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# ETHNOHISTORY AND PALEOPATHOLOGY OF A LATE WOODLAND DOG

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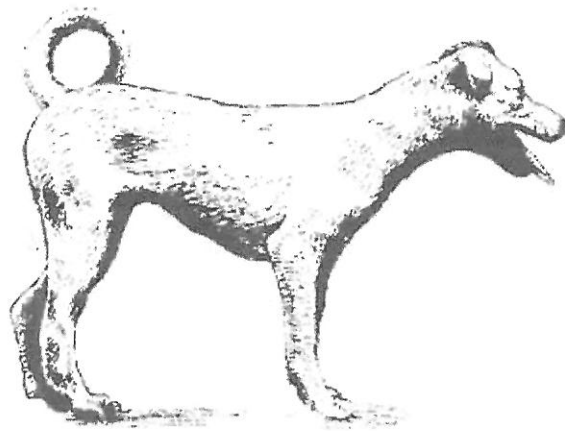
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**ETHNOHISTORY AND PALEOPATHOLOGY  
OF A LATE WOODLAND DOG**

**RANDY K. WADE SITE  
44CH62**

**CHARLOTTE COUNTY, VIRGINIA**



**BRENDAN BURKE**

Senior Honors Thesis in Anthropology



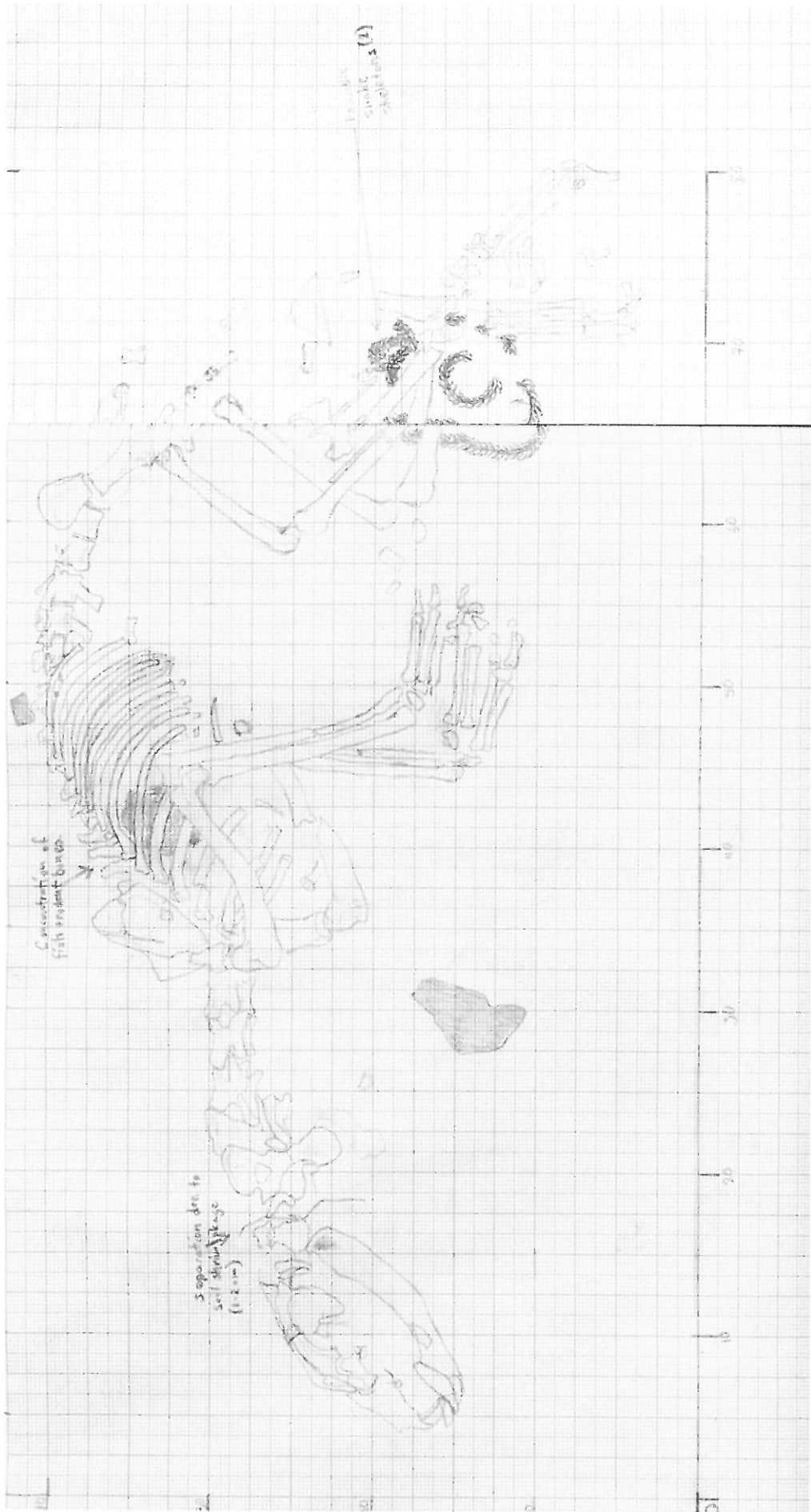
**LONGWOOD UNIVERSITY DEPARTMENT OF ANTHROPOLOGY**

**Senior Honors Research Thesis**

Longwood University Department of Anthropology

April 2003

**P. Brendan Burke**



Schematic of Context 11 Dog Burial  
(scale in cm. 1/2.5)



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I must mention the corps of anthropology students at Longwood. Jefferson Green, Jason Coffey, Tony Lozano, and Zach Revene have all inspired and aided in my research. To them, my hat is off.

Other people who have helped to make this project a reality include Dr. Diane Warren, of Indiana State University. Her work with dog burials has inspired many facets of my methodology and examination. Dr. Warren was a guiding light in helping me research the historiography of canine burial practices. Col. Howard MacCord, past president of the Archaeological Society of Virginia, led me to many knowledgeable

sources on the archaeological history of Virginia. Dr. Marvin Allison, professor of paleopathology at the Medical College of Virginia, gave valuable insight into pathological analysis and comparative examples from South America. And to my parents, who have never let me get by without striving for the highest goals.

## Introduction

Beginning in the summer of 2001 I took my first real step into archaeology. I not only stepped into the academic field, but a real field. It was a field in Charlotte County, Virginia. Not knowing where that step would take me, I began in earnest to learn about archaeology in-depth as an undergraduate student. The field was the site of 44CH62, the Randy K. Wade archaeological site, and the course was Anthropology 296, Introductory Archaeological Field Methods. During the weekd of the field school, I began to piece bits of my memories from National Geographic articles together with previous visits to archaeological sites. The experience not only began my studies of archaeology through anthropology, but also started this project, which has given formative meaning to my undergraduate career.

This undertaking has not only made my undergraduate experience more meaningful, but has led to the comprehensive study of an intricate subject within archaeology. This study has been a dissection of a material object, a dog burial, and a reassembly of the facts gained from this project, with other research, forming a relatively complete picture. I imagine my work as putting but a few of the pieces of a puzzle together so that the overall design may be glimpsed. Out of this, a more complete picture may be painted of those who inhabited this land long before us.

That being said, let me state the goals of the project, beginning with the title. The ethnohistory of prehistoric peoples is incredibly difficult to assemble. With speechless artifacts and silent bones, only so many conclusions may be drawn. However, through the assimilation of other research and careful observation of primary materials, something close to the truth may be gained. I attempt to put together a small piece of the puzzle

from the Late Woodland Period in central Virginia. Using the dog burial, I began to take apart the physical remains and learn what the burial had to say. The way in which humans treat their animals often reflects how they treat each other. Attention that is focused on certain domesticated animals reveals characteristics such as affection, utilitarian concepts, and can define a society's placement of value within the culture. Not only can human interaction with dogs be hypothesized on, but the basic components of a community and its features can determine the amount of either necessary or extravagant goods. Dogs often fall into one of these categories.

Secondarily, I chose an approach to determine the pathological life history of the dog. It can be conclusively said that only a few hard facts can be wrought from one single example, and its particular relationship(s) with the whole population of other prehistoric dogs and their owners may be minimal. On the contrary, this one example is not devoid of relationships to the outside world. Every artifact and feature surrounding the dog may hold clues as to how canines fit into prehistoric life during this specific period. As my research continued, it took on more of an osteological approach. That is, more of a skeletal analysis and examination. Combining the results from these two queries, I will support the hypothesis that dogs in Late-Woodland culture occupied a role of relative high importance and not only as mechanical devices used to carry out day to day tasks, but also as symbols of religious meaning.

# Chapter I

## Background of the Late Woodland Period

To begin the examination of a dog burial from a Late Woodland site in central Virginia, we must look beyond the dog itself. An in-depth analysis of the environment the dog lived in and the ways it was affected by this environment, is key to understanding who this dog was, how it lived, with whom it lived, and its role within society. The examination of the immediate surroundings is not enough though; this search goes back beyond the Late Woodland Period to grasp how this society came to be and what impact this might have upon domesticated animals.

Virginia before the Europeans was a region inhabited by varied cultures. Far from a “howling wilderness”, the land of the Tidewater to the rugged hills of extreme southwestern Virginia contained a number of Amerindian groups who maintained a highly complex system of cohabitation, at times resembling a state level society. It was, however, the differences between these groups that prevented assimilation into one congruous organization. The ancestors of these people had inhabited the area successively for over fifteen thousand years. As they migrated eastward into Virginia, they settled into different groups that, over time and separation, took on their own identity, ways of life, and languages. This diversification of a single, common ancestor allowed for the formation of what we now know of as tribes of Virginia (Egloff & Woodward 1992).

The first evidence of people inhabiting Virginia comes from several sites. The Thunderbird Site in the Shenandoah Valley witnesses over eleven thousand years of

inhabitation. Dates from this site have been calibrated at roughly 9500 B.C. One of Virginia's most recently discovered Paleoindian sites, the Cactus Hill Site in Sussex County, has revealed some of the oldest carbon dates as of yet. Verified dates for Paleoindian sites extend back as far as 16,000 years. During this period, the first peoples inhabited a world of megafauna and a Virginia when only a river flowed where the Chesapeake Bay now occupies. Their subsistence methods were foraging and no permanent settlements monumented their existence.

Around the time of the interglacial period, Interstadial IV, eleven thousand years ago, ocean levels slowly began to rise. Populations of Paleoindians shifted with changes in the landscape. Especially along the coastal regions and inland waterways, expanding rivers pushed temporary settlement camps back. What was once a broad valley in eastern Virginia became one of the continent's largest estuaries. In it flowed several major rivers, which now form the tributaries of the Chesapeake Bay. Camps and seasonal settlements of these transitory hunters were largely covered by water during the rise in sea levels (Kellogg 1989). Today, our knowledge of Paleo-Indian life is limited to those areas that remain above modern sea level. The climactic shifts not only changed the land mass but brought on a subtle change in the means and methods of its people. Towards the Early Archaic Period, about 8,000 B.P., settlements started to become semi-permanent. Seasonal camps were established, which marked a change from the highly transhumant patterns of the Late Paleolithic. As the eastern glacial mass, known as the Laurentide ice sheet, retreated north, animal patterns shifted and so did the patterns of those who followed them.

## **The Transition from Archaic to Woodland Culture**

Around ten thousand years ago, shifts in the Paleoindian world brought on the dawn of a new age. Settlements became larger and more permanent. Mour (1990; 26), in his diagnostic surveying of the James River Valley noted that Terminal Archaic sites had similar features of settlement as sites of the Transitional and Early Woodland Period. However, these camps were less static than those later. During seasonal shifts, Archaic settlement areas shifted in their proximity to rivers (Mour; 66). Subtle shifts in the lifestyles of the Archaic peoples allowed them to become a more settled people, although they were still relatively nomadic and shifted with game movements and natural crop abundance, such as certain types of nuts.

Middle Archaic existence was quite different during the period (6000-2500 B.C.) from that of the earlier Archaic. The advent of tools such as the axe and adze (McLearen 1989) allowed the clearing of forests, creating prime hunting grounds and concentrating game around human inhabitation rather than vice-versa. With technological advances like the stone axe and adze, the lifestyle of the Archaic period peoples became more sedentary (Egloff and Woodward 1992). This transition set the stage for major innovation and change. Sometime around 900 B.C. (Egloff 1987) ceramic technology revolutionized cooking and storage practices. Ceramic vessels could be placed in fires and used not only as cooking pots but also as serving bowls. The earlier storage methods, utilizing basketry and carved steatite (soapstone) vessels was limited in application. Ceramic containers were much easier to make than steatite, lighter, and needed no specialized material source.



