pelvic long bone fragments. Most rib specimens exhibited saw marks. They were partially sawed, then snapped in two. Cut elements included only two split vertebrae. Other forms of bone modification were absent. At least one individual (MNI) was represented, and the maturation data suggest the age at death was between 3 and 4 years.

Sus scrofa (pig)

Pig remains were rare (7). The bones exhibited little evidence of modification. Most of the material represented post-cranial elements, especially thoracic long bone fragments which are associated with meat concentrations on the body including "picnic" and "Boston butt" portions. At least two individuals (MNI) were represented, including one adult and one subadult which were less than 1 year and more than 1 year old at death.

Caprinae (sheep-goat)

Caprinae remains totalled eight specimens. One fragment was specifically identified as Ovis aries (sheep). Most of this material was post-cranial, excluding one horn fragment. Only one specimen exhibited modification, a cut scapula fragment. Several long bone elements were broken at midshaft. This appears to be a common food processing technique associated with caprinae long bones. Usually, compared to cow or pig, the shafts are not broken into smaller pieces.

Two individuals (MNI) were represented, one adult and one subadult. The available maturation data suggest the age at death was less than 3.5 years and more than 3.5 years of age.

Smaller mammals consisted of Rattus (8) remains. Both adults and immature rats were represented which undoubtedly represent scavengers. The presence of rat remains indicates that the deposits were accessible to scavengers for some time prior to final deposition.

Birds were represented by Gallus gallus (1) and Anser sp. (70). G. gallus (chicken) remains were rare, consisting of only one coracoid. Anser sp. (goose) was represented by 70 fragments of probably one individual. This material was unbroken, and exhibited little evidence of food processing. Missing elements included the wings and phalanges.

Fish remains consisted of skull and tail elements which were apparently removed and discarded in the privy.

AREA B, FEATURE 1 (ER B2)

Feature 1 in Area B is a brick-lined, circular privy located in excavation unit 73S/109E. The feature was dated to the late nineteenth century. The fill from the privy was excavated by arbitrary levels (Table 35). The upper two levels (ER B2A and 2B) consisted of demolition rubble fill. The lower two levels (ER B2C and 2D) consisted of secondary refuse in a fecal deposit. As such, the upper levels are considered separately from the lower levels.

The bone remains from the upper levels of the privy (Levels 1 and 2) were in poor physical condition characterized by cracking, splitting, compact bone

peeling, pitting due to fungus activity, and abraded edges. The color of the bone was tan. These characteristics are indicative of bone material that has been exposed to extensive surface weathering. Not unexpectedly, the assemblage was highly fragmented due to weathering, and the fact that the deposits represent demolition rubble which has been redeposited at various times. Conversely, the assemblage from the lower levels (3 and 4) was in good physical condition, exhibiting little evidence of weathering in most cases. However, fungus pitting was common and many specimens were coated with material indicative of waterlogging. Bone specimens were mostly dark brown or black. This assemblage consisted of fewer small fragments.

TABLE 35. Faunal Analysis: Area B, Feature 1 (ERB2)

	Level				
	1	2	3	4	Total
Bos	5	2	1	2	10
Sus			2	5	7
Caprinae	2			1	3
Ovis				1	1
Long bone fragment	5		4	1	10
Ribs			6	1	7
Vertebrae				2	2
Rattus			1		1
Gallus			1	5	6
Aplodinotus			1		1
Fish sp.	1		5	2	8
Total	13	2	21	22	56

Total Assemblage: 56

The total assemblage exhibited little evidence of burning, incineration, or rodent and carnivore scavenging.

Due to the small size of the assemblages from the privy, detailed conclusions were impossible but general interpretations of the upper and lower levels follow below.

The upper levels consisted of only 15 bone elements and only a limited variety of animals, including Bos tarus (7), Caprinae (2), and fish (1) (Table 34). Other remains were indeterminable large mammal long bone fragments (5). Obviously, large domestic mammals were the most common species represented. Evidence of food processing consisted of three sawed B. tarus fragments. Both cranial and post-cranial elements were represented. The maturation data available for B. tarus indicates the age at death was 3.5-4 years. Caprinae material included only two rib fragments, and fish remains consisted of one vertebrae.

The lower levels consisted of 41 specimens representing eight species of animals. The remains of large domestic mammals were most common (12) including Bos tarus (3), Sus scrota (7), Caprinae (1), and one bone identified as Ovis aries (sheep). Most specimens were post-cranial. Cut and sawed bones were common. B. tarus remains included sawed ribs and a rare example of a longitudinally split atlas vertebrae.