Within a millennia of this technological leap, probably the most important item found its way into Virginia. The introduction of corn to the middle-Atlantic, sometime around the birth of Christ, began a new age (Egloff et al, 1992; 25). The Woodland Period began around 1200 B.C., but would not be in full swing until the semi-sedentary foragers developed more permanent subsistence methods. There was little need for these people to migrate and so they settled into small hamlets and villages. Through agricultural advances, these people could produce a surplus to last through lean times, eliminating the necessity to move with resource availability. Given these circumstances, the social organization of tribes blossomed. The Archaic peoples were not without organization, but a new level arises in the Woodland (Egloff et al, 1992; 20) It is here we see the first rise in chiefdoms as trade routes are established and boundaries between large groups become more permanent. Through evidence in ceramic artifact compositions and typologies, different tribes in the region had cultural traits that differed from one another. Some can be grouped into regions of similar peoples, such as those of the Dan River ceramics groups. Regional differentiation was documented by early colonists and explorers, such as John Lederer (Egloff, et al; 49). Along the eastern coast of Maryland, Virginia, and northern North Carolina, archaeologists have determined permanent trade routes used by several chiefdoms within Piedmont and coastal Virginia (Mour 1990; 9). By the Middle Woodland Period, 500 B.C.- 900 A.D., Indians in Virginia had begun to develop a highly politicized and organized system of chiefdoms and a reliance on trade (Turner 1986; 27).

According to Ben McCary's (1957) monograph on seventeenth century Indian occupation and John Swanton's (1969) indexing of Indian tribes throughout North

America, between twelve and fourteen different tribes inhabited Virginia. Of these tribes, there were many subgroups which added to the myriad of individual Indian settlements in Virginia. However, there were relatively few languages as most of the groups in Virginia spoke a form of Algonquian, Iroquoian, or Siouan language. As the diversification of Indian groups had taken on a more permanent settlement pattern during the Early and Middle Woodland Periods, they became more independent and politicized. It was not until the Late Woodland Period when the settlement and political patterns of Virginia's Indians would finalize, becoming what John Smith would encounter in 1607 (Bushnell 1989;176).

### **An Agrarian Shift**

Around 1000 A.D., the introduction of beans and tobacco from the southwestern North America brought a highly organized agrarian lifestyle (Egloff 1992; 25). Corn, introduced a thousand years prior, had only been marginally successful at first. The squash and gourds that had preceded corn by over two millennia had much the same reception. The Archaic and Early Woodland peoples had only nurtured these wild seeds to reap their benefits. The Late Woodland Period brought organization to a foraging people's subsistence methods. By clearing land through slash and burn techniques, more food was produced in a smaller area than before. This began a population expansion and in some areas small hamlets crowded into each other, forcing political alliances (Dent 1995; 251). With the new methods of crop raising, more attention could be placed on artistic elaboration of ceramics and other adornments. To supply the increased need for

certain high status materials such as copper and shell beads, traffic along trade routes increased exponentially(Dent; 239).

The age of agriculture did not completely overshadow the hunting and fishing Virginia Indians had so long relied on for basic subsistence. Fish traps such as weirs and woven nets caught the spring runs of shad and herring along the river and creek banks. Hooks made from turkey leg and wing bones also caught a large number of fish (Bates; per. comm.). Hunting concentrated on the white tailed deer and wild turkey, two prime sources for meat (Sams 1916; 98). The methods used had changed during the Archaic Period as small fields had been cleared but now, with fields full of crops, hunting could often be done quite near the villages. Where once a band of people had to roam and track game to be killed, they could now wait for it to come to them around the edges of their fields. Hunting had not been diminished in its importance due to the rise in large-scale agriculture. In places where game was overhunted, as in the Tidewater area, some tribes made semi-annual voyages to lands further west to conduct large communal hunts. The rivers flowing west to east through Virginia made transportation easy and these hunts also became a way to establish political connections with other tribes as well as trade routes. Valuable commodities such as knappable stone from the Shenandoah Valley were traded for items like shell beads from the coastal dwelling tribes (Dent 1995; 237-8).

### **Arrangement of Settlements During the Late Woodland Period**

Within the individual chiefdoms of Virginia there was a range of communities. Large settlements of well over a thousand people made up the political centers from

which control emanated (Dent; 262). Often, these towns were pallisaded, especially in the eastern part of the state. Tall protective walls made of upright tree trunks defended the nerve centers of a tribe. Within the walls, houses made of bark, poles, and grass mats formed the living centers for the inhabitants (Dent; 40). In case of attack, outlying villages might seek shelter within the walls. These satellite communities were not always made up of tribal members but were often smaller tribes whose political alliances with the larger groups provided them with protection.

Villages further from tribal centers often were along the highways of America, the rivers. Still allied with larger communities, the outlying villages were sometimes seasonal hunting or fishing camps; or, in the case of the Wade Site, permanent hamlets of perhaps a hundred or more people (Bates; per. comm.). These were way stations along the trade routes as well as spillover communities for a burgeoning population. Containing almost all of the elements of a larger village, the hamlets had leaders, spiritual advisors, farmers, and hunters. In the context of the Wade Site, the Saponi people who occupied the area were noted by several early explorers to be welcoming but warlike. One can imagine this settlement as a commune of traders, farmers and hunters. Relying on all three occupations, the people of the Wade Site, as with other sites, enjoyed a relatively comfortable life. Historical records tell us that the Saponi were attacked by Iroquois raiding parties during the seventeenth century and perhaps this had been going on for some centuries but this was their only main threat (Swanton 1969; 72). Most likely though, this Saponi hamlet enjoyed relative peace. If an individual survived infancy and the crucial years between fifteen and twenty-five years of age, he/she would most likely live to be around thirty-five to forty years old (44CH62 Context Register; 98-

02). This evidence is supported not only by human burial evidence at the Wade Site but by other archaeological investigations within the bounds of Saponi lands and neighboring groups. A survey of the one hundred human burials from the Shannon Site, 44MY8, Montgomery County, Virginia, reveals that twenty three percent of the occupants died before reaching six years of age. The next concentration of age-related burials is in the twenty-five to thirty category, with fourteen percent of the burials. The last major concentration fell in the fifty to fifty-five category. Here, also, was fourteen percent of the burial population. The age range for the Shannon Site is from preadolescents to over sixty years old (Benthall 1967; 43). This hamlet, dug by Joseph Benthall in the 1960s is representative of the type of community the Wade Site had. A Late Woodland settlement, this area of Montgomery County is thought to have been included in the range of the Saponi or Tutelo, based on seventeenth century observations of the explorers, Batts and Fallam (Benthall; *ix*).

Intermittent site occupation may have been prevalent during the period of occupation at the Wade Site. Using radiocarbon dating techniques, a date range from 900-1450 A.D. has been established (Bates, per. comm.). The primary reasons for intermittent occupation is due to the flooding of the Staunton River. Although the immediate area of the hamlet may have been spared the floodwaters, certain damage was done to the support resources surrounding the village. Crops would have been destroyed, fish weirs washed away, and outlying structures demolished. It is likely that during these times of crisis, the population moved in with another local community not situated along the river. However, these periods were probably not extended beyond a season or two. The location of the hamlet was too important to leave. Work done to clear fields around

the village would take years to replicate somewhere else and the trade brought by the river travelers would be enough economic stimuli to re-occupy the location. Thirdly, the presence of burials suggests a spiritual bond with the land which would probably not be broken by anything short of complete annihilation by an enemy tribe.

Another hypothesis which points to intermittent occupation is resource availability. Over the course of many years, a toll would have been taken on the land and resources which would have led to a lesser quality of life and instigated migration. A movement as such may not have been dramatic in terms of distance, rather it represented a change in availability of materials and fertile lands. The intensive farming brought on during the Middle and Late Woodland Periods would certainly have drained the carrying capacity of local fields. Given the slash and burn nature of this people's agriculture, we can deduce that shifts would have been necessary on a periodic basis. As Custer (1986; 161-65) notes in his work on sociocultural evolution in the Middle Atlantic, the formation of advanced cognatic tribes from either complex or simple bands led to the diffusion of localized tribes. This localized diaspora would lend itself to the theory of intermittent site occupation as the inhabitants shift due not only to material needs but a growing and splitting population.

### **Strata and Reasoning at the Wade Site**

The earliest carbon dates from the Wade Site at roughly 900 A.D. place this hamlet as being inhabited at the beginning of the Late Woodland Period. Several projectile points from this period as well as Woodland style points made from retouched Archaic points support the presence of an earlier people. The data set from this period, however, is limited. Artifacts other than the points are few and have been limited to

steatite, or soapstone, bowl fragments, and thicker ceramic sherds tempered with steatite. A location approximately one thousand meters downstream, from the Wade Site has been preliminarily surveyed and Late Archaic steatite vessel sherds have been recovered. The depth of the artifact layer begins at seventy-five to eighty centimeters (Bates, per. comm.). This site is also slightly elevated on a natural levee but remains below the one hundred year flood level. Its situation at the confluence of the Staunton River and the Roanoke Creek, a large creek some ten to fifteen meters across, leaves little doubt that this location was at some point an attractive place to live.

### **Life at 44CH62**

44CH62 gives archaeologists a glimpse at a Late Woodland settlement. In John Lederer's wanderings throughout central and southern Virginia during 1670, his encounters with the Saponis support the hypotheses reached about this hamlet (McCary 1990; 19). Although it is probably not the large center of the Saponi peoples, estimated to number 2,600 during the seventeenth century, it certainly was an important satellite community. The rituals performed by village healers and shamans no doubt reflected a pattern of beliefs held throughout the region. Although the language of the village probably differed from that of neighboring villages, a universally understood lingua franca and pattern of gestures, made communication within the region possible (Beverly 1705; v.3 pp 23). This community, as traders encountering many outsiders through their dealings, may have had a broad knowledge of languages spoken from the littoral regions of eastern Virginia and North Carolina to the easternmost regions of the Mississippian cultures located in southwestern Virginia. Due to the lack of documentation during the initial contact period, we may never know the full linguistic spectrum of the region but

can make certain assumptions based on the universality of trade-based negotiations and Beverly's noting of the Algonkian "general language" (Sams 1916; 286).

These outside influences may have had an impact on the traditions and practices of these people. It has been widely noted by scholars, archaeologists, and even by Thomas Jefferson, that the Piedmont Indians practiced mound burials (McCary, 1990; 52-53). As far as the evidence from the Wade Site reveals, these people did not engage in this practice. Burial practices here are generally flexed, semi-flexed, or in rare cases, bundle burials. This is a more eastern Virginia tradition. Historical accounts of funerary practices from the Powhatan Confederation and other tribes note the particular care and preparation of high status individuals before interment (McCary; 51-52).

A theory that may explain the history of this settlement is founded on the coursings of the Staunton River. In the ever-changing flow of the Staunton, it may have once encompassed the Wade Site. Indian inhabitation of islands is documented by the Occaneechi Island. This large palisaded community was situated further downstream where modern day Clarkesville is located. This was the supposed site of refuge for the Saponi after they left their native range, fleeing incessant attacks from Iroquois raiding parties. During the 1676 raid led by Nathaniel Bacon, his informal militia moved up the Appomattox River, killing many of the Indians of the same name, and on towards Occaneechi Island. His goal was the eradication of restless Indians such as the Iroquois and he formed an alliance with the Occaneechi. Once the Iroquois and Susquehanna had been defeated, he turned on the Occaneechis, destroying their town and killing over fifty of them. At this point the Occaneechi consisted of not only the Saponi refugees but Tutelo, or Toter, refugees. These three tribes had been close allies, spoke Siouan



dialects and now were to rely on each other for their survival. Immediately following Bacon's massacre, the Occaneechi, Saponi, and Tutelo left the Mecklenburg area and moved into northern North Carolina. Their initial goal was Fort Christianna, a colonial outpost that would offer protection. This area, now Brunswick County, Virginia, would be the final home of many of the Occaneechi/Saponi/Tutelo. A small band of Saponi and Tutelo soon left the fort and ventured north into Pennsylvania and New York to live under the protective wing of the Cayuga. By the mid-eighteenth century, it was estimated that sixty-four Saponi men were left throughout their various settlements. The last speaker to fluently use the Siouan language was said to have died in 1898 (Swanton 1967). Currently, descendants of the Occaneechi live in Person County, North Carolina; they remain a vestige of the first families of Virginia (Otis Martin-Person County Indian Chief, per. comm.).

## Chapter II

### The Wade Site and Context 11

Archaeological investigations began during the summer of 1996 when students from the Longwood Archaeological Field School first excavated at the Staunton River Battlefield State Park. The initial investigations focused not on prehistoric remains, but rather on the Civil War earthworks located within the park. The date of the fort's earliest construction was established using a coring method. Excavations on an abandoned well and powder magazine turned up little evidence except the presence of twentieth century vandals. As interest in the Civil War era fortifications and battle strata waned, the investigations moved to a different location within the park.

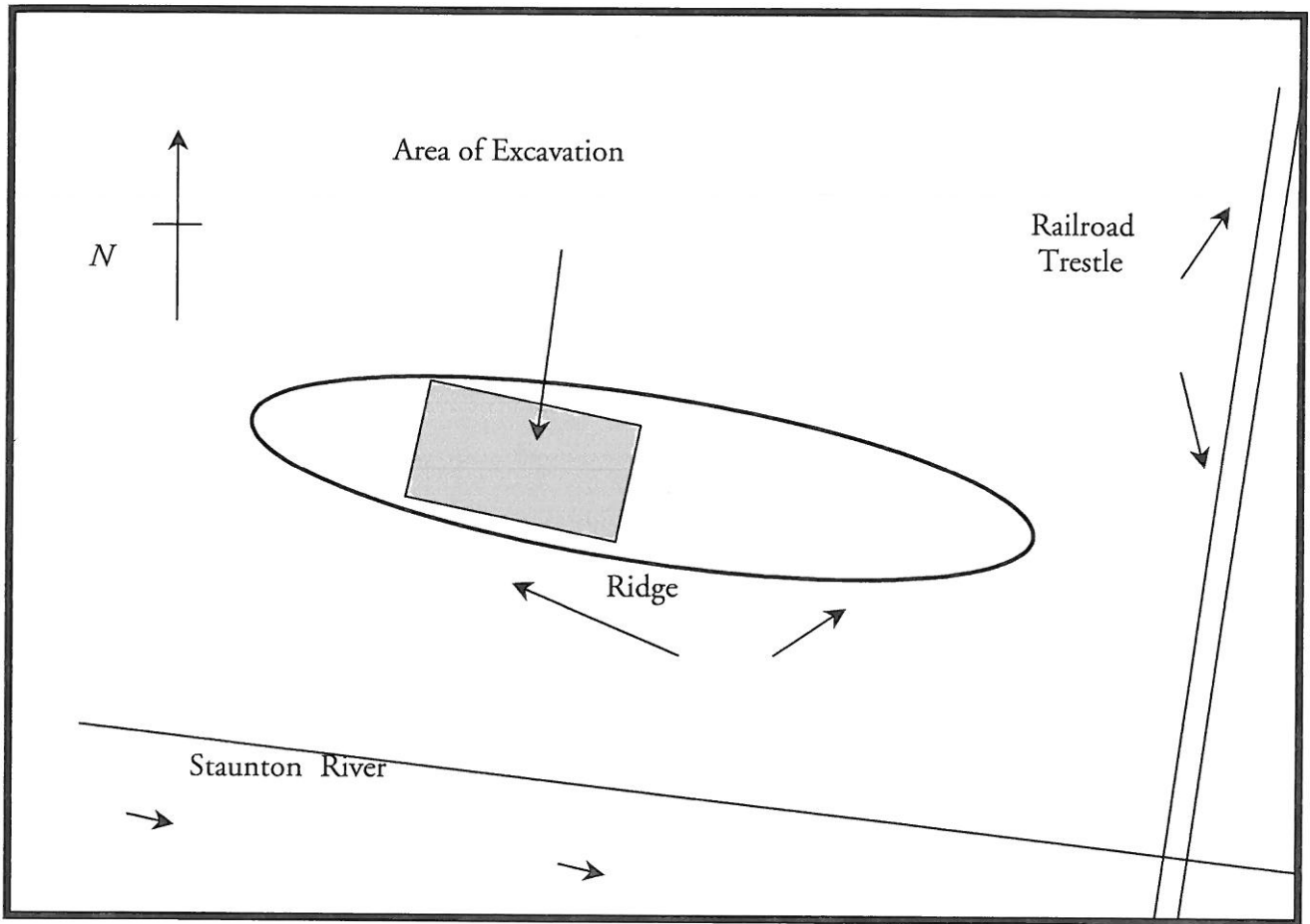
Charlotte County residents have, as long as the county has been inhabited, been finding relics of prehistoric occupation, particularly along the banks of the Staunton River. The situation of the Staunton River Battlefield Park along the river makes it likely to have sites of significant prehistoric archaeological importance. This turned out to be the case as students from the field school began to find ceramic sherds and projectile points in their Civil War excavations.

As the evidence increased, the next year of digging during the summer of 1997 brought a new focus to the field school. Strong evidence of a prehistoric site warranted surveying to determine boundaries and date of occupation estimates. An initial Phase I survey was carried out during the field school, placing the prehistoric occupation area along the top of a small hillock in the Staunton River floodplain. It had been noted during a recent hurricane that this area remained above floodwaters, although areas as far

as one mile from the river were underwater. This proximity to the river, roughly three hundred meters, was cause for further investigation of this area. (see Fig. 2) In anticipation of further work, a benchmark was placed mid-way along the crest of the ridge and was measured at 104 meters above mean sea level. This elevation had been transferred from a preexisting benchmark on the park.

The first shovel test pits (STPs) were dug in 1997 to help define the boundaries of the site. There were several STPs dug on the crest of the ridge, roughly eighteen (18) meters south-southwest from the benchmark, at fifteen (15) meter intervals. (see Fig. 3) The assemblage of artifacts and their density warranted another season of digging at the site. These test units gave a rough estimate of the size of the site and an approximate artifact density throughout the area. During the fall of 1997, a phase II excavation was opened on the densest artifact assemblages. This was in the form of twenty-four (24) one meter units. Accompanying the open surface units was a transect of one (1) meter units. There were approximately twenty (20) sample pits and this procedure was used to further define the limits of the site. A map was made of the artifact density and this helped determine the location of the open surface units before they were dug. In the units of the 1998 dig, over forty contexts were defined and recorded. Among these, there were seventeen (17) trash middens, two (2) human burial pits, eleven (11) post molds, and one (1) fire pit. Among the special finds were pipe fragments and stems (4), projectile points (22), scrapers (1), a pecked and ground celt, a miniature clay vessel, fish hooks (4), shell beads (3), bone awls (14), and rim sherds (5). The screen finds included hundreds of fish vertebrae, mollusk shell remains, and small mammal bone fragments.

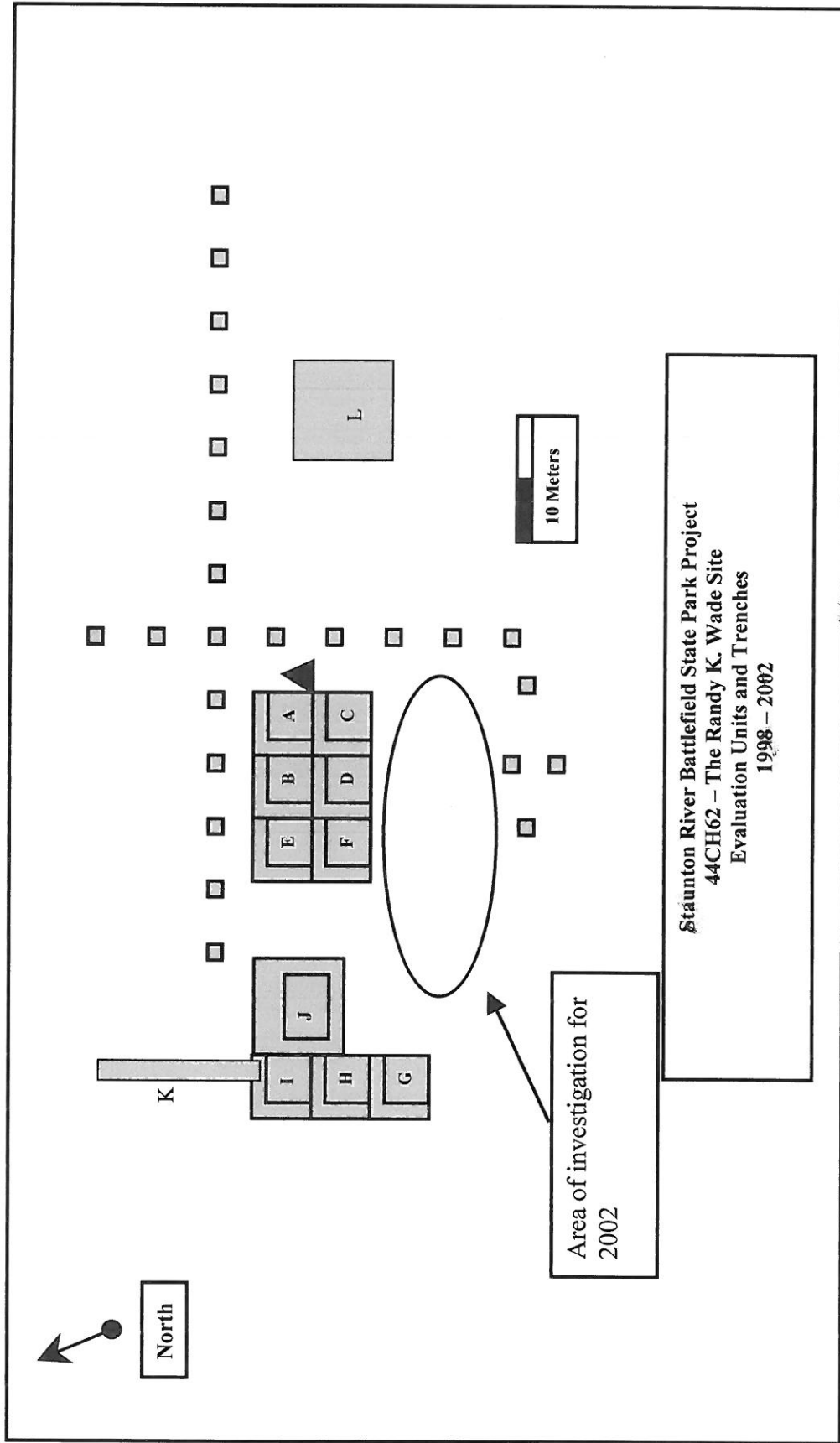
# Wade Site Overview



Note - not to scale

-Figure 2-

# Wade Site Excavations



-Figure 3-

In 1998, a larger area was opened which consisted of six five (5) meter open surface units. They abutted each other forming one ten (10) by fifteen (15) meter unit running east-west. Each individual unit was labeled, A-F. At this point, there was no guarantee that excavations could continue into the next season but the discoveries made that summer led to the extension of an agreement between Longwood and the Commonwealth of Virginia Department of Conservation and Recreation.

During the 1999 season of excavation, units G, H, I, and K were opened. Units G, H, and I were five (5) meter units and ran north-south approximately twenty-eight (28) meters west of the benchmark. Unit K was a two (2) by fifteen (15) meter sondage, beginning at the northeast end of unit I. (see Fig. 3) The finds included six middens, human burials (2), post molds (4), fire pits (3), and one (1) possible kiln/ fire pit structure. The special finds included one hand axe, projectile points (40), fishhooks (5), pipe fragments (8), rim sherds (4), bone awls (15), and bone pendants (2). The screen finds were similar to the 1998 materials.

One of the most significant finds of the 1999 season was an intact human burial of a relatively high status individual. Around the body were grave goods such as red ochre, a necklace of shell pendants and cold hammered copper beads. The skeleton (fully flexed) was determined to be that of a male approximately 30-35 years old and approximately 5' 10" tall.