S. scrofa remains exhibited saw marks on ribs and a femur. Sheep and goat remains were unmodified. The high incidence of sawed pig bone suggests a later nineteenth century date for the assemblage which agrees with the mean ceramic dates. Rarely, in any of the excavated areas, was sawed sus material observed before ca. 1849.

Other faunal remains for the lower levels included Rattus (1), Gallus gallus (6), and fish (8). G. gallus (chicken) was represented by post-cranial elements including mostly thoracic long bones. Nearly all specimens were complete. These elements are associated with areas of meat concentrations on the body. Fish remains consisted of skull and vertebrae elements, indicating that all parts of the body were discarded in the deposit.

Area B, Excavation Unit 73S/116E (ER B4)

Excavation unit 73S/116E was located on the second excavation terrace of Area B. ER B4 was contiguous with ER B5 and was the southern unit of the second terrace. The MCD's for the assemblage from ER B4 range from ca. 1784 to 1806.

The deposit from ER B4 was excavated in arbitrary levels. Faunal material (Table 36) was recovered from Levels 2 (ER B4B) through 7 (ER B46). Level 2 (uppermost) represented rubble fill which was interpreted as displaced refuse from an unknown source. Levels 3 to 7 represent deposits composed of a reddish-brown sandy clay. The levels were 2.6 inches thick depending on the depth of deposit. Based on the preceeding data, Level 2 was considered separate from Levels 3 to 7, and since the exact origin of the deposits from Level 2 is unknown, the faunal assemblage from this level will be discussed only briefly. A more detailed description of material from Levels 3 to 7 will follow.

Level 2

The faunal material from Level 2 was in poor physical condition. The bone color was tan to light brown. The bone specimens exhibited splitting, cracking, pitting due to fungus activity, compact bone peeling and sediment coating due to waterlogging. These characteristics are indicative of bone material exposed to surface weathering, and a certain degree of post-depositional waterlogging. The weathering characteristics are indicative of exposed and open refuse deposits compared to the more protected environments afforded by closed features such as privies and cisterns. In addition, the assemblage was highly fragmented, which was undoubtedly due mostly to

weathering. Also, many bone fragments exhibited edge abrasions due mostly to post-depositional soil creep. As such, it was difficult to ascertain if any of the breakage was due to food processing.

TABLE 36. Faunal Analysis: Area B, Excavation Unit 73S/116E (ERB4)

	Level						
	2	3	4	5	6	7	Total
Bos	41	18	14	35		4	112
Sus	23		6	16	1	6	52
Caprinae	139	26	8	37			210
Capra	2	7	4	5			18
Ovis	11	7		4	1		23
Large mammal bone	18			3			21
Long bone fragment	87	29	45	36	2		199
Vertebrae		5	3	8	1		17
Ribs	16	16	10	39	1		82
Small mammal		6					6
Felis				4			4
Sciurus				2			2
Rattus				2			2
Small mammal bone							
Gallus	6		20	30			56
Meleagris				2			2
Bird sp.	24	20		16			60
Fish							
Ictalurus	18			2			20
Fish sp.			2	4			6
Total	385	136	110	245	6	10	

Total Assemblage: 892

The bone assemblage from Level 2 totalled 385 specimens (Table 36). Shell material was not recorded. Six species were recognized in the assemblage. The most common remain were of large mammals constituting 88% of the assemblage (337). Of this, large domestic mammals represented 64% and they accounted for 56% of the total assemblage. Except for a small number of bird and fish remains wild animals remains were scarce.

The most common domestic animal remains were of Caprinae (152), accounting for 45% of the total large domestic animal assemblage. Both Ovis aris (11) and Capra hirca (2) remains were identified, but the majority of specimens were either too fragmented or deteriorated for specific identification. Cranial remains were rare, and common post-cranial material included vertebrae, rib and thoracic limb fragments. Rib fragments were exceptionally

small and were mostly of shafts. Scapula fragments were also common as well as vertebrae. Innominates were absent.

Caprinae remains exhibited cut marks but sawing was not observed. Vertebrae (8) were split longitudinally which usually indicate the "loin" and "rack" portions of meat, especially since most of the fragment were from lumbar and thoracic vertebrae (The "loin" region of the body). The ribs fragments mentioned above may represent "riblett" or stew meat cuts from the "breast" portion. The common scapula specimens may represent "blade chops" from the "shoulder" portions of the meat. Maturation data from two sheep (MNI) indicated an age of less than 5 months and less than 1.3 years at death.

Bos tarus (41) was less common in the ER B4 assemblage than Caprinae. Both cranial and post-cranial material was recorded. Most of the cranial fragments were from one skull. Post-cranial material included mostly rib and vertebrae fragments. Most ribs were sawed and snapped in two. Two vertebrae fragments were split. One specimen was a symmetrically sawed section from a humerus probably representing the remains of an "arm" steak or "pot-roast". Maturation data for one cow (MNI) indicates an age of less than 3.5 years at death.

Sus scrofa remains totaled 23 fragments. The majority of specimens were post-cranial, and represented immature individuals. Vertebrae and thoracic long bone fragments were common. Lumbar vertebrae were split longitudinally, representing either "loin chops" or "butterfly chops" from the lower "loin" portion of the body. Maturation data for one individual indicates an age of less than 2 years at death.

Other remains identified from the B4 assemblage included birds and fishes. Gallus gallus (chicken) was represented by six specimens including only thoracic long bone fragments (6). Fish were represented by 18 elements of Ictalurus sp. (catfish). They consisted of caudal rays and skull parts, indicating that only heads and tails were discarded in the refuse.

Levels 3 to 7

The total assemblages for Levels 3 to 7 was 507 specimens. Bone remains were abundant in Levels 3 and 4, and 5 (497) and only a scatter in Levels 6 and 7 (10). Levels 6 and 7 material was probably associated with Level 5 (Table 36). Although the general character of the assemblage from Levels 3 to 5 was similar, there were some specific differences between them. Most important was the difference in the number of species. As Table 35 illustrates at least 10 species were represented in Level 5 compared to 4 and 3 from Levels 3 and 4, respectively. However, it should be stressed that 5 of the species were represented by 4 or less bones and, as such, the material has limited significance regarding the interpretation of the total assemblage. Specifically, Felis domesticus (4) was probably a scavenger or pet, and Rattus sp. (2) was undoubtedly a scavenger. These animals contributed nothing to the diet, and tell us little about food processing, but indicate the deposit was exposed to scavenging for a period of time prior to final deposition. Conversely, Sciurus carobinensis (2), Meleargris gallapavo (2) and Ictalurus

sp. (2) probably represent the remains of food refuse, but have little interpretive value regarding diet or food processing because they occured in such small numbers. Excluding the species just mentioned, Levels 3 to 7 will be discussed collectively since the assemblages are undifferentiated.

Of the total assemblage from 3 to 7 (507), most specimens were from large mammals (78%). Large domestic mammal remains represented 39% (195) of the total, and indeterminable large mammal bones constituted 39% (198) of the assemblage consisting mostly of long bone and rib fragments. Bird remains were abundant (80) compared to other assemblages, especially Gallus gallus (50). Wild animals remains were uncommon, and consisted mostly of small mammals and fish. Thus they contributed little to the diet.

The assemblage was in poor physical condition, and was characterized by cracked, longitudinally split bone, fungus pitting, compact bone peeling due to weathering and waterlogging and abraded edges resulting from post-depositional soil creep. The bone color was tan to light brown. These characteristics are indicative of weathered bone exposed on the surface for a period of time prior to final deposition. This type of deterioration is typical of bone material from open refuse deposits unprotected from natural weathering. In addition, the assemblage was highly fragmented with few pieces of large bone. As note, most specimens were fragments of long bone and ribs. It was difficult to ascertain if the fragments were the result of food processing. Also, the assemblages consist of a high number of bones from immature individual adding to the number of fragments in the assemblage.

Evidence of bone modification such as burning, incineration and scavenging was not observed in the assemblage. A detailed discussion of each species follows below.

Bos tarus (cow)

The remains of B. tarus (71) represented 18% of the large mammal assemblage. This material was nearly all post-cranial fragments, and common elements included rib shaft, vertebrae and thoracic limb bone fragments. Bos remains were very fragmented and included few large bone pieces. There was a high incidence of epiphyses in the assemblages.

Only a few Bos specimens exhibited cut and saw modification. The most common were cut and sawed rib fragments, many of which were cut or sawed then snapped in two. This technique is often employed when the cow is butchered in separate "rib" and "short plate" portions of meat. It is noteworthy that most rib specimens were shafts whereas proximal ends were rare. This may be due to the fact that the proximal end is most often removed with the vertebrae during butchering, which represents the "standing rib", "rib eye" and possible "short loin" cuts of meat. Since there were only a few fragments of vertebrae in the assemblage, it should not be surprising that the proximal ends of the ribs were missing.