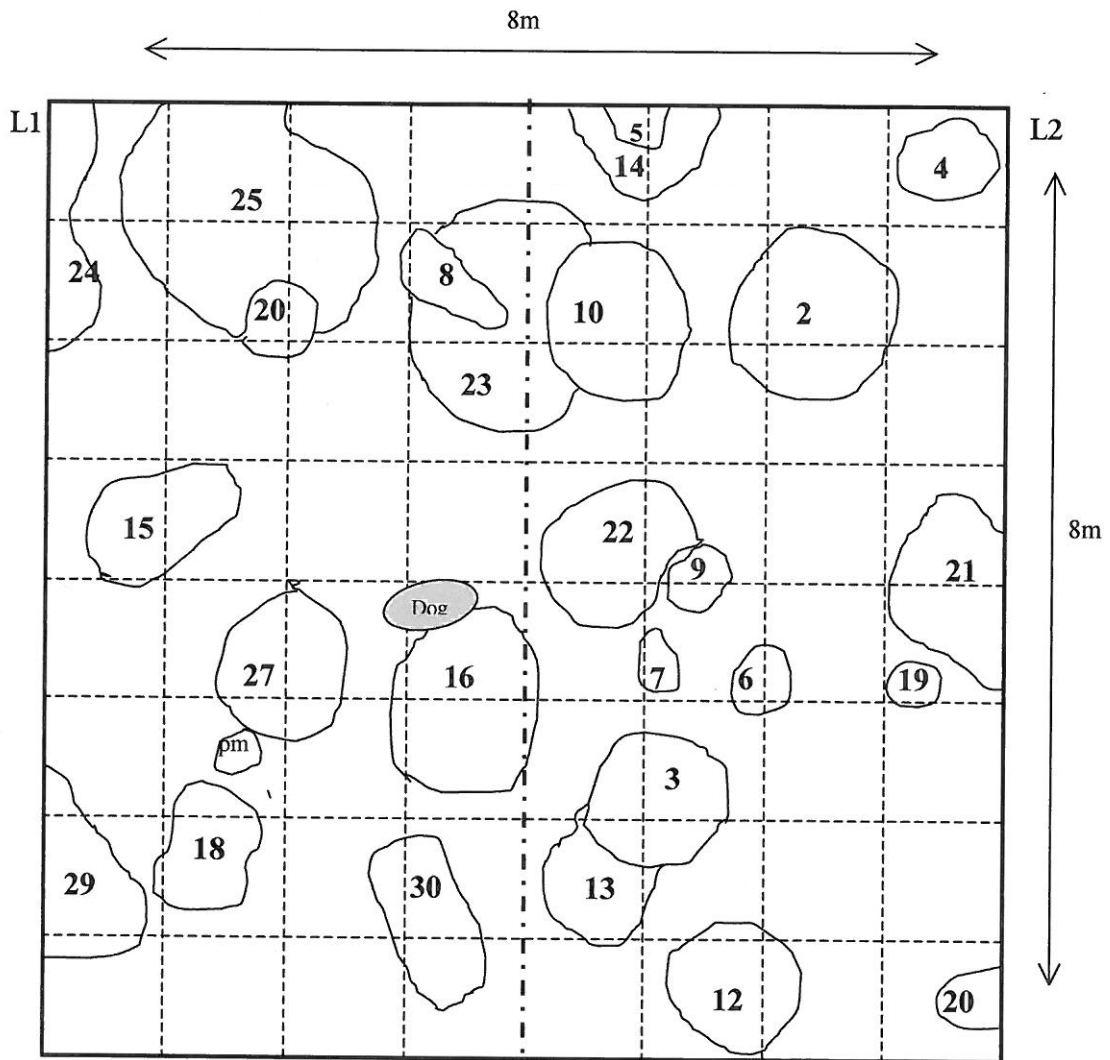
The 2000 season of excavation worked between the 1998 and 1999 excavations. An open surface eight (8) meter unit, Unit J, was excavated. Again, the artifact assemblage was similar to the previous year. Among the contexts were; middens (23), burials (3), post molds (2), and one fire pit. In the special finds there were projectile

points (39), fishhooks (5), pipe fragments (9), rim sherds (3), and seven (7) bone punches. Also found were ceramic disks (2), several steatite vessel fragments, a miniature ceramic vessel, a refit turtle shell bowl, and a piece of modified elk antler. One of the features contained Late Archaic projectile points, the majority of the steatite bowl fragments and other typical Archaic Period refuse.

The 2001 excavations at the Wade Site opened up an eight square meter unit. Located just east of the 2000 dig, this was to be one of the most productive units for faunal remains. During the course of the dig, nine human burials were exposed and three dog burials. This represented the highest concentration of human burials seen yet at 44CH62 and the first dog burials. The humans burials ranged from fully preserved osteological remains to incomplete and disarticulated collections of bones. Any burials closer to the surface had been subjected to centuries of agricultural disturbance, typically known as “plow damage”, and were badly scattered. The chemical composition of the soil at the Wade Site preserves organics well. Most of the organic remains, including burials, were quite stable and friability was limited to agriculturally impacted features.

The unit opened during the 2001 dig was labeled Unit L. (see Fig. 3) It was again divided into two smaller units of 1 and 2, west and east respectively. Once the plow zone was removed and any finds were recorded, work began in earnest to define the features that were exposed. The majority of the features were middens that were in sharp contrast to the lighter sandy soil surrounding them. Early on, the circular stains representing middens began to produce artifacts. Since the majority of the contents of middens is refuse, thousands of pieces of bone, turtle shell, ceramic shards, fire-cracked rock, and shell also were recovered.

# Wade Site Contexts – 2001 – Unit L



-Figure 4-





As the 2001 season progressed, larger long bones began to appear. These were determined to be human and with more digging were connected to other bones, forming almost three completely articulated skeletons. However, these were not the only articulated burials. Three dog burials were discovered and a new mystery surfaced. Dog burials had not yet been found in four years of digging and this represented a new chapter in the history of the settlement.

The presence of human burials within prehistoric settlements is common. Unlike the practices of today, grouping our burials in cemeteries, many Indians of prehistoric Virginia buried their dead within the confines of their living spaces. One primary clue to identifying gene pools is the dentition of an individual. Caucasian incisors are relatively flat and the cusps are not exaggerated. In the case of Amerindian incisors, two well-defined cusps give a shovel-like appearance. This identification was used to assure the burials were Amerindian and not historic interments.

The human burials from the 1998-2002 excavations are as follows:

1998        -Two burials were found, neither of which was in good condition.

Extensive plow damage rendered ageing and sexing impossible. However, these first human remains encountered gave the site particular importance. The presence of burials expanded the possibility of the site from being a hunting camp or seasonal way station to a small hamlet or village.

1999        -Again, two burials were encountered. Context 46, the most intact burial, was a high status figure. The presence of copper and shell beads and numerous grave goods lent more conclusive evidence for the Wade Site a permanent, year-

round settlement. In what might have been a small, transient band relying on close alliances with neighboring tribes, we now have the burial of a man of importance. The Wade Site now takes on that of a village of relative political importance within the Siouan speaking area.

- 2000       –During this summer of excavation, three burials were encountered. Contexts 14, 18, and 28 were all designated burial pits. Supporting the 1999 excavation of a status figure, all three burials during 2000 contained grave goods such as bone beads, deer antler billets, and intact ceramic vessels.
- 2001       –The field school of 2001 proved to be a watershed year for human interments. Seven burials ranging from ninety percent intact, to barely a soil discoloration, marked Unit L. This area of excavation was the first open surface unit east of the benchmark and within an area sixty-four square meters in size, a high concentration of burials was found. Although the burials contained fewer tangible grave goods, the presence of dog burials in close proximity, and in one case direct contact, allowed a closer examination of the cultural patterns of these people. (see Figures 5 & 6)
- 2002       –Unit M, the designated area for excavation in 2002, contained one set of human skeletal remains. The only evidence of this was a small thoracic cavity found along the north-eastern wall of the eight meter-square unit. A set of highly deteriorated vertebrae, mostly thoracic and cervical, along with an almost full set of ribs, noted that the burial was one of a sub-adult.

A pattern of high concentration of human burials along the ridge of the site is apparent. East of the benchmark, the highest concentration of burials is present and from north or south, they diminish. Also east of the benchmark is the concentration of dog burials, however not with the highest status burials. Given the fact that these burials seem to be located within the confines of the living area and some, perhaps, within the confines of a structure, this is a variation from standard Late Woodland burial practices. According to archaeologists Keith Egloff and Deborah Woodward (2000), burial practices in Virginia's Piedmont during the Late Woodland consisted of "accretional mounds". These mounds served primarily as ossuaries for secondary burials and were constructed over generations. Thomas Jefferson's excavations at Shadwell, the family plantation, revealed how these mounds were constructed and his excavations of one revealed, by his estimation, over a thousand interments (Sams 1919: 204-210).

Placing the human burials of the Wade Site in context helps lay the groundwork for dealing with the canine burials. These dog burials were not haphazard nor do they represent the entire population of canines within this culture. Noting the orientation of the three burials, we begin to make connections to the human population. The intent of two of the burials, contexts 8 and 11, was a singular interment for each. This does not rule out connection to other burials but in fact is supported by context 10, in which canine and human are interred together.

During the excavation of the Weyanoke Old Town site, 44PG51, Gregory encountered 112 canine interments. Kerber (1997a:91-92) cites Weyanoke Old Town, Prince George County, Virginia, as one of the few sites around the world with such a high concentration of dog burials. The other two are the burials at Yin, a Shang Dynasty

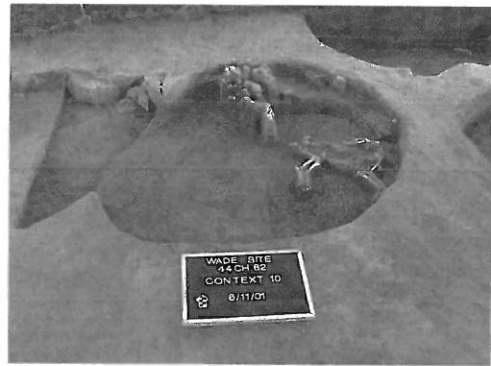
site, containing 439 dogs, Ashkelon, Israel, containing 600-700 dogs, and the Huaca de la Luna site in Chile, containing over 200 dogs (Blick 2000: 3). Blick noticed the concentration of dogs seemed to be buried in relation to either sacrificial offerings or to human burials. Blick's work with the canid remains from 44PG51 has led to several conclusions about the role of dogs in Algonquian culture. One is that dogs were buried ritually and perhaps this was related to the afterlife of Algonquian society (2000; 15). Canid burials at 44CH62, on a much smaller scale, parallel his findings in the relationship of dogs to humans.

Out of the three dog burials discovered at the Wade Site, two (contexts 8 and 11) were facing due west. The third, context 10, had the body facing east but the head bent sharply back, facing west. Beginning with context 8, this feature initially started as a bowl shaped feature revealing some ceramic sherds and a general collection of small organic remains, although not many. Small lithic remains were found within the context but none of any particular importance. No use wear analysis has been performed on these small flakes but their presence is probably coincidental and part of the midden fill.

The condition of context 8 was poor. Parts of the skull remained along with forelegs, some ribs, thoracic vertebrae, and one innominate. The general positioning of the dog was similar to that of context 11 but with less formal arrangement. The majority of the bones were much more friable than those of contexts 10 and 11, perhaps relating to age of the dog at death but these results are inconclusive due to the lack of ageing data. Also due to the deteriorated condition of the bones no observations could be made of transverse cut marks on the cervical vertebrae, noting ritual sacrifice. Likewise, no cut

marks could be seen on the midshaft sections of long bones, denoting butchering of the canid for food.

Context 10 was in good condition. Like its neighbor, context 11, the bones remained intact and relatively undisturbed. Within the context were articulated human remains consisting of: part of the right innominate, tarsals and metacarpals of two feet, fragments and proximal end of right femur, and fragment and proximal end of one tibia. Although articulated, this individual was not fully excavated. The amount of material, including the canid and human burials, prevented full excavation of the feature. The opening level for context 10 was 103.27 and was closed by the field school at 103.08. In the nineteen centimeters excavated, the entire dog burial was uncovered, noting minimal deflation of the upper context strata.