As noted above, many Bos specimens were of immature individuals. The maturation data for two individuals (MNI) indicatess the cows were less than 1.8 years (1) and older than 1.8 years old (1) death.

Sus scrofa (pig)

Sus scrofa remains consisted of 29 fragments, including cranial and post-cranial specimens. Cranial elements were mostly teeth. Common post-cranial elements included vertebrae and thoracic and pelvic limb bone fragments. Most of this material represented immature remains. Ribs and innominates were rare. The material was very fragmented with only the distal articulation joint intact and some epiphyses.

Pig remains exhibited cutting, but sawing was absent. Half of the vertebrae were longitudinally split, suggesting a butchering technique where the pig body is split or cleaved along the vertebral column. Consequentely each half represents the "loin" portion of the pig. In this case, lumbar and cervical vertebrae were recorded, and represent the "loin" or "rib" chops and "loin and "sirloin" roast portions of meat cuts.

The limited maturation data for one individual (MNI) indicate an age between 1 and 2 years at death.

Caprinae (sheep and goat)

The remains of Caprinae consisted of 99 specimens. Of the total, 16 fragments were identified specifically as Capra hirca (goat) and 12 as Ovis aries (sheep).

Cranial remains were rare in the assemblage, and included only two mandibular fragments and two teeth. Common post-cranial material consisted of vertebra, thoracic and pelvic limb vones and rib fragments. As such, the post-cranial remains represented a fairly equal distribution of sheep and goat elements.

The most common Capra and Ovis remains were thoracic limb bones, mostly because they were easier to identify based on their morphology, and because they were common elements in the assemblage. Conversely, ribs, vertebrae and innominate fragments were not easy to identify, because, when broken, the morphological features of the elements that distinguish each species were obscured.

This assemblage was less fragmented compared to others, with many intact distal and proximal halves or quarter portions of the shafts. Thus, it appears that Caprinae remains were not broken for marrow procurement, and fracturing was probably due to post-depositional deterioration.

Specifically, Capra elements, such as scapula and ribs, were sawed, but cutting was rare. Ribs were partially sawed and snapped in two. Ovis remains exhibited only cutting split vertebrae and a cut tibia shaft.

Overall, split vertebrae were quiet common, and represent "loin" and "rack" portions of meat. The long bones such as the scapula constitute "shoulder" portions.

Maturation data for two Capra individuals (MNI) indicated one was less than 5 months and one older than 3 years of age at death. Two ovis individuals (MNI) were less than 4 months, and between 1.8 and 3 years of age to death.

Felis domesticus (cat)

Cat remains included only two fragments of thoracic bones. This individual was an adult representing either a pet or scavenger.

Sciurus carolinensis (Gray Squirrel)

Overall, squirrel bones were rare from excavated assemblages in the project area. Only one element, a mature tibia was identified. It was impossible to ascertain if the squirrel represented food refuse or was accidentally interred in the refuse.

Ruttus sp. (rat)

A single rat element was identified in the collection, suggesting that even though the assemblage represented an open food refuse deposit, the depositional environment was apparently not conducive to extensive rodent activity.

Gallus gallus (chicken)

G. gallus remains (50) were very abundant, consisting mostly of thoracic and pelvic long bones. These elements are associated with areas of meat concentrations on the chicken including the "wing," "thigh," and "leg" portions. In addition, many of the indeterminable bird fragments were chicken size, but were too deteriorated to identify with certainty. Most of the chicken elements were complete. A few were snapped at midshaft.

Meleagris gallopavo (turkey)

Turkey bones were uncommon, consisting of only two specimens, and probably represented food refuse.

Fish sp.

Fish remains were rare, and included two elements of Ictalurus (catfish), and four indeterminable specimens. All of these elements were either cranial or caudal pieces, which indicates that fish heads and tail portions were discarded in the refuse.

Overall, the evidence indicates the assemblage from Levels 3 to 7 represents a food refuse deposit.

Area B, Excavation Unit 83S/116E (ER B5)

Excavation unit 83S/116E was located on the second excavation terrace of Area B. ER B5 was the southern excavation unit adjacent to 73S/116E on the artificial second terrace. The MCD'S for the assemblage from ER B5 range from 1790 to 1804.

The deposit from ER B5 was excavated in arbitrary levels. Faunal remains (Table 37) were recovered from Levels 2 (ER B5B) through 6 (ER B5F). The uppermost deposits from Levels 2 and 3 represented rubble fill composed of yellow clay with lenses of red sand. This material was interpreted as displaced refuse of unknown origin, and thus was considered separate from the lower deposits.

TABLE 37. Faunal Analysis: Area B, Excavation Unit 83S/116E (ERB5)

	Level							Total
	2	3	Total	4	5	6	Total	(all levels)
Bos	12	5	17	21	5	20	46	63
Sus	2	6	8	6	5	7	18	26
Caprinae	8		8	25	1	18	44	52
Capra				11	2	6	19	19
Ovis						2	2	2
Long bone fragment	32	45	77	148	31	72	251	328
Ribs	27	36	63	21	20	76	117	180
Vertebrae	1		1	20	8	6	34	35
Felis					1		1	1
Gallus				6	3	3	12	12
Meleagris		1	1		1		1	2
Ectopistes				2			2	2
Bird sp.	1		2	8		6	14	16
Fish		5	5			3	3	8
Total	84	98	182	268	77	219	564	

Total Assemblage: 746

Levels 2 to 3

The total assemblage from Levels 2 and 3 consisted of 182 specimens (Table 37). Shell material was rare. The faunal remains were poorly preserved, and exhibited a tan or brown color. The bones were coated with sediment, and exhibited extensive peeling of the compact bone surfaces indicative of waterlogging. The material also exhibited longitudinal splitting, cracking and edge abrasion. Collectively, these characteristics are indicative of faunal remains exposed to surface weathering for a period of time prior to final deposition. In addition, the bones were altered by post-depositional water deterioration. The assemblage was also highly fragmented, with few pieces of large bone and no complete elements. Undoubtedly, most of these fragments were the result of weathering and post-depositional deterioration. Unfortunately, it was difficult to ascertain if the breakage was due to food processing.

Evidence of burnt, incinerated and scavenged bone was rare.

The most common material in the assemblage from Levels 2 and 3 was large mammal bone, representing 96% of the total. Most of this material consisted of indeterminable large mammal bone fragments from ribs and long bones, and probably represents the remains of large domestic mammals. There were few identified animals in the assemblage, and most were large domestic mammals, including Bos tarus (17), Sus scrofa (8) and Caprinae 8). The remains of wild species represented less than 1% of the total assemblage.

As noted, the number of identified bones was minimal. Bos tarus (17) remains were mostly vertebrae, and exhibited no modification. S. scrofa material (8) was mostly thoracic limb bone fragments and Caprinae remains (8) were vertebrae and long bone fragments which exhibited no food processing modifications. The only other bones recovered were from Melergris gallopavo (1) and fish (5).

The evidence suggest the assemblage represents a food refuse deposit of unknown origin.

Levels 4 to 6

The total assemblage from the lower most levels was 554 specimens (Table 36). This material was in poor physical condition, exhibiting sediment coating and the peeling of compact bone due to waterlogging. The bones were also characterized by splitting, cracking and edge abrasion indicative of surface weathering for a period of time prior to complete deposition. In addition, the assemblage was highly fragmented exhibiting few large pieces of bone and no complete elements. Most of the fragments were from ribs and long bones. There was a great number of epiphyses recorded in the assemblage, indicating young animals.

The most common remains in the assemblage were from large mammals (512), representing 94% of the total (554). However, the majority of this material

(392 or 71%) was indeterminable, but probably represents the remains of large domestic mammals. The remains of large domestic mammals were the most commonly identified animals in the assemblage, representing 22% of the collection. Wild animal remains were scarce, consisting of smaller species and representing only 4% of the totals. Not one element or fragment of a large wild species was identified in the assemblage. A detailed description of each specie follows below.

Bos tarus (cow)

The remains of B. tarus consisted of 46 specimens. Cranial remains were rare and common post-cranial elements included vertebrae, rib and pelvic limb bone fragments. Rib specimens consisted of samll shaft fragments and represented 39% of the cow remains. Seven of the 18 rib fragments exhibited sawing. Most of these specimens were sawed through, others were partially sawed and snapped in two. The only other sawed specimen was a symmetrically sawed section of the pubis. Cut elements included only one corpus. Other modifications were not observed.