**Fig. 7 – Context 10**

What set this burial apart was its proximity and contact with a human burial. The dog's head was thrust back facing the opposite direction from the body. Acute separation in the distal cervical vertebrae suggests the dog was sacrificially killed. Although no in-depth osteological observations were made on site, there were no hints of duress, such as healed fractures, to the skeleton that would result from mistreatment or age wear. The dog's forelegs and hind legs were bundled similarly to those of context 11 and the orientation of the body, excepting the head placement, was also identical to that of context 11. No particular orientation of the human remains could be ascertained but was likely similar to that of context 18, the semi-flexed male burial. Site protocol for dealing

with human remains did not allow for the removal of the canid remains from context 10. (see Fig. 7) The situation of the context within a human burial categorized it as part of the burial and subject to Department of Historic Resources procedure when dealing with human remains. The agreement between the Longwood University Field School and the Department of Historic Resources allows for the excavation of human remains but not removal. Any goods pertaining to the burial are subject to the same treatment.

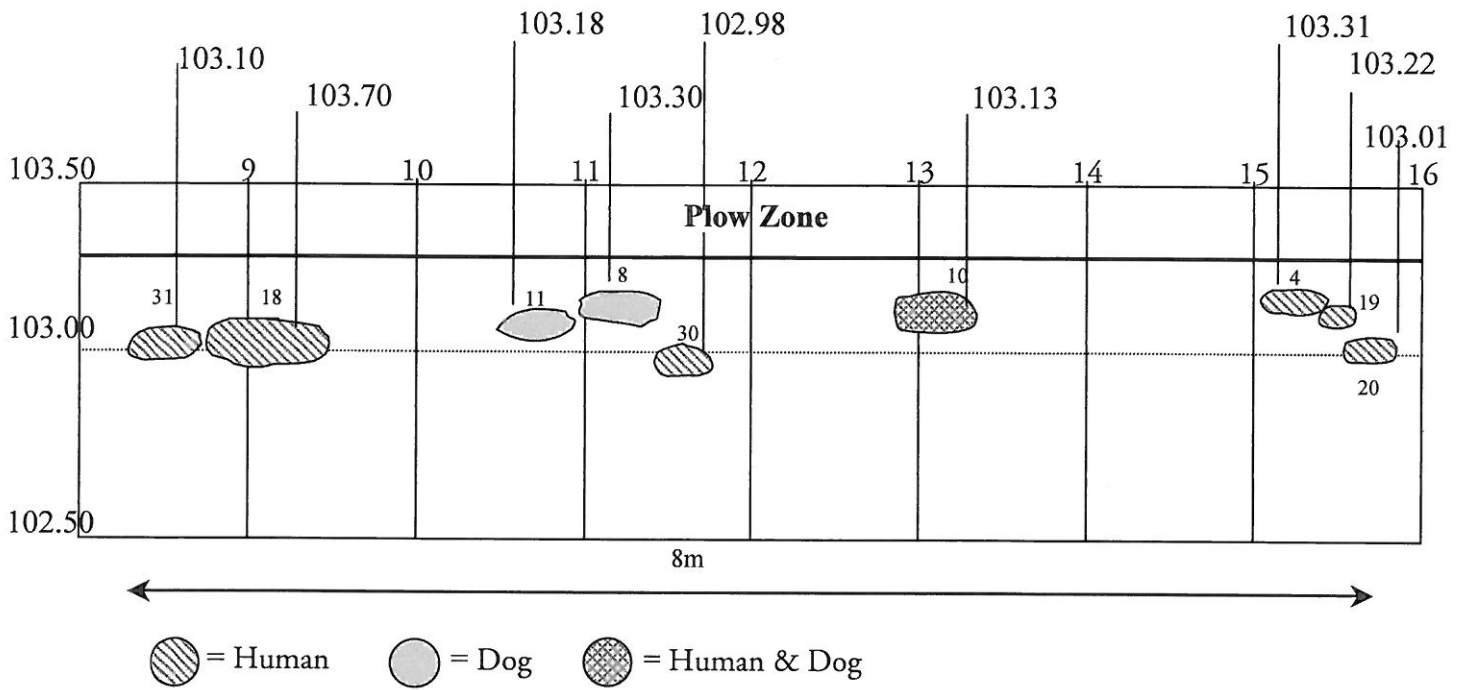
The presence of small flakes in contexts 8 and 10 are consistent with that of Algonquian canid burials from Isle Royale, Michigan (Clark 1990: 267). These terminal Woodland Period sites around Lake Superior have revealed over a dozen separate dog burials. In some of them small lithics have been common but their purpose indeterminate. Too small for scrapers or too angular for points, these may not be part of the fill dirt and strewn on as part of the offering. The presence of lithic materials in context 11 from the Wade Site was minimal and included only one small possible flake from local rough-grained quartzite.

The issue of leg binding, as observed in context 11, is backed by historical evidence of the Illinois tribe in Kaskaskia, in the upper Great Lakes region (Clark 1990: 271). During special ceremonies, the legs of dogs were bound and they were thrown into the lake as offering to appease a Manitou. Most often this was done during inclement weather or at the approach of a bad storm. Other sacrificial dog uses involved tying the dogs to the tops of poles and leaving them to die and roasting live dogs on a fire as an offering to war deities. Despite the marked separation in distance, these practices could have been part of the Virginia Indian ritual. Historical accounts of contact-period Virginia are scant and usually do not include more than a visit to the described area.

Further discussion of the historical documentation of dogs in Indian cultures along with archaeological suppositions on prehistoric dog uses is dealt with in the next chapter.

Figure 5

Stratigraphic Relationships in Unit L – 44CH62

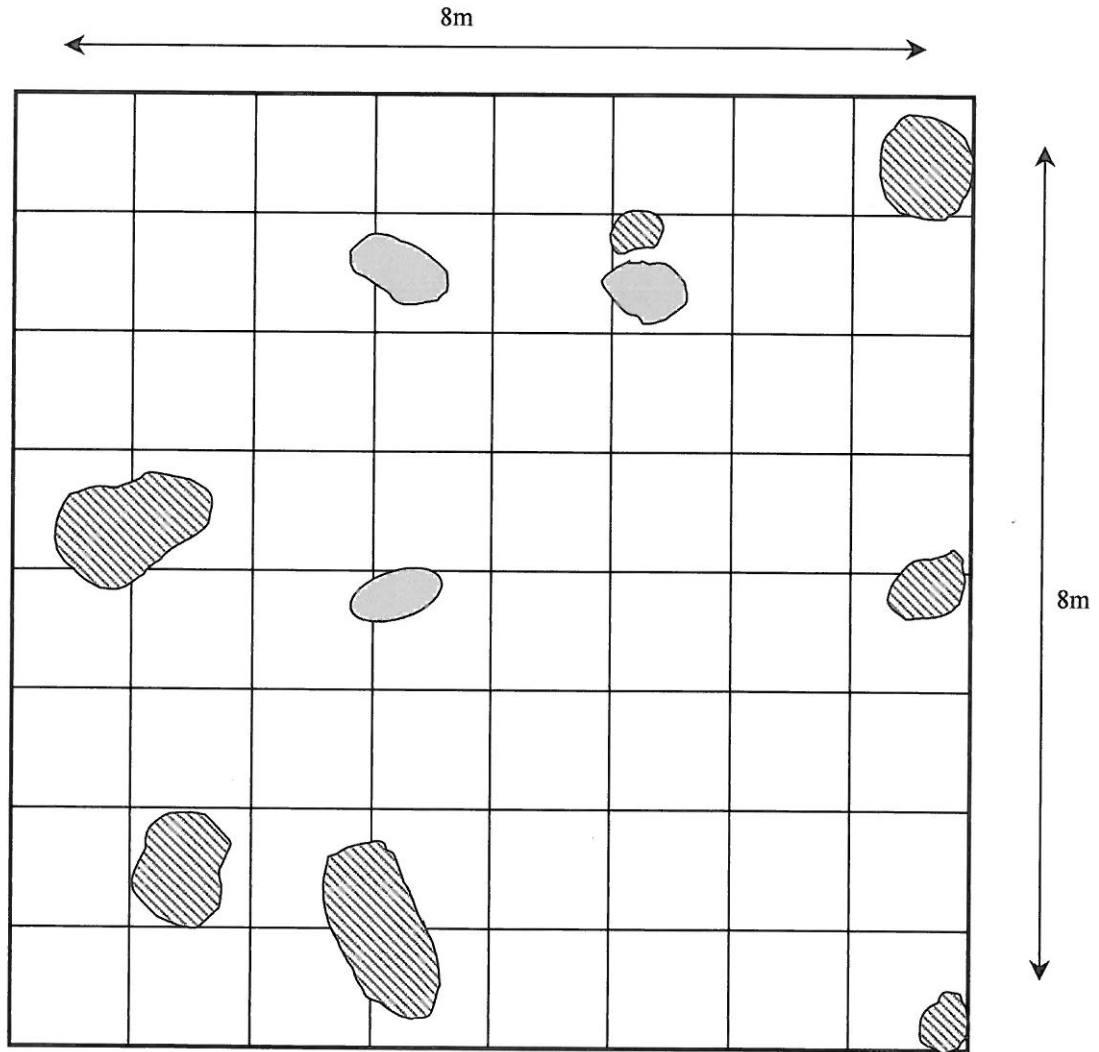


Note- view is facing north



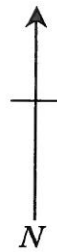
Figure 6

Relationships of Dog Burials to Human Burials  
Unit L - 44CH62



-To Scale-

⊘ = Human Burial    ● = Dog Burial



## Chapter III

### Historiography of Dog Research as an Element in Culture

The history of dogs and humans goes back thousands of years. The Centre for Applied Archaeological Analysis, which specializes in canids, posits that “dogs are the human animal”. Quite simply, humans have manipulated and synthesized speciation into a living tool and companion. The period during which the common dog, *Canis familiaris*, evolved from the wolf, *Canis lupus*, was relatively short. The adoption of dogs into humanity was not only rapid but almost universal. Humans domesticated the dog, and as in the case of Britain’s dog population, the breed remained relatively unchanged for over six thousand years. Within the span of the Roman occupation of Britain, the species began to vary wildly and new breeds emerged which were selected for assigned tasks (Cram 2000: 171). This example illustrated the genetic and behavioral adaptability of the canids and their special link to humans.

The first domesticated dogs were, as Schwartz (1997: 4) suggests, a breed similar to that of the Australian dingo, *Canis familiaris dingo*. These wild dogs are closely related to the South Asian wolves but have a lesser reliance on social structure to survive. Schwartz also suggests that the “pack” reliance that causes wolves to be the most social of the canids is perhaps a major cause for the deviation of dogs from the wolf clan. It has been shown by geneticist Robert Wayne that the difference between dogs and wolves is only a 0.2 percent difference in their mitochondrial sequencing (1993: 220). Schwartz adds, “dogs are virtually identical to wolves.”(1997, 10) So why did the speciation take place so rapidly and become one of man’s earliest tools? The lack of DNA separation is

not the key, rather the social reliance of the wolf. Physical anthropologists have hypothesized that early humans adopted and tamed lone wolves.

One argument Schwartz put forth is that of neoteny. The fossil and archaeological record shows that all dogs have near identical skull features as those of wolves with the exception of one fact: the dogs retain facial features of young wolves. The argument is furthered by saying the smaller the dog, the more puppy-like in appearance. Perhaps it was the human quest for the “eternal puppy” that led to the adoption of certain subordinate wolves. Whether or not this is the case is unclear but certainly offers a plausible reasoning for speciation.

The case of the dog in the New World is interesting. Most archaeologists and paleozoologists agree that some form of dog was brought over via Berengia and introduced parallel to human interaction with the already present wolf. A counter-argument holds that humans domesticated wolves upon arrival in certain parts of the New World. Charles Darwin in his journal from the voyages aboard the HMS Beagle (aptly named), notes the presence of tame wolves in the Falkland Islands (Schwartz 1997: 13-15). Perhaps some sort of wolf similar to this was the originator of the “Indian Dog”. The argument remains.

It is apparent that sometime by about 7000 B.C. humans in the New World had a variation of wolf/dog. Skeletal remains from Danger Cave in Utah, along with the Illinois site at Koster (see Fig. 8), give conclusive evidence that dogs and



**Figure 8 – Koster Dog**

humans were cohabitating (Crockford 2002: 35). The 8,400 year old canid remains from the Koster site in Illinois show that humans at this time valued the dog enough to bury three of them separately (Schwartz 1997: 103). This evidence supports the hypothesis that the speciation was definitely not just for mechanical purposes and that ancient dogs held high status among nonhuman animals, as we see this in Egyptian hieroglyphs. In the New World, dogs were also the universally domesticated animal. Although this practice probably stemmed from those who crossed Beringia, no other animals in North America were as successfully domesticated as dogs were. Some wild animals may have been tamed and kept for social or spiritual uses. These were individuals from a species and do not represent true domestication (Sams 1919: 71).

Let us move on to the ethnographic and historic evidence of dogs in human culture. The role of the dog has varied, and continues to vary, from place to place. From garbage disposal to being tracking devices, food sources, and hunting aids, canids have held many positions in society. Some of the earliest stories of dogs come in the form of creation myths. In the jungles and high deserts of Mexico, the Aztec empire involved dogs in their complex system of deities (Schwartz 1997: 98). Their creation stories, similar to many North American Indian groups, involved humans being created by animals. Xolotl, an Aztec god, was supposedly responsible for the variations in the human form (Schwartz 1997: 139). Upon retrieving the bones of the lost human races, he dropped one and it shattered. The pieces became the different images that humans now take on. This may have been one way that the Aztecs were trying to give back to the dog what it had lost in domestication. Subservience and the surrender of their kill to humans supplanted the freedom of being wolves. The Hidatsa, a northern Great Plains people,

focused on the subservience of dogs as a primary theme in their myths. One of the ancient shamans and Hidatsa elder, Yellow Dog, manipulated the formation of a new breed. He instructed his people that there were four types of dogs; Forehead-Raised, the mean dog, Lodge-Digger, the house destroyer, High-Catcher, the troublemaker, and Four-Eyes, the kind dog. Yellow Dog told his people that the first three types of dogs must be killed and that only the kind Four-Eyes should survive (Schwartz 1997: 20). Whether or not this represents an actual event is unproven but makes sense. With the early dogs, there must have been some that had more aggressive and contrary traits. If these types were prevented from having offspring, a new breed of dog would have been the end result. Four-Eyes apparently took his name from the brownish dots above the eyes. This trait, if representative of a more docile dog, would have created a distinct breed within a relatively small region.

Susan Crockford (2001: 33), a zooarchaeologist focusing on dog remains, has suggested that there have been four distinct types of dogs represented in prehistoric North America. The wool dogs of the Pacific Northwest were raised much as sheep are to be shorn for their wool. The fibers were woven into clothing and blankets for the peoples who raised them and evidence has supported the theory that this breed of dog was kept separate from the village dogs. Village dogs, a short haired variety, were used for many different purposes, primarily garbage disposal and hunting. Also called the Indian dog, this type of canid is divided into two subgroups: there is the short faced variety and long faced variety (Olsen 1964: 42). Archaeological evidence supports the range of the short faced dog, known as Basketmaker dog, to include the southwest and southeast. The

longfaced dog, was initially recognized as being a variant from the Ventana Cave Site in Arizona (Olsen 1964: 42).

A breed called the wide-muzzled Eskimo dog is closest in shape and size to the wolf (Crockford 1999: 4). This large framed dog, the largest of North American dogs, is used as a hauling dog. Muscle attachments on humerii and femori demonstrate that these dogs were built for pulling loads, much like the Huskies used today for pulling sleds. The fourth type of dog which has a wide range was the Pueblo dog. Sometimes called the Plains Indian Dog, this animal was closer in features to a coyote. The slim facial features of the Pueblo dog and slight build would have been excellent for hunting uses. The gathering and driving of herding animals for the hunt would have been greatly helped by these swift runners and aggressive attackers.

Dog uses across the Southeast among Woodland peoples varied a great deal. Schwartz has categorized these Indians into three distinct categories. There were tribes who habitually ate dogs, either for ceremonial purposes or for protein intake (Schwartz 1997: 61-62). Certain tribes had strong aversions to eating dogs and there were tribes who had so few dogs as to make eating them out of the question. Among the tribes who ate dogs, the Iroquois had varied uses. Before going off to battle, a dog was sacrificed and eaten as a symbol of the enemy. This symbolization of man eating a close companion perhaps shows a certain tribute paid to the enemy and during the ceremony all other dogs were kept out of the area. Even after a ceremony had taken place, the remains from the event were burned. If other dogs ate the ceremonial wastes, it was a sign of disrespect for not only gods but also the enemy (Schwartz 1997: 79-85).

Stanley Tambiah (1969: 455) argues that those who chose not to eat dogs did so due to the “metonymical relation to human society” and Schwartz asserts that “Complex human projections placed onto dogs keeps them off the menu”(1997: 63). Those who did though, usually had good reason to do so. Examples such as the Iroquois ceremonial use are fairly common whereas some tribes who ate dog did so for expressly that purpose, to have something to eat. In Hernando DeSoto’s infamous trek across Florida and up to the Mississippi River, his troops lived off the land, and quite frequently off of dogs. The local Indians pressed by the Spaniards to supply them with food often offered dog meat. In one locale, small mute dogs were given to DeSoto’s troops. Accounts of the trip state that these dogs were raised in small huts behind the Indian villages expressly for consumption. This allusion to small, mute dogs harkens to the Caribbean where the Taino Indians of the East Indies kept a similar dog, perhaps the same. However, the Taino used these dogs for hunting purposes and as pets, often carrying them on their shoulders. (Schwartz 1997: 78-79)

In Virginia, historical accounts of dogs are few. The presence of dogs in the region is apparent given the many dog burials encountered by archaeologists. Whether or not the dogs were eaten is unclear due to a lack of calcined (cooked) bone in faunal assemblages. The commonality of dogs would support the hypothesis that dogs were eaten as well as used for ceremonial purposes such as in the case of the Mississippian culture of Cahokia (Schwartz 1997: 109). Cahokia, the largest established center within its region, was noted by the huge ossuary mound within the village. Among the faunal remains are processed and calcined canid bones. These bones are no different in species from those that are buried within the human burial mound. Going a bit farther, a high

status area of the burial mound includes several dog burials. This range in the role of Cahokian dogs provides clear evidence that dogs within a culture can fit many and varied needs. The people of Cahokia apparently had no limited resources of food varieties. Among the faunal remains are those of white-tailed deer, *Odocoileous virginianus*, and many species of waterfowl. These people did not have to eat dogs; they chose to. This example, although somewhat geographically distant from the Wade Site, gives conclusive evidence that a large, developed, and complex society adapts its resource needs in a multi-tiered system and can do so to a singular species. In this case, it is the dog.



## Chapter IV

### Methods: Osteological and Pathological Observations

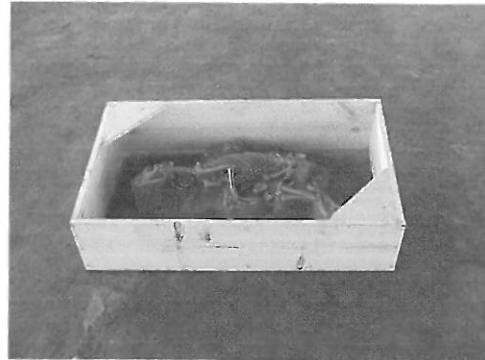
To examine a canine burial and place it in perspective in a Late Woodland settlement, several methods of examination were attempted. The first was research of the historiography of canine roles in prehistoric cultures. Materials from a broad spectrum of time periods and geographic locales gives the researcher an idea of human patterns concerning the treatment of the dog. By comparing methods of treatment, use as labor, protection, fiber, and food, an understanding of what to look for in this example, can be ascertained.

Secondarily, the methods of excavation must be defined. From the moment of discovery, this burial has been specially treated. Before the dirt was removed from around the dog, the decision was made to remove it *en-bloc*, or as a whole, so that further laboratory examination in a controlled environment could be performed. The burial was pedestalled and a sturdy wooden box was placed around it, rising to a height above the top of the feature. Plaster of paris was mixed to a medium consistency and poured around the pedestal. This effectively made the box and pedestal one unit and greatly stabilized the fragile burial. (see Fig. 9) To prevent the small and delicate bones from shifting during removal and transportation, screened soil was carefully sifted onto the entire feature, covering it in a loose, protective blanket. Removal of the feature from the soil required separating it cleanly so that none of it was left behind. Not knowing exactly how deep the feature might go, an estimate to its depth was made and a sheet of iron, sharpened on one end, was driven under the whole affair. The burial having been totally

isolated from its resting place, poles were pushed under the box and it was gently lifted out of Unit L and taken to Longwood.

To deal with this specimen, the first *en-bloc* removal from the Wade Site, analysis began by removing the loose soil from the top of the dog. A detailed plan was started to chart the discovery process and create an

accurate map of the findings once they had been removed and disarticulated. A scale of one graph centimeter to 2 ½ real centimeters was used, a 1 / 2.5. (see inset image) Removal of the bones came only after they had been



**Fig. 9 – En-bloc removal**

photographed in place, added to the plan, and accounted for being part of the dog. During the first half of the excavation, special care was made to avoid organic tool contact with charcoal remains. To get an accurate carbon date of this example, the charcoal specimens should remain as free from modern contaminants as possible. Collection of charcoal, the only occurring dating material besides bone in this feature, was slow and tedious as the granules were usually around a millimeter in size. Fortune bestowed me a large, marble sized piece and this rounded out the required fifty grams of charcoal necessary to get a date. This will be used at a later date to add to the collection of radiocarbon dates from the Wade Site.

As the burial contained unexpected features, mainly snake vertebrae, special procedures had to be utilized in order to maintain the integrity of the delicate objects. Advice from colleagues suggested the use of a solvent, cellulose-based glue. The properties of the glue are reversible and thereby have minimal impact on the specimens.

The glue (Duco cement) was thinned with acetone and applied where it was needed to strengthen and stabilize bones and/or soil.

Examination of the bones in the post-excavation stage took two main forms. These were an osteological approach and a pathological approach. Within these divisions, the goals for each are as follows:

### **Osteological Examination**

**Trauma Analysis**- This was primarily a search for broken or abused bones. Evidence of this type of distress leads to hypotheses on the animal's living environment and its treatment in life. Dog injuries due to trauma are common, according to Diane Warren, who has studied dog burials across the southeastern region (Johnson 2001: 36).

**Wear Analysis**- Transverse cut marks across vertebrae or long bones to suggest butchering (Bates 2001: per. comm.). Analysis of the ends of vertebrae to ascertain unusual wear patterns or age related deflation.

**Bone Measurement**- Measurements of the cranium and postcranial bones to determine approximate height, weight, and abnormal congenital disfigurement. Angela von den Driesch's Guide to the Measurement of Animal Bones from Archaeological Sites (1976) was the standard by which osteometrics were taken for the cranium. Methods from Susan B Crockford (1997) were used on postcranial measurements.

**Dentition**- A limited dental analysis was performed on contexts 8 and 11. Dental remains from context 11 were minimal despite the overall condition of the skeleton. Wear associated with maxillaries, premolars, canines, and incisors was considerable and suggests the dog was older in age. Similar results were obtained from context 8, in which

the dentition was somewhat less deteriorated. Postmortem flaking and chipping presented somewhat of a problem in getting an accurate measurement on toothwear and the lack of a comparative sample prevented comprehensive analysis. However, based on the amount of observable wear, especially on the premolars, we can conclude that these two dogs were well into life, yet not exceedingly old.

**Observation**- In observing the bones, Behrensmeyer's (1978) system of bone deterioration was used. This scale represents a 0-5 scale with 0 being the best state of preservation, i.e.-no cracking or flaking. No coloration system was used since the bones contained within context 11 were either canid, fish, or reptilian. Any discoloration to the bones would most likely result from calcinations.