Sus scrofa (pig)

Pig remains were uncommon in the assemblage, consisting of only 18 specimens (Table 37). Cranial elements were mostly teeth and post-cranial fragments were mostly from long bones, especially pelvic limbs. Pelvic long bones were well preserved compared to the rest of the assemblage. Most tibia and femur specimens exhibited complete articulation joints, with at least a fourth of the shaft intact. These elements represent areas of meat concentrations on the body including the "ham" portions of meat.

Evidence of cutting or sawing was rare. Only one phalange exhibited cutting, and sawing was absent.

The maturation data for two individuals (MNI) indicates one was less than 3 years, and the other was more than 3.5 years of age at death.

Caprinae (sheep and goat)

Caprinae remains were very abundant in the assemblage (65), representing 12% of the total. Both Capra hirca (goat) and Ovis aries (sheep) were specifically identified in the collection, and will be included here in the general Caprinae discussion. The total Caprinae assemblage consisted of post-cranial specimens. Common elements included ribs, and thoracic and pelvic limb bone fragments. Caprinae long bone specimens were less fragmented compared to the rest of the assemblage. Most specimens were unbroken epiphyses and distal or proximal joints with portions of the shaft intact. In most cases half of the shaft was unbroken. This evidence suggests the long bone fracture pattern was not the result of food processing, but represents post-depositional

breakage. Regardless, the long bone elements represent areas of meat concentrations on the body, and include the "shank," "shoulder" and "leg" portions of meat. Only 1 specimen exhibited saw or cut modification which consisted of a split astragulus.

Maturation data for two individuals (MNI) from the Capra (goat) remains indicate one individual was less than 4 months old, and the other was more than 3.5 years old at death. Maturation data for one individual (MNI) of the ovis (sheep) remains was inconclusive.

Felis domesticus (cat)

The only other mammal identified in the assemblage was Felis domesticus (cat). Only one element was recorded, and probably represents the remains of a pet or scavenger.

Gallus gallus (chicken)

G. gallus remains were uncommon in the assemblage (12), consisting mostly of throacic and pelvic long bone specimens which are associated with areas of meat concentrations on the body. These include the "wing," "thigh" and "leg" portions. The majority of the long bones were snapped at midshaft, which may be the result of either food processing or post-depositional fracturing.

All of the Gallus remains represented adult individuals.

Meleagris gallopavo (turkey)

Only one element of turkey was recovered consisting of left femur. As such, turkey represent an insignificant part of the diet.

Ectopistes migratorius (passenger pigeon)

Two elements were identified as passenger pigeon, which probably represent food refuse. Passenger pigeons were very common in the east during the late 1700s and early 1800s.

Fish sp.

Only three fish elements were recorded in the assemblage. Those were skull and caudal ray specimens.

Overall, the evidence suggest the assemblages from Levels 4 to 6 constitute a food refuse deposit.

Comparison of Excavation Units 73S/116E (ER B4) and 83S/116E (ER B5)

Since 73S/116E and 83S/116E were adjacent units, a comparison of their assemblages was interesting.

The assemblages date to approximately the same time period. The bone remains from each were in poor physical conditions. Both exhibited evidence of weathering and extensive waterlogging. Each assemblage was highly fragmented, with a high incidence of indeterminable large mammal bone fragments. Neither assemblage exhibited evidence of incinerated, burnt nor extensively scavenged bone.

The total number of specimens in each collection was about the same, indicating the bone density per excavation unit, per deposit was probably similar. Large mammal remains dominated both assemblages, and the most common animals were large domestic mammals including cow, pig, sheep and goat. Caprinae (sheep and goat) remains outnumbered cow or pig material in both assemblages. Wild animal remains were rare in both collections, and most wild remains were of smaller mammals, birds and fish. Each assemblage had a few fragments of Felis domesticus (cat). ER B4 had more bird remains than ER B5, and turkey was identified in both assemblages.

The bone element distributions for most species were similar, including large domestic mammals, birds and fish. Each collection exhibited a low incidence of cut and saw modification.

Overall, the assemblages from ER B4 and ER B5 were very similar.

Area H, Feature 1 (ER H4)

Feature 1 was a barrel privy located in excavation Unit 34S/636W. This feature was situated adjacent at another barrel privy designated Feature 2. The mean ceramic date for Feature 1 was ca. 1859. The privy fill was composed of ash, cinders, clay, and rubble excavated in five 0.5-foot arbitrary levels. Fecal material was not recorded in the privy deposit. The deposit was disturbed by a pipe trench and by the excavation of exploratory backhoe Trench A, but intrusive material was minimal.