Means of examining the causes of death for the canid were taken from Baker and Brothwell's Animal Diseases in Archaeology and are as follows:

- I. Congenital malfunction- premature death
- II. Internal factors of dysfunction-resulting from degenerative/age-related changes
- III. Killing for food- either by human or predation
- IV. Accidental death- from climactic extremes, drowning, rutting fights, etc.
- V. Infectious agents- including other external disease factors and starvation

When the thoracic cavity was opened a cluster of small non-canid bones became apparent. This concentration was centered under the third through sixth ribs. Contained in the cluster were fish vertebrae, scales, and small rodent bones. One large piece of bone proved to be the proximal condial of a species-indeterminate humerus. The species

is unknown, contrary to Lewis Binford's hypothesis that "...all bones, even the smallest fragments, may be identified given sufficient training in osteology."(O'Connor 2000: 36) The small size of the example, plus a limited comparative study collection prevents the identification. It does, however, strikingly resemble the humerus of a canid, although smaller than the context 11 dog. On the condial there are four tooth marks. These are angular and fit the patterning of canid dentition. However, there is no conclusive evidence of calcination in this bone, making it an uncooked sample. No butchering marks are apparent, perhaps this was part of a wild canid corpse, such as a fox or coyote, that the dog encountered and devoured.

Of the other bones within the thoracic cavity, there are eleven (11) fragments of wild turkey, *Meleagris gallopavo*. From examination, these seem to all be part of longbone mid-shaft sections. There are thirty-five (14) whole fish vertebrae present. This number includes only whole vertebrae that were at least eighty percent intact. Together, they form a minimum number of individuals (vertebral individuals). The low number, plus the variation in type of vertebrae leads to the conclusion that more than one fish was consumed immediately prior to death. The rest of the bones consist of indistinguishable bones too small to identify. (I doubt Binford or Bertram identified rodent bones chewed thoroughly by a dog.) Only one small bone can be identified as rodent and is a long bone, probably the femur of a field mouse.

Underneath the dog's rear legs were the remains of two snakes. These were encountered as only a small section of vertebrae and initially mistaken for fish bones. As the hind legs were lifted, more vertebrae, this time of a much larger size, were encountered. They were remarkably well articulated and intact. Further investigation

revealed that the vertebrae were from two snakes. The direction in which the snake vertebrae traveled, i.e. ribs pointing towards the rear of the snake, proved that this was not one snake cut in half or looped around but two individual snakes. Initially it had been thought that the vertebrae were of only one snake, which was tightly coiled. The size of the snakes was not able to be determined. Measurements taken on the two specimens could not be done in an accurate manner. The intricate coiling, layering, and portions of disarticulated bone (probably from post-interment rodent turbation) prevented a segment-measuring scheme initially attempted. Missing from the snake skeletons were skulls and tails. Although the bones of a snake's head and tail are delicate and deteriorate easily, the presence of other small mammalian bones proved that the skulls should have survived and been present.

Further examination of the positioning of the snakes reveals several intriguing facts. Firstly, the presence of two snakes under the hind legs is noted. This is not particularly insightful but when the positioning of the snakes is taken into account, something is revealed. A portion of either snake crossed almost directly under the portion of the hind legs where their location is atop one another. Having the two snake vertebrae line up in a like manner gives rise to the suspicion that the dog's legs were bound with the snakes. Thus, it seems that two snakes were beheaded and tied to a dog's hind legs. This dog was either dead or awaiting imminent death at this moment. If so, there is a definite connection with a spiritual interment of the dog and not just a status burial. The fore legs of the dog also intersect atop one another, although further up the legs, along the mid-ulna/radii range. This would not be the first evidence of a bound dog, world-wide, but is the first found within the context of a Late Woodland period

settlement in Virginia. Of the canid burials from Weyanoke Old Town, Blick observed no bound dogs, although there was a high frequency of dogs being buried with humans or parts of humans. Blick borrows from Strong (1985: 32, 33; Webb 1946: 243; Blick 2000: 9) and suggests that the importance of dogs was not only for hunting or domestic roles, but as guides in the afterlife. Certain dog burials at Weyanoke Old Town had pots ceremonially placed over them and their postures were of the type that is easily manipulated before the onset of rigor mortis (Blick 2000: 8,9). The Iroquois, who also practiced leg binding prior to sacrifice, perhaps used it to prevent the escape of a dog when it was thrown into the lake and ensure its death. This begs the question of whether or not this dog was bound before burial and whether or not it was dead upon interment.

In concerning oneself with the afterlife and the meaning contained within this example, the dog, we must affix definition to several terms and applications. Beginning from the most basic, albeit complex, structure, the symbol, we turn to Geertz's explanation. The representation of the dog within Saponi society can be seen as a "tangible formulation of notions...concrete embodiment of ideas...and beliefs" (1996:73) The empirical explanations Geertz offers for symbolic representation within society and culture can be thematically applied to the Saponi, as the universality of his argument underscores. This one example, context 11, even with the support of the other two canid burials from the Wade Site, precludes a full observation of symbolic meaning. What we can say here is how this one symbol may be exemplary of Saponi treatment of other symbols. How the dog fits into the overall spiritual framework cannot be fully defined. To do this requires a comprehensive survey of regional canid/human mortuary practices and the careful integration of other cultural significances, such as the representation of

the ritual in the archaeological record. Only then can conclusive premises be made on this topic.

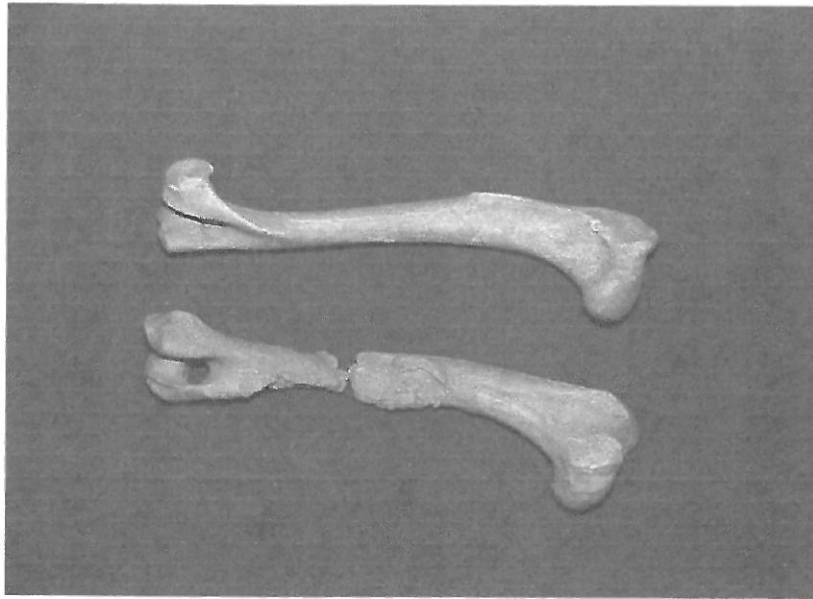
### **Pathological Findings**

Whilst it may be relatively easy to distinguish pathological occurrence from healthy bone, determining the immediate and secondary causes for the damage is much more difficult. Secondly, determining the type of pathogen is equally as difficult. I have sought the advice of Dr. Marvin J. Allison of the Medical School of Virginia's Department of Pathology. His interest with pathology is not only modern but stems from his work with Pre-Colombian mummified dogs from Arica, Chile.

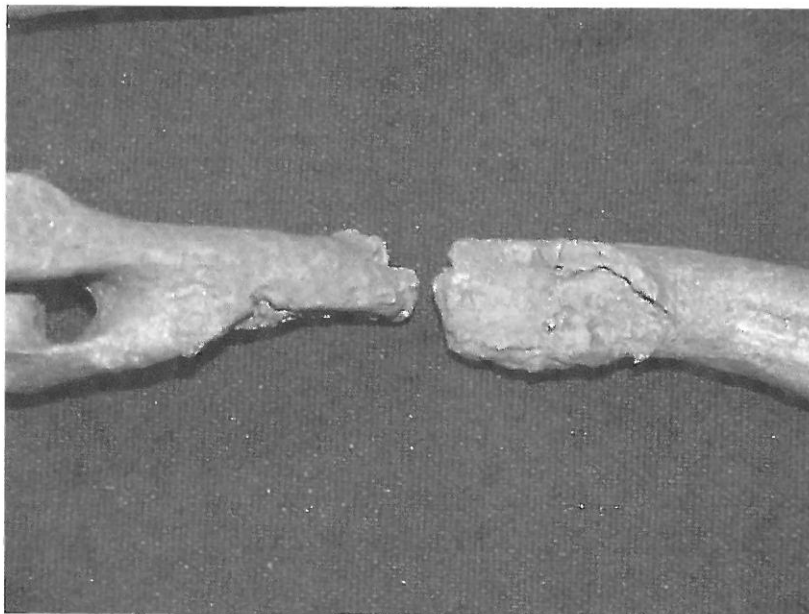
In the bone survey, each bone was not only observed for fractures and abnormalities but pathological damage, such as the epithelization of bone sinus tracts. Pathological damage was discovered in the left humerus. This bone was in two pieces and had not been broken by plow compaction or postmortem disturbance. Both ends of the broken bones had been affected by a pathogen and had deteriorated sufficiently as to lengthen the bone by several millimeters. Upon close examination, the likely causal pathogen for this deterioration and calcinations was chronic pyogenic osteomyelitis. (see Fig. 10 & 11) The granulated bone tissue, accompanied by blocked sinuses are the key identifiers in this example. According to Steinbock (1976), cortical thickening is the reasoning behind abnormal bone growth past the initial onset of the pathogen. Chronic pyogenic osteomyelitis is caused by a primary infection of soft tissue, resulting from trauma. The pathogenesis of osteomyelitis begins with an initial sepsis. It is therefore, a secondary effect of severe trauma. The symptoms may occur for months, even years, as



the pathogen continues to adversely affect the bone structure. It may travel through the bone tissue, usually the shaft rather than the metaphysis, and erupt within a close proximity of the initial trauma, thus characterizing the secondary effects of the disease. In the case of this dog, osteomyelitis had been occurring for some time prior to its death. The only other possible cause for this malady was an unhealed fracture. However, only a very small amount of evidence supports this. Along the meeting ends of the breakage, there are two small areas of wear, indicating that the leg was used minimally during the affected period. Excesses of osteophytic growth preclude it being caused by a simple periosteal infection (Steinbock 1976: 22, 72-75)



**Figure 10 – context 11 humerii**



**Figure 11 – close-up of bone deterioration in left humerus**

## Chapter V

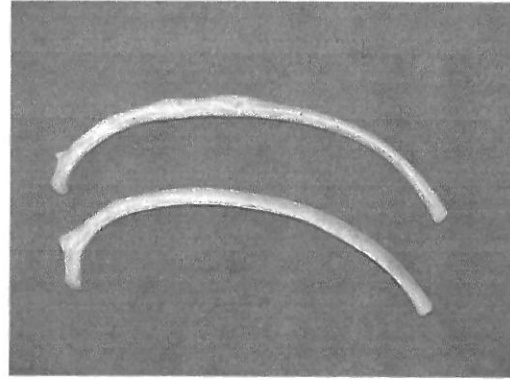
### Discussion and Conclusion

This project has been an attempt to put together pieces of an intricate puzzle. In the case of the context 11 canine burial, individual facts can be compiled into a dossier of the dog's life. Although we may never know the full story of this individual, the known facts help to integrate it into a broader framework. A framework of observations already known about other individuals, assemblages, and cultures then becomes the other piece of the puzzle. By putting the two pieces together, a brushstroke is added to the masterpiece of our mural depicting prehistoric life.

Thus we begin with the treatment of this burial. Stating the facts of the burial is primary in order to link them into cognizance. These are as follows:

- The burial was placed within the confines of the village.
- The dog was of older age, probably more than six years old.
- It was a male dog given the absence of a baculum, *os penis*.
- The burial was physically separate from other contexts and features.
- Soil around the dog was unusually devoid of general village refuse.
- An absence of a tail suggests possible ritual amputation or accidental trauma.
- The pathological deterioration of the left humerus indicates lengthy ante-mortem trauma.
- One broken rib that had healed indicated trauma, intended or accidental. (see Fig. 12)
- The presence of snakes (2) under the dog indicated purposeful placement.
- Westerly orientation of the body suggests ritual meaning in accordance to human burial manipulation.