The assemblage (Table 38) from the privy was in poor physical condition. The bones were cracked and split, and many specimens exhibited peeling of the dense, outer compact bone. The remains were mostly tan colored, and many fragments were discolored by rust. The assemblage was highly fragmented and included only a few large pieces. The evidence suggested the refuse was probably redeposited in the cleaned privy from an open, weathered surface refuse deposit. The fact that fecal material was absent, which tends to cause a dark brown or black bone discoloration, supports this hypothesis.

Also, there was no evidence of mineral coatings on the bone specimens which is typical of a privy depositional environments. Interestingly enough, the faunal assemblage from Feature 2, an adjacent barrel privy to Feature 1, exhibits all the diagnostic characteristics of true privy refuse mentioned above.

Evidence of burnt, incinerated or scavenged bone was rare. Sawed bone was common but cut specimens were rare.

The total assemblage consisted of 395 bone and shell specimens (Table 38). Large mammal remains accounted for 52 percent (204) of the total, and large domestic mammals were the most commonly identified species, representing 21 percent (82) of the totals. Indeterminable large mammal remains accounted for 31 percent (122) of the assemblage, and most likely represented large domestic mammals. This material was mostly long bone (88) and rib shaft (21) fragments. Interestingly, the remains of wild species were abundant, constituting 41 percent (162) of the total assemblage. This material represented the widest variety of species (11) and one of the highest proportions of wild animal remains for the entire project area. However, it must be stressed that all of the remains represented smaller species, and thus the element counts and percentages must not be overemphasized. Actually, the wild species included not only dietary supplements such as fish, crabs, shellfish, rabbits, and birds, but also scavengers such as rats and other species such as otter and turtle that were either eaten or accidentally interred in the refuse. The river otter may also have been trapped for its pelt.

The occurrence of such species as fish, crabs, shellfish, and river otter indicated the use of both marine and freshwater resources which was not surprising considering the close proximity of the Cristina River and the adjacent bay region. However, this constituted one of the only examples of extensive aquatic resource exploitation from the entire project area.

Overall, the assemblage represented mostly food refuse, although some of the material was undoubtedly the result of initial food processing activities. The assemblage is described in detail below.

Bos tarus (cow)

The remains of Bos tarus were abundant, including 32 post-cranial specimens. Common specimens included vertebrae (19), rib (7), and long bone (5) fragments. The vertebrae remains consisted of cervical, thoracic, and caudal fragments. Caudal vertebrae were absent in all the other areas, but in this case they were very common, representing mature and immature specimens. Caudal (tail) vertebrae are most often removed during initial butchering, and discarded or sometimes used in liquid cooking such as stews. Two (2) of the vertebrae, a cervical and thoracic, were split in half along the centrum, resulting from initial butchering where the animal is cleaved along the inside of the vertebral column producing two equal halves. One symmetrically sawed scapula and two tibia sections were recorded. This material was indicative of professionally butchered meat. Another tibia fragment was split at

TABLE 38. Faunal Analysis: Area H, Feature 1 (ERH4)

	Level 1	2	3	4	5	Total
Bos			12	15	5	32
Sus	1		13	22	4	40
Caprinae			7	2		9
Ovis	1					1
Large mammal bone						
Long bone fragment	1	1	55	28	3	88
Rib		2	15	4		21
Vertebrae	1			12		13
Felis					1	1
Leporidae				1		1
Ondatra				2		2
Rattus		1		4	5	10
Gallus	1		7	10	5	24
Anser	4					4
Bird sp.	8					8
Turtle				5		5
Fish			26	28	1	55
Crab	2					2
Egg Shell	2					2
Total	23	4	135	133	24	
Crassostrea					11	
Mercenaria					65	

Total Assemblage: 395

the proximal end. These specimens are all associated with areas of meat concentrations on the body including "blade" steak or pot roast (scapula) cuts from the square-cut chuck portion and "hind shank" cuts (tibia) from the "round" portion of meat. One rib shaft was also sawed, representing the "short rib" cut of the "short plate" portion. Several proximal rib ends were recorded. During butchering, they are processed as a unit with the vertebrae and represent the "rib" or "short loin" meat portion.

The maturation data for two individuals (MNI) indicated that one was more than 3.5 years old and the other was less than 3.5 years old at death.

Sus scrofa (pig)

Sus remains were more common than those of Bos tarus, consisting of 40

specimens. Cranial remains included five skull fragments. Common post-cranial material included thoracic and pelvic limb bones. Limb extremities were especially common, including phalanges and metapodials. Most of these specimens were complete. They represented either discarded butchering refuse, specialty meat cuts such as "pigs feet", and/or food refuse from stew or soup. Rib specimens included one cut and one sawed shaft. These represented "spare rib" cuts. Thoracic long bones included one symmetrically sawed scapula section representing the "blade" steak or roast cut. One femur and two tibia fragments were symmetrically sawed, representing the "butt half" and "shank half" of the "ham" portion. One humerus fragment constituted the "picnic shoulder" portion. Especially rare for Sus remains was a complete patella, the only specimen recorded for the project area. This element probably represented refuse from initial butchering.

The maturation data for Sus remains was limited, but indicated that the remains represented individuals less than one year of age at death.

Caprinae (sheep and goat)

Caprinae remains were much less common than Sus or Bos, and included ten post-cranial specimens. One element, an axis, was identified as Ovis aries. The axis vertebrae is usually removed with the head during initial disarticulation of the sheep. There were four caprinae vertebrae fragments, and all were split due to the initial cleaving of the vertebral column producing two equal halves of the animal. There were two symmetrically sawed sections, including one from a humerus and another from an ishium. These sections constituted professionally cut meat representing an "arm chop" or "roast" from the square-cut shoulder meat portion (humerus) and a roast or chop from the "sirloin" meat portion.

Felis domesticus (cat)

Cat remains consisted of only one mandibular incisor. This individual represented either a scavenger and/or pet. It was interesting that, in most cases, cat remains were few in number, but were usually represented in the deposit.

Syvilagus sp.

Rabbit remains were rare in assemblages throughout the project area. In this case, one complete left innominate was recorded. It was difficult to determine if the rabbit represented food refuse.

Ondatra zibethicus (river otter)

The remains of river otter were rare in assemblages throughout the project area. This assemblage included only two left immature humeri representing two individuals. It was interesting that so few skeletal elements of these individuals were represented in the deposit. As such, they were either eaten and/or exploited for their pelts.

Rattus sp. (rat)

Rats were represented by ten specimens, mostly of immature individuals (three MNI). Obviously, very few elements were present since three individuals were represented. This may have resulted from differential preservation and/or the use of large mesh screens allowing the smaller rodent bones to pass through undiscovered. The common elements included mandibles, vertebrae, and long bones.

Gallus gallus (chicken)

G. gallus remains were relatively common in the assemblage, consisting of 24 post-cranial specimens. Most of the remains included thoracic long bones (5) and pelvic limb phalanges (14). The phalanges constituted disarticulated and discarded foot bones resulting from initial butchering. The thoracic long bones (radii and humeri) represent "wing" meat portions.

Auser sp. (goose)

Goose remains consisted of four post-cranial specimens, including one humerus and three tarsometatarsi fragments. Most of these specimens were complete, and represented "wing" and "leg" meat portions.

Turtle sp.

Turtle remains included five post-cranial specimens, and were too deteriorated for specific identification. The specimens included two plastron and three carapace fragments.

Fish sp.

Fish remains were relatively common in the assemblage. At least two species were probably represented, but the remains were too deteriorated for specific

identification. Several vertebrae represented "gamefish", and a number of the skull and vertebrae fragments resembled Aplodinotus (freshwater drumfish).

Callinectes virginica (blue crab)

Blue crab remains were only recorded in the assemblages from Area H. In this assemblage, as well as those from Feature 2 and Feature 11, crab claws were the most common fragments recovered. Here, three claw fragments were recorded, including one lower left and right claw and one upper right claw.

Crassostrea americana (oyster)

Oyster remains included 11 shell valves. Left-right valve counts were not available since this data was not recorded before the shells were discarded at the field laboratory.

Mercenaria mercenaria (clam)

Clam shell remains were very common (65) in the assemblage. This was contrary to most of the evidence from assemblages in the project area where oyster shell remains were much more prevalent. Mercenaria clams usually live in the mud at shallow depths and prefer the brackish water at the mouth of a river or stream. However, like the oyster remains, the clams shells were discarded at the field laboratory without recording important shell morphology characteristics or left-right valve counts. Also lost was the potential for retrieving critical seasonality data from the shells. Nevertheless, it was apparent that clams were a relatively important aquatic food resource.

Eggshell sp.

Several large eggshell fragments were recorded in the assemblage. Eggshell remains were common in the assemblages from Area H, but rare or absent in other assemblages throughout the project area.