Combining these facts, we may postulate why the dog was so treated and what sort of status it held in life and death. First, the earliest evidence of trauma to the dog is in the healed rib. Dogs often have broken ribs, in fact a broken rib is the most common form of trauma among prehistoric canids. This



**Fig. 12 – context 11 comparative ribs**

evidence leaves little to conclude that at some point the dog was subject to human or animal abuse, or was involved in an accident. In fact, the broken rib was probably not noticed in life as it is not normally a life-threatening occurrence. In comparison to the humerus of context 8, that of context 11 did not display as many features of having led a strenuous life. The muscular attachments in context 8 on the humerus were more well developed despite the dog's middle age (based on tooth wear analysis) and smaller size. This supports the view that the context 11 dog led a higher status lifestyle devoid of constant activity and work, evidencing the dogs role as a pet more than as a tool.

Ritual surrounding the removal of dog tails in the southeastern United States has not been noted by archaeologists and little research has been done on the topic. Within Mezo-American dogs, the tail was often short and sometimes depicted as cropped in ceramic artwork. Whether this reflects an amputation practice is not clear and may be due to the cultural norms of the artwork. The two other dogs in the Wade Site do have tails which were tucked back under the body in interment.

Pathological damage in canids is relatively common. However, the level of deterioration in this specimen denotes unusual levels of infection and bone decay.

Complete separation of the humerus indicates the bone must have been broken sometime before death. This most likely occurred a great deal of time before death as the bone regeneration is sufficient to indicate a sustained healing process. The most likely candidate for this pathology is a compound fracture that never properly healed and succumbed to degenerative sepsis of the humerus, defined as chronic pyogenic osteomyelitis (Steinbock 1976: 74). Thus weakened, the dog may have withered away in a normal environment; but again, the level of regeneration suggests the contrary.

The placement of the dog in the grave suggests two things. Firstly, the orientation of the dog was akin to that of the human burials, especially since the other two canid burials are nearly identically situated. Secondly, there is evidence that binding was part of the funerary rite. Placement such as we have here, also with contexts 8 and partially in 10, is indicative of treating the animal with humanlike respect. I hesitate to anthropomorphize the dog too greatly but the case for it here is strong. A clear line of delineation for human spiritual practices included a nonhuman species. This was not done for all dogs or the concentration of their burials would be much greater. The size of the site contains a ratio of one dog to every three human burials. It can be said with certainty that these three dogs do not represent the entire canid population of the Wade Site, as much has yet to be excavated. What they do represent is a small glimpse into the ritual practices of the inhabitants of the Wade Site. We have here three representatives of high status dogs placed in a ritual context, demonstrating the capacity and consideration of Late Woodland funerary practices.

Relationships between dog and human burials is a field where hasty conclusions may easily be made. I therefore offer only what evidence is provided here with context

11, the 44CH62 artifact assemblage, and comparison to other sites. The physical situation of the canid burials, with the exception of context 10 and its immediate relationship to a human, can be summarized by noting their proximity to human burials. Although a dog may be buried within a few meters, or even centimeters, from a human, the lack of conclusive evidence linking the two prevents conclusive hypotheses on the relationship. The two burials may have been separated by a huge time span and in reality neither of the two had any relation except a common burial ground. This deposition of a healthy dog with a human body probably came from a sacrificial burial offering. Perhaps this represents a personal affinity for the dog but that is speculation.

In the case of the snake skeletons, many interesting variables appear. These two snakes, of unknown species, were rather short in size. Their approximate body lengths, adding the absent tails and heads, can be calculated at 55-65 centimeters (Gilley 1984: 93-100). The methodology behind this is as follows; taking the relative size of the most proximal and distal vertebrae establishes a mean body length. Adding the estimated (absent) tail length and head size, an overall size of the snake may be approximated.

No recorded evidence of dog burials associated directly with snakes offers a comparative sample but we may draw several inferences from this example. The placement of the snakes under the hind legs was at first a puzzle but as the excavation progressed, connections were apparent: they were bound with the dog. Most likely, they were bundled with the dog's hind legs. This can be said with relative certainty given the peculiar bending and articulation of the snake vertebral column. In the midsections of both snakes, there existed a sharp bend which angled upward towards the tibia and fibula of the dog. In each snake, the bend corresponded in parallel to the direction of the dog

bones. This unique arrangement suggests a bundling method where the hind legs were tied along with the two attached snake bodies.

That the dog died from an extended period of illness due to the infected front leg is made less likely by one simple fact: the last meal of the dog. The collection of bones found within the thoracic cavity is typical of the diet of the villagers. Fish, turkey, and other small mammalian bones are found elsewhere throughout the site in large numbers, often in a calcined state. Here, they are clustered in a small compact group in the approximate area of the dog's stomach. What is unusual about these bones is the size of one. An epicondial of a long bone, it was eaten by the dog as tooth marks are visible on the exterior surface of the condial. It is the size of the bone that raises the question of whether or not the bone could have been processed by the dog thoroughly or would it have caused internal trauma?. Considering the health of the animal at death, was it still feeding itself or being fed by humans? I suggest that the dog was being marginally cared for, hence the variety of food found within the stomach. Some of this variation may be explained by the variety of food waste found in other trash middens. None of the cleaned samples of dirt from this area contained any floral remains such as seeds or shells; however, it must be noted that the samples were not froth floated but sampled and sieved. Although a dog in a normal state of health would probably find a great variety of food remains to eat around a Late Woodland village, an animal in poor condition would probably not, unless it was being offered the food wastes of its owners.

## Conclusion

Although they do not form a complete picture, the facts gained about context 11, and secondarily, other dogs at the Wade Site, contribute to the understanding of how a lost culture lived and dealt with domesticated animals. Since only the bones are left to tell the story, many gaps go unfilled. Those sorts of gaps come in the form of abuse or treatment that affected the dog, but are not revealed in the skeleton. The possibility for these kinds of affectations, such as ceremonial bloodletting or ear modifications, are innumerable and would certainly open the researchers eyes as to how they play into what we know now.

Based on the evidence from contexts 8, 10 and most notably, 11, we can suggest several things about the culture of the Late Woodland Saponi. The inhabitants of this area cared enough about their animals to warrant burial. Burial alone, however, does not reveal much without the examination of the context, pardon the phrase. In context 10, the deposition of human and dog together provides the strongest proof of high status burial. Even if contexts 8 and 11 had been encountered alone, there is still evidence enough to support the status burial practice without direct human connection. In the case of context 11, the positioning of the dog with the snakes gives strong support for a high status burial. The other possible explanation would be a purely disposal method, one in which the dog corpse was buried just to get rid of it. Context 11's skeletal condition tell us that the dog was cared for, if at least minimally, and not just a village garbage disposal for which no one cared. Its lengthened illness and prolonged handicap due to the highly infected left-front leg illustrates this. Whether or not the animal was a pet, hunter, or



status animal is and will be unknown but we do know that some level of status was attached to it, which lasted until death.

This attempt at synthesizing canids into Late Woodland Period society has been based on limited, but agreeable, definitions. It is possible though, through different conceptualizations of symbolism and society, to construct parallel hypotheses on this subject. Even through varying interpretations on the same model of definitions, a new picture may be painted; there is more than one way to skin this dog.

A broad picture of Saponi symbolism from the period represented here has yet to be constructed. From other adjacent cultures, primarily the Powhatan Confederacy, a coastal Algonquian people, parallels may be assumed. I must preface this argument by backing these assumptions with historic and archaeological knowledge of the overall region. That being said, Saponi ritual was not based on a predetermined schedule. Ritual among the Powhatan Indians followed occurrences such as harvests and war. Sacrifice was often involved in appeasing one or more deity figures on the group-level as well as personal. One example that may pertain to the context 10 burial is offered by Rountree (1988: 139) when she notes the sacrificial offerings made in funerary practices. Among the Powhatan only high-status individuals enjoyed an afterlife. If the case for the dog being a guide in the afterlife is to be made, it is here. That would assume ritual context being placed on the dog on an individual level. While answering one question, we are still left to discern how the dog plays into group-level ritual, as evidenced by the context 11 burial. The most supportive hypothesis for this is found in appeasement ritual contexts surrounding control over weather, success in combat, or as a curative emblem.

We can deduce from historic accounts and archaeological findings that dogs were used in a multitude of ways, to include hunting, a food source, as ritualistic offerings, and for companionship (Blick 2000: 14, Schwartz 1997:78-81). Blick suggests that ritual canid offerings were low in the importance of Algonquian culture of eastern Virginia as he finds only three cases out of 112 to support this (2000: 15). Even considering Blanton's (1992: 88-89) model of group autonomy existing during periods of relative peace, there had to be some sort of continuity between groups in such close proximity. Blanton further proffers that the communal hunting ground/buffer zone of the fall line would have been a place where tribal groups met and interchanged ideas and goods. If this is so, intricacies associated with the placement of dogs within the Saponi culture would seem to be similar to those of their neighbors.

This project has raised as many questions as have been answered. Dogs were commonplace in Late Woodland society, almost universal it seems. Given that dogs occupied every position from utilitarian to sacrificial, this lends insight into an area of Woodland culture that is little touched upon, ritual and spiritual beliefs. Evidence and accounts from eastern Virginia, especially from the contact period answer only a few of these questions, and minimally at best. Perhaps the findings presented here may add to the compilation of knowledge of the Late Woodland Period. Secondly, this type of research adds to the intricate research done on other fields, such as ceramics and lithics, yet it remains a field unto itself. This is a survey of one example that I hope will be integrated into future research regarding Late Woodland society, giving us a more comprehensive understanding of those who tread the fields and forests of Virginia long before 1607.

<b>Cranial Measurements*</b>						
From Driesch (1976)						
						Cm** ***
1.	Length:	Akrokranion-Prosthion				16.72
2.	Upper neurocranium length:	Akrokranion-Frontal midpoint				8.808
3.	Viscerocranium length:	Nasion-Prosthion				6.936
4.	Facial length:	Frontal midpoint-Prosthion				8.318
5.	Length of nasals:	Nasion-Rhinion				6.243
6.	Snout length:	orbital oral borders				6.154
7.	Median paptal length:	Staphylion-Prosthion				7.868
8.	Palatal length:	median of deep indentations where Choanae-Prosthion join				7.429
9.	Length, horizontal part of palatine:	Staphylion-Palatinoorale				2.542
10.	Length of horizontal part of palatine:	including Staphylionary protrudance				2.705
11.	Length of M1:	at cingulum				1.531
12.	Breadth of M1:	at cingulum				0.858
13.	Length of M2,	at cingulum				0.975
14.	Breadth of M2:	at cingulum				0.447
15.	Diameter of auditory bull,	greatest				1.254
16.	Greatest inner height of the orbit					2.221
17.	Length of canine:	straight line, tip to tip				3.34
18.	Occipital crest:	height-.861 Angle on vertical plane- 63 deg. Horizontal plane- 83 deg.				
*Only right side of skull intact.						
**Some measurements are approximated due to refit of sample.						
***Measurements omitted from Driesch are due to insufficient bone.						

<b>Osteometric Measurements</b>					
<b>Vertebrae Measurements</b>			mm.		
Cervical 1 (LAd)			22		
Cervical 2 (LCDd)			22		
Cervical 3 (PL)			23		
Cervical 4 (PL)			17		
Cervical 5 (PL)			14		
Cervical 6 (PL)			14		
Cervical 7 (PL)			15		
Thoracic 3 (PL)			15		
Thoracic 12 (PL)			15		
Thoracic 13 (PL)			18		
Lumbar 1 (PL)			20		
Lumbar 2 (PL)			19		
Lumbar 3 (PL)			17		
Lumbar 4 (PL)			16		
Lumbar 5 (PL)			17		
Lumbar 6 (PL)			13		
Lumbar 7 (PL)			13		
Sacrum (PL)			32		
<b>Limb elements</b>					
Scapula (HS)			n/a		
Humerus (GL)			127		
Ulna (GL)			123		
Radius (GL)			130		
Metacarpal II (GL)			47		
Metacarpal III (GL)			53		
Metacarpal IV (GL)			54		
Metacarpal V (GL)			53		
Femur (GL)			142		
Tibia (GL)			138		
Fibula (GL)			n/a		
Calcaneus (GL)			24		
Talus (GL)			37		
Metatarsal II (GL)			59		
Metatarsal III (GL)			61		
Metatarsal IV (GL)			55		
Metatarsal V (GL)			52		
<b>Shoulder Height, cm. (estimated)</b>			<b>35.1</b>		
*Values from Crockford (1997), as selected. Measurement codes from von den Driesch (1976).					

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